

# All Active Systems Report

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Name: [1] Automated Radar Terminal System : Model IIIA

Acronym: ARTS IIIA

Description: The Automated Radar Terminal System - Model IIIA (ARTS IIIA) provides radar data processing (RDP) and decision support tools to the controller in the terminal environment. STARS and CARTS IIIE have replaced the ARTS IIIA at all sites except for the Dayton, OH TRACON. That system will remain in use until replaced by STARS. The Dayton, OH TRACON facility upgrade is scheduled to be completed in 2010.

ARTS provides continuous real-time support to air traffic controllers at terminal sites including surveillance/tracking, controller data entry and display, aircraft separation assistance (safety functions), flight plan processing, data recording, external data publishing, and system monitoring and control functions. The system processes and tracks primary and secondary radar (beacon) derived aircraft data and displays it on an air traffic situation display together with broadband video. The processed data is automatically and semi-automatically displayed in the form of symbology and alphanumerics representing aircraft position, identification, Mode C pressure altitude, target velocity and radar beacon code readout. The system permits the operator (air traffic controller) to enter or retrieve data and selectively display, alter or delete data consistent with operational needs. In addition, it provides the capability for intra-facility communication of stored and active air traffic control information as well as data/message interchange with ARTCC computer systems. An on-line capability to generate and control simulated aircraft targets for training purposes is also available.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1 / 7

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Name: [2] Digital Bright Radar Indicator Tower Equipment

Acronym: DBRITE

Description: The Digital Bright Radar Indicator Tower Equipment (DBRITE) is a tower display system that provides a raster scan presentation of radar/beacon videos and automation system alphanumeric data. The system accepts radar, beacon, external map, analog data, and automation system data. The DBRITE is a certified tower radar display (CTRD).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 2 / 5

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Name: [4] Display System Replacement

Acronym: DSR

Description: The Display System Replacement (DSR) provides continuous real-time, automated support to air traffic controllers for the display of surveillance, flight data and other critical control information. This information is processed by the Host and Oceanic Computer System Replacement (HOCSR) and the Enhanced Direct Access Radar Channel (EDARC) subsystems. The DSR provides controller workstations, displays, and input/output devices and a communications infrastructure to connect the DSR with external processing elements of the en route air traffic control (ATC) automation system.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 4 / 8

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Name: [5] Direct User Access Terminal Service

Acronym: DUATS

Description: DUATS is a service (provided by 2 separate providers) giving authorized pilots access to pre-flight aeronautical and weather information for flight planning purposes. It allows pilots to input instrument flight rules (IFR), International Civil Aviation Organization (ICAO), and visual flight rules (VFR) flight plans into the system and access weather and NOTAM data. Authorized pilots can access the DUAT service from the respective provider's website at [www.duats.com](http://www.duats.com) or [www.duat.com](http://www.duat.com). The current contract extension provides DUATS through September 2013. The PMO is managing the competition for a new service planned for implementation in 2013.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 5 / 11

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Name: [8] Host Computer System

Acronym: HOST

Description: The Host Computer System (HCS) receives and processes surveillance reports, and flight plan information. The HCS sends search/beacon target, track and flight data, surveillance and alphanumeric weather information, time data, traffic management advisories and lists to the (Display System Replacement) DSR. The HCS associates surveillance-derived tracking information with flight-planning information. The DSR sends requests for flight data, flight data updates, and track control messages to the HCS. HCS-generated display orders are translated for use within the DSR workstation. While radar data processing is distributed among the terminal and En Route computer resources, the HCS performs virtually all of the flight data processing for its entire geographical area of responsibility. Every tower (ATCT) and terminal radar approach control (TRACON) relies exclusively on its parent HCS for flight data.

The HCS also runs algorithms that perform aircraft to aircraft (conflict alert) and aircraft to terrain (Minimum Safe Altitude Warning) separation assurance. The HCS algorithms provide visual and audible alerting to the controller when conflicts are identified.

The HCS presently supplies real time surveillance, flight data and other information to several decision support tools housed in collocated outboard processors connected via two-way high bandwidth links to the HCS and DSR. These are the (User Request Evaluation Tool, (URET), and the Traffic Management Advisory (TMA. URET performs probing of tentative flight plan changes to determine their viability. TMA provides sequencing and spacing information to align the aircraft in En Route airspace for approach.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 8 / 9

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Name: [9] Peripheral Adapter Module Replacement Item

Acronym: PAMPI

Description: The Peripheral Adapter Module Replacement Item (PAMRI) is an interface peripheral to the HOCSR. It provides a conduit through which the HOCSR receives and exchanges data, primarily radar data, flight data and interfacility data. The PAMRI converts communication protocols and translates data formats so the Host and EDARC can communicate with external devices.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 9 / 6

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Name: [10] Automated Radar Terminal System : Model IIIE

Acronym: ARTS IIIE

Description: The Common Automated Radar Terminal System - Model IIIE (CARTS IIIE) consists of the hardware platform and software required providing radar data processing (RDP) and decision support tools to the controller in the terminal environment. The ARTS IIIE is used at consolidated Terminal Radar Approach Control (TRACON) facilities. The Common ARTS program provided an ARTS IIIE capable of receiving input from up to 15 sensors, the ability to process up to 10,000 tracks simultaneously, and support up to 223 displays. CARTS provides continuous real-time support to air traffic controllers at terminal sites including surveillance/tracking, controller data entry and display, aircraft separation assistance (safety functions), flight plan processing, data recording, external data publishing, and system monitoring and control functions.

CARTS performs the following functions:

- a. Track Processing (TP) - tracks aircraft and provides track and radar data to the LAN
- b. Common Processing (CP)- provides flight plan processing, safety functions [Minimum Safe Altitude Warning (MSAW), Conflict Alert (CA), Mode C intruder alert, Converging Runway Display Aid (CRDA), and Controller Automation Spacing Aid (CASA)], ARTCC interface processing, keyboard functional processing, Digital Altimeter Setting Indicator (DASI) interface processing, and ETMS interface processing
- c. Display Processing (DP)- provides controller display and keyboard functions and provides the interface to tower displays
- d. System Monitoring Console (SMC)- provides system management for CARTS hardware and software
- e. ARTS Gateway Processing (AGW)- shares data with external systems

f. ARTS Radar Gateway (RGW)- provides most CARTS functions on an independent LAN for backing up the primary LAN functions  
g. Subsystem Interface Subsystem (SIS)- provides the LAN

The TP, CP, and SMC functions can be combined into one processing element or each subsystem can be a separate processing element.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 10 / 11

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Name: [11] Alaskan National Airspace System (NAS) Interfacility Communications System (ANICS)

Acronym: ANICS

Description: Key Note: The Alaskan National Airspace System (NAS) Interfacility Communications System (ANICS) program and system was replaced by the Alaska Satellites Telecommunication Infrastructure (ASTI) and is no longer active (Decommissioned). This change took place during the Concept and Requirements Definition (CRD) phase of the Acquisition Management System (AMS). The Investment Analysis Readiness Decision (IARD) was approved on March 19, 2008.

State: Decommissioned

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation

Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 11 / 9

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Name: [12] Data Multiplexing Network (DMN)

Acronym: DMN

Description: The Data Multiplexer Network (DMN) provides efficient transport for low speed data (2.4 kbps - 19.2 kbps). This network consists of DMN multiplexers and multiplexer-modems interconnected by telecommunication services provided by FTI, RCL, LDRCL, and SATCOM. Additionally, clock boxes (clocking and signal splitting) and A/B switches are an integral part of this network.

DMN Model 6250 multiplexers, which are located primarily at ARTCCs, have 48 input ports and 5 composite links. These composite links are implemented by 64 kbps, 128 kbps, or 256 kbps DDC services. These ARTCC to ARTCC connections are used primarily for transporting such critical data as Host to Host Interfacility Data (IDAT), and for providing a diverse path for Radar Data (RDAT). These connections are also used for non-critical traffic such as Remote Maintenance Monitoring System (RMMS) and Computer Based Instruction (CBI).

DMN 3600 multiplexers and multiplexer-modems have 8 input ports and one composite link. The composite link is implemented by a DDS 56 kbps service for the multiplexers and by a VG-8 service for multiplexer-modems.

DMN 3600 multiplexer-modems are used to transport radar data from an ARSR site to two ARTCCs. (The clock box provides the required signal splitting.) At the ARTCCs, this radar data is ported to a DMN 6250 to provide for the full dual-routing and dual-homing of radar data. A/B switches are used to switch to the backup path if the primary path fails. The DMN 3600 multiplexer-modems are also used to transport non-critical data (e.g., Automated Surface Observing System (ASOS) weather data).

DMN 3600 (digital) multiplexers are typically used to provide ARTCC to TRACON and ARTCC to ATCT connections. ARTCC to TRACON connections are used to transport IDAT, Flight Data Input/Output (FDIO), CBI, RMMS, and ASOS data. ARTCC to ATCT connections are used to transport FDIO, CBI, RMMS, and ASOS data.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 12 / 8

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Name: [13] Digital Voice Recorder System (DVRS)

Acronym: DVRS

Description: The Digital Voice Recorder System (DVRS) is a 16-channel multichannel modular digital voice recorder and reproducer system. The digital voice recorder is utilized to record all air-to-ground (A/G) voice communications between air traffic controllers and pilots, and ground-to-ground (G/G) intrafacility and interfacility communications between air traffic controllers.

The reproducer is designed for playback of call files and reproducing call files that have been recorded on digital audio tape (DAT) onto a standard cassette tape. Call files can be searched for playback using channel, time/date, or a combination of both parameters. The reproducer provides the capability to playback-selected recordings from the digital voice recorder for transcription, evaluation and training purposes.

The digital voice recorder consists of a digital recorder unit (DRU), control workstation, two speakers, external alarm with optional Navstar Global Positioning System (GPS) antenna receiver, uninterruptible power supply (UPS), and an alternating current (AC) line conditioner (if required).

Digital Voice Recorder 2 (DVR2) utilizes 24-channel capacity analog to digital interface (ADIF) and audio line interface (ALI) boards in the DRU chassis. This system eliminates one DAT drive, incorporates a mirrored hard drive configuration of dual 8 Gigabyte hard drives, and contains a mirroring device for mirroring control. The DVR2 increases the central processing unit (CPU) memory to 16 Megabyte (MB) and adds new cabling within the chassis for connection of the new channel capacity board and mirroring device with hard drive configuration. The DVR2 includes upgrades to the NICE Systems Inc. software and workstation operating system.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 13 / 7

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Name: [14] Enhanced Terminal Voice Switch (ETVS)

Acronym: ETVS

Description: The Enhanced Terminal Voice Switches/Interim Voice Switch Replacement (ETVS/IVSR) are installed at Airport Traffic Control Tower (ATCT) and Terminal Radar Approach Control (TRACON) facilities and can be configured up to 80 air traffic controller positions. The ETVS is a modular system. The size of the switch is based on the number of controller positions in the facility.

The ETVS (installed in the ATCT) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Air-to-ground (A/G) radio connectivity between ATCT controllers and pilots is also supported by the ETVS.

The ETVS (installed in the TRACON) provides the ATC operational G/G voice communications intraconnectivity between controllers within a TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. A/G radio connectivity between TRACON controllers and pilots is also supported by the ETVS.

A refined set of ETVS products is being procured through the Interim Voice Switch Replacement (IVSR) contract until 2015.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 14 / 6

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Name: [16] Integrated Communications Switching System : (ICSS) Type I

Acronym: ICSS Type I

Description: The Integrated Communications Switching System Type I (ICSS I) are installed at Airport Traffic Control Tower (ATCT) facilities, Terminal Radar Approach Control (TRACON) facilities, and Automated Flight Service Station (AFSS) facilities.

The ICSS I (installed in the ATCT) provides the air traffic control (ATC) operational ground-ground voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/ Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Ground-air radio connectivity between ATCT controllers and pilots is also supported by the ICSS I.

The ICSS I (installed in the TRACON) provide the ATC operational ground-ground voice communications intraconnectivity between controllers within TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. Ground-air radio connectivity between TRACON controllers and pilots is also supported by the ICSS I.

The ICSS I installed in the AFSS (Alaska) provides the ATC operational ground-ground voice communications intraconnectivity between specialists within an AFSS (intercom), interconnectivity between specialists in separate AFSSs (interphone), and interconnectivity between FSS specialists and ARTCC controllers/TRACON controllers/ATCT controllers/ATCSCC specialists. Ground-to-air radio connectivity between AFSS specialists and pilots is also supported by the ICSS I. ICSS I located in AFSS outside of Alaska are under the management of the Flight Services 31 contract.

supported by the TCSS I. TCSS I located in AFSS outside of Alaska are under the management of the Flight Services 21 contract.

State: In-Service  
Primary Roadmap: Communications  
Secondary Roadmap(s): None  
Flight Domain(s): Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 16 / 6

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Name: [17] Rapid Deployment Voice Switch : Type I (RDVS I)

Acronym: RDVS I

Description: The Rapid Deployment Voice Switch Type I (RDVS I) is installed at Airport Traffic Control Towers (ATCT) and Terminal Radar Approach Control (TRACON) facilities with more than four air traffic controller positions. The RDVS is a modular system. The size of the switch is based on the number of controller positions in the facility. The RDVS I (installed in the ATCT) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/ Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Air-to-ground (A/G) radio connectivity between ATCT controllers and pilots is also supported by the RDVS I.

The RDVS I (installed in the TRACON) provides the ATC operational G/G voice communications intraconnectivity between controllers within a TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. A/G radio connectivity between TRACON controllers and pilots is also supported by the RDVS I.

Note: There are two manufacturers of the RDVS - RDVS Type I - Litton and RDVS Type I - Denro.

State: In-Service  
Primary Roadmap: Communications  
Secondary Roadmap(s): None  
Flight Domain(s): Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 17 / 6

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Name: [18] Multi-Channel Recording System

Acronym: MCR

Description: The Multi-Channel Recording System (MCRS) records all audio information either transmitted or received by selected Airway Facilities (AF) and Air Traffic Control (ATC) positions.

The MCRS consists of four Magnasync TR-1710 10-channel recorders; one Magnasync TR-1720 20-channel recorder; thirteen Dictaphone Model-5000 recorders (ten 10-channel & 3 20-channel); four high capacity voice recorders (three 60-channel & one 10-channel); and three other solid-state recorders (two 60-channel and one 20-channel).

State: Decommissioned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Surface, TFM, Terminal

Update Date: 01-Feb-2013 by Data Load

ID / Revision: 18 / 2

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Name: [19] National Airspace Data Interchange Network : Packet-Switched Network (PSN)

Acronym: NADIN PSN

Description: The National Airspace Data Interchange Network Packet-Switched Network (NADIN PSN) (sometimes called NADIN II) is an X.25 packet-switched network that augments and functions in parallel with the NADIN Message-Switched Network (NADIN MSN). Collectively, both networks are known as NADIN. The NADIN PSN is a data communications network composed of packet-switching nodes connected by high-speed digital backbone trunks and controlled by the National Network Control Center (NNCC).

The NADIN PSN is tentatively planned for decommissioning in the 2011 time-frame. The FTI Program Office is working with the NADIN PSN user community to facilitate the migration of end user systems from NADIN PSN X.25 services to FTI IP services.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 19 / 6

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Name: [20] Radio Communication Link (RCL)

Acronym: RCL

Description: The Radio Communication Link (RCL) is an integrated voice and data microwave transmission system designed to provide the FAA with cost effective and reliable service for its high capacity National Airspace System (NAS) communications routes. The RCL interconnects Air Route Traffic Control Center (ARTCC) facilities with long-range radar installations and other air traffic control (ATC) facilities.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 20 / 11

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Name: [22] Rapid Deployment Voice Switch : Type II (RDVS II)

Acronym: RDVS II

Description: The Rapid Deployment Voice Switch Type II (RDVS II) is installed at Airport Traffic Control Towers (ATCT) and Terminal Radar Approach Control (TRACON) facilities with more than four air traffic controller positions. The RDVS is a modular system. The size of the switch is based on the number of controller positions in the facility. The RDVS II (installed in the ATCT) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists.

Air-to-ground (A/G) radio connectivity between ATCT controllers and pilots is also supported by the RDVS II. The RDVS II (installed in the TRACON) provides the ATC operational G/G voice communications intraconnectivity between controllers within a TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. A/G radio connectivity between TRACON controllers and pilots is also supported by the RDVS II.

Note: There are two manufacturers of the RDVS II - RDVS Type II - Litton and RDVS Type II - Denro.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None  
Flight Domain(s): Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 22 / 6

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Name: [23] Small Tower Voice Switch (STVS)

Acronym: STVS

Description: The Small Tower Voice Switch (STVS) is an integrated air-to-ground (A/G) and ground-to-ground (G/G) voice switching system.

The STVS provides for the selection, interconnection, and activation of communications connectivity for the following connection types for Air Traffic Control Towers (ATCTs), Terminal Radar Approach Controls (TRACONs) and Flight Service Station (FSS):

- among operating air traffic control (ATC) positions within an ATC facility (intra-facility via intercom)
- between separate ATC facilities (inter-facility via interphone) including interfaces to Air Route Traffic Control Center (ARTCC), the David J. Hurley Air Traffic Control System Command Center (ATCSCC), and local and/or remote radio systems.

The STVS is specially designed for low activity operations. The STVS accommodates up to four positions and 12 radio/interphone (telephone) channels.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 23 / 6

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Name: [26] Radio Control Equipment (RCE)

Acronym: RCE

Description: Radio Control Equipment (RCE), located at both air traffic control (ATC) facilities and remote communication sites control the operation of remotely located ground to air very high frequency/ultra high frequency (VHF/UHF) radios used by air traffic controllers to communicate with pilots. The RCE interfaces with the voice switch at the ATC facility, telephone landlines, and air-to-ground (A/G) radios at the En Route Remote Communications Air/Ground (RCAG) sites, Terminal Remote Transmitter/Receiver (RTR) sites, and Flight Service Station Remote Communications Outlet (RCO) sites.

The RCE Sustainment activities sustains and/or procures RCE to support 600 channels (1,200 units). The initial operational capability (IOC) is

01-Oct-2006 and final operational capability (FOC) is 30-Sep-2009 for sustainment.

The Air-To-Ground (A/G) Division anticipates a new RCE Sustainment effort will be needed to fill the gap from FY2015 through FY2025.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 26 / 11

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Name: [28] Automated Weather Observing System

Acronym: AWOS

Description: The Automated Weather Observing System (AWOS) is a suite of sensors, which measure, collect, and disseminate weather data to help meteorologists, pilots, and flight dispatchers prepare and monitor weather forecasts, plan flight routes, and provide necessary information for takeoffs and landings. AWOSs are categorized as either Federal or Non Federal. The sensors measures weather parameters such as wind speed and direction, temperature and dew point, visibility, cloud heights, precipitation and barometric pressure. AWOS underwent a tech refresh to replace essential components of its processor to sustain its capability.

AWOS provides a report every twenty (20) minutes from its sensor suite and also provides minute-to-minute updates to pilots via very high frequency (VHF) radio.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Airport  
Facilities

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 28 / 13

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Name: [30] Next Generation Weather Radar

Acronym: NEXRAD

Description: The Next Generation Weather Radar (NEXRAD) system is a tri-agency (FAA, U.S. Department of Defense (DoD), and the National Weather Service (NWS)) network of Weather Surveillance Radar Model 88 Doppler (WSR-88D) systems. The Doppler weather radars identify and track heavy precipitation and thunderstorm attribute information such as high wind velocity, hail, tornado, wind shear, precipitation intensity, and echo tops products. Mosaics of multiple NEXRADs are provided by the Weather and Radar Processor (WARP) system to FAA controllers on the Display System Replacement (DSR) and to DoD and FAA oceanic controllers on the Microprocessor En Route Automated Radar Tracking System (MicroEARTS) to assist them in the control of aircraft in National Airspace System (NAS) airspace. NEXRAD products are also sent to traffic managers. Commercial weather vendors also receive NEXRAD products from the NWS.

The FAA also has 12 NEXRAD systems outside of the contiguous United States in Hawaii (4), Alaska (7), and Puerto Rico (1).

Additional information on NEXRAD can be found at URL <http://www.roc.noaa.gov/>

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 30 / 13

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Name: [31] Operational and Supportability Implementation System (Alaska)

Acronym: OASIS

Description: OASIS is a flight service automation system operational at the 17 Flight Service Stations in Alaska since 2007 and is owned and supported by an FAA contractor. FAA Air Traffic Control Specialists operate OASIS and site level maintenance is performed by FAA Technical Operations personnel. OASIS provides integrated textual and weather graphics products, flight plan processing, emergency services, law enforcement, flight planning and regulatory information and other services as defined in FAA Order 7110.10. A technical refresh was completed in May 2012. The contract period of performance ends in December 31, 2014.

State: In-Service  
Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 31 / 8

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Name: [32] Terminal Doppler Weather Radar

Acronym: TDWR

Description: The Terminal Doppler Weather Radar (TDWR) system detects hazardous weather conditions such as windshear, microbursts and gust fronts, tornadic winds, heavy precipitation (inferring thunderstorms at an airport). This weather information is generated by the Radar Product Generator (RPG) and provided to air traffic on displays at terminal facilities. In addition, a TDWR provides alerts (both aural and textual) of detection wind shear/microburst activity in the approach/departure corridors. The TDWR also provides a 10- and 20-minute prediction of gust front location and movement using a Machine Intelligent Gust Front Algorithm (MIGFA).

The TDWR is also a main source of radar data to the Integrated Terminal Weather System (ITWS), which uses the reflectivity data in its microburst prediction algorithm.

Recently, the NWS began receiving data from numerous FAA TDWRs and built a special product generator to process TDWR radar data and provide products to aid NWS Forecast Office forecasters.

Review Article: Weber, Mark E. (2006) "Advances in Operational Weather Radar Technology," Lincoln Laboratory Journal, Vol. 16, No. 1, pp. 9-30. [[http://www.ll.mit.edu/news/journal/pdf/vol16\\_no1/16\\_1\\_2Weber.pdf](http://www.ll.mit.edu/news/journal/pdf/vol16_no1/16_1_2Weber.pdf)]

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 32 / 13

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Name: [34] Flight Service Data Processing System

Acronym: FSDPS

Description: The Flight Service Data Processing System (FSDPS) is a component of the Model 1 Full Capacity (M1FC) located at each ARTCC to provide a centralized database and processing capabilities to support the flight services performed by specialists in the associated Automated Flight Service Station (AFSS) facilities. The FSDPS database contains aeronautical information, weather information, and the required flight data to support the various flight service functions (e.g., route-oriented weather briefings and the flight-following function).

On February 1, 2005, the FAA awarded a contract for the services provided by the 58 Automated Flight Service Stations (AFSSs) in the Continental United States, Puerto Rico, and Hawaii to the Lockheed Martin Corporation. Lockheed Martin assumed responsibility for providing AFSS these flight services on October 4, 2005. The program, called Flight Service 21 (FS21), consolidated these flight services to 18 sites and will have replaced OASIS and the M1FC, including FSDPS, by the end of 2007. With continued FAA oversight, Lockheed Martin will maintain deliverance of flight services according to the Agency's strict safety and service requirements. Additional information can be found at <http://www.lmafsshr.com>. The FAA continues to provide flight services in Alaska.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 34 / 6

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Name: [35] Western Electric Company Model 301 Voice Switch (WECO 301)

Acronym: WECO 301

Description: The Western Electric Company Model 301 Voice Switch (WECO 301) supports air-to-ground communications between air traffic controllers and pilots and ground-to-ground communications among air traffic control (ATC) personnel. The system was decommissioned.

State: Decommissioned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 35 / 6

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Name: [36] Remote Maintenance and Logging System

Acronym: RMLS

Description: The Remote Monitoring and Logging System (RMLS) environment consists of a National Operations Control Center (NOCC), Operations Control Centers (OCCs), Service Operations Centers (SOCs), and approximately 300 System Support Centers (SSCs). RMLS provides automated information support to Technical Operations personnel in the performance of operations and maintenance in the NAS. RMLS provides a unified, automated technical and administrative support tool to facilitate logging, certification, periodic maintenance and scheduling, report generation, facility service and equipment profiles, maintenance operations, administrative functions, and Remote Maintenance Monitoring System (RMMS) functions.

RMMS is a collection of subsystems that includes telecommunication components, hardware, and software, which serve to automate and streamline the maintenance and operations of the National Airspace System (NAS). Functions supported via the Remote Maintenance Monitoring system include equipment monitoring, outage reporting, control, certification, automated logging, and configuration management. RMMS subsystems consist of the Remote Monitoring System (RMS) hardware on the remote systems to be monitored, the Maintenance Automation System Software and Control Function (MASS / MCF).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 36 / 17

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Name: [41] Automated Weather Observing System/Automated Surface Observing System Data Acquisition System

Acronym: ADAS

Description: Automated Weather Observing System (AWOS)/Automated Surface Observing System (ASOS) Data Acquisition System (ADAS) collects, analyzes, and redistributes weather information to support the National Airspace System (NAS). The ADAS receives minute-by-minute AWOS (also ASOS, non-Federal AWOS and U.S. Department of Defense (DoD) automated observation system) weather messages. ADAS distributes surface observation weather messages to the Weather and Radar Processing (WARP) system and the Weather Message Switching Center Replacement (WMSCR) system. The ADAS also receives cloud-to-ground lightning strike information from a vendor that maintains a national network of sensors and distributes this information via an ADAS subsystem called ALDARS (Automated Lightning Detection and Reporting System) to the appropriate ASOS/AWOS site.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 41 / 7

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Name: [42] The National Airspace Data Interchange Network Message-Switched Network (NADIN MSN)

Acronym: NADIN MSN

Description: The National Airspace Data Interchange Network Message-Switched Network (NADIN MSN) is the portion of the global Aeronautical Fixed Telecommunication Network (AFTN) within the USA domain. As such, it is connected to other countries' AFTN switches and to service providers' message switches (e.g., ARINC, SITA). AFTN enables the exchanges of vital information for aircraft operations such as distress messages, urgency messages, flight safety messages, meteorological messages, flight regularity messages and aeronautical administrative messages.

NADIN MSN (sometimes called NADIN 1A) is a store-and-forward telecommunication network. It provides its users the ability to exchange Service A (weather messages) and Service B (e.g., Flight Plans, NOTAMS) messages. It stores all Service B messages as required by ICAO. It forwards Service A messages to WMSCR. An example of a typical communication involving NADIN MSN is the transmission of Flight Plans from a NAS system like OASIS, or a domestic non-NAS system like Airline or BaseOps terminals, to a Host Computer.

There are two NADIN MSN switches, located at ATL and SLC NNCCs. These switches are interconnected by NADIN PSN. Users that are equipped with X.25 capability can access NADIN MSN through NADIN PSN. Users that are not X.25 capable and rely on legacy protocols need to access NADIN MSN through NADIN MSN concentrators, located at ARTCCs.

NOTE: NADIN MSN Rehost (NMR) has recently been implemented. NMR allows users to access the MSN with the X.25 or IP protocols. Currently NADIN MSN and the NMR are functioning in parallel as users are being cut over to the NMR. NADIN MSN Concentrators were not involved in the NMR process. They will be decommissioned when their users migrate to IP services.

they will be decommissioned when their users migrate to IP services.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 42 / 13

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Name: [43] Flight Data Input/Output

Acronym: FDIO

Description: The Flight Data Input/Output (FDIO) system is a point-to-point "network" that exchanges flight data between the En Route ATC automation systems and remote FDIO systems located at TRACONs, large ATCTs and DoD facilities.

The En Route FDIO system consists of (a) Central Control Units (CCUs) at ARTCCs, which are the gateway to remote facilities, (b) Flight Strip Printers (FSPs) at the ATC display positions at ARTCCs, (c) and Remote FDIO standalone systems consisting of a display, keyboard, and flight strip printer. The remote FDIO systems do not interface with automation systems but are used by Air Traffic Control (ATC) specialists to print flight strips from Host and to send flight data updates back to Host.

The Terminal FDIO system interfaces to (but is not part of) the Electronic Flight Strip Transfer System (EFSTS) located at ATCTs and TRACONs. EFTST provides rapid exchange of aircraft status between ATCTs and their respective TRACONs.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 43 / 9

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Name: [45] Digital Altimeter Setting Indicator

Acronym: DASI

Description: The Digital Altimeter Setting Indicator (DASI) is a system that measures station/airport atmospheric pressure and converts the measured pressure value into the actual sea level pressure based on the United States (U.S.) Standard Atmospheric Table. The value then computed is known as the Altimeter Setting Indicator (ASI) value and is presented to the operator, who is air traffic control (ATC), in a digital format, e.g., 29.50 inches of mercury (in Hg). The ASI value is then transmitted by the air traffic controller to an aircraft pilot for use in setting the altimeter in the aircraft. If a perfectly calibrated altimeter is set to the ASI value existing at any given station whose elevation is designated as Hp, the pointer of the altimeter instrument will indicate an altitude of Hp when the instrument is at the altitude of the sensor in the DASI system. (Hp is an elevation in geopotential meters above mean sea level of the altimeter setting indicator pressure sensor.)

JRC Decision scheduled 2009 to SLEP/Replace DASI

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Surface, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 45 / 10

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Name: [46] Low-Density Radio Communications Link (LDRCL)

Acronym: LDRCL

Description: The Low-Density Radio Communications Link (LDRCL) is an FAA owned communications system. Like the Radio Communications System (RCL), LDRCL is also a micro-wave system that satisfies short-haul, low-density communication requirements. It provides user access (via tail circuits) to a Radio Communications Link (RCL) site or connectivity between two operational Air Traffic Control (ATC) facilities.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 46 / 9

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Name: [47] Leased Inter-facility National Airspace System Communication System (LINCS)

Acronym: LINCS

Description: The Leased Inter-facility National Airspace System Communication System (LINCS) provides wide area connectivity between FAA ATC facilities for ground-to-ground (G/G) and air-to-ground (A/G) critical and essential network services using industry-standard interfaces between any specified end points. LINCS is used to satisfy all FAA operational and some administrative telecommunication requirements.

LINCS services have now been fully transitioned to FAA Telecommunications Infrastructure (FTI) Contract.

State: Decommissioned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 47 / 6

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Name: [48] Final Monitor Aid

Acronym: FMA

Description: The Final Monitor Aid (FMA) is a high resolution radar display providing controllers an increased ability to control multiple simultaneous approaches to parallel runways under instrument flight rule (IFR) conditions. When feed by high precision secondary surveillance data, such as from the Precision Runway Monitor (PRM), increased definition for maintaining aircraft separation is achieved. The FMA system may also extract radar data from the Common Automated Radar Terminal System (CARTS) or the Standard Terminal Automation Replacement System (STARS) and enhance this data when presented on the FMA displays.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 48 / 6

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Name: [49] National Airspace System Resources

Acronym: NASR

Description: National Airspace System Resources (NASR) maintains the national aeronautical information database, containing static data related to NAS facilities and operations. It is a system made up of many interfaces including user interfaces, system interfaces, and product generation interfaces. It is often referred to as a database, because it is the official source of the data that is used by many of the other AIM systems, Chart Producers (both government and commercial), data for adaptation into the operational NAS systems (for example the Host/ERAM, and TFMS), as well as other FAA systems. However, this data is made available via one of the interface types listed above or via products generated from the system. Several of the interfaces also support the management of the data, whether it is system-to-system or human interfaces to support entry and validation prior to dissemination or distribution.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 49 / 8

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Name: [55] Host ATM Data Distribution System

Acronym: HADDS

Description: The Host ATM Data Distribution System (HADDS) functioned under the infrastructure of the Host Interface Device/National Airspace System Local Area Network (HID/NAS LAN), which was replaced by the ERAM LAN infrastructure. HADDS exchanges messages between ERAM and the following 6 systems: TFMS, TMA, National Offload Program (NOP), Store and Forward Application (SAFA), U.S. Customs and Border Protection agency of the Department of Homeland Security (DHS) and the North Atlantic Treaty Organization (NATO). Off board processors (TFMS, TMA, NOP, and SAFA) use the HADDS API.

Data exchanged by ERAM through HADDS includes surveillance and flight data and exchanges messages using a common format called the Common Message Set (CMS).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 55 / 8

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Name: [57] Very High Frequency Digital Link-2 Avionics

Acronym: VDL-2 Avionics

Description: Very High Frequency (VHF) Digital Link-2 Avionics (VDL-2 Avionics) consist of airborne radios operating in the VHF range that receive and transmit data using a low-speed, bit-oriented protocol and Carrier Sense Multiple Access (CDMA).

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration

Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 57 / 10

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Name: [61] Standard Terminal Automation Replacement System

Acronym: STARS

Description: The Standard Terminal Automation Replacement System (STARS) is a digital radar/flight data processing and display system for use by terminal air traffic controllers. Controllers use STARS to ensure the safe separation of military and civilian aircraft throughout the nation's airspace. STARS is capable of tracking up to 1350 airborne aircraft simultaneously within a terminal area. The color displays are specially developed for air traffic control and are capable of displaying six distinct levels of weather data (identified by different colors) simultaneously with air traffic, allowing controllers to direct aircraft around bad weather. The system interfaces with multiple radars (up to 16 short and long range), 128 controller positions, 20 remote towers, and a 400 by 400 mile area of coverage. STARS has two separate, fully redundant automation systems running in parallel providing an instantaneous back-up service to controllers. STARS technology is open, expandable and able to accommodate future growth as well as new hardware and software.

The STARS investment replaced aging air traffic control equipment at 47 (43 ARTS IIIA sites and 4 CARTS IIE sites) of our nations terminal radar approach control facilities (TRACONs) and air traffic control towers. The development phase is complete and all hardware has been purchased.

STARS enhancements are provided in 4 general categories as follows: (1) Interface and integration of external systems including: Precision Runway Monitor (PRM), Surface Movement Advisor (SMA), passive Final Approach Spacing Tool (pFAST), Airport Movement Area Safety System (AMASS), Noise Abatement Monitoring (NAM), Automated Barometric Pressure Entry (ABPE), active Final Approach Spacing Tool (aFAST) and Tower systems, (2) Surveillance Data Processing (SDP) enhancements including: SDP Upgrades that enhance precision and accuracy, data transfer using the All-purpose Structured EUROCONTROL Radar Information Exchange (ASTERIX) protocol, Automatic Dependent Surveillance-Broadcast (ADS-B) integration, ADS-B applications (including Surface Conflict Probe), safety function enhancements to Conflict Alert (CA) and Minimum Safe Altitude Warning (MSAW), and Ground Initiated Communications Broadcast (GICB), (3) Flight Data Processing (FDP) enhancements including: STARS to STARS interfacility and STARS flight data processing (FDP) upgrades.

Although STARS is intended eventually to replace the Common ARTS systems, the FAA has decided to defer that transition further until they can determine what smaller terminal facilities, if any, might best be consolidated into larger area facilities for future operations. This redirected program is called Terminal Automation Modernization and Replacement (TAMR). Phase 2 of the TAMR program is intended to enhance the services provided to high-risk CARTS sites and to prepare terminal automation for agency strategic initiatives. In FY 2006, Congress approved a reprogramming request to fund nine high-risk TAMR Phase 2 sites from the STARS (TAMR Phase 1) line item replacing 5 CARTS IIE systems with STARS and enhancing the CARTS IIIE equipment.

As of June 2008 STARS systems were operational at 49 FAA TRACONs (including 2 funded through TAMR Phase 2) and 50 Department of Defense (DoD) sites (including 5 outside the conterminous United States). Additionally, there are 8 STARS systems at WJHTC, 13 STARS systems at the Academy and 10 STARS systems at the OSFs supporting the operational FAA sites and 10 STARS systems at DoD facilities supporting the operational DoD sites. Also, the STARS FMA capability is operational at the Denver TRACON. STARS hardware has been delivered to the Dayton, OH TRACON but that facility is not expected to replace its existing ARTS IIIA system until construction is SEND TO JEFF

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 61 / 15

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Name: [62] Agency Data Telecommunications Network 2000 (ADTN 2000)

Acronym: ADTN 2000

Description: The Agency Data Telecommunications Network - 2000 (ADTN 2000) was the FAA's wide area network (WAN) serving over 800 FAA sites and providing dial access for approximately 4000 active remote users. It was used for day-to-day agency business management (e.g. payroll, personnel, and e-mail) and to serve some National Airspace System (NAS) systems/applications designated as mission support.

ADTN 2000 was a private FAA WAN comprised of a high-level network backbone layer and a user access layer. The backbone layer includes nodes at major FAA locations interconnected by Permanent Virtual Circuits (PVC) across a Frame Relay core network. It provides high-speed data transport and alternate path routing among the nodes. The user access layer, which employs the backbone for routing and long haul connectivity, includes user interface equipment and leased circuits between the user end points and the nearest backbone node.

ADTN2000 supports international FAA sites via gateways to a global Virtual Private Network (VPN). Users at four major FAA international offices have dedicated connectivity to the VPN and are automatically routed to the ADTN2000 international gateway. Smaller international sites and individuals have access to ADTN2000 via dial-up service provided by the VPN.

ADTN 2000 has transitioned to the FTI Mission Support Data Services.

State: Decommissioned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 62 / 6

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Name: [66] Emergency Transceiver Replacement (ETR) Ultra High Frequency/Very High Frequency (UHF/VHF) Transceivers

Acronym: ETR UHF/VHF A/G TXCVRS

Description: The Emergency Transceiver (ETR) provides portable dual-band Ultra High Frequency/Very High Frequency (UHF/VHF) air-to-ground (A/G) radios for back-up communications at Airport Traffic Control Tower (ATCT) and Terminal Radar Approach Control (TRACON) facilities. The radios provide at least 30-minutes of operation on their battery pack. In addition, they can operate from a 12-volt direct current (DC) vehicle power source and also from an alternate 120-volt alternating current (AC) source. When connected to an external antenna, they can be used from the controller position in case of catastrophic communications or power failure. They can also be carried out of the facility and operated with their own antennas when fire or some disaster forces building evacuation.

A five-year contract was awarded to Motorola in June 1994 for new Portable Emergency Transceiver Model 2000, (PET-2000) to replace a variety of obsolete, unsupported radios that did not meet operational or spectral emission requirements. The radios were purchased with a ten-year warranty, training and logistic documentation. A total of 1,309 PET-2000s were delivered to the FAA Logistics Center (FAALC) from where they were shipped to locations throughout the National Airspace System (NAS). In addition to the radios, some of the regions were provided with antennas and limited funding to cover the installation.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 66 / 6

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Name: [68] Low-Level Windshear Alert System : Model 2

Acronym: LLWAS-2

Description: The Low-Level Windshear Alert System Model-2 (LLWAS-2) is a system of wind anemometers and a processor that detects and identifies hazardous low-level windshear. LLWAS-2 generates alerts to Tower air traffic controllers of existing wind shear conditions near the runways. The system is designed to warn of windshear hazardous to aircraft on approach to, and departure from airports.

LLWAS-2 consists of at least six (6) remote wind stations placed strategically around the airport runway thresholds, plus a centerfield station that input wind values to the processor. The LLWAS-2 is being upgraded to the LLWAS-RS (relocation/Sustain with enhanced algorithms and locations to enhance its windshear detection performance.

At ten airports, the LLWAS-2 were converted to the LLWAS - Network Expansion (LLWAS-NE) in order to assist the co-located TDWR in detecting "dry" microbursts, particularly in the western U.S. and Rockies.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security

Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 68 / 9

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Name: [76] Traffic Alert and Collision Avoidance System

Acronym: TCAS

Description: An airborne collision avoidance system based on radar beacon signals which operates independent of ground-based equipment. TCAS-I generates traffic advisories only. TCAS-II generates traffic advisories, and resolution (collision avoidance) advisories in the vertical plane.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 76 / 12

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Name: [77] Mode Select Transponder

Acronym: Mode S Transponder

Description: The Mode Select Transponder (Mode S Transponder) is an avionics system that responds to 1030 MHz interrogations from ground-based sensors or Traffic Alert and Collision Avoidance System (TCAS) airborne avionics with 1090 MHz replies containing aircraft identification, altitude, and other selected data. Mode S transponders offer improvements over conventional Air Traffic Control Radar Beacon System (ATCRBS) transponders in that they provide over 16 million unique beacon codes, can be selectively interrogated to prevent overlapping or garbling of replies from proximate aircraft, and can provide a high-capacity air-ground data link. In addition to responding to "all call" or "roll call" interrogations from ground-based sensors or TCAS avionics, the Mode S transponders are required to transmit or squitter their 24-bit unique identity and altitude once per second. These squitters are "voluntary" or automatic and not in response to any interrogation. The squitters allow TCAS avionics in proximate aircraft or other systems to acquire Mode S equipped aircraft by only listening on 1090 MHz.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 77 / 9

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Name: [80] Satellite Based Augmentation System Avionics

Acronym: WAAS (SBAS) Avionics

Description: Update: November 9, 2006 - the Garmin GNS 400/500 series earned the FAA's Technical Standard Order (TSO) C146a Gamma-3 certification, which enables pilots who upgrade their Garmin receiver to fly Lateral-Precision with Vertical (LPV) guidance approaches and receive Global Positioning System (GPS) navigation via the Wide Area Augmentation System (WAAS). This upgrade will allow Garmin 400 or 500 series receivers to utilize WAAS starting in 2007.

Aircraft GPS avionics that are WAAS capable support both en route and terminal navigation. GPS/WAAS avionics are approved for use as a primary means of navigation within the contiguous United States (CONUS) for en route, terminal area, and non-precision approaches that require altitude and course guidance. WAAS equipped aircraft are capable of Lateral Navigation (LNAV)/Vertical Navigation (VNAV) non-precision approaches, and LPV guidance to near Category I altitude minimums, in accordance with published Standard Instrument Approach Procedures (SIAP).

See SatNav News at <http://gps.faa.gov/Library/indexSatnav.htm> for additional information.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 80 / 12

Name: [82] Traffic Flow Management System

Acronym: TFMS

Description: TFMS is a set NAS operational tools that predict demand, identify constraints, and facilitates collaboration among NAS users to support efficient traffic flow while minimizing delay. TFMS uses networked workstations across the NAS with central processing provided by the TFMS Production Center (TPC) at the WJHTC. TFMS supports operations conducted at the ATCSCC and Traffic Management Units (TMUs) at approximately 90 remote facilities. Remote TMUs are located at Air Route Traffic Control Centers (ARTCCs), Terminal Radar Approach Control (TRACON) facilities and large/stand alone Airport Traffic Control Towers (ATCTs).

Enhancement to TFMS are funded under CATMT Work Packages.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services

Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 82 / 9

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Name: [85] Global Positioning System

Acronym: GPS

Description: A space-base radio positioning, navigation, and time-transfer system. The system provides highly accurate position and velocity information, and precise time, on a continuous global basis, to an unlimited number of properly equipped users. The system is unaffected by weather, and provides a worldwide common grid reference system. The GPS concept is predicated upon accurate and continuous knowledge of the spatial position of each satellite in the system with respect to time and distance from a transmitting satellite to the user. The GPS receiver automatically selects appropriate signals from the satellites in view and translates these into three-dimensional position, velocity, and time. System accuracy for civil users is normally 100 meters horizontally.

Approval has been granted for properly certified GPS avionics to be used as a primary means of navigation in oceanic airspace and in certain remote areas. In July 2003 the Wide Area Augmentation System (WAAS) was commissioned, thereby ensuring GPS/WAAS enabled primary navigation service throughout the NAS. The WAAS ensures that GPS sourced data meets requirements for accuracy, availability, and integrity.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

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Name: [86] Ground Based Augmentation System

Acronym: LAAS (GBAS) CAT I

Description: GBAS provides augmentation of Global Navigation Satellite Systems (GNSS) such as the Navstar Global Positioning System (GPS) and transmits information to aircraft every second providing the accuracy and integrity needed for precision approach and landing. Unlike current ILS, which has to be in-place and working for every runway end, a single GBAS covers all nearby runways.

The LAAS Category I (LAAS CAT I) is a safety-critical precision navigation and landing system that augments GPS range data to provide aircraft position accuracy necessary for CAT I precision approaches; i.e., 200 foot decision height and one-half mile visibility. LAAS will provide service to suitably equipped users for runways equipped with required peripheral systems; e.g., approach zone Runway Visual Range (RVR) and Approach Lighting System (ALS). The LAAS signal-in-space will provide: (1) local area differential corrections for GPS satellites and Wide Area Augmentation System (WAAS) Geostationary Earth Orbit (GEO) satellites; (2) the associated integrity parameters; and (3) the path points that describe the final approach segment.

The LAAS CAT I will utilize multiple GPS reference receivers and their associated antennas, all located within the airport boundary, to receive and process the GPS and WAAS GEO range measurements and navigation data. The LAAS information is broadcast to aircraft operating in the local terminal area (nominally 20 nautical miles) via a very high frequency (VHF) data broadcast (VDB) transmission.

State: Planned

Primary Roadmap: Aircraft

Secondary Roadmap(s): Navigation  
Human Systems Integration

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 86 / 11

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Name: [89] Approach Lighting System : Medium-Intensity Approach Lighting System with Runway Alignment Indicator Lights

Acronym: MALSR

Description: The Medium-Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR) supports Category I instrument approaches. It is a medium intensity light system that identifies the extended runway centerline from threshold to 2,400 feet before the threshold. The MALSR supports Category I instrument approaches and presents to the pilot the illusion of a ball of light traveling from the outer end of the system to a point approximately 1,400 feet from the end of the runway. A row of green lights marks the threshold of the runway.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 89 / 9

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Name: [90] Omnidirectional Approach Lighting System

Acronym: ODALS

Description: ODALS- Omnidirectional Approach Lighting System consists of seven omnidirectional flashing lights located in the approach area of a nonprecision runway. Five lights are located on the runway centerline extended with the first light located 300 feet from the threshold and extending at equal intervals up to 1,500 feet from the threshold. The other two lights are located, one on each side of the runway threshold, at a lateral distance of 40 feet from the runway edge, or 75 feet from the runway edge when installed on a runway equipped with a VASI.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 90 / 8

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Name: [91] Precision Approach Path Indicator

Acronym: PAPI

Description: Precision Approach Path Indicator (PAPI)- An airport lighting facility, similar to VASI, providing vertical approach slope guidance to aircraft during approach to landing. PAPIs consist of a single row of either two or four lights, normally installed on the left side of the runway, and have an effective visual range of about 5 miles during the day and up to 20 miles at night. PAPIs radiate a directional pattern of high intensity red and white focused light beams which indicate that the pilot is "on path" if the pilot sees an equal number of white lights and red lights, with white to the left of the red; "above path" if the pilot sees more white than red lights; and "below path" if the pilot sees more red than white lights.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 91 / 11

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Name: [92] Runway End Identifier Lights

Acronym: REIL

Description: Runway End Identifier Lights (REIL)- Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive identification of the approach end of a particular runway.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 92 / 11

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Name: [93] Runway Visual Range

Acronym: RVR

Description: Runway Visual Range (RVR) is a system that measures visibility, background luminance, and runway light intensity to determine the distance a pilot should be able to see down the runway. RVRs consist of a visibility sensor, ambient light sensor, runway light intensity monitor, and processing units.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 93 / 12

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Name: [94] Approach Lighting System : Simplified Short Approach Light System with Runway Alignment Indicator Lights

Acronym: SSALR

Description: The Simplified Short Approach Light System with Runway Alignment Indicator Lights (SSALR) is a SSALS facility with sequence flashers installed from 1,600 to 2,400 feet from the runway threshold. Normal spacing between lights is 200 feet. This system assists pilots in transitioning from precision approach Instrument Flight Rules (IFR) to Visual Flight Rules (VFR) for landing.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 94 / 5

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Name: [95] Visual Approach Slope Indicator

Acronym: VASI

Description: Visual Approach Slope Indicator (VASI)- An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he/she is "on path" if he/she sees red/white, "above path" if white/white, and "below path" if red/red. Some airports serving large aircraft have three-bar VASIs which provide two visual glide paths to the same runway.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 95 / 11

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Name: [97] Non-Directional Beacon

Acronym: NDB

Description: NONDIRECTIONAL BEACON- An L/MF or UHF radio beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine his/her bearing to or from the radio beacon and "home" on or track to or from the station. When the radio beacon is installed in conjunction with the Instrument Landing System marker, it is normally called a Compass Locator.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 97 / 16

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Name: [98] Direction Finder

Acronym: DF

Description: A radio receiver equipped with a directional sensing antenna used to take bearings on a radio transmitter. Specialized radio direction finders are used in aircraft as air navigation aids. Others are ground-based, primarily to obtain a "fix" on a pilot requesting orientation assistance or to locate downed aircraft. A location "fix" is established by the intersection of two or more bearing lines plotted on a navigational chart using either two separately located Direction Finders to obtain a fix on an aircraft or by a pilot plotting the bearing indications of his/her DF on two separately located ground-based transmitters, both of which can be identified on his/her chart. UDFs receive signals in the ultra high frequency radio broadcast band; VDFs in the very high frequency band; and UVDFs in both bands.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 98 / 9

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Name: [99] Microwave Landing System

Acronym: MLS

Description: A precision instrument approach system operating in the microwave spectrum which normally consists of the following components:  
a. Azimuth Station.  
b. Elevation Station.  
c. Precision Distance Measuring Equipment.

State: Decommissioned

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 99 / 6

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Name: [100] Very High Frequency Omnidirectional Range Test

Acronym: VOT

Description: A ground facility, which emits a test signal to check Very High Frequency Omnidirectional Range (VOR-T) receiver accuracy. Some VOR-Ts are available to the user while airborne, and others are limited to ground use only. The airborne use of VOT is strictly limited to those areas/altitudes specifically authorized in the Airport/Facilities Directory (A/FD) or appropriate supplement.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 100 / 7

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Name: [101] Instrument Landing System Category I

Acronym: ILS CAT I

Description: Category I. An ILS approach procedure which provides for approach to a height above touchdown of not less than 200 feet and with runway visual range of not less than 1,800 feet

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 101 / 13

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Name: [102] Instrument Landing System Category II/III

Acronym: ILS CAT II/III

Description: Category II. An ILS approach procedure which provides for approach to a height above touchdown of not less than 100 feet and with runway visual range of not less than 1,200 feet (with autoland or HUD to touchdown and noted on authorization, RVR 1,000 feet).  
Category III  
a. IIIA.-An ILS approach procedure which provides for approach without a decision height minimum and with runway visual range of not less than 700 feet.  
b. IIIB.-An ILS approach procedure which provides for approach without a decision height minimum and with runway visual range of not less than 150 feet.  
c. IIIC.-An ILS approach procedure which provides for approach without a decision height minimum and without runway visual range minimum.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 102 / 11

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Name: [103] Very High Frequency Omnidirectional Range

Acronym: VOR

Description: A ground-based electronic navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the National Airspace System. The VOR periodically identifies itself by Morse Code and may have an additional voice identification feature. Voice features may be used by ATC or FSS for transmitting instructions/information to pilots.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 103 / 13

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Name: [104] Approach Lighting System : with Sequenced Flashers Model 2

Acronym: ALSF-2

Description: Approach Lighting System with Sequenced Flashers, Model 2 (ALSF-2) is a 2400 foot long array of high intensity incandescent lamps and flashers located on the final approach to a runway and are provided to support Category II and III instrument approaches. The ALSF-2 assists pilots to transition from low visibility Instrument Meteorological Conditions (IMC) to visual conditions for landing. A row of green lights marks the runway threshold.

These ALSF-2 systems represent the current acquisition.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 104 / 9

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Name: [108] Microprocessor-En Route Automated Radar Tracking System

Acronym: MEARTS

Description: The Microprocessor-En Route Automated Radar Tracking System (MEARTS) is a radar processing system implemented with commercial off-the-shelf (COTS) equipment, for use in the Anchorage, Alaska Air Route Traffic Control Center (ARTCC) and Center Radar Approach Control (CERAPs) environments. It provides single sensor and a mosaic display of traffic and weather using long- and short-range radars and at Anchorage it processes and displays Automatic Dependent Surveillance-Broadcast (ADS-B) surveillance as well. The MEARTS interfaces with multiple types of displays, including the flat panel Display System Replacement (DSR)(modified).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 108 / 11

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Name: [109] Oceanic Display and Planning System

Acronym: ODAPS

Description: The Oceanic Display and Planning System (ODAPS) consists of equipment that monitors and tracks aircraft over the ocean. It communicates and displays position data and flight plan information to the air traffic controllers responsible for monitoring and routing air traffic in the U.S. oceanic airspace. ODAPS has a situation display of aircraft position based on extrapolation of periodic voice position reports and filed flight plans. ODAPS includes a conflict probe (CP) functionality, which provides advance notification whenever stored flight plan information indicates that loss of separation minima may occur between aircraft, airspace reservations or warning areas.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 109 / 7

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Name: [112] Airport Movement Area Safety System

Acronym: AMASS

Description: The Airport Movement Area Safety System (AMASS) with Airport Surface Detection Equipment (ASDE) provides controllers with automatically generated visual and aural alerts of potential runway incursions and other potential unsafe conditions. AMASS includes the Terminal Automation Interface Unit (TAIU) that processes arrival flight data from the Terminal Approach Control (TRACON) automation system and beacon target data from the Airport Surveillance Radar (ASR) and generates a track. The track is compared with the movement of aircraft and ground vehicles on the airport surface based upon surveillance data from the Airport Surface Detection Equipment (ASDE-3). AMASS adds to the ASDE-3 by presenting alarms to the tower controllers when evasive action is required. AMASS integrates and displays data from ASDE-3 and the ASR. The FAA has installed AMASS at the nation's top 34 airports.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 112 / 11

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Name: [113] Air Route Surveillance Radar : Model 3

Acronym: ARSR-3

Description: The Air Route Surveillance Radar Model 3 (ARSR-3) is 1980s radar that provides primary long-range surveillance data, including slant range and azimuth data. It processes the returns which includes demodulation, analog-to-digital conversion, moving target indicator (MTI) function processing, sensitivity time control (STC), range and azimuth gating (RAG), and digital target extraction - all of which are performed digitally (with the exception of the front-end RF demodulation and analog-to-digital conversion). In addition, the ARSR-3 has a weather channel with associated processing to provide three-level weather intensity contour information in digital format. Twelve ARSR-3 systems are integrated with a collocated ATCBI-6 or ATCBI-5 beacon system to provide correlated target output data. Primary radar service in the affected coverage areas will be sustained until 2027 by DOD unless a decision is made to replace them with new surveillance systems. The FAA will provide maintenance support.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 113 / 11

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Name: [114] Air Route Surveillance Radar : Model 4

Acronym: ARSR-4

Description: The Air Route Surveillance Radar Model 4 (ARSR-4) is a three-dimensional, long-range, rotating phased array, primary surveillance radar with integrated height finder capability. It is part of the Joint Surveillance System (JSS) that is used in conjunction with ARSR-1, ARSR-2 and ARSR-3, to provide coverage as part of the National Airspace System (NAS) and nationwide air defense surveillance network. The ARSR-4 performs the functions as other ARSR radars for the FAA. ARSR-4 also satisfies DOD specific requirements for providing height data on surveillance targets. The ARSR-4 outputs weather intensity contour data formatted in up to six levels of intensity. The ARSR-4 is integrated with a collocated Air Traffic Control Beacon Interrogator Model 5 (ATCBI-5) or ATCBI-6 beacon systems to provide correlated target output data. ARSR-4 is not currently collocated with Mode Select (Mode S) systems. Forty-one (41) ARSR-4 systems provide service to the NAS. Two additional systems are owned by DOD and do not interface to the NAS. One support system is installed at the FAA Logistics Center. ARSR-4 systems are funded by DOD and FAA with providing FAA maintenance support. Plans are to sustain the ARSR-4 up to 2025 unless a decision is made to procure replacement systems through DOD earlier.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services

Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 114 / 12

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Name: [116] Airport Surface Detection Equipment : Model 3

Acronym: ASDE-3

Description: Airport Surface Detection Equipment - Model 3 (ASDE-3) provides primary radar surveillance of aircraft and airport service vehicles on the surface movement area. ASDE-3 is installed at the busiest U.S. airports. Radar monitoring of airport surface operations (ground movements of aircraft and other supporting vehicles) provides an effective means of directing and moving surface traffic. This is especially important during periods of low visibility such as rain, fog, and night operations.

ASDE-3 systems provide airport surface coverage thirty-four (34) airports. The ASDE-3 will undergo a Service Life Extension Program (SLEP) to extend its service life through 2015 (see ASDE-3 SLEP), which will enable it to more effectively support the Airport Movement Area Safety System (AMASS) through this same time period.

ASDE-3 will be maintained with O&M funding until 2022. A decision will be made on removal of surface primary radars in 2014. This will be impacted by security requirements. If a decision is made to remove ASDE-3, the decommissioning will start about 2018 with End of Service planned for 2022.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

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Name: [117] Airport Surveillance Radar : Model 11

Acronym: ASR-11

Description: The Airport Surveillance Radar Model 11 (ASR-11) is a short-range digital, integrated primary and secondary surveillance radar (SSR) radar system with a 60 nautical mile (nmi) detection range. It is being installed at low to medium activity airport terminal areas. The ASR-11 provides surveillance coverage in terminal areas and as en route coverage gap filler.

The ASR-11 provides Moving Target Detection (MTD) processing for primary radar targets, monopulse SSR processing for beacon targets and weather intensity mapping. The system outputs correlated radar/beacon target reports and weather maps, in two or six intensity levels, to support air traffic control operations.

Seventy-two (72) ASR-11 systems are being procured including 65 FAA operational systems, five DOD operational systems and two support systems. The ASR-11 systems will replace all legacy ASR-7 systems and 28 ASR-8 systems. Effective October 2007, 34 sites are commissioned and operational in the National Airspace System (NAS). All 66 FAA systems have been procured and the remaining 32 systems are scheduled to be commissioned by September 2009.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 117 / 17

Acronym: ASR-7

Description: The Airport Surveillance Radar Model 7 (ASR-7) is a short-range (60 nautical miles (nmi)) analog radar system used to detect and report the presence and location of aircraft in a specific volume of airspace. It is used in conjunction with the Air Traffic Control Beacon Interrogator-Model 4 or Model 5 (ATCBI-4 or ATCBI-5) or Mode Select (Mode S).

All ASR-7 and co-located beacon systems will be replaced by the ASR-11 system by 2011. The ASR-7 will be decommissioned.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 118 / 13

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Name: [119] Airport Surveillance Radar : Model 8

Acronym: ASR-8

Description: The Airport Surveillance Radar Model 8 (ASR-8) is a short-range (60 nautical mile (nmi)), analog radar system used to detect and report the presence and location of aircraft in terminal and en route airspace. The ASR-8 uses a moving target indicator (MTI) processing and output target data in analog form. A few ASR-8 systems are integrated with a collocated digitizing processor to provide a digital output.

The ASR-8 is used in conjunction with the Air Traffic Control Beacon Interrogator Models 5 (ATCBI-5) or Mode Select (Mode S). Only sites with the collocated digitizer provide correlated radar/beacon data in a digital output.

There are thirty-eight operational and two support ASR-8 radar systems in the NAS. These ASR-8 systems have exceeded their planned service life. Efforts are on-going to manage obsolete and aging parts to sustain the ASR-8. A Service Life Extension Program (SLEP) is being considered to sustain service at the ASR-8 facilities.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 119 / 18

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Name: [120] Airport Surveillance Radar : Model 9

Acronym: ASR-9

Description: The Airport Surveillance Radar Model 9 (ASR-9) is a short-range (60 nmi) radar system used for terminal area and en route gap filler surveillance. The ASR-9 processes the radio frequency (RF) returns using a moving target detection (MTD) function to extract surveillance target and weather contour data. The MTD offers improved detection over multiple Doppler frequencies over traditional moving target indicator (MTI) processing.

The ASR-9 weather channel is capable of producing two or six level weather contour mapping. This data is provided to Air Traffic Control display systems. A separate Weather System Processor (WSP) is interfaced to the ASR-9 to extract surveillance data. ASR-9 weather channel and WSP data is input to the Integrated Terminal Weather System (ITWS). The ASR weather channel data may be used to supplement Next Generation Weather Radar (NEXRAD) coverage.

The ASR-9 is collocated and interfaces to Mode Select (Mode S) or Air Traffic Control Beacon Interrogator Model 5 (ATCBI-5) systems to produce correlated radar/beacon surveillance data.

There are 125 FAA and 10 Department of Defense systems. Many DOD systems are integrated into the NAS to supplement coverage requirements. The ASR-9 will be upgraded using Service Life Extension Programs (SLEP) to ensure that it continues to meet maintenance and performance requirements. A decision is planned 2007 for a SLEP to address high failure parts, receiver modifications and parts for which there are diminishing source or suppliers.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 120 / 20

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Name: [121] Air Traffic Control Beacon Interrogator : Model 4

Acronym: ATCBI-4

Description: The Air Traffic Control Beacon Interrogator-Model 4 (ATCBI-4) is an air traffic control (ATC) beacon system that interrogates transponder-equipped aircraft. It is a secondary radar system that interrogates transponders, receives aircraft identification, and determines position data.

All ATCBI-4 beacon systems will be removed from the NAS by 2011. The ATCBI-4 systems will be decommissioned and/or replaced by ATCBI-5, ATCBI-6 or Mode S system.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 121 / 15

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Name: [122] Air Traffic Control Beacon Interrogator : Model 5

Acronym: ATCBI-5

Description: The Air Traffic Control Beacon Interrogator Model 5 (ATCBI-5) and ATCBI-4 are air traffic control (ATC) beacon systems that interrogate transponder-equipped aircraft. These are secondary radar systems that interrogate aircraft transponders to acquire Mode 3A aircraft identification codes and Mode C altitude information codes. The ATCBI-4/5 output this data in shaped-pulse video form to a collocated primary radar or separate digitizer processor for digital target correlation processing. This collocated processor determines the aircraft Mode 3/A identification and position data in terms of radial range, azimuth and altimeter altitude data reported in Mode C.

After deployment of the ATCBI-6 systems in 2011, all ATCBI-4 and ATCBI-5 systems will be removed from the en route sites. ATCBI-5 systems will be relocated to terminal radar sites to replace ATCBI-4 beacon systems. A small number of ATCBI-4 and ATCBI-5 systems remain in the NAS. These systems will eventually be replaced by an ATCBI-6 or a New Beacon system.

ATCBI-5 systems will be evaluated for potential Service Life Extension as part of a "Surveillance Interface Modernization". There will be a limited decommissioning of remaining ATCBI-5 systems after ADS-B Rule Compliance is mandated.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 122 / 16

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Name: [123] Mode Select

Acronym: Mode-S

Description: The Mode Select Ground (Mode S Gnd) is a ground-based system capable of selective interrogation of Mode S transponders and general interrogation of Air Traffic Control Radar Beacon System (ATCRBS) transponders within range. The system also receives, processes, and forwards the transponder replies to appropriate air traffic control (ATC) automation systems. Data formats for both interrogation and reply include data exchange capability.

The Mode S system provides a limited implementation of Traffic Information Service (TIS) that makes local traffic data available to the flight deck via the Mode S data link. TIS, a Mode S data link service, provides automatic traffic advisories to properly equipped aircraft. Pilots are able to request and receive a display of nearby traffic. The relative range, bearing, and altitude (if known) and a "proximate" or "threat" classification of nearby aircraft will be displayed in the cockpit.

The total Mode S procurement included 148 systems. One Hundred thirty-nine (139) Mode S systems are operational. One hundred sixteen are installed at short range radar (terminal) facilities and twenty three at installed at long range radar (LRR) facilities. Near term plans are to commission two systems at Chicago O'Hare (ORD). Remaining systems, which are displaced by the ASR-11 deployment, will be stored at the FAA Logistics Center.

Ninety-six (96) operational sites provide Traffic Information Service (TIS) service. Mode S systems will continue providing TIS-B services until TIS-B service is provided by the Surveillance and Broadcast Services (SBS) system.

The Mode S systems will be sustained through Service Life Extension Programs (SLEP) and Operations & Maintenance (O&M) funding until a decision is made on sustaining or replacing the Mode S Systems. A Mode S SLEP Phase 2 is being evaluated. This SLEP is discussed in MID 7610. A decision for limited en route and terminal replacement of legacy beacons (Mode S), and removal of remaining systems (Mode S) in planned for 2014.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 123 / 16

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Name: [124] Air Route Surveillance Radar : Model 1E

Acronym: ARSR-1E

Description: The Air Route Surveillance Radar Model 1E (ARSR-1E) is based on a 1970s vintage radar that has been updated through Service Life Extension Program (SLEP). It is a long-range radar system with a maximum detection range of 200 nautical miles (nmi). The ARSR-1E is a surveillance system used to detect azimuth and slant range of en route aircraft operating between terminal areas. It also provides weather intensity data. ARSR-1 and ARSR-1D are similar configurations to the ARSR-1E. The ARSR-1E is interface to a collocated Common Digitizer Model 1/2 (CD-1/CD-2) or other digital processor which provides digitized output. The ARSR-1E is integrated with a collocated ATCBI-6 or Mode S beacon to provide correlated target output data. Twenty-two ARSR-1E systems are collocated with ATCBI-6 and three are collocated with Mode S systems. These are legacy FAA and DOD systems that are now owned by DOD. The FAA will participate in maintenance and staffing. These systems are likely to be replaced by DOD if decommissioned.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 124 / 13

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Name: [125] Air Route Surveillance Radar : Model 2

Acronym: ARSR-2

Description: The Air Route Surveillance Radar Model 2 (ARSR-2) is based on 1970s vintage radar that has been updated through Service Life Extension Program (SLEP). It is a long-range radar system with a maximum detection range of 200 nautical miles (nmi). The ARSR-2 is a surveillance system used to detect azimuth and slant range of en route aircraft operating between terminal areas. It also provides weather intensity data. The ARSR-2 is interface to a collocated Common Digitizer Model 1/2 (CD-1/2) or other digital processor which provides digitized output. The ARSR-2 is integrated with a collocated ATCBI-6 and Mode S beacon to provide correlated target output data. Eighteen ARSR-2 radars provide service to the NAS. These systems are owned by DOD with maintenance support from the FAA. The ARSR-2 service will be sustained until 2025.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 125 / 11

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Name: [126] Fixed Position Surveillance Model 20 Series

Acronym: FPS-20 Series

Description: The Fixed Position Surveillance Model 20 Series (FPS-20 Series) is a military primary radar of various models (FPS-20A, FPS-64, FPS-66A, FPS-67/A/B, and ARSR-60M) used by the FAA to detect slant range and azimuth of en route aircraft operating between terminals in the continental United States. Each of the different radar models is a similar variation of the original FPS-20 military radar. These performance and maintainability for systems have been sustained through service life extension programs (SLEP).

FPS-20 radars are integrated with digitizer processors and collocated ATCBI-6 and Mode S beacon systems to provide a correlated search/beacon digital output. Twenty-one FPS systems are interfaced to the NAS. An additional DOD system at Tinker AFB may interface to the NAS.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 126 / 11

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Name: [127] Air Traffic Control Beacon Interrogator : Model 3

Acronym: ATCBI-3

Description: The Air Traffic Control Beacon Interrogator-Model 3 (ATCBI-3) is an air traffic control beacon system that interrogates transponder-equipped aircraft. It provides, through a secondary radar system, interrogation of transponders and reception of aircraft identification and position data. ATCBI-3s incorporated 1950s tube technology, and all were decommissioned by the late 1990s as a result of Mode Select (Mode S) deployments and ATCBI-4/5 relocations.

State: Decommissioned

Primary Roadmap: Surveillance  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 127 / 6

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Name: [128] Precision Runway Monitor : Electronic Scan

Acronym: PRM E-Scan

Description: The Precision Runway Monitor (PRM-E/A) system is a highly accurate electronic scan (e-scan) radar that tracks and processes aircraft targets at a 1-second update rate (as opposed to 4.8 seconds with conventional radars). The system is sometimes referred to as PRM-E. The PRM system provides controllers with automatic alerts and high-resolution displays that, in conjunction with specific procedures, enable pilots to fly simultaneous independent approaches to parallel runways spaced less than 4,300 feet apart. Without PRM parallel runways can be used for simultaneous independent approaches only during Visual Meteorological Conditions. With PRM, simultaneous independent approaches can be made to closely spaced parallel runways under Instrument Meteorological Conditions (IMC). The inability of pilots to conduct such approaches during adverse weather reduces throughput and increases delays.

PRM systems were commissioned at the Minneapolis-St. Paul International Airport (KMSP) in Oct. 1997, Lambert-Saint Louis International Airport (KSTL) in Oct. 1998, and Philadelphia International Airport (KPHL) in Sep. 2001. A PRM system was installed at New York's John F. Kennedy International Airport (KJFK) but was subsequently dismantled and removed. A PRM was commissioned at San Francisco International Airport (KSFO) in Oct. 2004. A PRM system was commissioned at Cleveland Hopkins International Airport (KCLE) in May 2005. A PRM was commissioned at the Atlanta Hartsfield-Jackson International Airport (KATL) in Apr. 2007.

Note that the PRM at Minneapolis-St. Paul (KMSP) was recently removed and sent to the FAA William J. Hughes Technical in Atlantic City, NJ.

PRM systems may be sustained until 2016 with service life improvements. However, a decision will be made in 2011 as to migration of PRM to PRM-A, based on multilateration technology.

State: In-Service

Primary Roadmap: Surveillance  
Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 128 / 24

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Name: [132] Weather Avionics

Acronym: Wx Avionics

Description: The Weather Avionics (Wx Avionics) mechanism refers to devices that receive weather data in alphanumeric or graphical format from ground-based systems (e.g., Flight Information Service (FIS), Terminal Weather Information for Pilots (TWIP)) and process it for display in the cockpit. The display may be a standalone unit or be integrated into a multifunction display (MFD).

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 132 / 5

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Name: [133] Airport Surveillance Radar - Weather System Processor

Acronym: WSP

Description: The WSP will provide Airport Traffic Control Tower (ATCT) users with timely and accurate warning (alerts) of hazardous wind shear and microbursts for voice relay to pilots via ground-to-air radio. The WSP will also provide ATCT and Terminal Radar Approach Control (TRACON) users with terminal area thunderstorm cell locations and movement, as well as the location and predicted future position and intensity of wind shifts that may affect airport operations. Users will have two types of displays. A Ribbon Display Terminal (RDT) will provide a runway-specific alphanumeric readout of the location, type, and intensity of wind shear/microburst hazards on or near terminal approach and departure corridors and on airport runways. A Geographical Situation Display (GSD) will depict: 1) the location and extent of local wind shear and microburst events, 2) the location, movement, and future position of thunderstorm cells, 3) the location, extent and future position of gust fronts with an estimate of the wind shift behind the front, and 4) six level precipitation maps. The WSP RDT and GSD displays and the user interface will be designed for commonality of appearance and operation with TDWR displays. The WSP will perform additional processing of precipitation data to reduce false severe weather reports caused by Anomalous Propagation (AP). This improved precipitation data will replace the ASR weather channel output for display on the ATCT and Terminal Radar Approach Control (TRACON) controller displays. The WSP is also equipped to receive the TWIP (Terminal Weather Information for Pilot) capability.

Similar to the TDWR and LLWAS-RS, the WSP will be affected by the decision to continue, or not, to continue to field a ground-based wind shear capability (see DP84 in NextGen Wx Roadmap) around 2017.

State: Planned  
Primary Roadmap: Weather  
Secondary Roadmap(s): Airport  
Flight Domain(s): Surface, Terminal  
Update Date: 01-Feb-2013 by Saro Ramakrishnan  
ID / Revision: 133 / 15

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Name: [135] Weather Message Switching Center Replacement  
Acronym: WMSCR  
Description: The Weather Message Switching Center Replacement (WMSRCR) is the primary National Airspace System (NAS) interface with the National Weather Service (NWS) Telecommunications Gateway (NWSTG) for the exchange of aviation alphanumeric and limited gridded weather products. WMSRCR collects, processes, stores, and disseminates aviation weather products to major NAS systems, the airlines, and international and commercial users. WMSRCR also provides storage and distribution of domestic Notice To Airmen (NOTAM) data and retrieval of international NOTAMs through the Consolidated NOTAM System (CNS).  
State: In-Service  
Primary Roadmap: Weather  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 135 / 6

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Name: [136] Integrated Terminal Weather System  
Acronym: ITWS

Description: The Integrated Terminal Weather System (ITWS) is a recent technology that helps make air traffic flow more efficient in periods of adverse weather at NAS pacing airports. The ITWS is an air traffic management (ATM) tool that provides terminal air traffic managers and controllers plus airline dispatchers with highly accurate, easily understood and immediately useable graphical weather information and hazard alerts on a single, integrated color display. The ITWS uses highly sophisticated meteorological algorithms to integrate and analyze data from multiple FAA and National Weather Service (NWS) sources, including data from the Terminal Doppler Weather Radar (TDWR), Airport Surveillance Radar Model 9 (ASR-9) weather channel, the Next Generation Weather Radar (NEXRAD) or WSR-88, the Low-Level Windshear Alert System (LLWAS), Automated Weather Observing System (AWOS) Data Acquisition System (ADAS), aircraft observations from Meteorological Data Collection and Reporting System (MDCRS), and NWS gridded model data to display current and near-term forecasts of weather conditions and hazards in the terminal area. The ITWS gets 1-minute ASOS data and ground stroke lightning data from ADAS.

The ITWS provides aviation-oriented weather products via situation displays to air traffic control (ATC) personnel in Airport Traffic Control Tower (ATCT), Terminal Radar Approach Control (TRACON), and some Air Route Traffic Control Center (ARTCC) facilities, as well as in the FAA's Air Traffic Control System Command Center (ATCSCC). These products are immediately usable without further meteorological interpretation. In addition, the ITWS subsumes the functionality of Terminal Weather Information for Pilots (TWIP) [from TDWR] and provides depictions of impacting weather to jetliner flight decks via a communications service provider (ARINC).

Re-baselined on May 3, 2004, the ITWS program office completed the following - through FY 2006, 15 systems had been ordered, delivered, installed, and commissioned. Service was provided at 19 airports of which 14 were Operational Evolution Partnership (OEP) airports and four were support systems. Also, as of FY 2006 the program completed the TCWF (Terminal Convective Wx Forecast) capability and completed installation of an ITWS in the New York City area. The remaining 7 (of 22 re-baselined operational systems) will deploy in FY 07 - FY09 providing coverage for 35 airports, of which 28 are OEP airports.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 136 / 6

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Name: [141] Automated Radar Terminal System : Model IIE

Acronym: ARTS IIE

Description: The Automated Radar Terminal System - Model IIE (ARTS IIE) provides radar data processing (RDP) and decision support tools to the controller in the terminal environment. Utilized at low to medium-size Terminal Radar Approach Control (TRACONS) facilities the ARTS IIE is capable of receiving input from up to two sensors, can process up to 256 tracks simultaneously, and support up to 22 displays. ARTS provides continuous real-time support to air traffic controllers at terminal sites including surveillance/tracking, controller data entry and display, aircraft separation assistance (safety functions), flight plan processing, data recording, external data publishing, and system monitoring and control functions.

ARTS performs the following functions:

- a. Track Processing (TP) - tracks aircraft and provides track and radar data to the LAN
- b. Common Processing (CP)- provides flight plan processing, safety functions [Minimum Safe Altitude Warning (MSAW), Conflict Alert (CA), Mode C intruder alert, Converging Runway Display Aid (CRDA), and Controller Automation Spacing Aid (CASA)], ARTCC interface processing, keyboard functional processing, Digital Altimeter Setting Indicator (DASI) interface processing, and ETMS interface processing
- c. Display Processing (DP)- provides controller display and keyboard functions and provides the interface to tower displays
- d. System Monitoring Console (SMC)- provides system management for CARTS hardware and software
- e. ARTS Gateway Processing (AGW)- shares data with external systems
- f. ARTS Radar Gateway (RGW)- provides most CARTS functions on an independent LAN for backing up the primary LAN functions
- g. Subsystem Interface Subsystem (SSI)- provides the LAN

The TP, CP, and SMC functions can be combined into one processing element or each subsystem can be a separate processing element.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 141 / 10

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Name: [142] Instrument Approach Procedures Automation

Acronym: IAPA

Description: Instrument Approach Procedures Automation (IAPA) is an automation system used to create new Instrument Flight Procedures (IFPs) and to maintain existing IFPs. IFPs provide pilots with approach paths clear of obstacles such as cell towers, buildings and trees into and out of an airport. Procedures define the operational rules for executing defined maneuvers. Procedure information includes approaches, holding, departures, arrivals, routes and minimum altitudes. Procedures are developed to dictate the execution of certain National Airspace System (NAS) operations under specified conditions or avionics equipment use in the cockpit. Effective procedures management requires periodic procedure reviews due to the impact of obstacles. Short-term notices to pilots called Notices-to-Airmen (NOTAMs) are also developed and issued.

The chosen alternative to address the IAPA requirements was to partner with the Department of Defense (DoD) in the acquisition, implementation and maintenance of a software tool. The Joint Resources Council (JRC) approved the initial investment decision for IAPA on 07 June 2006.

IAPA project (A14.00-00) funding was transferred to IFPA (Instrument Flight Procedures Automation) project (A14.02-01) per the JRC final investment decision on 20 September 2006. This is the new approved baseline.

The new IFPA program encompasses the Aviation Systems Standard (AVN) Procedure Tracking System (APTS); Instrument Flight Procedure (IFP) databases, which include Standard Instrument Approach Procedures (SIAP) and Fixes; Instrument Approach Procedure Automation (IAPA); and the future IFP design tool, Instrument Procedure Development System (IPDS). See IFPA Mechanism 7386.

State: In-Service

Primary Roadmap: Airspace and Procedures

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 142 / 5

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Name: [146] Air Traffic Control Beacon Interrogator : Model 6

Acronym: ATCBI-6

Description: The Air Traffic Control Beacon Interrogator Model 6 (ATCBI-6) is a ground-based system that interrogates transponders, receives, and processes replies from transponders, determines the range and azimuth to the aircraft, and forwards the information to appropriate air traffic control (ATC) automation systems. Replies provide identification and altitude data of the transponder. The ATCBI-6 Replacement Program will procure about 140 Monopulse Secondary Surveillance Radar (MSSR) with Selective Interrogation (SI) to replace existing operational beacons, which includes four support systems (not shown in the quantities below) for training, testing, logistics, and operational support.

As of December 2008, 137 ATCBI-6 systems had been delivered with 135 delivered to sites and 118 commissioned. One hundred and two (102) legacy ATCBI systems have been removed.

The ATCBI-6 will replace all ATCBI-4 and ATCBI-5 systems at NAS en route facilities. All ATCBI-4 systems will be out of the NAS by the end of 2007. ATCBI-5 systems will be moved to terminal or beacon only site (BOS) facilities.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

Name: [147] Very High Frequency (VHF) Ground Radios

Acronym: VHF Ground Radios

Description: Very High Frequency (VHF) Ground Radios are analog VHF amplitude modulation (VHF - AM) single-channel transceiver radio devices operating in the 118 - 137 MHz frequency band. The VHF ground-based radios directly support tactical air traffic control (ATC) voice communications and coordination between the ATC controllers and pilots in all flight domains (EnRoute, Arrival/Departure, and Surface).

Additionally, there are analog VHF frequency modulation (VHF - FM) radio devices operating in the 161 - 174 MHz frequency band that are multi-channel transceivers. These transceivers are used by Flight Inspection, Aviation Security, and Airway Facilities specialists supporting local airport operations and maintenance, and operational mission activities in support of the National Airspace System (NAS). Emergency situations and disaster recovery operations are also supported by the VHF - FM radios.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 147 / 12

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Name: [150] Special Use Airspace Management System

Acronym: SAMS

Description: The Special-Use Airspace Management System (SAMS) supports the FAA military operations (MILOPS) mission. It automates the coordination of FAA and U.S. Department of Defense (DoD) scheduling of Special Use Airspace (SUA) and other areas tracked by MILOPS. Military air traffic control specialists submit SUA schedules using the Military Airspace Data Entry (MADE) subsystem of SAMS. SAMS disseminates this information to users affected by SUA restrictions and other special-purpose operations. SAMS provides the capability to create, store and retrieve activity schedules, to allow users to identify potential schedule conflicts among airspaces and other tracked areas, to review and amend previously submitted activity schedules, and to produce reports on demand.

SAMS production web servers and database servers are located at the FAA David J. Hurley Air Traffic Command System Command Center (ATCSCC). Web browser access to SAMS is available to registered users over the Internet, and is also deployed with dedicated circuits to 26 remote locations around the United States, including 21 Air Route Traffic Control Center (ARTCC) sites, three Terminal Radar Control (TRACON) sites, and two Approach Control Centers. Tabular and graphic displays of airspaces and airspace schedule information are made available on the SUA website as a public advisory function of SAMS. SAMS was enhanced under CSS-D to provide SWIM enhancements.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 150 / 11

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Name: [152] Multifunction Display System Avionics

Acronym: MFDS Avionics

Description: A Multifunction Display System Avionics (MFDS Avionics) displays, by means of a cathode ray tube (CRT) or flat panel, graphical and textual information, selectable by type. A MFDS is capable of displaying 2-dimensional and 3-dimensional ground maps, navigation data, and flight parameters. If an air-to-ground data link is present, the MFDS can also display weather and traffic information.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Mary Yee  
ID / Revision: 152 / 4

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Name: [153] Multifunction Display System Avionics

Acronym: MFDS

Description: A Multifunction Display System Avionics (MFDS) displays, by means of a cathode ray tube (CRT) or flat panel, graphical and textual information, selectable by type. A MFDS is capable of displaying 2-dimensional and 3-dimensional ground maps, navigation data, and flight parameters. If an air-to-ground data link is present, the MFDS can also display weather and traffic information.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 153 / 3

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Name: [157] En Route Communications Gateway

Acronym: ECG

Description: The En Route Communications Gateway (ECG) replaces the Peripheral Adapter Module Replacement Item (PAMRI) and provides a modernized local area network (LAN)-based infrastructure capable of accommodating the En Route Automation Modernization (ERAM) program with minimal modifications. The PAMRI functions to be replaced included providing communication interfaces to external systems located in other Air Route Traffic Control Centers (ARTCCs), Terminal Radar Approach Control (TRACON) facilities, Automated Flight Service Stations (AFSSs), David J. Hurley Air Traffic Control System Command Center (ATCSCC), North American Aerospace Defense Command (NORAD), U.S. Law Enforcement, U.S. Customs, Military Base Operations, and international Area Control Centers (ACCs). Other interfaces include the Flight Data Input/Output (FDIO) Central Control Unit, which exchanges FDIO data with FAA and U.S. Department of Defense (DoD) facilities, and the National Airspace Data Interchange Network (NADIN) concentrator, which exchanges data through the NADIN Packet Switched Network (PSN) with the M1FC via the Weather Message Switching Center Replacement (WMSCR). The ECG increases the number of external interfaces to radars from 24 to 36. The ECG provides internal interfaces between the Host Computer System (HCS) and the Direct Access Radar Channel (DARC), or EBUS, and between HCS and traffic flow processors such as the Enhanced Traffic Management System (ETMS) and Departure Spacing Processor (DSP), both of which eventually will transition from ECG to the Host Interface Device/National Airspace System Local Area Network (HID/NAS LAN) system. The ECG Monitor and Control (M&C) subsystem includes a

display for monitoring up to two-dozen radars. This display is called the Random Access Plan Position Indicator (RAPPI).

The operational components of ECG consist of: (a) front-end processor (communications and surveillance interfaces), (b) two gateway processors (internal connectivity to HCS and DARC/ Enhanced Backup Surveillance (EBUS)), (c) LANs that communicate between the front-end and gateway processors on the primary and the backup automation systems, and (d) a monitor and control processor. With replacement of DARC by EBUS, the ECG gateway processor is renamed to the Backup Interface Processor (BIP), with the BIP platform housing both the ECG gateway application and the EBUS application.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 157 / 8

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Name: [158] Systems Atlanta Information Display System IDS4

Acronym: SAIDS - IDS4

Description: A Systems Atlanta Information Display System (SAIDS) enables users to collect and/or input, organize, format, update, disseminate, and display both static (e.g., approach plates, charts) and real-time data regarding weather and other rapidly changing critical information to air traffic controllers and Air Traffic Control (ATC) supervisors/managers. SAIDS is installed at Airport Traffic Control Tower (ATCT) facilities, Terminal Radar Approach Control (TRACON) facilities, Air Route Traffic Control Center (ARTCC) facilities, Combined Center and Radar Approach Control (CERAP) facilities, FAA regional offices, Airports, Airline Operations Centers (AOCs), and military facilities. SAIDS is also known as Information Display System 4 (IDS-4). IDS-4 workstations include 135 systems at 390 facilities, including 25 of the 35 Operational Evolution Plan (OEP) airports.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 158 / 10

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Name: [161] Mode 3/AC Transponder

Acronym: Mode 3/AC X'ponder

Description: A Mode 3/AC Transponder (Mode 3/AC XPNDR) is a device that responds to an Air Traffic Control Radar Beacon System (ATCRBS) or Mode Select (Mode S) interrogation by transmitting a 12-bit code that identifies an aircraft. Mode 3 is the military identity mode. Mode A is the civil identity mode. Mode 3 and Mode A are reported in identical formats and are called Mode 3/A. The Mode 3/A code in the field consist of 12-bits divided into four groups (A, B, C, and D) of three bits each. The Mode 3/A identity code consist of only four digits, each digit being the octal representation of one of the four groups in the field and listed in the order A, B, C, and D.

A Mode C transponder is a device that responds to an Air Traffic Control Radar Beacon System (ATCRBS) or a Mode S interrogation by transmitting an altitude gray code from the aircraft blind altitude encoder.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 161 / 9

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Name: [162] Flight Management System Offset

Acronym: FMS Offset

Description: FMS Offset is an en route high altitude procedure loaded into the FMS and used by pilots of turbojet and turboprop aircraft navigating an assigned route along an airway or between published navigational fixes by adjusting their course to parallel the assigned route either 1 NM or 2 NM to the right of the airway or course centerline.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Air / Ground

Flight Domain(s): En Route, Oceanic, Surface, Terminal

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 162 / 12

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Name: [164] Cockpit Display of Traffic Information

Acronym: CDTI

Description: Avionics devices that provide a cockpit display of traffic information (CDTI) enabling pilots to acquire, verify, and maintain pre-defined spacing intervals from other ADS-B equipped aircraft.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 164 / 19

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Name: [165] Local Area Augmentation System (Ground Based Augmentation System) Category II/III

Acronym: LAAS (GBAS) CAT II/III

Description: LAAS/GBAS is a ground-based augmentation to GPS that focuses its service on the airport area (approximately a 20-30 mile radius) for precision approach, departure procedures, and terminal area operations. It broadcasts its correction message via a very high frequency (VHF) radio data link from a ground-based transmitter. GBAS will yield the extremely high accuracy, availability, and integrity necessary for Category I, II, and III precision approaches, and will provide the ability for flexible, curved approach paths. LAAS/GBAS consists of a precisely surveyed ground station with multiple Global Positioning System (GPS) receivers, a very high frequency (VHF) radio data broadcast (VDB), and possibly one or more pseudolites to increase availability. The LAAS/GBAS ground station will receive, process, and communicate differential correction information, together with an integrity message, to aircraft avionics within a nominal radius of 20 to 30 nautical miles from the airport.

Pseudolites are ground-based transmitters that broadcast GPS-like signals. Although not currently envisioned as part of the LAAS architecture, pseudolites may be required to ensure that LAAS/GBAS meets CAT II/III requirements. Pseudolites can be used as a data link to transmit differential corrections and integrity status to aircraft avionics and as a supplementary ranging source. When used as ranging sources, pseudolites can improve system accuracy by improving the local constellation geometry and system availability.

State: Planned

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 165 / 15

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Name: [166] Airborne Very High Frequency Data Link

Acronym: VHF Data Link

Description: Very High Frequency Data Link-1 Avionics (VDL-1 Avionics) consist of airborne radios operating in the very high frequency (VHF) range that receive and transmit data using a low-speed, character-oriented protocol and Carrier Sense Multiple Access (CSMA). Employed for use with the Aircraft Communications Addressing and Reporting System (ACARS).

State: In-Service

Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): En Route, Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 166 / 10

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Name: [174] Oceanic Computer System

Acronym: OCS

Description: The Oceanic Computer System (OCS) is Anchorage's unique oceanic flight data processing system. OCS provides flight data to Anchorage's Microprocessor En Route Automated Radar Tracking System (MicroEARTS) radar data processing system and for procedural air traffic control (ATC) separation assurance services in oceanic regions of the Anchorage Flight Information Region (FIR). Additionally, OCS implements it's own version of data link for Future Air Navigation System (FANS)-equipped aircraft in Anchorage's offshore airspace.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 174 / 5

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Name: [175] Fixed Position Surveillance Model 117

Acronym: FPS-117

Description: The Fixed Position Surveillance Model 117 (FPS-117) radar is a joint-use military surveillance system used by the FAA to detect slant range and azimuth of en route aircraft. These radars are located in Alaska (12) and Hawaii (1), and are expected to be sustained until at least 2020.

Twelve FPS-117 radar and collocated beacon system provide a correlated radar/beacon target output in digital format to the NAS. Another system at Mt Kokee, HI is capable of providing data to the NAS.

THE FPS-117 systems will be sustained by DOD until a decision is made on a new surveillance system replacement.

State: In-Service  
Primary Roadmap: Surveillance  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 175 / 12

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Name: [176] Satellite Based Augmentation System  
Acronym: SBAS  
Description: WIDE-AREA AUGMENTATION SYSTEM (WAAS/SBAS)- WAAS/SBAS is a satellite navigation augmentation system consisting of the equipment and software that augments the GPS Standard Positioning Service (SPS). WAAS/SBAS provides enhanced integrity, accuracy, availability, and continuity over and above GPS SPS. The differential correction function provides improved accuracy required for precision approach.  
State: In-Service  
Primary Roadmap: Navigation  
Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety  
Flight Domain(s): En Route, Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 176 / 25

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Name: [183] Airborne VHF Radio

Acronym: VHF Radio

Description: Very High Frequency (VHF) Airborne Radios are VHF amplitude modulation (VHF-AM) radios operating in the 118-137 MHz frequency band which are installed in an aircraft (e.g., commercial, cargo, and general aviation). These radios support the tactical two-way voice communications/coordination between the pilot in the aircraft and the controller on the ground.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 183 / 11

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Name: [184] Automatic Direction Finder Receiver

Acronym: ADF

Description: An aircraft radio navigation system which senses and indicates the direction to a L/MF nondirectional radio beacon (NDB) ground transmitter. Direction is indicated to the pilot as a magnetic bearing or as a relative bearing to the longitudinal axis of the aircraft depending on the type of indicator installed in the aircraft. In certain applications, such as military, ADF operations may be based on airborne and ground transmitters in the VHF/UHF frequency spectrum.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None  
Flight Domain(s): En Route, Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 184 / 7

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Name: [185] Very High Frequency Omnidirectional Range Avionics  
Acronym: VOR Avionics  
Description: Very High Frequency Omnidirectional Range Avionics (VOR Avionics) receive, process, and display the azimuth (bearing) to a VOR ground station.  
State: In-Service  
Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): En Route, Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 185 / 6

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Name: [186] Distance Measuring Equipment Avionics  
Acronym: DME  
Description: Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.  
State: In-Service  
Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 186 / 9

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Name: [188] Backup Emergency Communications (BUEC)

Acronym: BUEC

Description: The Backup Emergency Communications (BUEC) sustains and replaces the existing analog BUEC systems. BUEC provides backup air-to-ground (A/G) communications services for Remote Communications A/G (RCAG) Very High Frequency (VHF) and Ultra High Frequency (UHF) communications channels (radio equipment) for the Air Route Traffic Control Centers (ARTCCs) facilities and En-Route domains.

The system consists of remotely controlled equipment, and several VHF and UHF transceivers.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 188 / 10

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Name: [192] Oceanic Flight Data Processing System

Acronym: OFDPS

Description: The Oceanic Flight Data Processing System (OFDPS) is the flight data processing system located at the Honolulu Control Center (HCF) Combined Center and Radar Approach Control (CERAP) site. It provides limited flight data processing including providing paper flight strips for the Micro-EARTS system at the CERAP and also provides flight data feed to the Guam CERAP.

OFDPS was rehosted onto new hardware using the existing OFDPS application software as part of the En Route Host/Oceanic Computer System Replacement (HOCSR) program.

OFDPS functionality will be sustained until 2011 when it may be replaced by Flight Data Processing (FDP) 2000 to achieve a common platform for future system integration.

A study of the requirements for the off-shore sites is being conducted to determine future plans for the automation. The results of the study are expected in early CY2009.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 192 / 8

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Name: [193] FAA Telecommunications Infrastructure - 1 (FTI-1)

Acronym: FTI-1

Description: FTI (FTI-1) is a Leased Telecommunications Services contract that is used to satisfy NAS operational and Mission Support telecommunications requirements. FTI is intended to consolidate FAA's communications networks and leased services. FTI provides the range of services that are equivalent to those provided by Leased Inter-facility Communication System (LINCS), Radio Communications Link (RCL), Agency Data Telecommunications Network 2000 (ADTN 2000), Bandwidth Manager (BWM) network including its FAA IP-Routed Multi-user Network (FIRMNET), and the Data Multiplexer Network (DMN). These networks have been, are in the process of, or eventually will be decommissioned. FTI will not duplicate the X.25 services currently provided by NADIN PSN but will accommodate NADIN PSN users as they develop IP capability and migrate to FTI IP services. This will allow

the NADIN PSN to be eventually decommissioned. FTI will not replace NADIN MSN services. NADIN MSN is currently being rerouted and will provide access to its services via both X.25 and IP. FTI will provide the IP access to NADIN MSN.

FTI provides point-to-point and multipoint Voice Grade (VG) analog services, point-to-point digital services, IP network services, and switched circuit services. FTI ALSO provides a range of interface types that includes VG, DDC, DDS, T1, T3, ETHERNET, FDDI, and ISDN. FTI services can be ordered across a range of availability requirements from 0.997 to 0.9999971 and across a range of latency limits from 50 ms to 1000 ms. For Security, FTI provides a range of Security Services that includes Basic security, VPNs, Gateways to non-NAS users, and Dedicated Services for critical NAS operational communications traffic.

For Network Management and Operations (NMO), FTI provides User Interface terminals to Technical Operations Control Centers. NMO terminals provide authorized users in these facilities with access to FTI services real-time status, service alarms and alerts, service performance data, service configuration data and other useful information.

In support of Business Services, FTI provides Integrated Business System terminals. Authorized users will have access through these terminals to the following applications: Cost Estimation, Service Quotation, Service Ordering, and Inventory.

The FAA Telecommunications Satellite (FAATSAT) has been transitioned to the FTI Service Class (SC) 14 for voice air-to-ground (A/G) and SC 41 for surveillance data services.

The Agency Data Telecommunications Network 2000 (ADTN-2000) Contract has also transitioned to the FTI as Mission Support Data Services.

At this point, Harris says it has transitioned more than 90 percent of the FAA's legacy networks to the FTI network. [Fit Tech Online, 12-11-2007.]

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Support Activity for SWIM Application Security:

- Demonstration of Enhanced Data Services (ED-X) for NAS Security Application Protection Services for data information exchanges utilizing SOA security mechanisms.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 193 / 11

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Name: [195] Aeronautical Telecommunication Network Ground to Ground (ATN G/G) Router

Acronym: ATN G/G Router

Description: The Aeronautical Telecommunication Network (ATN) is an evolving global data Internet infrastructure developed by the International Civil Aviation Organization (ICAO). The ATN will be comprised of an interconnection of computers with gateways or routers via real sub-networks. This allows the construction of a homogeneous virtual data network in an environment of administrative and technical diversity.

The ATN design allows communications services for different user groups; i.e., Air Traffic Services (ATS), Aeronautical Operational Control (AOC), Aeronautical Administrative Communications (AAC), and Aeronautical Passenger Communications (APC). The design provides for the incorporation of different air-to-ground sub-networks and different ground-to-ground sub-networks (e.g., AFS, Aerospace Medical Certification Subsystem (AMCS)), resulting in a common data transfer service. These two aspects are the basis for interoperability of the ATN and will provide a reliable data transfer service for all users. The design is such that user communications services can be introduced in an evolutionary manner.

The ground-to-ground application adopted by the ICAO member states, the ATS Message Handling System (AMHS), replaced the existing Aeronautical Fixed Telecommunication Network (AFTN) which interfaced with the NADIN Message Switching Network (MSN).

AMHS is currently using the ATN A/G Router in implemented with the Japanese Civil Aviation Bureau (JCAB), and upgrades of AFTN are taking place with Australia, Fiji, New Zealand and other states in the Caribbean/South America (CAR/SAM) region.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 195 / 6

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Name: [196] Dynamic Ocean Tracking System Plus

Acronym: DOTS+

Description: The Dynamic Ocean Tracking System Plus(DOTS+) automation system is located in each of the three Oceanic Air Route Traffic Control Centers (ARTCCs), (Anchorage, Oakland, and New York) and in the David J. Hurley Air Traffic Control System Command Center (ATCSCC). The DOTS, upgraded and frequently referred to as "DOTS +", permits airlines to save fuel by flying random routes, in contrast to structured routes, and permits the air traffic controller to achieve lateral spacing requirements more efficiently. The DOTS generates flexible oceanic tracks that are optimized for best airspace utilization and best time/fuel efficiency. Flexible tracks are updated twice a day using forecasted winds aloft and separation (vertical and lateral) requirements. The DOTS oceanic traffic display gives a visual presentation of tracks and weather. The DOTS sends traffic advisories and track advisories to users and receives aircraft progress reports from the commercial communications service providers (CCSP). These external data exchanges are achieved through interfaces with the National Airspace Data Interchange Network (NADIN) Packet Switch Network (PSN) for Position Reports, Air Traffic Management (ATM) messages, Pilot Reports (PIREPS), and the Anchorage FDP2000. An interface to the Enhanced Traffic Management System (ETMS) will improve coordination between the oceanic and domestic Traffic Flow Management (TFM) systems/activities. The DOTS Weather Server, installed at the ATCSCC, receives National Weather Service (NWS) wind and temperature data via the Weather and Radar Processor / Weather Information Network Server (WARP/WINS) system. The weather data is then distributed to the ARTCCs via commercially provided Integrated Services Digital Network (ISDN) telephone lines. DOTS Plus supports separation reduction initiatives as stipulated in RNP-10 (Required Navigation Performance) for decreasing lateral separation from 100 nautical miles to 50 nautical miles.

State: In-Service

Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 196 / 8

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Name: [197] Distance Measuring Equipment : High Power

Acronym: HP DME

Description: High Power Distance Measuring Equipment (HP DME) is a UHF (Ultra High Frequency) ground-based navigation aid that responds to aircraft DME avionics interrogations, thereby enabling the avionics to determine the slant range between the aircraft and the ground station. DMEs are typically collocated with a Very High Frequency Omnidirectional Range (VOR) to form a VOR/DME facility for enroute navigation, or with an Instrument Landing System Localizer for precision landing procedures. Slant range data can also be obtained from the DME function of a Tactical Air Navigation (TACAN) system. A navigation facility containing a TACAN and a VOR is termed a VORTAC.

DMEs will be sustained to support en route navigation and precision landings. In the future DME quantities may be expanded to provide a redundant ground-based area navigation (RNAV) capability to supplement GPS procedures.

Separate funding segments and acquisition projects have been established for High power (en route) DMEs, and low power (terminal) DMEs. This mechanism addresses the high power DMEs.

State: In-Service

Primary Roadmap: Navigation  
Secondary Roadmap(s): None  
Flight Domain(s): En Route  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 197 / 19

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Name: [206] Tower Data Link System (TDLS)

Acronym: TDLS

Description: The Tower Data Link System (TDLS) automates tower-generated information for transmission to aircraft via data link. The TDLS interfaces with sources of local weather data and flight data and provides pilots with Pre-Departure Clearance (PDC), Digital-Automatic Terminal Information System (D-ATIS), and emulated Flight Data Input/Output (FDIO). The PDC helps tower clearance delivery specialists compose and deliver departure clearances. The Digital Automatic Terminal Information Service (D-ATIS) provides high reliability messages of runway and taxiway instructions, information on avionics equipment, frequency outages, and local weather conditions worldwide. The TDLS data is transmitted in text form via the Aircraft Communication and Reporting System (ACARS) to an ACARS-equipped aircraft for review and acknowledgment by the flight crew.

Incorporating D-ATIS into TDLS allows: (1) Real-time ATIS updates throughout the National Airspace System (NAS), (2) Text message printouts, vice hand written recordings, (3) Pilots to receive destination ATIS information, prior to take-off.

In the current system configuration, the FAA supplies the TDLS service application system (server) and a Commercial Communications Service Provider (CSSP) (i.e., ARINC) provides the communications delivery. Terrestrial communications delivers the messages to a gate printer and radio frequency communications delivers the messages to the aircraft cockpit.

In the far-term, the TDLS server will be replaced by the "Terminal Flight Data Manager" server and DataComm is projected to provide radio communications delivery to the aircraft.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 206 / 19

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Name: [207] User Request Evaluation Tool

Acronym: URET

Description: The User Request Evaluation Tool (URET) is a conflict probe decision support system. URET provides four key capabilities to Air Route Traffic Control Center (ARTCC) facilities: (1) Aircraft-to-aircraft conflict detection, (2) Aircraft-to-airspace conflict detection, (3) Evaluation of user or controller request for flight plan amendments or route changes; and (4) Enhanced flight data management. This tool allows controllers to determine whether requests for direct routes can be approved without conflicting with other flights or airspace restrictions.

State: In-Service  
Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 207 / 9

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Name: [213] Airborne HF Radio  
Acronym: HF Radio  
Description: High Frequency (HF) Airborne Radios are analog (HF multi-channel radio transceivers operating in the 2-30 MHz frequency band installed in airborne commercial, cargo, and military aircraft. These transceivers are typically used in transoceanic applications.  
State: In-Service  
Primary Roadmap: Aircraft  
Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety  
Flight Domain(s): Oceanic  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 213 / 9

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Name: [215] FAA Bulk Weather Telecommunications Gateway

Acronym: FBWTG

Description: The FAA Bulk Weather Telecommunications Gateway (FBWTG) provides the FAA communications interface to the National Weather Service (NWS) Telecommunications Gateway for the acquisition of gridded model weather products. The FBWTG is a module of the WARP at the ATCSCC. The FBWTG will facilitate the interagency connection between the 4-D Wx Data Cube (NWS) and NNEW WP1 (FAA).

The weather products are used by the Weather and Radar Processor (WARP), Integrated Terminal Weather System (ITWS). The FBWTG also provides information transfer and delivery for airborne weather observations (from the Meteorological Data Collection and Reporting System (MDCRS)) used by ITWS.

The Aviation Weather Center in Kansas City, MO. uses the communications gateway to delivery weather advisories and information of hazardous products to the NAS.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): TFM

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 215 / 6

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Name: [217] Traffic Management Advisor

Acronym: TMA

Description: Traffic Management Advisor (TMA) computes flight arrival sequencing, scheduled time of arrival (STA), and estimated time of arrival (ETA) at various points along the aircraft flight path to an airport. These points include an outer meter arc, the meter fix, the final approach fix, and runway threshold. In response to changing events and controller inputs, TMA provides results to the en route sector team to maintain optimum flow rates to runways. It does this by providing continual updates of meter fix STA and delay information at a speed comparable to the live radar update rates. The team defines maneuvers and issues clearances so aircraft cross the meter fixes at the STA. Since TMA calculates a schedule for arriving aircraft to meet Terminal Radar Approach Control (TRACON) facility acceptance rates set by Traffic Management Specialists (TMSs), selected airports must be the basis for a TMA deployment plan. TMA also maintains statistics on the traffic flow and the efficiency of the airport and displays them to TMSs. TMA system came online at Indianapolis and Kansas City Centers August 22, 2007, completing the system's deployment at all the centers in the continental United States.

A paper Joint Resources Council (JRC) decision was approved on 01 May 2007 and a Record of Decision (ROD) was issued.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

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ID / Revision: 217 / 9

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Name: [222] Terminal Weather Information for Pilots

Acronym: TWIP

Description: The Terminal Weather Information for Pilots (TWIP) system provides jetliner pilots with direct access to limited weather information from each of 46 Terminal Doppler Weather Radar (TDWR) sites via a commercial communications service provider. TWIP enables jetliner pilots of equipped aircraft to view a rough depiction of hazardous weather (heavy precip, windshear/microbursts) similar to what is displayed to Tower and TRACON controllers.

At those TDWR sites where the Integrated Terminal Weather System (ITWS) has been implemented, the TWIP functionality will be transferred onto the ITWS. TWIP functionality may eventually be provided from the Weather System Processor (WSP) sites as well.

It is possible that TWIP functionality may be transferred to an Air Segment of SWIM in the future.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

safety

Flight Domain(s): Surface, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 222 / 7

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Name: [224] Traffic Information System Avionics

Acronym: TIS Avionics

Description: Traffic Information System Avionics (TIS Avionics) receive signals from Mode Select (Mode S) ground-based beacon interrogators that contain position information on all aircraft responding to its interrogations and provides relative position of aircraft in the immediate vicinity to the flight crew displays.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 224 / 11

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Name: [239] Flight Information Service - Data Link

Acronym: FISDL

Description: The Flight Information Service - Data Link (FISDL) provides pilots weather, Notices to Airmen (NOTAMs), airfield information, and other types of aeronautical information through Very High Frequency (VHF) utilizing a commercial communications service provider (CCSP).

The FISDL service is being facilitated through a Government-Industry Project Performance Agreement (G-IPPA) allowing a commercial weather service provider (CWSP) to offer graphical and textual FIS/weather products to the cockpit of properly equipped aircraft. This commercially-operated service is being provided as a near-term capability consistent with the FAA FIS Policy Statement of 1998.

This CWSP service will be phased out when the FAA is able to offer similar FISDL services through FAA operated data link resources (e.g., via the universal access transceiver (UAT) link using the Broadcast Services Ground Station (BSGS) and Traffic Information Service (TIS)-FIS Broadcast Server mechanism).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 239 / 7

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Name: [240] Very High Frequency Multi-Mode Airborne Radios

Acronym: VHF MM Airborne Radios

Description: Very High Frequency Multi-Mode Airborne Radios (VHF MM Airborne Radios) refer to an airborne radio operating in the very high frequency (VHF) range capable of operating in the following modes: (1) analog voice (i.e., 25 kHz spacing for use in the United States and other similarly equipped countries); (2) VHF Digital Link Mode 2 (VDL Mode-2) (two-way digital data transmission); (3) VHF Digital Link Mode 3 (VDL Mode-3), (integrated two-way digital voice/data transmission); and (4) analog voice (i.e., 8.33 kHz spacing for use in Europe and other similarly equipped countries).

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 240 / 6

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Name: [246] Bandwidth Manager (BM)

Acronym: BWM

Description: Bandwidth Manager (BWM) provides capacity for multiple communication services and the ability to multiplex voice and data within the National Airspace System (NAS) telecommunications network. The BWM enhanced the NAS network capabilities by providing bandwidth-on-demand, automatic restoration, switching and intelligent routing of services between FAA owned and/or leased interfacility connectivities.

The FTI Service provides the back-bone trunking and connectivity for the BWM. As part of BWM migration, the FTI services contract will also provide bandwidth management services.

State: In-Service  
Primary Roadmap: Communications  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 246 / 6

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Name: [251] Airborne Satellite Telecommunications Data Link  
Acronym: SATCOM Data link  
Description: Oceanic Centers have the option to utilize Satellite Telecommunications Data Link (SATCOM DL) from a Commercial Communications Service Provider to transfer data between ground stations and aircraft. For this service, the FAA contracts for the satellite communications service and the aviation community contracts for the Future Air Navigation System 1/A (FANS-1/A) applications service delivery in the Oceanic domain. The FAA has no plans to develop its own SATCOM air-to-ground communications system.  
State: In-Service  
Primary Roadmap: Aircraft  
Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety  
Flight Domain(s): Oceanic  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 251 / 13

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Name: [253] Instrument Landing System Avionics

Acronym: ILS Avionics

Description: Instrument Landing System (ILS) Avionics are a composite of marker beacon, localizer, and glide slope receivers. Up to three separate marker beacons broadcast tone-modulated 75-MHz signals, which the avionics displays as distance to the runway approach end. The end-of-runway localizer radiates a tone-modulated runway centerline signal on one of 40 ILS channels in the very high frequency (VHF) frequency range of 108.10 to 111.95 MHz. The glide slope radiates a tone-modulated precision descent angle signal on one of 40 channels in the ultrahigh frequency (UHF) frequency range of 329.3 to 335.0 MHz. Localizer and glide slope channels are paired so both are selected at the ILS receiver with a single channel selection.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 253 / 9

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Name: [264] Airport Surface Detection Equipment : Model X

Acronym: ASDE-X

Description: The Airport Surface Detection Equipment - Model X (ASDE-X) is a modular surface surveillance system capable of processing radar, multilateration, and Automatic Dependent Surveillance-Broadcast (ADS-B) sensor data which provides airport surface surveillance to air traffic controllers. ASDE-X provides low cost surface surveillance for airport areas. Plans are to implement ASDE-X technology at 35 ASDE-3 sites. Three non-operation systems will be installed to support logistics and training.

ASDE-X Technology Refresh and Disposition provides funding for the technology refresh, replacement of obsolete and diminishing source parts and eventual disposition of the 35 operational and three support systems. The technology refresh will be implemented between 2012 and 2016

Eleven ASDE-X systems are operational as of November 2007. Current plans are for ASDE-X to be operational until 2025. A decision is planned for 2014 as to removal of surface primary radars. This decision will be impacted by evolving air traffic security requirements.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 264 / 18

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Name: [265] Reduced Vertical Separation Minimum Altimeter

Acronym: RVR Altimeter

Description: Reduced Vertical Separation Minimum Altimeter (Domestic) (RVSM Alt (Domestic)) is a source of altitude data or information that was added to support the RVSM capability. It consists of two independent altimeters with enhanced transducers or double aneroid sensors for computing altitude. The altitude source is connected through the static system to provide an automatic means of correcting the known static source error of the aircraft to improve aircraft altitude measurement capability. Domestic RVSM Alt may also be used to satisfy Oceanic RVSM and the altitude sensor may be included within an air data computer.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Oceanic

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ID / Revision: 265 / 13

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Name: [280] Automated Surface Observing System Controller Equipment Information Display System

Acronym: ACE-IDS

Description: The Automated Surface Observing System (ASOS) Controller Equipment (ACE) Information Display System (ACE-IDS) is a hardware upgrade and software replacement to the ACE. The ACE-IDS is an integrated commercial off-the-shelf/non-developmental item (COTS/NDI) system that allows data from multiple internal and external sources to be consolidated on screen in many combinations and formats for easy access within a graphical user interface. Reference data, such as charts, maps, approach plates, procedures, etc., can be integrated with real-time data collected by interfaces to other systems.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 280 / 9

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Name: [281] Radio Frequency Interference Elimination (RF ELIM)

Acronym: RFI ELIM

Description: The Radio Frequency Interference (RFI) Elimination Program supplies equipment and implementation funds to assist the regions in preventing, reducing or eliminating interference problems in the air-to-ground (A/G) communications environment. Products include linear power amplifiers (LPA), transmitter combiners, and receiver multicouplers.

In addition, funds are provided to the regions to purchase a variety of filters needed to reduce or eliminate RFI. The RFI Elimination Program is a collection of projects to improve communications for operational needs. These projects are mainly for correction of site specific deficiencies such as interference from amplitude modulation/frequency modulation (AM/FM) broadcast stations, and plastic welders. The reliability of communications for air traffic controllers to pilot and air traffic controller to air traffic controller is vital to the safe operation of the air traffic control.

RFI will not be segmented, since this project addresses RFI requirements as they surface across all domains.

State: In-Service  
Primary Roadmap: Communications  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 281 / 7

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Name: [293] Power Systems  
Acronym: POSY  
Description: The Electrical Power Systems Sustain Support (PS3) (Power) program funds the initial purchase and installation of components for backup electric power systems and power regulation and protection equipment. Backup electrical power systems are necessary to allow continued operation of air traffic control facilities when there is an interruption in commercial power sources. These disruptions can result in flights that remain grounded, placed in airborne holding patterns, or re-routed to other airports unless reliable backup power systems are installed so air traffic control electronics can maintain required availability and capability. These power systems also protect sensitive electronic equipment from commercial power surges and fluctuations. The Power program replaces, refurbishes and renews components of existing power systems and cable infrastructure when necessary to maintain and improve the overall electrical power quality, reliability, and availability  
State: In-Service  
Primary Roadmap: Facilities  
Secondary Roadmap(s): None  
Flight Domain(s): En Route, Surface, TFM, Terminal  
Update Date: 01-Feb-2013 by Saro Ramakrishnan  
ID / Revision: 293 / 4

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Name: [296] Interference Detection, Location and Mitigation (IDL M)  
Acronym: IDLM

Description: This support activity is charged with detecting, analyzing, and locating radio frequency sources that affect the function and operation of National Airspace System (NAS) subsystems that provide advertised services to users. To be successful, this activity requires a significant set of test equipment that can analyze the radio frequency (RF) spectrum and isolate interfering frequency(ies) and their location. Without this support activity the FAA risks the loss of services that are provided to users through the radio spectrum.

A program called the NAS Interference Detection, Location, and Mitigation (NAS IDLM) is being developed. NAS IDLM is to provide frequency spectrum integrity for interference-free use of communications, navigation, and surveillance (CNS) radio frequencies throughout the NAS.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 296 / 8

Name: [312] Automated Surface Observing System

Acronym: ASOS

Description: The Automated Surface Observing System P3I will likely improve or enhance the performance of ASOS capabilities via sensor upgrade/replacement to include: an ASOS processor upgrade, an improved dew point sensor, an ice-free wind sensor, an enhanced precipitation identifier, and possibly a 25,000-foot ceilometer. Some of these improvements have already begun. The need for an improved visibility sensor is being examined at certain airports and may be added if warranted.

ASOS has been included in a program called the Aviation Surface Weather Observation Network (ASWON), with several other surface observing systems.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 312 / 15

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Name: [319] Weather and Radar Processor

Acronym: WARP

Description: The Weather and Radar Processor (WARP) has undergone a Limited Tech Refresh to replace hardware and software components necessary to continue sustaining its capabilities. This enables WARP to continue receiving weather products from a variety of sensors/sources and then process, display, and disseminate tailored, enhanced weather products to Air Traffic Supervisors and Traffic Managers on briefing terminals; and to en route controllers displays such as Display System Replacement (DSR). WARP will continue to disseminate such information to En Route Automation Modernization (ERAM), Advanced Technologies and Oceanic Procedures (ATOP), and Micro-En Route Automated Radar Tracking System (Micro-EARTS).

In addition, WARP will disseminate gridded weather data to automation systems including User Request Evaluation Tool (URET), Dynamic Ocean Tracking System Plus (DOTS+), Flight Data Processor 2000 (FDP2K) and ATOP. Future interfaces may include Traffic Flow Management-Modernization (TFM-M), Center Terminal Radar Approach Control (TRACON) Automation System (CTAS)/Traffic Management Advisor (TMA)/Descent Advisor (DA).

This Limited Tech Refresh also improves WARP dissemination capabilities making it SWIM compatible for exchanging weather information including sensor inputs and product outputs to users enabling it to be sustained until its functionality is incorporated into the NextGen Wx Processor WP1.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): En Route, TFM, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 319 / 13

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Name: [324] Voice Switching and Control System Training and Backup System (VTABS)

Acronym: VTABS

Description: Voice Switching and Control System Training and Backup Switch (VTABS) was developed to meet AT requirements for a separate standalone VSCS Backup and Training System. VTABS can be configured as a 50-position switch with the capability to support air traffic operations in the event of VSCS failure, hardware and software maintenance or power loss.

The VSCS Technology Refreshment Phase 2 upgrade funding will replace the VTABS with modern power equipment.

State: In-Service  
Primary Roadmap: Communications  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 324 / 5

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Name: [325] Advanced Technologies and Oceanic Procedures

Acronym: ATOP

Description: The Advanced Technologies and Oceanic Procedures (ATOP) program replaced oceanic air traffic control systems and procedures and modernized the Air Route Traffic Control Center (ARTCC) facilities at Oakland, New York, and Anchorage. The ATOP program fully integrated flight and radar data processing, detects conflicts between aircraft, provides data link and surveillance capabilities, and automated the manual processes used previously. ATOP also reduced the workload on controllers through the use of electronic flight strips instead of the paper strip method used for decades to track trans-oceanic aircraft.

ATOP achieved full operating capability (FOC) at the New York, Oakland, and Anchorage ARTCCs in March 2005, October 2005, and April 2007, respectively.

The program provided the FAA the automation, Automatic Dependent Surveillance-Contract (ADS-C), and conflict resolution capability required to reduce aircraft separation from 100 nautical miles (nm) to 30 nm. ATOP also allows the FAA to meet international commitments and helps the FAA avoid losing delegated airspace used by air carriers and military flights.

Since the ATOP hardware was procured in 2001 many components have reached end of life. The present contract has provisions for technology refresh in FY 2008 to initiate ATOP hardware technology refresh at the FAA William J. Hughes Technical Center (WJHTC) and Oakland Air Route Traffic Control Center (ARTCC). This is part of the plan to implement a total system upgrade midway through the planned ATOP system life cycle. The refresh is scheduled to replace operating systems and all major system components (e.g., servers, workstations, communications switches, and interface gateways) with state-of-the-art components available at that time.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration

Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 325 / 10

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Name: [329] Stand Alone Weather Sensor

Acronym: SAWS

Description: The Stand Alone Weather Sensor (SAWS) is a standalone general surface observing system that provides a backup to certain Automated Surface Observing System (ASOS) weather parameters at low-level activity (Level C) Airport Traffic Control Towers (ATCT) that do not have contract weather observers. The SAWS automatically collects, processes, and displays weather data for wind speed, direction and gust; temperature and dewpoint temperature; and altimeter setting.

Originally scheduled to be implemented at 270 Level C airports, SAWS only went into about 120 airports. Other options [for remaining systems] being explored include using them for spares/replacement parts and also having the Regions install and maintain them at additional airports as needed.

SAWS sensors could also replace the aging F-420 wind sensors as well as the digital altimeter setting indicator (DASI) display.

In accordance with the NextGen Wx Roadmap, a decision will be made in 2016/2017 to replace SAWS and similar systems (e.g., ASOS, AWOS, AWSS, etc.) with a single, automated surface observing system.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

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Name: [330] Flight Data Processing 2000

Acronym: FDP2K

Description: The Flight Data Processing 2000 (FDP2000) system replaced the oceanic flight data processing capability provided by Offshore Computer System (OCS) at the Anchorage Air Route Traffic Control Center (ARTCC). FDP2000 provides new hardware and software with added capabilities. The added capabilities include winds aloft modeling for improved aircraft position extrapolation accuracy, and support of Air Traffic Services Inter-facility Data Communications Systems (AIDC) ground-to-ground data link with compatible Flight Information Regions (FIRs). The OCS software was re-hosted from the Hewlett-Packard (HP) 1000 platform to the HP 9000 platform. FDP2000 provides flight data to the Microprocessor-En Route Automated Radar Tracking System (Micro-EARTS) radar data processing system. FDP2000 also integrates the existing Controller Pilot Data Link Communications (CPDLC) functions for data link communications with Future Air Navigation System 1/A (FANS 1/A)-equipped aircraft.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 330 / 8

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Name: [334] Digital Airport Surveillance Radar

Acronym: DASR

Description: The Digital Airport Surveillance Radar (DASR) provides advanced digital primary radar including weather intensity surveillance with an integrated monopulse Secondary Surveillance Radar (SSR) system for use in the airport terminal area. DASR is a military version of the Airport Surveillance Radar Model 11 (ASR-11). Some DASR systems will provide surveillance data to support FAA Air Traffic Control operations.

DOD has procured approximately one hundred and five (105) DASR systems. DASR deployments are managed by DOD. Five DOD DASR systems have a duplicate listing on the FAA ASR-11 site list. Deployment for these five DASR systems, including Pensacola-Whiting Field, Willow Grove NAS, Edwards AFB - High Desert, Velvet Peak and Panamint Valley, are tracked by the FAA.

DASR systems at NAS Oceana, Dobbins AFB and McGuire AFB DASR interface to the NAS.

A common configuration will be maintained for ASR-11 and selected DASR systems. The ASR-11 Technology Refresh modifications will be implemented in these DASR systems.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 334 / 9

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Name: [335] Multi-Mode Digital Radios (MDR) Very High Frequency (VHF) Ground Radios

Acronym: MDR

Description: Multi-Mode Digital Radios (MDRs) are ground-based very high frequency (VHF) air traffic-control (ATC) radios that can operate in several configurations: (1) analog voice with 25 kHz channel spacing; (2) analog voice with 8.33 kHz channel spacing; and (3) VHF Data Link (VDL) Mode 3 which consists of two-way digital voice and data communication.

4,200 radios are acquired for productions and 1,200 for spares and replacement (Ref: FY 2010 OST Budget Submission).

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 335 / 6

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Name: [337] Airport Surveillance Radar : Military

Acronym: GPN-20

Description: The GPN-20 radar is a military short-range (60 nautical miles (nmi)) analog radar system used to detect and report the presence and location of aircraft in a specific volume of airspace. The GPN-20 is the military version of the FAA's Airport Surveillance Radar Model 8 (ASR-8). It is used in conjunction with the TPX-42 military beacon (identify friend or foe (IFF)) or Air Traffic Control Beacon Interrogator model 5 (ATCBI-5) or ATCBI-4. The GPN-20 and collocated beacon may output surveillance data on separate analog outputs. A Common Digitizer Model 2 (CD-2) digitizing processor is integrated at some sites to provide a correlated primary/secondary target report.

DOD is currently deploying the Digital Airport Surveillance Radar (DASR) to replace the aging GPN-20 radars. The DOD replacement schedule may be is

not available. DADR Systems are addressed in MID 2004.

State: In-Service  
Primary Roadmap: - Not Available -  
Secondary Roadmap(s): None  
Flight Domain(s): Terminal  
Update Date: 01-Feb-2013 by Mary Yee  
ID / Revision: 337 / 7

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Name: [346] Juneau Airport Wind System

Acronym: JAWS

Description: The Juneau Airport Wind System (JAWS) provides terrain induced wind and turbulence data for use in determining flight approach and departure routes at the Juneau, Alaska International Airport. JAWS generates and displays wind information to Alaskan Airlines, the Juneau Automated Flight Service Station, and the National Weather Service (NWS) office.

In 2008, following two operational evaluations in 2005 and 2006, the FAA William J. Hughes Technical Center (WJHTC) and the National Center for Atmospheric Research (NCAR) improved and tested the algorithms which now meet the turbulence alerting performance requirement for JAWS. In early 2009, a final investment decision will baseline the JAWS, and the prototype will be hardened and transition to an FAA supportable JAWS, with Operational Readiness Decision planned for September 2011.

State: In-Service  
Primary Roadmap: Weather  
Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety  
Flight Domain(s): Surface

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 346 / 11

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Name: [349] Localizer

Acronym: LOC

Description: The component of an Instrument Landing System (ILS) that provides lateral course guidance to the runway. Localizer (LOC) will provide non-precision approach capability with appropriate lead-in lights.  
LOCALIZER- The component of an ILS which provides course guidance to the runway.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 349 / 14

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Name: [363] Approach Lighting System : with Sequenced Flashers Model 1

Acronym: ALSF-1

Description: The Approach Lighting System with Sequenced Flashing Lights Model 1 (ALSF-1) is a system of high-intensity lights marking the extended runway centerline for 2,400 to 3,000 feet from the runway threshold. A row of green indicators mark the runway threshold.

ALSF-1 are very old systems and, when funded, will be replaced with current technology, Medium Intensity Approach Lighting System; Runway Alignment Indicator Lights (MALSR) or ALSF-2 systems depending on whether the runway will support Cat I instrument approaches (MALSR) or Cat II/III instrument approaches (ALSF-2).

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 363 / 9

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Name: [364] Approach Lighting System : Short Approach Lighting System

Acronym: SALS

Description: A Short Approach Lighting System (SALS) is an array of high-intensity lights marking the extended runway centerline for 2,400 to 3,000 feet from the runway threshold. The system presents to the pilot the illusion of a ball of light traveling from the outer end of the system to a point 1,000 feet from the end of the runway. Two additional rows of lights indicate the edges of the runway for the last 1,000 feet with special indicators placed 1,000 feet, 500 feet and at the runway threshold.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 364 / 5

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Name: [365] Approach Lighting System : Short Approach Lighting System with Sequenced Flashing Lights

Acronym: SALSF

Description: Short Approach Lighting System with Sequenced Flashing Lights (SALSF) is an array of high intensity lights marking the extended runway centerline for 1,500 feet. The system presents to the pilot the illusion of a ball of light traveling from the outer end of the system to a point 1,000 feet from the end of the runway. Indicators placed at the end of the runway mark the center and each edge of the runway. An additional indicator marks a point 1,000 feet from the end of the runway.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 365 / 5

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Name: [366] Approach Lighting System : Simplified Short Approach Lighting System

Acronym: SSALS

Description: The Simplified Short Approach Lighting System (SSALS) is an array of medium-intensity lights marking the extended runway centerline for 1,400 feet. A special indicator marks a point 1,000 feet from the end of the runway. A row of green lights indicates the threshold runway.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 366 / 5

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Name: [367] Approach Lighting System : Simplified Short Approach Lighting System with Sequenced Flashing Lights

Acronym: SSALF

Description: The Simplified Short Approach Lighting System with Sequenced Flashing Lights (SSALF) is a system of medium-intensity lights marking the extended runway centerline for 1,400 feet. The system presents to the pilot the illusion of a ball of light traveling from the outer end of the system (1,400 feet) to a point 1,000 feet from the end of the runway. A special indicator marks a point 1,000 feet from the end of the runway. A row of green lights indicates the threshold runway.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 367 / 5

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Name: [375] Distance Measuring Equipment : Low Power

Acronym: LP DME

Description: Low Power Distance Measuring Equipment (LP DME) is an Ultra High Frequency (UHF) ground-based radio-navigation aid. Distance Measuring Equipment (DME) ground stations reply to interrogations transmitted by aircraft avionics, and are capable of processing replies from more than 100 aircraft at a time. The DME avionics measure the time between an interrogation and a reply to determine the slant range to the ground station.

Acquisition projects have been established for two generic classes of DME ground stations: high power and low power. High power DMEs (HPDMEs) are rated at 1kw and are located to support enroute navigation. HPDMEs are typically co-located with Very High Frequency (VHF) OmniRange systems, forming what is termed a VOR/DME facility. Low power DMEs (LPDMEs) are rated at 100w and are located to support terminal area navigation such as Instrument Landing Systems (ILS) approaches.

LPDMEs are installed with many ILS facilities. When specified in the ILS approach procedure, DME may be used in lieu of the outer marker, as a back-course final approach fix, or to establish other fixes on the localizer course. LPDMEs are also installed with some localizer-only (LOC) facilities. Additional LPDMEs are being installed to support ILS approaches as recommended by the Commercial Aviation Safety Team (CAST).

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures

Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 375 / 16

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Name: [381] Airborne UHF Radio

Acronym: UHF Radio

Description: The Ultra High Frequency Avionics (UHF Avionics) are ultra high frequency, amplitude modulation (UHF - AM) radios operating in the 225-400 MHz frequency band, installed in an military aircraft. These UHF radios support the tactical two-way voice communications/coordination between the pilot in a military aircraft and the controller on the ground.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 381 / 15

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Name: [383] Terrain Awareness and Warning System

Acronym: TAWS

Description: An on-board, terrain proximity alerting system providing the aircrew 'Low Altitude warnings' to allow immediate pilot action.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 383 / 11

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Name: [384] Ultra High Frequency Ground Radios

Acronym: UHF Ground Radios

Description: Ultra high frequency (UHF) Ground Radios are analog UHF amplitude modulation (UHF - AM) radio devices operating in the 225 - 400 MHz frequency band. The radios are also single channel transmitters and receivers (transceivers) operating in a main/standby configuration. These ground-based devices support tactical air traffic control (ATC) voice communications and coordination between the ground-based controller and the aircraft pilot for all phases of flight and in all flight domains (i.e., Oceanic, En Route, Terminal, and Flight Service Station (FSS)).

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 384 / 10

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Name: [391] Departure Spacing Program

Acronym: DSP

Description: The Departure Spacing Program (DSP), sometimes called the Departure Sequencing Program, is deployed in the Northeastern U.S. Air Traffic Corridor. DSP evaluates aircraft departure flight plans at participating airports, models projected aircraft demand at departure resources such as first and second departure fixes, and provides windows of departure times to controllers. DSP displays current and predicted departure fix demand as well as allows traffic managers to make departure fix flow rate adjustments. The Flow Forecast Display indicates the number of aircraft projected to cross each DSP departure flow fix for the next one-hour period in 15-minute increments. It also provides information on any fix flow rate restrictions in effect. DSP interfaces with Flight Strip Printer (part of the Display System Replacement (DSR)) in New York ARTCC "Pit" in order to obtain full flight strip information for display in DSP to air traffic controllers. Also, DSP has a KVDT emulation program whereby air traffic controllers in the NY ARTCC Pit can amend flight plans using the Supervisor's KVDT function. KVDT stands for Keyboard Video Display Terminal. DSP provides information (recommended departure time, etc.) to controllers to allow for sequenced departures from multiple airports in the New York metropolitan area. New York traffic is displayed in the Washington and Boston facilities to better enable coordination with New York air traffic management facilities. The DSP utilizes graphical user interfaces (GUI) and near real-time electronic information exchange to evaluate aircraft flight plans, model projected aircraft demand, and provide departure window times to controllers at participating airports. The result is to eliminate or reduce contention for airspace at terminal-en route terminal boundary and departure fix points. DSP is also a potential source of surface data that may be useful to the Enhanced Traffic Management System (ETMS).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

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Name:	[392] Flight Schedule Monitor
Acronym:	FSM
Description:	<p>The Flight Schedule Monitor (FSM) is the main tool for the traffic management specialist at the FAA David J. Hurley Air Traffic Control System Command Center (ATCSCC) to monitor, model, and implement Ground Delay Program (GDP) operations. FAA and airlines use FSM to monitor demand through receipt of FSM demand pictures of airports updated every 5 minutes. FSM constructs "what if" scenarios for best options (i.e., best parameters) prior to making a GDP decision. Modeling may be used by: (1) the ARTCC Traffic Management Coordinator (TMC) to request ATCSCC implementation of a GDP in the event of significant congestion or if a demand/capacity imbalance is projected at an en route fix, route, or sector; (2) the ATCSCC to determine Air Route Traffic Control Center (ARTCC) start/end times, Airport Arrival Rate (AAR), and other parameters for a particular GDP scenario; and (3) the Airlines to see the effects of canceling or delaying a specific flights under a GDP. Flight Schedule Monitor Enhanced (FSM Enhanced) augments the existing FSM system by incorporating distance-based Ground Delay Programs (GDP), multiple-fix GDPs, airport GDPs, and playbook-based GDPs. Playbook refers to the National Playbook, which is a collection of Severe Weather Avoidance Plan (SWAP) routes that are pre-validated and coordinated with impacted ARTCCs. It is designed to mitigate the potential adverse impact to users and the FAA during periods of severe weather or other events that affect the National Airspace System (NAS).</p> <p>Reports from the FSM modeling tool for each GDP include: (1) Carrier Statistics showing total minutes of delay for each flight, (2) Airborne Holding Flight Lists of arrival slots, (3) FSM Slot list, (4) Surface Delay histograms, (5) Control by Time of Arrival (CTA) Compliance Alarms for violations of arrival compliance, (6) Control by Time of Departure (CTD) Compliance Alarms for violation of Departure compliance, (7) Estimated Time En Route (ETE) on significant differences between actual vs. ETMS estimated times, and (8) Spurious Flight Alarms triggered upon cancellation of false flights in a substitution stream.</p>
State:	In-Service
Primary Roadmap:	- Not Available -
Secondary Roadmap(s):	None
Flight Domain(s):	TFM
Update Date:	01-Feb-2013 by Mary Yee
ID / Revision:	392 / 5

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Name:	[398] Host Computer System/Oceanic Computer System Replacement
Acronym:	HOCSR
Description:	<p>The Host Computer System and Oceanic Computer System Replacement (HOCSR) program was implemented because of potential year 2000 (Y2K) hardware issues with previous hardware. Accordingly, the HOCSR provided a new hardware platform, new peripherals (printers and Keyboard Video Display Terminals (KVDT), a new Direct Access Storage Device (DASD), and new OS-370 software extensions to control the new hardware using legacy National Airspace System (NAS) software applications. Hardware was replaced in both the En Route and Anchorage Oceanic automation environments. The HOCSR did not modify the legacy software functions of either the HCS system (e.g., flight data processing, radar data processing) or the Ocean Display and Planning System (ODAPS) automation systems (e.g., flight data processing). Likewise, HOCSR did not impact Host Interface Device National Airspace System (NAS) Local Area Network (HID/NAS LAN), User Request Evaluation Tool (URET), Display System Replacement (DSR)</p>

of the Peripheral Adapter Module Replacement Item (PAMRI).

Phase 1 and 2 (mainframe and software extension replacements) were completed prior to 2000. Phase 3 (DASD replacement) was completed in 2003. Phase 4 (peripheral replacement) was completed in 2004. Enhancements planned for 2005 and beyond were cancelled as the En Route Automation Modernization (ERAM) program overtook them. Each phase has its own waterfall, and consequently no waterfall can be provided in the location section below.

The Host Computer System (HCS) receives and processes surveillance reports, and flight plan information. The HCS sends search/beacon target, track and flight data, surveillance and alphanumeric weather information, time data, traffic management advisories and lists to the DSR. The HCS associates surveillance-derived tracking information with flight-planning information. The DSR sends requests for flight data, flight data updates, and track control messages to the HCS. HCS-generated display orders are translated for use within the DSR workstation. While radar data processing is distributed between the terminal and En Route computer resources, the HCS performs virtually all of the flight data processing for its entire geographical area of responsibility. Every tower (Airport Traffic Control Tower - ATCT) and Terminal Radar Approach Control (TRACON) facility relies exclusively on its parent HCS for flight data.

The HCS also runs algorithms that perform aircraft to aircraft (conflict alert (CA)) and aircraft to terrain (Minimum Safe Altitude Warning - MSAW) separation assurance. The HCS algorithms provide visual and audible alerting to the controller when conflicts are identified. The HCS receives aeronautical and adapted data from an external system, the NAS Adaptation Services Environment (NASE), via an internal component, the Adaptation Controlled Environment System (ACES), which feeds data to the HCS (data files) offline.

The HCS presently supplies real time surveillance, flight data, and other information to several decision support tools housed in collocated outboard processors connected via two-way high bandwidth links to the HCS and DSR. These are the URET and the Traffic Management Advisor (TMA). URET performs probing of tentative flight plan changes to determine their viability. TMA provides sequencing and spacing information to align the aircraft in En Route airspace for approach.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 398 / 6

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Name: [407] Approach Lighting System : Runway Centerline Lighting

Acronym: RWCLL

Description: Runway Centerline Lighting (RWCLL) consists of flush centerline lights spaced at 50-foot intervals beginning 75 feet from the landing threshold and extending to within 75 feet of the opposite end of the runway.

State: In-Service

Primary Roadmap: Airport

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 407 / 6

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Name: [408] Lead-In-Light System

Acronym: LDIN

Description: Runway Lead-in Light System - RLLS - Consists of one or more series of flashing lights installed at or near ground level that provides positive visual guidance along an approach path, either curving or straight, where special problems exist with hazardous terrain, obstructions, or noise abatement procedures.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 408 / 6

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Name: [409] Runway Alignment Indicator Lights

Acronym: RAIL

Description: RAIL- Runway Alignment Indicator Lights- Sequenced Flashing Lights which are installed only in combination with other light systems.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 409 / 6

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Name: [410] Approach Lighting System : Touchdown Zone Lighting

Acronym: TDZL

Description: Touchdown Zone Lighting- Two rows of transverse light bars located symmetrically about the runway centerline normally at 100 foot intervals. The basic system extends 3,000 feet along the runway.

State: In-Service

Primary Roadmap: Airport

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 410 / 6

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Name: [411] Automated Terminal Information System (ATIS)

Acronym: ATIS

Description: The Automatic Terminal Information Service (ATIS) equipment provides the continuous broadcast of recorded non-control information in selected high activity terminal areas. Information includes the time of the latest weather sequence, ceiling, visibility, obstructions to visibility, temperature, dew point (if available), wind direction (magnetic), and velocity, altimeter, other pertinent remarks, instrument approach and runway in use.

The Automated Terminal Information System (ATIS TR) requires a technical refresh for new installations, to meet the MTTR target, and to reduce maintenance costs. System Impacts: Lack of an ATIS Tech Refresh will make it difficult for ATCTs that need ATIS to provision it. Additionally, ATIS MTTR target will not be met and ATIS maintenance costs will continue to rise. The impact on NAS operations if ATIS Tech refresh is not implemented will be an increase in controller workload because controllers will need to provide individual ATIS briefings to pilots instead of one recorded briefing to which any pilot can listen.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 411 / 11

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Name: [412] Automated Radar Terminal System : Model IIA

Acronym: ARTS IIA

Description: The Automated Radar Terminal System - Model IIA (ARTS IIA) provides radar data processing (RDP) and decision support tools to the controller in the terminal environment. Utilized at small Terminal Radar Approach Controls (TRACONS), ARTS IIA is capable of receiving input from one sensors, can process up to 256 tracks simultaneously and support up to 11 displays. The radar data processing (RDP) software provides automated surveillance tracking and display processing. Included in the ARTS IIA software are the decision support tools, minimum safe altitude warning (MSAW) and conflict alert, (CA).

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 412 / 6

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Name: [414] Integrated Communications Switching System (ICSS) Type II  
Acronym: ICSS Type II  
Description: The Integrated Communications Switching System Type II (ICSS II) was retired (Decommissioned) per AJW-162 - Facility Service & Equipment Profile (FSEP).  
State: Decommissioned  
Primary Roadmap: Communications  
Secondary Roadmap(s): None  
Flight Domain(s): Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 414 / 6

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Name: [415] Integrated Communications Switching System (ICSS) Type III  
Acronym: ICSS Type III  
Description: The Integrated Communications Switching System Type III (ICSS III) is installed at Automated Flight Service Stations (AFSS). The ICSS III (installed in the AFSS) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between specialists within an AFSS (intercom), interconnectivity between specialists in separate AFSSs (interphone), and interconnectivity between Flight Service Station (FSS) specialists and Air Route Traffic Control Center (ARTCC) controllers/Terminal Radar Approach Control (TRACON) controllers/Airport Traffic Control Tower (ATCT) controllers/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Air-to-ground (A/G) radio connectivity between AFSS specialists and pilots is also supported by the ICSS III.  
The ICSS III operating in the Alaska AFSS is owned and operated by the FAA and will transition to the Interim Voice Switch Replacement. All other ICSS III in AFSS are apart of the Flight Services 21 (FS21) leased services contract.  
State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 415 / 6

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Name: [417] Rapid Deployment Voice Switch : Type IIA (RDVS IIA)

Acronym: RDVS IIA

Description: The Rapid Deployment Voice Switch Type IIA (RDVS IIA) is installed at Airport Traffic Control Tower (ATCT) facilities, Terminal Radar Approach Control (TRACON) facilities and can be configured for up to 192 air traffic controller positions. The RDVS IIA is a modular system. The size of the switch is based on the number of controller positions in the facility.

The RDVS IIA (installed in the ATCT) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists.

The RDVS IIA also supports air-to-ground (A/G) radio connectivity between ATCT controllers and pilots. The RDVS IIA (installed in TRACON facilities) provides the ATC operational G/G voice communications intraconnectivity between controllers within a TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. A/G radio connectivity between TRACON controllers and pilots is also supported by the RDVS IIA.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 417 / 6

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Name: [418] Obstruction Evaluation/Airspace Airport Analysis System

Acronym: OEAAA

Description: In administering Title 14 of the Code of Federal Regulations, CFR Part 77, the prime objectives of the FAA are to promote air safety and the efficient use of the navigable airspace. To accomplish this mission, aeronautical studies on airspace obstructions are conducted based on information provided by proponents on an FAA Form 7460-1, Notice of Proposed Construction or Alteration.

Advisory Circular 70/7460-1K, Obstruction Marking and Lighting, describes the standards for marking and lighting structures such as buildings, chimneys, antenna towers, cooling towers, storage tanks, supporting structures of overhead wires, etc.

The Obstruction Evaluation/Airspace Airport Analysis System (OE/AAA) provides automated tools to enable the FAA regions to screen and track the status of over 45,000 obstruction evaluation notices annually, perform airport/airspace analyses, and maintain information on obstructions, airports, air navigation facilities, and communications facilities.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 418 / 12

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Name: [420] U.S. Notice to Airmen System

Acronym: USNS

Description: System supporting the collection, management, and distribution of NOTAM data for international, U.S. and DoD NOTAMs. It will remain an operational system with no current plans for major enhancements.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 420 / 13

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Name: [425] Localizer Type Directional Aid

Acronym: LDA

Description: LOCALIZER TYPE DIRECTIONAL AID- A NAVAID used for nonprecision instrument approaches with utility and accuracy comparable to a localizer but which is not a part of a complete ILS and is not aligned with the runway.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 425 / 6

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Name: [426] Simplified Directional Facility

Acronym: SDF

Description: SIMPLIFIED DIRECTIONAL FACILITY- A NAVAID used for nonprecision instrument approaches. The final approach course is similar to that of an ILS localizer except that the SDF course may be offset from the runway, generally not more than 3 degrees, and the course may be wider than the localizer, resulting in a lower degree of accuracy.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 426 / 6

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Name: [427] Collaborative Decision Making Network

Acronym: CDM Net

Description: The Collaborative Decision Making (CDM) Network is the hardware and software suite used to display output from CDM tools in the Airline Operations Centers (AOCs). This hardware and software is not owned by the FAA. This mechanism includes the communications whereby airspace users who have signed a Collaborative Decision Making agreement can interact with FAA in ground delay programs (GDP) and so on. This Mechanism was previously named CDM Workstation.

State: In-Service

Primary Roadmap: Airspace and Procedures

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 427 / 7

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Name: [428] Operations Information System

Acronym: OIS

Description: The Operations Information System (OIS) is an intranet processor (like the Route Management Tool (RMT)) located at the FAA David J. Hurley Air Traffic Control System Command Center (ATCSCC) and outlying Traffic Management Units (TMUs) including Air Route Traffic Control Centers (ARTCCs) and Terminal Radar Approach Control (TRACON) facilities for displaying current delay information, airport closures, significant weather information and additional National Airspace System (NAS) information that could affect the efficient flow of air traffic nationwide. Up to the minute ground delay, ground stop, deicing, and general airport delay information received from the above FAA facilities is publicly displayed via a web-based application.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route, TFM

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 428 / 5

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Name: [429] Display and Coordination System

Acronym: DCS

Description: The Display & Coordination System (DCS) is a system utilized by non-FAA users at airports to display and process data provided by the FAA that includes aircraft position information for incoming aircraft and airport flight status.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Data Load

ID / Revision: 429 / 2

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Name: [431] Oceanic Data Link Service (Oceanic DL Svc)

Acronym: Ocean DL Svc

Description: The Oceanic Data Link Service is based on the International Civil Aviation Organization (ICAO) concept of a phased approach to implementing a modern, satellite-based, global Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) system.

The following aircraft avionics are required to support an initial Future Air Navigation System 1 (FANS-1) FANS implementation. These functions are referred to as FANS-1; the French developed equivalent for the Airbus A-330/340 is called FANS-A: Automatic Dependent Surveillance (ADS), air traffic control (ATC) data link, Airline Operational Center (AOC) data link, and the Global Positioning System (GPS).

The FANS operational environment extends beyond the aircraft to include satellite, ground-based receiver/transmitter stations, and a controller/pilot data link system.

FANS 1/A consists of three message applications: AFN (ATS Facility Notification for logon to ATC via data link), ADS (Automatic Dependent Surveillance), CPDLC (Controller Pilot Data Link Communications). FANS 1/A uses the existing Aircraft Communications Addressing and Reporting System (ACARS) air/ground network to carry data link messages to/from the aircraft.

FANS 1 (Boeing implementation) was first certified in June of 1995 for use in the South Pacific. Oakland, Fiji, Auckland, and Brisbane Flight Information Regions (FIRs) were the initial participants for CPDLC using Inmarsat geosynchronous satcom. The latter three FIRs also used ADS for surveillance.

An earlier version of the Operational Evolution Partnership (OEP) identified the Advanced Technologies and Oceanic Procedures (ATOP) program for implementation of FANS 1/A in Oakland, Anchorage and New York FIRs beginning in 2003. There are approximately 1,000 FANS 1/A equipped aircraft in service as of mid-2002. All long-range model commercial transport aircraft have FANS 1 or FANS A either as standard equipment or as an option. In oceanic and remote areas, where FANS 1/A is currently in use, the Inmarsat geosynchronous (GEO) satellite constellation provides the air/ground data link.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Oceanic

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 431 / 20

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Name: [435] Oceanic High Frequency Voice Service (Oceanic HF Svc)

Acronym: Oceanic HF Voice Svc

Description: The Federal Aviation Administration provides air traffic control services to pilots in the en route and oceanic environments. En Route controllers normally monitor aircraft using long-range radars and issue clearances to maintain safe separation between aircraft. Oceanic air traffic control uses procedural separation to maintain separation and sequencing of aircraft over the Atlantic and Pacific Oceans where there is no radar.

To achieve this, the aircraft must fly on specified tracks (e.g., eastbound at night and westbound in the day across the Atlantic) with large separation distances (e.g., 100 miles). Pilots must radio their position every hour as they cross the ocean and controllers ensure that safe separation is maintained. The two main oceanic centers are located at the New York and Oakland En Route Centers, but use different equipment and procedures than domestic en route controllers. Smaller oceanic operations are located at the Miami and Houston en route centers to provide services to the Caribbean and the Gulf of Mexico.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Oceanic

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 435 / 7

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Name: [444] National Weather Service Telecommunications Gateway

Acronym: NWSTG

Description: Located in Silver Spring, MD, the National Weather Service Telecommunications Gateway (NWSTG) is the primary data communications switching facility of the National Weather Service (NWS). The NWSTG provides national and global near real-time data exchange services using automated communication resources, transmitting a wide variety of environmental data types. The NWSTG operates around the clock to acquire, process observations, construct messages, and disseminate messages and files of observations, analysis, and forecast products.

The NWSTG connects to the FAA's FAA Bulk Weather Telecommunications Gateway (FBWTG), located at the David J. Hurley Air Traffic Control System Command Center (ATCSCC) and is a major source of gridded weather data as well as aircraft weather observations via the Meteorological Data Collection and Reporting System (MDCRS). In addition, it provides the FAA with products from the Aviation Weather Center in Kansas City, MO that help mitigate the impact of weather (e.g., inflight icing, convection, and turbulence) on NAS operations.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 444 / 5

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Name: [450] Aircraft Wx Sensors

Acronym: AWS

Description: Aircraft Weather Sensors (AWS) - Modern jetliners are equipped with weather sensors and automatically downlink weather data via the Aircraft Communication and Reporting System (ACARS)/Meteorological Data Collection and Reporting System (MDCRS) to the National Weather Service (NWS), for use in weather models, and to the FAA, for use by the Integrated Terminal Weather System (ITWS). These weather sensors currently provide wind and temperature data, and in the near future will provide humidity and turbulence data.

Enhanced weather aircraft observations, including humidity, icing and turbulence sensing and lower troposphere aircraft weather observations, may provide new aircraft sensors capabilities. This upgrade relates only to Part 121 aircraft.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 450 / 10

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Name: [454] Surface Movement Advisor (Atlanta)

Acronym: SMA

Description: The Surface Movement Advisor (SMA) was implemented in 1998 as part of Collaborative Decision Making (CDM) and Free Flight Phase 1. SMA provides aircraft arrival information to airline ramp towers and AOCs. This includes aircraft identification and position in TRACON airspace, and which can be used to compute an aircraft's estimated time to touchdown. The shared situational awareness provided by SMA affords airline greater efficiency and productivity with respect to aircraft arrivals in terminal airspace and on the airport surface.

Goals:

- Provide Gate Resource Optimization
- Balance Taxi Departure Loads
- Improve Gate Rescheduling
- Facilitate Airport Operations Analysis
- Improve Crew Scheduling
- Improves recovery from missed approaches
- Reduces diversions during periods of inclement weather

Improve planning, movement, and decision-making through shared situational awareness of surface operations.

Surface Movement Advisor increases awareness of traffic flow into the airport, giving ramp control operators precise touchdown times. This updated information helps airlines manage ground resources at the terminal more efficiently: gates, baggage handling, food services, refueling, and maintenance. Informed of aircraft identification and position in the terminal airspace, gate and ramp operators using SMA have enhanced ability to reduce taxi delays.

The ATL SMA system is based on a client-server architecture running in a UNIX environment. A fiber backbone between the airlines, the airport management, the ramp towers and the FAA Control Tower links the ATL SMA together. The system collects and manages various traffic data inputs from sources such as ARTS III E Air Traffic Control System AGW/TIA (TRACON RADAR data), OAG, FIDS, and ACARS in real time by the ATL SMA server and auxiliary network computer clients. The ATL SMA integrates the airline schedules, gate information, flight plans, radar feeds, and runway configuration (departure split and landing direction). The system then retransmits this integrated information over the network between ramp operators, airport managers, airline operators, and FAA controllers and supervisors.

Need new description from Jim Benjamin

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 454 / 9

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Name: [464] Airline Operation Center Workstation

Acronym: AOC Workstation

Description: The Airline Operation Center Workstation (AOC Workstation) represents equipment available to users of the National Airspace system, outside of the FAA, that enables user community meteorologists and dispatchers to receive weather advisories (e.g. International Significant Meteorological Information (SIGMETS), Convective SIGMETS, Non-convective SIGMETS) and other weather products from the National Weather Service (NWS) and other government services through the FAA and/or commercial vendors. In the case of user community dispatchers, the workstation also represents equipment that provides for the exchange of information with the FAA such as bulk flight plan requests, facilitates coordination with the FAA to revise schedules and provide flight cancellations based on FAA-provided data; and aggregate demand lists, arrival rates, and parameters for anticipated traffic management initiatives.

State: In-Service

Primary Roadmap: Human Systems Integration

Secondary Roadmap(s): Aircraft

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 464 / 4

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Name: [473] NWS Workstation

Acronym: NWS Workstation

Description: The National Weather Service Workstation (NWS Workstation) enables a meteorologist to create and disseminate aviation-related weather products (e.g., Significant Meteorological Information (SIGMETS), Terminal Aerodrome Forecasts (TAF), etc.) to the FAA and nearby National Weather Service (NWS) Weather Forecast Offices. The NWS uses various methods to disseminate these products (e.g., Commercial Communications Service Provider (CCSP), the Internet, NWS-to-FAA telecommunications gateways, etc) to the FAA.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 473 / 6

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Name: [477] UPX-39 Beacon Interrogator (Military)

Acronym: UPX-39 BI

Description: The UPX-39 BI is a new secondary surveillance radar (SSR) beacon system that will replace the 12 OX-60 secondary BI radars in Alaska (12) and Hawaii (1) at the 13 joint-use (FPS-117 primary radar) facilities to improve the quality, reliability, and availability of radar data used for air traffic control (ATC) and to reduce FAA and United States Air Force (USAF) maintenance costs. The FAA will use existing interfaces to provide the radar data to the Air Route Traffic Control Center (ARTCC) facilities. The FAA provides technical support and funds its share of the cost associated with the fabrication, installation, and acceptance of 13 systems at the joint-use radar facilities.

The UPX-39 and collocated primary radar systems provide a correlated digital output to NAS and non-NAS users.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 477 / 10

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Name: [478] OX-60 Beacon Interrogator (Military)

Acronym: OX-60 BI

Description: The OX-60 Beacon is a secondary system collocated with the 12 joint-use FPS-117 long-range primary radars in Alaska and 1 joint-use FPS-117 in Hawaii. It is used to interrogate transponder-equipped aircraft, receive aircraft identification, determine aircraft position, and forward the information to appropriate U.S. Department of Defense (DoD) and FAA air traffic control (ATC) automation systems.

The OX-60 is a secondary (beacon) and collocated primary radar systems provide a correlated radar/beacon target output.

State: In-Service  
Primary Roadmap: Surveillance  
Secondary Roadmap(s): Surveillance  
Facilities  
Flight Domain(s): En Route  
Update Date: 01-Feb-2013 by Saro Ramakrishnan  
ID / Revision: 478 / 8

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Name: [480] Conference Control System (CCS)

Acronym: CCS

Description: The Conference Control System (CCS) is a replacement system for the legacy Operational Telephone System (OTS). The CCS is a telecommunications conferencing system that provides voice connectivity, switching, and teleconferencing capabilities for the Traffic Management Specialists and the National Airspace System (NAS) Operations Manager, at the FAA David J. Hurley Air Traffic Control System Command Center (ATCSCC). CCS enables collaborative communication with the ATCSCC Traffic Management Specialist, Traffic Management Units (TMUs) at Air Route Traffic Control Centers (ARTCCs), Terminal Radar Approach Control (TRACON) facilities, the Severe Weather Group at ARTCCs, FAA Regional Offices, FAA Headquarters, Airline Operations Centers (AOCs), and the general aviation (GA) community.

The CCS was decommissioned at the former ATCSCC that was located in Herndon, VA. The new system Conference Control System - Warrenton (CCS-W) replaced the CCS after the ATCSCC relocated with the Potomac Consolidated TRACON (PCT) in Warrenton, VA.

State: Decommissioned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 480 / 6

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Name: [481] Model One Full Capacity

Acronym: M1FC

Description: Model One Full Capacity (M1FC) Description: The Model One Full Capacity (M1FC) system, located at Automated Flight Service Stations (AFSS) in CONUS and Alaska, interfaces with a Flight Service Data Processing System (FSDPS) at an FAA Air Route Traffic Control Center (ARTCC). The M1FC is an information processing system used by Flight Service Specialists to collect and distribute Notices to Airmen (NOTAMS), weather information, and flight plan related data to General Aviation (GA) pilots. In addition, the system supports the timely initiation of search and rescue (SAR) processing and the capability to reconstruct system events based on time, terminal, or aircraft information.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 481 / 6

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Name: [482] Aeronautical Information Production Automation

Acronym: AIPA

Description: Aeronautical Information Production Automation (AIPA) is used by the National Aeronautical Charting Group (NACG) to maintain, publish and distribute United States government civil aeronautical charts and flight information publications.

NACO is also responsible for the public distribution of National Oceanic and Atmospheric Administration/National Ocean Service (NOAA/NOS) U.S. nautical charts and National Geospatial-Intelligence Agency (NGA) worldwide aeronautical and hydrographic charts and publications. Agents who sell charts and publications of foreign areas are so indicated in the NACO listing. Because the FAA publishes a wide variety of items, not all will be readily available locally. The local agent may place a special order for the interested buyer or he/she may order directly from the FAA.

It should be noted that the USE OF OBSOLETE CHARTS OR PUBLICATIONS FOR NAVIGATION MAY BE DANGEROUS. Aeronautical information changes rapidly, and it is vitally important that pilots check the effective dates on each aeronautical chart and publication to be used. Obsolete charts and publications should be discarded and replaced by current editions. To make certain a chart or publication is current, refer to the next scheduled edition date printed on the cover or consult the Dates of Latest Editions. Pilots should also consult the Aeronautical Chart Bulletin available online or contained in an Airport/Facility Directory and Notice to Airmen (NOTAMS) for changes, essential to the safety of flight, that may occur during the effective dates of a chart or publication.

NACO is located in Silver Spring, Maryland. Additional information: URL <http://www.naco.faa.gov/>

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 482 / 4

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Name: [488] Flight Information Service-Broadcast

Acronym: FIS-B

Description: The Flight Information Service (FIS-B) will provide the automated means for collecting and distributing weather (Service A messages), flight plan data, Pilot Report messages, and other operational information (Service B messages). The Flight Information System (rehosted) will be uplinked to aircraft as part of ADS-B and provided as a web-enabled means for collecting and distributing the above information to all air traffic facilities.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 488 / 11

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Name: [534] National Airspace System (NAS) Voice System (NVS)

Acronym: NVS

Description: The mission of the fully implemented National Airspace System (NAS) Voice System (NVS) is to establish networked voice communications for air traffic controllers, pilots and ground personnel across the National Airspace System (NAS). The NVS is part of a portfolio of NextGen transformational technologies directed toward the larger mission of establishing greater efficiencies in information flow from ground facilities to the cockpit. Other technologies contributing to information flow efficiencies are embodied in programs such as Automatic Dependent Surveillance-Broadcast (ADS-B), System Wide Information Management (SWIM), Data Communications, and NextGen Network-Enabled Weather (NNEW).

NVS will establish networked voice communications for the NAS and address the functional requirements necessary to support the NextGen concept of

NVS will establish networked voice communications for the NAS and address the functional requirements necessary to support the NextGen concept of operations of the En Route, Terminal, and NextGen Future Facilities operating environments in two distinct segments. The restructuring of the implementation segments enables the FAA to continue to meet the dual objectives of reducing implementation risk while demonstrating how NVS can support the NextGen concept of operations in the near term.

Segment 1 will focus on acquiring test systems to achieve the objectives of: (1) demonstrating NextGen capabilities (e.g., resource sharing, load balancing, and enterprise management); and (2) having a production-ready system for deployment to any of the target environments, but with the expectation that new systems will likely be required in the Terminal Environment in the nearer term.

Segment 2 will be the deployment of production-ready systems. Initial deployments are anticipated to focus on Terminal and NextGen future facilities since those two environments are expected to present the most pressing operational needs. There will be a separate decision point for additional NVS deployments during Segment 2 as the FAA's needs in that timeframe come into focus.

Ultimately, NVS will expand into the Enroute domain providing a network addressable switching solution enabling air traffic managers to redistribute communications assets among facilities in a more dynamic and cost effective manner while assuring critical voice switching services.

#### System Schedule

##### Key dates

Final SIR Release December 2011

Operational Assessment Spring 2012

Contract Award August 2012

##### Related Decisions

750 2011 Q1 Baseline Change Decision for VSCS

442 2012 Q1 Executive Decision to determine the need for VSCS Technical Refresh 3

C-6 2012 Q3 NVS Segment 1 Authorization to Proceed

C-7 2012 Q3 Strategy Decision to determine RCE replacement by NVS

710 2015 NVS Segment 2 Final Investment Decision

##### Related OIs

108206 Flexible Airspace Management

104122 Integrated Arrival/Departure Airspace Management

104125 Integrated Arrival/Departure and Surface Traffic Management for Metroplex

109402 Remotely Staffed Tower Services

109404 Automated Virtual Towers

109405 Business Continuity Services

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 534 / 15

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Name: [536] Collaborative Air Traffic Management Technologies

Acronym: CATMT WP 1

Description: Collaborative Air Traffic Management Technologies (CATMT) is an Air Traffic Management Program with four Work Packages within which enhancements are developed for TFMS to satisfy current and NextGen needs.

CATMT WP1 will include: (a) Re-route Impact Assessment (RRIA) tool, (b) Execution of Flow Strategies (electronic transmission of pre-departure re-routes to ERAM) and (c) ERAM Flight Information Service SWIM client.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route, Surface, TFM, Terminal

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 536 / 17

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Name: [538] Corridor Integrated Weather System

Acronym: CIWS

Description: The CIWS collects various data, then processes, generates, displays, and distributes convective (thunderstorm) weather products to traffic managers at the FAA David J. Hurley Air Traffic Control System Command Center (ATCSCC), numerous Air Route Traffic Control Center (ARTCC) facilities, large Terminal Radar Approach Control (TRACON) facilities, and some large airports. By concentrating its two-hour forecast product over busy National Airspace System (NAS) corridors, CIWS would enable traffic managers to plan for routing/re-routing due to impacts on the airspace from major thunderstorm disruptions. The CIWS receives weather data from multiple sensors (primarily radars) and distributes processed information to NAS traffic managers via situation displays, and later via the System Wide Information Management (SWIM) network. This system will consist of a hardware processor and associated displays to be used at large airports, TRACONs, ARTCCs, and the ATCSCC as well as a web server for Airline Operations Center (AOC) dispatcher access to CIWS products.

The CIWS Demonstration System is providing significant delay reduction during convective weather impacting the Northeast, mid-Atlantic and the Midwest regions. The CIWS provides improved 0-2 hour forecast of convective weather covering a wide-area and at high resolution and includes much improved echo tops information. CIWS also indicates a measure of the accuracy of its recent forecasts.

In June 2008 Lincoln Laboratory will go live with the version of CIWS covering CONUS, this will expand CIWS coverage from its current northeast corridor version.

System Operations (ATO-R) took over CIWS and plans to deploy an operational CIWS in the 2011 timeframe that will operate from the FAA Tech Center and support traffic flow managers on a national scale. Workups for funding this effort are underway to field the "CIWS Baseline" system.

See also: Evans, James E. and Elizabeth R. Ducot (2006), "Corridor Integrated Weather System," Lincoln Laboratory Journal, Vol. 16, No. 1, pp. 59-80. [[www.ll.mit.edu/news/journal/pdf/vol16\\_no1/16\\_1\\_4EvansDucot.pdf](http://www.ll.mit.edu/news/journal/pdf/vol16_no1/16_1_4EvansDucot.pdf).]

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): En Route, TFM

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 538 / 5

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Name: [540] Enhanced Back-up Surveillance

Acronym: EBUS

Description: Update: On March 31, 2006 the ARTCC facilities in New York, Miami and Los Angeles achieved full operational status for the EBUS system. This completed the deployment of EBUS to all 20 ARTCCs in the continental United States.

The Enhanced Back-Up Surveillance (EBUS) system replaced the Direct Access Radar Channel (DARC) system in use at the 20 Air Route Traffic Control Centers (ARTCC) in the contiguous United States (CONUS), the FAA William J. Hughes Technical Center (WJHTC), and the FAA Academy. The EBUS design employs the existing FAA-certified software of the Microprocessor En Route Automated Radar Tracking System (MEARTS) application to provide radar data processing (RDP) services for the replacement legacy backup system. MEARTS provides key capabilities not supported by the DARC legacy system it replaces, among which are the safety functions of Conflict Alert (CA), Mode C Intruder (MCI), and Minimum Safe Altitude Warning (MSAW). The EBUS also provides Next Generation Radar (NEXRAD) weather data to R-position users via the Display System Replacement (DSR) Backup Communications Network (BCN). The EBUS makes the R-position functionality on the backup channel more comparable to that of the primary channel.

The EBUS application (MEARTS) and the En Route Communications Gateway (ECG) backup gateway application will coexist together in the ECG backup gateway platform, renamed the Backup Interface Processor (BIP).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 540 / 6

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Name: [541] En Route Information Display System

Acronym: ERIDS

Description: The ERIDS provide real-time access to air traffic control information not currently available from the Host Computer System (HCS) and makes this auxiliary information readily available to controllers. ERIDS is installed at various positions, including the Traffic Management Units (TMU), Center Weather Service Units (CWSU), and ARTCC Monitor and Control (M&C) Centers. ERIDS is integrated into the display system consoles at each sector, uses the center's airspace configuration for sector assignments, and allows changes in sector assignments. ERIDS displays graphic and text data products, including air traffic control documents, Notices to Airmen (NOTAMS), and general information. The ERIDS exchanges information with other systems (e.g., U.S. NOTAM System, and in other facilities via FTI).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 541 / 8

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Name: [544] Sector Design Analysis Tool

Acronym: SDAT

Description: The Sector Design and Analysis Tool (SDAT) provides airspace specialists with an FAA-owned tool that has application throughout the lifecycle of an airspace project. It provides airspace redesign features and supports the creation of minimum vector altitude/minimum altitude IFR maps. SDAT is used in more than 50 facilities throughout the NAS for problems ranging from airspace visualization and documentation to sector analysis and data translation for a full scale airspace redesign project.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 544 / 13

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Name: [576] Precision Runway Monitor

Acronym: PRM

Description: The Precision Runway Monitor Service Life Extension Program (PRM SLEP) extends the service life of the PRM sensor (secondary radar system) through at least 2025. The PRM is similar to the Mode Select (Mode S), which operates and updates targets at a faster rate than that of the normal Air Traffic Control Radar Beacon System (ATCRBS) or Mode S system. This faster update rate provides improved precision in predicting target positions. The PRM system is utilized to increase efficiency of operations during instrument meteorological conditions (IMC) by allowing independent simultaneous approaches to parallel runways spaced less than 4,300-feet apart. The Standard Terminal Automation Replacement System (STARS) provides the display function for the air traffic controllers.

A decision for the continuation or removal from service of the Electronic Scan (E-SCAN) PRM will be based on required navigation performance (RNP) and the decision on implementing multilateration that is scheduled for 2009.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 576 / 16

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Name: [580] Approach Lighting System : with Sequenced Flashers Next Generation

Acronym: ALSF NextGen

Description: Approach Lighting System with Sequenced Flashers Next Generation (ALSF NextGen) is a 2400-foot long array of high intensity Light Emitting Diode (LED) lamps and flashers located on the final approach to a runway and are provided to support Category II and III instrument approaches. The ALSF NextGen systems assists pilots transition from low visibility Instrument Meteorological Conditions (IMC) to visual conditions for landing. A row of green lights marks the runway threshold.

These systems are installed at new locations so they will not replace the existing ALSF-2 Tech Refresh systems.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 580 / 4

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Name: [581] TPX-42 BI

Acronym: TPX-42 BI

Description: The TPX-42 beacon interrogator is a military analog interrogator (Identify Friend or Foe (IFF)) system used to detect and report the identity and location of aircraft in a specific volume of airspace. The designation TPX-42 may also refer to a complete beacon and display system. The TPX-42 beacon interrogator subsystem It is used in conjunction with the DOD GPN-20 military airport surveillance radar (ASR) and FAA ASR-9. The TPX-42 is similar to the FAA's Air Traffic Control Radar Beacon Interrogator Models 4 and 5 (ATCBI-4/5). TPX-42 systems provide service to the NAS.

Plans are to replace the TPX-42 beacon systems as the DASR or ASR-11 systems are implemented. Three DOD systems, collocated with ASR-9 primary systems at Hill AFB, may remain operational for the near term. Replacement systems have not been designated.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 581 / 8

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Name: [582] Aeronautical Telecommunication Network Air to Ground (ATN A/G) Router

Acronym: ATN A/G Router

Description: The ATN Air-to-Ground (A/G) Router is used to provide A/G interconnection between an Aeronautical Telecommunication Network (ATN) Airborne Router and an ATN Ground Mobile Subnetwork.

The ATN A/G Router will utilize the ICAO Standards and Recommended Practices (SARPs). The ICAO is currently collaborating on an agreed set of protocol standards for International implementation.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 582 / 7

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Name: [587] Automated Weather Sensor System

Acronym: AWSS

Description: AWSS is the latest version of an automated surface observing system to be fielded. It has the same capabilities as ASOS.

3 additional airports (to those below) have AWSS:  
Driggs-Reed ID airport  
Wautoma WI airport  
Haleyville/Posey Field in Alabama

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Surface

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 587 / 11

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Name: [599] Electronic Flight Strip Transfer System

Acronym: EFSTS

Description: The Electronic Flight Strip Transfer System (EFSTS) is a system that transfers flight status (departure, arrival) times from the Airport Traffic Control Tower (ATCT) facility to the Terminal Radar Approach Control (TRACON) facility. The EFSTS in the ATCT accepts flight strip data from the Flight Data Input/Output (FDIO) system and prints the strips with a bar code. When an aircraft departs, for example, the air traffic controller swipes the bar-coded strip through the bar code reader, which time stamps the event, and the EFSTS transfers the event data to the TRACON. Although the EFSTS interfaces with the FDIO system, it is a closed system in the sense that no feedback is provided by the EFSTS through the FDIO to update the Host Computer System (HCS).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 599 / 9

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Name: [600] En Route Automation Modernization

Acronym: ERAM

Description: The En Route Automation Modernization System Release 1 (ERAM R1) replaces aging Air Route Traffic Control Center (ARTCC) automation systems at 20 operational locations, which support air traffic control (ATC) in designated sectors, typically of high altitude traffic. ERAM R1 is the first of several incremental releases planned for ARTCC modernization that will employ a new infrastructure, supporting an evolution through multiple subsequent baselines: ERAM Program Baseline (also including ERAM-R2 and ERAM-R3), Post ERAM R3 Work Package, En Route Automation NextGen Mid-Term Work Package, and En Route Automation NextGen Far-Term Work Package. The ERAM R1 will replicate the functionality of the following systems: (a) Host Computer System (HCS), (b) Enhanced Backup Surveillance (EBUS) which replaced the Direct Access Radar Channel (DARC) backup system, (c) Host Interface Device NAS LAN (HNL), and (d) the En Route Application Infrastructure (EAI), otherwise known as User Request Evaluation Tool (URET). In addition to outright replacement of these four systems, ERAM's tight design coupling with the Display System Replacement (DSR) essentially renders DSR to be henceforth included as part of the ERAM system. Although URET is replaced, the functionality of Conflict Probe is retained in ERAM.

Legacy systems being retained are: En Route Communications System (ECG), and En Route Information Display System (ERIDS). Other than requiring interface modifications, the functions of ECG remain unchanged, while the functions of HADDs are incorporated into ERAM R1. ECG will exchange surveillance (serial) data and flight/flow (serial and parallel) data. However, the goal is to have systems exchange flight/flow data directly using standard formatting and application protocol.

Once ERAM-R1 is installed, an end-to-end national adaptation can be applied to each ARTCC rather than individual facility adaptations being used, as is the case now. By making flight data available for flights within proximity to (but not necessarily within) an ARTCC's airspace, Area of Interest (AOI) processing can increase situational awareness by one ARTCC into another ARTCC's airspace.

ERAM is a dual-redundant (primary and backup) system with identical functionality on both operational "channels". It provides a separate on-site Training system for on the job training of both Air Traffic and Airways Facility personnel. In addition to equipping the 20 ARTCCs in the continental United States, it will provide equipment to the FAA William J. Hughes Technical Center and to the FAA Academy.

ERAM and its associated hardware, software and backups will be the backbone of En Route operations. The enhanced infrastructure is designed to support the evolution to the Next Generation Air Transportation System. The FAA has identified this program as a 'contributor' technology for NextGen. It is expected to increase system capacity in order to meet projected demand. Using ERAM, the number of aircraft that each center can track is expected to rise from 1,100 to 1,900 and the number of radars each center can support will increase from 24 to 64.

ERAM will consolidate the Monitor & Control (M&C) functions of legacy Air Route Traffic Control Center (ARTCC) systems into open system architecture. The ERAM M&C will reduce the size of the area needed for displaying system status of separate systems and provide a common human-computer interface (HCI) functionality among them. It will include power system displays and will support prioritization of operational equipment maintenance and restoration efforts along the lines of the classification categories of critical, essential, and routine systems. It will reduce the number of ARTCC M&Cs located in the ARTCC Monitor and Control Center (AMCC) and will be compatible the infrastructure supporting the Service Operation Center (SOC).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

Name: [612] Runway Status Lights

Acronym: RWSL

Description: Runway Status Light (RWSL) system uses surveillance data from airport surveillance sensors Airport Surface Detection Equipment Model X (ASDE-X), ASDE-3, and Airport Surveillance Radar Model (ASR) as input to runway lighting safety logic to improve pilot situational awareness in the airport operating areas. The RWSL program accepts fused surface radar and multilateration surveillance inputs to activate lights at runway/taxiway intersection points and runway take-off hold areas to help prevent collisions or reduce the severity of runway incursions.

The system includes two types of in-pavement lighting indicators to improve situational awareness. The first type of lighting indicators are Runway Entrance Lights (REL) which advise pilots when the runway is unsafe for entry or crossing at that location. The second type of lighting indicators are Take-off Hold Lights (THL) which provide a indication to pilots whether a runway is safe to enter or traverse due to traffic on the runway or about to enter the runway.

The RWSL system will be installed at 19 ASDE-X airports. Support systems will be installed at the Program Support Facility (PSF) and the Training Academy. The system will incorporate airport-adaptable safety software and commercial off-the-shelf (COTS) airfield lighting equipment at selected airport locations. The safety logic and COTS lighting systems configured as required by the runway configuration at each airport.

ATO-P will evaluate applications using Final Approach Runway Occupancy Signal (FAROS) and Runway Intersection Lighting (RIL) as potential configurations.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

Name: [617] Airport Resource Management Tool

Acronym: ARMT

Description: The Airport Resource Management Tool (ARMT) is an operational support tool for ATCT/TRACON/ARTCC and ATCSCC traffic management personnel at 30 air traffic control facilities, the WJHTC, and the FAA Academy. The ARMT PMO supports 17 systems (hubs) at 32 facilities/sites (operational support and field sites) and 100 workstations/positions. ARMT provides tactical and strategic flight information in real-time to support including: improved runway efficiency (AAR/ADR), improved departure/arrival fix management and loading; automatic OpsNet delay reporting to reduce manual delay reports; real-time access to modify/edit/update departure and arrival restrictions to improve terminal throughput/efficiency; multi-airport user functions provide terminal-wide situational awareness of demand for terminal arrival and departure fixes to optimize flows; interface with EFSTs and terminal automation via ARMT provides alerts to users that eliminate flight plan drops from the NAS; ARMT internetworking reduces significantly (by over 100 calls per day per site) the demand for TMU personnel voice communications to coordinate between ARTCCs, TRACONs, ATCTs and the ATCSCC

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 617 / 9

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Name: [643] Precision Runway Monitor : Replacement

Acronym: PRM-R

Description: The Precision Runway Monitor Replacement (PRM-R) system is a low cost cooperative surveillance system that uses Multi-lateration Technology (M/LAT) technology derived from ASDE-X to provide aircraft position and identification for parallel approach airspace volumes. The PRM-R system correlates surveillance data from terminal and surface radars, multi-lateration receivers, and Automatic Dependent Surveillance-Broadcast (ADS-B) systems.

PRM-R supports tracking and maintaining separation standards for aircraft on simultaneous independent approaches on parallel runways spaced less than 4,300 feet apart. Parallel approaches can be performed during poor visibility and adverse weather conditions without reduced delays and lost capacity. The target position update rate is one second as compared to 4.8 seconds with traditional terminal beacon systems. .

PRM-R data is displayed on high resolution displays and automation systems such as Standard Terminal Automation Replacement System (STARS). Automatic conflict alerting is also provided

PRM-R performance will be evaluated at the Detroit's Metropolitan Wayne County Airport (DTW) airport, as a first article test site, with plans for certification in 2008. The related Decision Point # 36 may be moved to September 2009. The decision will determine whether to expand PRM-A implementation in the NAS and replace PRM E-Scan systems with PRM-R.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 643 / 20

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Name: [652] Voice Switching and Control System (VSCS)

Acronym: VSCS

Description: The Voice Switching and Control System (VSCS) provides the Air Route Traffic Control Center (ARTCC) air traffic controller with ground/ground voice switching intrafacility (intercom) and interfacility communications and remote control access to air/ground radio equipment for controller-to-pilot communications. The VSCS replaced the aging ground-to-ground switching equipment and the air-to-ground circuits with a single integrated, computer-controlled, digital voice switching system, which greatly improves air traffic safety with clearer voice communications. The VSCS provided as government furnished property (GFP) communications requirement for inclusion in the common console in the Display System Replacement (DSR). Delivery and implementation of the VSCS Training and Backup System (VTABS) and VSCS Console Equipment (VCE) will be completed.

Note:

This VSCS mechanism was transitioned to the VSCS Tecnology Refresh Phase 1 (VSCS TR P1) mechanism.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 652 / 6

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Name: [653] Route Availability Planning Tool

Acronym: RAPT

Description: The Route Availability Planning Tool (RAPT) addresses an urgent need to increase the airport departure capacity in convective weather. In busy metroplexes such as New York, airways are tightly clustered and the proximity of adjacent arrival flows means that deviations around thunderstorms by departures cause serious disruptions to arrivals. As a result the departure flows are often shut down. The RAPT is a weather-assimilated decision support tool (DST) that supports the development and execution of departure management plans that more fully utilize the available departure capacity during Severe Weather Avoidance Plans (SWAP).

The RAPT integrates 3-dimensional (3-D) convective weather forecasts from the Corridor Integrated Weather System (CIWS) with the National Airspace System (NAS) airspace structure information (including aircraft trajectory information) to predict the availability of the filed departure route and, specifically designated coded alternative departure routes for an aircraft. Specifically the RAPT algorithms are dependent on CIWS convective and echo tops forecast products.

The demonstration system currently operates in the New York area, with program plans to conduct evaluations of the capability through fiscal year (FY) 2009, which includes other major metropolitan areas. The RAPT will include display of the RAPT information at terminal facilities including towers of the major airports for which RAPT service is provided. The RAPT will operate as a demonstration platform for evaluation and upon successful completion of the RAPT investment analysis the RAPT software package will be prepared as a NAS/CIWS enhancement.

The RAPT is a service provided by the Massachusetts Institute of Technology (MIT)/Lincoln Laboratory (LL) and as such has no procurement quantities. Additional information at URL <http://www.ll.mit.edu/AviationWeather/RAPT-flyer.html>

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Air / Ground

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 653 / 8

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Name: [656] System Wide Information Management

Acronym: SWIM

Description: The System Wide Information Management (SWIM) program provides for National Airspace System (NAS)-wide transport and sharing of information between the Federal Aviation Administration (FAA) systems and between FAA and external users. SWIM is a uniform single point of entry for Communities of Interest (COI) to publish and subscribe to NAS Services and NAS data. SWIM Segment 1 will implement four key services and capabilities.

The Interface Management (IM) Service enables Service Providers to expose NAS Services and enables Service Consumers to discover services in a service registry. IM also provides support for managing metadata.

The Messaging Management (MM) Service provides support for service invocation styles such as publish/subscribe, request/reply, message routing, queuing, and quality of Service (QoS) priority.

The Security Management (SM) Service implements mechanisms to enforce security policies at the application level (services and messages) to ensure confidentiality and integrity are maintained.

The Enterprise Service Management (ESM) Service provides Governance to manage services across all service lifecycle phases based on QoS and key requirements. ESM also provides monitoring of system service performance and usage.

SWIM Core Services will be implemented using Commercial Off The Shelf (COTS) software and existing NAS infrastructure.

The SWIM Core Services support three key domain areas and Community of Interest (COI) capabilities in the areas of Aeronautical Information Management (AIM), Weather, and Flight & Flow Management (FFM).

AIM includes Special Use Airspace (SUA) automated data exchange. The Weather area includes Corridor Integrated Weather System (CIWS) Publication, Integrated Terminal Weather System (ITWS) Publication, and Pilot Reports (PIREP) Data Publication.

The FFM area includes Flight Data Publication, Terminal Data Distribution, Flow Information Publication, Runway Visual Range (RVR) Publication, and Reroute Data Exchange.

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SWIM Service Container:  
\* SWIM core services technology application software that resides on NAS System SWIM Servers and provides an environment in which the NAS Air Traffic Management (ATM) Service Endpoint software can operate. Utilizing the Service Container, ATM application interfaces are standardized and decoupled with message brokering services enabling application to application binding and information exchanges.

The SWIM Implementation Programs (SIPs) are implementing the SWIM Service Container to provide the initial delivery of SWIM Core Services for messaging and security services.

Design-time Registry/Directory:  
\* The technology used to capture the metadata characteristics and designed of SWIM executable services. The Design-time Registry/Directory contains service contract specification, service interface specification, content specification, and configurations for service discovery and exposure.

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The FAA Joint Resources Council (JRC) approved the System Wide Information Management (SWIM) Segment 1 initial investment decision (JRC 2A) on 17 July 2006 and a final investment decision (JRC 2B) on 21 June 2007.

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SWIM Segments Historical Trailer:

The SWIM program is headed by ATO-W Ahmad Usmani.

SWIM implementation in FY08 will be limited to two WJHTC Laboratory sites for testing and development purposes only.

The WJHTC is implementing a SWIM Design-time Registry/Directory in support of the SWIM Service Container System implementation by the SIPs.

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Communications  
Enterprise Services  
Information System Security

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 656 / 20

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Name: [665] Instrument Flight Procedures Automation

Acronym: IFPA

Description: Instrument Flight Procedures Automation (IFPA) is an automation system used to create new Instrument Flight Procedures (IFPs) and to maintain existing IFPs.

IFPs provide pilots with approach paths clear of obstacles such as cell towers, buildings and trees into and out of an airport. Procedures define the operational rules for executing defined maneuvers. Procedure information includes approaches, holding, departures, arrivals, routes and minimum altitudes. Procedures are developed to dictate the execution of certain National Airspace System (NAS) operations under specified conditions or avionics equipment use in the cockpit. Effective procedures management requires periodic procedure reviews due to the impact of obstacles. Short-term notices to pilots called Notices-to-Airmen (NOTAMs) are also developed and issued.

IFPA is comprised of four key components, each with functional sub-components called modules, some of which are operational already. Planned modules are: IPDS Module 1 (FY10), Module 2 (FY12); OE (part of IPDS module 2); Airports & Navigation Aids (AirNav) database (FY10); Instrument Flight Procedures (IFP) Modules (FY07-10); Automated Process Tracking System (APTS) Modules (FY07-10). Technology refreshes begin in 2012 and are scheduled thru 2028.

Currently, there is an agreement in place, eventually to be a Memorandum of Agreement (MOA), with the Department of Defense (DoD) to share the annual cost of maintenance for IFPA once DoD is fully operational under IFPA.

State: In-Service

Primary Roadmap: Airspace and Procedures

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 665 / 6

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Name: [689] Advanced Electronic Flight Strip

Acronym: AEFS

Description: The Advanced Electronic Flight Strip (AEFS) system is only at the Chicago O'Hare Int. Airport Traffic Control Tower (ATCT), ICAO Code KORD, and at the Chicago Terminal Radar Approach Control (TRACON) facility. It provides digitized flight progress information; prototyping an electronic flight strip capability.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 689 / 8

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Name: [694] WARP Weather Information Network Server

Acronym: WARP-WINS

Description: WINS is the dissemination module of the WARP system that provides an interface to various NAS Users/systems that require weather data/products/information from WARP as needed. In addition, it provides for WARP to WARP connectivity for exchange of weather information between the ARTCCs.

WINS is located at each ARTCC as part of the WARP configuration.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): En Route, TFM

Update Date: 01-Feb-2013 by Saro Ramakrishnan

ID / Revision: 694 / 5

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Name: [696] National Lightning Detection Network

Acronym: NLDN

Description: The National Lightning Detection Network (NLDN) is currently a vendor-provided service from two vendors--Vaisala and US PLN (US Precision Lightning Network) that collect, process, and provide lightning data to the FAA. Other agencies also receive lightning data. Currently only groundstroke lightning data is used by various FAA users/systems.

If the business case can be made for how it will improve safety and/or operational efficiency, the FAA will likely also acquire inter-/intra-cloud lightning information in the future. Such information would be useful to improve the detection of convection-related turbulence, aid in thunderstorm forecasting, and provide additional lead time to airport ground personnel (e.g., refueling operations, etc.) of near/approaching lightning.

See ALDARS for how lightning data is integrated into automated surface observing systems located at NAS airports.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 696 / 7

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Name: [697] F-420

Acronym: F-420

Description: The F-420 is a standalone analog wind sensor used for center field wind information at many airport towers. The F-420 has been around for a long time and is becoming unsupportable.

Although fielded as a backup to ASOS, one of the SAWS (Stand Alone Weather Systems) sensors includes a wind sensor that could replace the functionality of the F-420.

ATO-T Wx to incorporate F-420 into a service-based approach for automated surface observing systems as part of a portfolio management approach.

State: In-Service  
Primary Roadmap: Weather  
Secondary Roadmap(s): None  
Flight Domain(s): Surface  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 697 / 11

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Name: [702] NAS Adaptation Services Environment

Acronym: NASE

Description: The National Airspace System (NAS) Adaptation Services Environment (NASE) is a system developed to meet some of the goals of the Adaptation Improvement Program (AIP). The AIP strives to modernize the way the FAA collects, stores, standardizes, distributes, and manages aeronautical and adaptation data. At this time, the primary focus is on the NASE.

The NASE is a highly specialized electronic distribution application that is oriented toward the needs of adaptation specialists. It distributes information products that are produced by other FAA systems and data providers. The success of NASE depends upon the availability of high quality and timely aeronautical and adaptation information.

The Host Computer System (HCS) receives aeronautical and adapted data from the NASE, via an internal component, the Adaptation Controlled Environment System (ACES), which feeds data to the HCS (data files) offline.

NASE uses a data repository containing aeronautical data provided by multiple FAA data providers, NAS as-adapted data, and a toolset for creating and securely delivering data extracts tailored to the needs of FAA personnel who maintain a particular NAS automation system. All data is configuration-managed.

NASE is web-accessible and provides secure electronic data delivery over the FAA Intranet. The system has been security certified and accredited, and it enables widespread dissemination and accumulation of sensitive data while being resistant to cyber-attacks and data corruption. The goals of NASE are to: (1) Improve NASE services for existing customers, (2) Provide NASE services to additional NAS programs, (3) Promote and distribute aeronautical data based upon FAA's Aeronautical Data Standards, and (4) Distribute aeronautical data based upon desired interchange models.

NASE services include: (A) Secure Data Repository Services, (B) Customized Data Extraction and Transformation Services, (C) Data Distribution Services, (D) Transaction Logging Services, (E) Automated Data Notification Services, (F) Collaboration Services, (G) Platform Services, and (H) Training Services.

The FAA's Software Engineering Resource Center (SERC) currently manages the day-to-day operations of NASE.

Get update from Tony CIAMPA

State: In-Service  
Primary Roadmap: Automation  
Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 702 / 8

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Name: [703] NextGen Backup Surveillance Capability

Acronym: NBSC

Description: The NextGen Backup Surveillance Capability will provide cooperative surveillance service as a backup to Automatic Dependent Surveillance - Broadcast service in en route and terminal environments. A decision for implementation of the new Beacon system is planned for 2016 at NASEA Decision Point (DP) # 78. A separate decision at DP # 105 is planned for 2017 for limited implementation of a "New Beacon" system to replace Mode S systems in the en route and terminal environments. The New Beacon system may replace some ATCBI-5 systems that remain in the NAS.

The initial estimate for the number of "New Beacon" systems is 190. This count will change as requirements are defined.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 703 / 15

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Name: [704] NextGen Surveillance and Weather Radar Capability

Acronym: NSWRC

Description: The ADS-B Backup Strategy, completed January 2007, recommends retaining terminal primary radar service at sites that currently have ASR systems.

A decision will be made on implementation of next generation primary radar system in 2017 to provide a "Next Generation Surveillance and Weather Radar Capability." The NextGen Surveillance and Weather Radar Capability would be implemented at selected sites based on the ADS-B backup strategy, air traffic safety, security and weather data requirements. Current plans are that the New Primary Radar would replace approximately 39 ASR-8 and 121 ASR-9 radar systems.

A decision on replacing the ASR-8 and ASR-9 is planned for 2017. A separate decision is planned for replacement of the ASR-11 in 2024.

Approximately 246 ASR sites would be evaluated for possible ASR replacement. Replacement requirements will be evaluated based on service life of existing systems, supportability, performance and new requirements.

The NextGen Surveillance and Weather Radar Capability will also implement weather requirements depending on an Investment Decision in 2018 as to whether to SLEP 1) Wind Shear systems, 2) ASR-9/11 Wx Channel and 3) NEXRAD or replace them with a NextGen Weather Surveillance Capability.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 704 / 16

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Name: [706] Terminal Flight Data Manager

Acronym: TFDM

Description: TFDM, Work Package 1 will Receive new flight plans, Create new flight plans, Send and receive electronic flight data within the tower and to the TRACON, Provide notification of changes to the electronic flight data, Provide tower data link departure clearance messages, Provide both visual and aural alerts in the event that a controller tries to apply instructions or flight data updates that contradict a rule or the runway and taxiway status configuration, Publish flight events to NAS subscribers that began in the System Wide Interface Management (SWIM) Terminal Data Distribution System (STDDS) program, including taxi start and takeoff, introduce the aircraft's corresponding electronic flight strip to controller, display aircraft in continuous motion in an orderly manner around turns, Add closed runway and hold bar indicators and wake vortex countdown timer, Display terminal airspace with the ability to segment and zoom in on a specific area, Publish surveillance data to NAS subscribers that began in the SWIM STDDS program, including ASDE-X event and position data, Manage the airport configuration, Manage runway assignment rules, Display and manipulate arrival departure timelines, Input TMI constraint times, Provide electronic checklist, Provide alarm, alert and prompt enable/inhibit menu, Provide receipt of flight data notifications, Provide flight plan locator, current and historical, Exchange tower management data, Display aeronautical, weather, and tower information, and provide four of five DST categories Airport Configuration, Runway Assignment, Scheduling and Sequencing, and Taxi Routing.

TFDM work package 2 and 3 will build on the functionality of TFDM by improving on the following capabilities: Flight Data Capabilities, Surveillance Data Capabilities, Tower Management Capabilities, Aeronautical and Weather Information Capabilities, and Decision Support Tools.

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Air / Ground  
Airport  
Communications  
Enterprise Services

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 706 / 21

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Name: [712] Alaska Satellite Telecommunications Infrastructure (ASTI)

Acronym: ASTI

Description: ASTI is an FAA-owned satellite-based infrastructure that carries reliable voice/data communications in support of air traffic management (ATM) and air traffic control (ATC) between FAA facilities (i.e., Air Route Traffic Control Center (ARTCC), Airport Traffic Control Tower (ATCT), and Automated Flight Service Station (AFSS) facilities). The satellite portion of the wide area communications service is a leased service.

The Alaskan Satellite Telecommunications Infrastructure (ASTI) system is a satellite-based telecommunications network providing a primary carrier for NAS services supporting air/ground communications, weather, surveillance, remote monitoring and control, environmental and navigational aids.

The ASTI system is deployed throughout Alaska, with one system located at Seattle, WA (ZSE). One Master Hub is located at Anchorage, AK (ZAN) and three other Hub facilities are located at the AFSS locations, Kenai, Juneau, and Fairbanks. ZAN manages the entire network and the AFSS Hubs are configured to manage a portion of the entire network, or sometimes called a subnet.

ASTI provides communications connectivity for critical, essential, and routine air traffic control services. Two satellite relay services provide air-to-ground primary and backup alternate communications connectivity diversity.

The network can be expanded as needed to provide service to new NAS facilities. ASTI Modernization will be focused on making improvements to ASTI Phase 1 and ASTI Phase 2 roll-outs - correcting ASTI operational availability degradation that is caused by equipment obsolescence and weather related damage and deterioration.

The ASTI network is managed by the ASTI Network Operations Control Center (NOCC) at the ZAN master hub through the Network Management and Control System (NMCS). The ASTI system equipment consists of 9 functional areas: Antenna, Radio Frequency (RF), Intermediate Frequency (IF),

Control System (NMCS). The ASTI System equipment consists of 9 functional areas - Antenna, Radio Frequency (RF), Intermediate Frequency (IF), Multiplexer, ASTI Demarcation Point (ADP), Power, Network Management and Control System (NMCS), NMCS Space Segment, and Environmental. All functional area equipment is located at all facilities, regardless of facility type.

KEY NOTE: The Alaskan National Airspace System (NAS) Interfacility Communications System (ANICS) program and system has been renamed to Alaska Satellites Telecommunication Infrastructure (ASTI) during Concept and Requirements Definition (CRD) phase of the Acquisition Management System (AMS). The Investment Analysis Readiness Decision (IARD) was approved on March 19, 2008.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 712 / 10

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Name: [713] Performance Data Analysis and Reporting System

Acronym: PDARS

Description: The Performance Data Analysis and Reporting System (PDARS) is a set of fully integrated performance measurement tools. It consists of a nationwide network of facility-based computers, which provide outcome driven performance information to facility management. This metric information can then be "rolled up" for service area or national level performance analysis. This system extracts radar data from the Host Computer System (HCS), Automated Radar Terminal System (ARTS), or Standard Terminal Automation Replacement System (STARS) computer systems. It records and integrates flight plan and track data in an interactive database. The data can then be queried to establish outcome metrics such as net time, distance, altitude, reroutes, etc. with the fidelity necessary to make meaningful distinctions in the performance of various facilities (both en route and terminal). It processes and distributes this data to FAA facilities via a private, secure Intranet. Currently, the PDARS network extends to over 45 FAA facilities, service area offices, and the David J. Hurley Air Traffic Control System Command Center (ATCSCC). It is operated by over 375 trained specialists and generates over 500 individualized reports daily. The various capabilities of the PDARS tool set, allow Air Traffic personnel to review, analyze, replay, and quantify complex air traffic scenarios objectively and with the same degree of fidelity that is available during the actual operation.

PDARS has been utilized to populate the SMP "Dashboard" of the operational vice presidents and has accessed the National Traffic Management Log (NTML) at the ATCSCC. This enhancement has provided the capability, still under refinement, to provide fully automated metric capability from event occurrence to executive reporting. PDARS information is utilized in the development of the Airspace Flow Program (AFP) and has had a direct result on system capacity and efficiency. It provides the capability to monitor compliance with large scale planning initiatives aimed at increasing system capacity and reducing congestion in some of the nation's largest cities. For additional information see <http://pdars.arc.nasa.gov/>

See also the paper by Wim den Braven and John Schade, (2003), "Concept and Operation of the Performance Data Analysis and Reporting System (PDARS)," SAE Advances in Aviation Safety Conference (ACE), Montreal, September 8-12, Paper No 2003-01-2976, URL [http://pdars.arc.nasa.gov/publications/2003-01-2976v002\\_PDARS.pdf](http://pdars.arc.nasa.gov/publications/2003-01-2976v002_PDARS.pdf)

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 713 / 6

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Name: [714] Data Communications (DataComm)

Acronym: DataComm

Description: Improvements to the Agency's air traffic management services will be delivered by the Data Communications project in two segments.

Data Communications will support the NextGen vision by providing data transmissions directly to pilots and their flight management systems, enabling more efficient operations, including trajectory based routing that evolves air traffic from short-term tactical control to managing flights strategically gate-to-gate. Data Communications will support safety-of-flight command, control and information services by providing comprehensive data connectivity, including ground automation message generation, transmission and routing. Data Communications will automate repetitive tasks, supplement voice communications with less workload-intensive data communications and enable ground systems to use real-time aircraft data to improve traffic management.

Segment 1 will deliver the initial set of data communications services, integrated with automation support tools that provide National Airspace System (NAS) benefits and lays the foundation for a data-driven NAS. This delivery will occur in multiple phases. Initial tower service delivers the basic log-on capability required to initiate all data communications, and revised departure clearances (DCL) for Future Air Navigation Systems (FANS). The next phase will deliver core En Route FANS services for Controller-Pilot Data Link Communication (CPDLC), which includes transfer of communications and initial check-in/out for aircraft flying into and out of sectors, direct-to-fix flight paths, altimeter settings, etc. A subsequent phase will allow implementation of the remaining enhanced En Route services.

Segment 2 will enable more advanced NextGen operations to include initial trajectory-based operations that would not be possible using the existing voice systems. To implement these capabilities Data Comm is procuring software upgrades to the FAA Tower Data Link Services (TDLS) and En Route Automation Modernization (ERAM) systems. Hardware updates will be required to create a protocol and security gateway (PGW) function with expanded FAA Telecommunications Infrastructure (FTI) capacity. In addition the Data Comm Integrated Services (DCIS) contract will be awarded and it will provide a Very High Frequency Digital Link (VDL Mode-2) air/ground network, integration and engineering services, and avionics equipage.

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 714 / 23

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Name: [717] Terminal Data Distribution System

Acronym: TDDS

Description: The Terminal Data Distribution System (TDDS) is part of the new Terminal local area network (LAN) based architecture implemented by System Wide Information Management (SWIM) to facilitate flight message exchange with other National Airspace System (NAS) systems. The TDDS attaches to the Terminal Flight Data Manager (TFDM), which collects and formats flight messages using the Common Message Set (CMS) format, and functions as the Point of Presence (POP) database system to enable SWIM message exchanges between Tower Flight Data Manager (TFDM), En Route Automation Modernization (ERAM), Traffic Management Advisor (TMA), and Traffic Flow Management System (TFMS).

Need to get an update from Cheryl Jackson. This is a SWIM program and not a replacement for FDIO.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 717 / 9

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Name: [718] Central Altitude Reservation Function

Acronym: CARF

Description: The Central Altitude Reservation Function (CARF) supports United States peace and war plan objectives and other special activities. The CARF is responsible for coordinating military and civilian altitude reservations for operations within the National Airspace System (NAS).

CARF personnel must be able to determine when military operations, national security aircraft operations, and other civilian emergency operations require special traffic management coordination. CARF is also the coordination point for all Open Skies Treaty Operations. CARF is being enhance as part of AIM Segment 1. No plans to enhance CARF after Segment 1.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 718 / 11

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Name: [719] Global Navigation Satellite System

Acronym: GNSS

Description: Global Navigation Satellite System (GNSS) is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. A GNSS allows electronic receivers to determine their location (longitude, latitude, and altitude) to within a few meters using time signals transmitted along a line-of-sight by radio from satellites. Receivers on the ground with a fixed position can also be used to calculate the precise time as a reference for scientific experiments.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 719 / 10

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Name: [720] Aviation Weather Cameras

Acronym: AWC

Description: The Alaska Mike-in-Hand & Video Equipment (Alaska MIH & Video Equip) project extends the Weather Camera program in Alaska. Terrain and rapidly changing weather conditions in Alaska do not always permit effective use of automated weather systems at many locations throughout Alaska. In addition, automated systems do not always provide pilots complete weather information for making effective decisions.

The Alaska Weather Camera program currently consists of approximately 87 weather cameras that help resolve some of the above issues by providing real-time images of certain remote airports and mountain passes to air carriers, dispatchers, commercial and GA pilots and Flight Service Station (FSS) specialists. The FAA intends to fund and field an additional 134 sites through 2013 in Alaska. The Internet-based system enables users to compare real-time weather at remote sites with stored clear-day images that have terrain features annotated.

The ATO Executive Council approval of these cameras applies only to the state of Alaska. Other regions of the U.S. wanting to use this equipment must initiate separate acquisition action in accordance with the Acquisition Management System.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 720 / 7

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Name: [737] Navaid Control, Interlock and Monitoring Equipment

Acronym: NCIME

Description: Navaid Control, Interlock and Monitoring Equipment (NCIME) provides a single display in the Air Traffic Control Tower (ATCT) for the control, status, and remote monitoring of all airfields' Navaid/Visual-aids. These requirements are currently being met through the use of various separate control panels supplied by equipment vendors and with local adaptation by FAA engineers. NCIME reduces the complexity and time involved in changing runway configurations and airport traffic flows. NCIME's single, integrated display eliminates the proliferation of non-standardized equipment and displays in the tower and minimizes ATCT space requirements - an important benefit where new, larger tower complexes and other tower facilities equipment upgrades and expansion projects have made tower equipment space a concern. NCIME also provides the platform for the integration of future systems.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 737 / 8

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Name: [739] Universal Access Transceiver Avionics

Acronym: UAT Avionics

Description: The Universal Access Transceiver (UAT) is an Automatic Dependent Surveillance-Broadcast (ADS-B) link technology that operates at 978 MHz.

State: In-Service

Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): En Route, Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 739 / 8

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Name: [740] Low Cost Ground Surveillance

Acronym: LCGS

Description: The Low Cost Surface Surveillance (LCGS) system, managed under the Runway Incursion Reduction Program (RIRP), will evaluate alternatives low cost airport surface surveillance systems for operations at small to medium-sized airports. LCGS is to provide scalable and adaptable coverage of airport areas. Coverage may be extended to include user-specified regions, such as runways, taxiways, and ramp areas, or an entire airport movement area.

Benefits provided by LCGS include detection of aircraft and surface vehicles on the airport area during periods of low visibility due to environmental conditions such as heavy precipitation, snow, fog and icing.

The LCGS program will evaluate candidate technologies at four sites - Reno, NV, Manchester, NH, San Jose, CA and Long Beach, CA. LCGS alternatives will be evaluated against criteria for performance, safety, maintainability and cost effectiveness.

Cost/benefit analysis will be performed to identify airport that will benefit from LCGS service. A site listing will be provided when the cost/benefit analysis is mature.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

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Name: [745] Automatic Dependent Surveillance - Broadcast

Acronym: ADS-B

Description: ADS-B will be implemented by the Surveillance and Broadcast Services (SBS) Program to provide two services: (1) "Critical Services" consisting of ADS-B and ADS-Rebroadcast, and (2) "Essential Services" consisting of Traffic Information Service Broadcast (TIS-B) and Flight Information Service Broadcast (FIS-B). Nine ADS-B enabled applications will be developed and assessed: (1) ATC Surveillance, (2) Enhanced Visual Acquisition, (3) Enhanced Visual Approach, (4) Final Approach and Runway Occupancy Awareness, (5) Airport Surface Situational Awareness, (6) Conflict Detection for flight and Air Traffic Management (ATM) operations, (7) CDTI/MFD Assisted Visual Separation (CAVS), (8) Interval Management (e.g., merging and spacing) and (9) Weather and NAS Status Situational Awareness. SBS will provide data to FAA defined Service Delivery Points (SDP) as the demarcation points between SBS-provided services and ground-based user systems.

Implementation:

The SBS applications span all national airspace domains (Oceanic, En Route, Terminal and Surface) and require tightly coupled coordination with the Terminal and En Route Service Units. Interfaces will be integrated to all major automation platforms that serve the NAS - En Route Automation Modernization (ERAM), HOST Computer System (HCS), Microprocessor En Route Automated Radar Tracking System (MEARTS), Standard Terminal Automation Replacement System (STARS), Common Automated Radar Terminal System (CARTS) and Advanced Technologies and Oceanic Procedures (ATOP).

SBS will be implemented in two segments. The SBS Program will develop connectivity and validate ADS-B suitability for ATC services through integration to the five primary automation platforms and establish an In-Service Decision (ISD) on ADS-B, ADS-R, TIS-B and FIS-B in Segment 1 by 2010. Additional capabilities (e.g., integration with ATOP) will be addressed as system enhancements in Segment 2 by 2013.

The SBS vendor will install and own about 340 SBS ground stations in three regions of the U.S. by 2010 with an option to install over 400 more by 2013. The SBS vendor will provide SBS capability to the FAA under a fee-for-services arrangement.

SBS - Segment 1:

The SBS Program has achieved Segment 1 milestones up to contract award, including the initiation of deployment of essential services (TIS-B and FIS-B) NAS-wide, and other ADS-B related programs activities. An ADS-B "Out" Notice of Proposed Rulemaking (NPRM) was also published. Key remaining Segment 1 implementation milestones are:

1. Complete deployment and certification of equipment to support service delivery in selected locations
2. Certify ADS-B as an approved surveillance source to support existing separation standards on five FAA automation platforms - ERAM, HOST, MEARTS, STARS, and CARTS
3. Publish ADS-B "Out" Final Rule
4. Confirm minimum avionics performance to ensure future utility.
5. Define additional aircraft to aircraft requirements
6. Achieve early benefits in non-radar airspace

ADS-B critical services (ADS-B downlink to ATC for separation) will be implemented at four key sites (service volumes): the Gulf of Mexico; Louisville, KY - Terminal Radar Approach Control (TRACON) and UPS GOC; Philadelphia, PA - TRACON; and Alaska Anchorage Center and Juneau Air Traffic Control Tower.

SBS - Segment 2:

SBS capabilities will be activated in the remaining NAS service volumes with plans to complete NAS-wide deployment of ADS-B by 2013. The ADS-B "Out" Final Rule for broadcast will be published during the end of Segment 1 and beginning of Segment 2, providing an equipment baseline to continue user equipage and application development and deployment.

Milestones beyond 2013 are:

1. Continue aircraft to aircraft application requirements definition and deployment with a goal of achieving avionics equipage of 100% by FY 2020.
2. Complete removal of targeted legacy surveillance systems, per the ADS-B Backup Strategy, between FY 2020

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 745 / 28

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Name: [746] Wide Area Multi-Lateration

Acronym: WMLAT

Description: Wide Area Multi-Lateration (WMLAT) is a limited implementation of the multi-lateration technology, derived from the Airport Surface Detection Equipment Model X (ASDE-X), to support air traffic control operations at a few airports in Colorado with data feeds to the Denver ARTCC. WMLAT operation provides air traffic surveillance coverage in areas with restricted low altitude radar coverage due to mountainous terrain or no radar coverage. The FAA is evaluating WMLAT operations between 2007 and 2010.

WMLAT operations will be extended to Juneau, Alaska. WMLAT services Juneau, Alaska will be implemented as part of the ADS-B implementation under the SBS Program. WMLAT services may be extended to other areas in the Western Continental United States (CONUS) with restricted radar coverage. An FAA decision is pending in 2010 on NAS-Wide deployment of ADS-B which would extend ADS-B service throughout the NAS. SBS implementation of ADS-B related services may subsume WMLAT operations.

Decommission and End of Service dates are based on the assumption that NAS-Wide Deployment of ADS-B services would likely replace WMLAT. The ADS-B Backup Strategy projects complete removal of targeted legacy surveillance systems, per between FY 2016 and 2023. WMLAT operations are partially or fully funded by local airport transportation authorities that would participate in decisions to end the service.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures

Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 746 / 19

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Name: [747] Security Integrated Tool Suite

Acronym: SITS

Description: The Security Integrated Tool Suite (SITS) is part of the FAA's NextGen Implementation Plan and supports efforts to develop the Next Generation Air Transportation System. Functional and technical requirements, spiral development plans, and cross-platform interfaces (e.g., linkages between SITS and other air traffic management automation) need to be developed. These capabilities would be provided to select FAA users, as well in a customized form to interagency defense and homeland security partners (e.g., Department of Defense (DoD), Transportation Security Agency (TSA), Customs and Border Protection (CBP)) through a secure network, which enables shared access to an aviation security Common Operational Picture (COP) or, at least, a User Defined Operational Picture (UDOP) drawing on a common data set; real-time collaboration on monitoring, vetting, and operational response; and coordinated consequence management. This network, which will be built on a Service Oriented Architecture (SOA), will leverage enterprise grade database, processing, communications, and Information System Security (ISS) systems to support simultaneous, secure, and geographically distributed access by interagency users.

As the Air Traffic Organization (ATO) has taken on rapidly expanding national defense and homeland security mission areas, a serious gap is widening between the ATO's security specific automation needs and the systems and infrastructure both available today and defined heretofore in the FAA's existing investment plans. The current technological tools used by the ATO are naturally focused on the organization's traditional safety and capacity activities. Since the 2001 attacks, the ATO has been forced to substantially adapt the use of existing systems (e.g., Traffic Situation Display (TSD) and Temporary Flight Restrictions (TFR) Builder) to support its security related missions. ATO has also leveraged very primitive tools such as the telephonic bridge used for the Domestic Evens Network (DEN), which has become the primary mechanism used by over seventy agencies to maintain shared situational awareness of and coordinate operational responses to security incidents involving the NAS.

While the ATO has been able to stretch the utility of these off-the-shelf systems, which were designed and deployed to enable safety and capacity functions, their inherent deficiencies as tools to effectively support security operations have become glaringly obvious. The lack of adequate aviation security focused tools, ranging from operational response systems to intelligence sharing and fusion mechanisms, has been highlighted by a number of Government Accountability Office (GAO) documents and other reports. Cited deficiencies include, but are not limited to: an inability to manage data on security incidents (e.g., violations of restricted airspace) to help "connect-the-dots"; the lack of automation to rapidly identify and track suspect flights using in-flight behavior, flight plan data, operator information, and flight trajectory in the context of security features (e.g., restricted airspace or proximity to sensitive ground locations); unavailability of a COP fusing data from multiple sources and agencies. Timely information can make a decisive difference in the outcome of an air security event. The safety and capacity centric systems currently available to the ATO security users and their interagency partners inadequately address this growing, critical gap.

This initiative is in alignment with the government-wide mandate to share information associated with law enforcement and security activities.

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): TFM

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 747 / 13

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Name: [776] Weather Radio

Acronym: Weather Radio

Description: This a Public Alert certified weather radio that keeps Airport Traffic Control Tower (ATCT) controllers informed of hazardous weather information from the NWS so that they may more safely handle air traffic when severe weather approaches the Terminal area. The radio monitors the National Oceanic and Atmospheric Administration (NOAA) weather band radio 7/24 and provides warnings of hurricane and tornado warnings in addition to several other extreme weather events. This radio automatically sounds a loud alert tone for emergency conditions in the local area when severe weather and other emergency conditions arise.

Additional information at <https://employees.faa.gov/org/linebusiness/ato/news/headquarters/story/index.cfm?newsId=52851>

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 776 / 6

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Name: [787] Traffic Information Service - Broadcast

Acronym: TIS-B

Description: The Surveillance and Broadcast Services (SBS) Automatic Dependent Surveillance-Broadcast (ADS-B) equipped aircraft exchange ADS-B messages, acquiring a traffic picture limited to ADS-B equipped aircraft in their proximity. Traffic Information Service - Broadcast (TIS-B), in conjunction with the Automatic Dependent Surveillance-Re-Broadcast (ADS-R) service, will provide equipped aircraft the information needed for a comprehensive air and airport surface picture of traffic in their vicinity. TIS-B messages include targets reports from ground-based surveillance radar, or other non-ADS-B surveillance. TIS-B messages are broadcast on both the UAT and 1090ES data links for reception by equipped aircraft.

The data link used to send TIS-B is also used to send Flight Information Service (FIS-B). FIS-B will provide the automated means for collecting and distributing weather (Service A messages), flight plan data, Pilot Report messages, and other operational information (Service B messages). The Flight Information System (rehosted) will be uplinked to aircraft as part of ADS-B and provided as a web-enabled means for collecting and distributing the above information to all air traffic facilities.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 787 / 15

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Name: [790] GSA Model 400/466

Acronym: GSA 400/466

Description: The GSA Model 400/466 is developed by Litton/Amecon and acquired through a National Program/Contract. This solid-state voice switch supports small to medium terminal facilities with up to 4-air traffic controller positions for air-to-ground (A/G) and ground-to-ground (G/G) voice communications connectivity.

The GSA 400/466 (installed in the ATCT) provides the air traffic control (ATC) operational ground-ground voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/ Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Ground-air radio connectivity between ATCT controllers and pilots is also supported by the GSA 400/466.

The GSA 400/466 (installed in the TRACON) provides the ATC operational ground-ground voice communications intraconnectivity between controllers within TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. Ground-air radio connectivity between TRACON controllers and pilots is also supported by the GSA 400/466.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 790 / 6

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Name: [792] 4-D Weather Cube

Acronym: 4-D Wx Data Cube

Description: The 4-D Wx Cube is a shared, four-dimensional (three spatial dimensions and time) virtual database of weather information. It is led by the National Weather Service and fully coordinated with the FAA. The 4-D Wx Data Cube contains all weather information needed to support aviation operations (e.g., observations, automated gridded products, models, climatological data, and human-produced forecasts from both public and private sources). It will provide information that occasionally conflicts (e.g., due to multiple types of models with different output data) and will have variable performance attributes, including accuracy, availability, statistical reliability, consistency, update rates, and resolution in time and space. The implementation of the 4-D Wx Cube and its access and utilization by NAS users' applications in an operational manner is the essence of NextGen weather capabilities.

NNEW will interface with the the 4-D Wx Data Cube to disseminate weather information to FAA operational systems as required.

During initial implementation of NNEW segments, the 4-D Wx Cube may interface directly to some sensors, processors (e.g., NextGen Wx Processor (WP1) that will extract weather information [for processing]), or to display systems until the various NNEW segments are fully implemented to subsume that functionality.

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Saro Ramakrishnan

ID / Revision: 792 / 5

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Name: [795] Wind Hazard Detection Equipment

Acronym: WHDE

Description: The Wind Hazard Detection Equipment (called Wind Tracer) is to be installed at Las Vegas' McCarran airport. It will use laser-driven equipment to help identify and alert to wind and wind shear hazards (dry microbursts/wind shear) in dry and clear air in the terminal area. It also enables detection and alerting of gust fronts that emanate from distant thunderstorms which cause unanticipated runway wind shifts impacting both safety and operations.

State: Planned

Primary Roadmap: Weather  
Secondary Roadmap(s): None  
Flight Domain(s): Surface  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 795 / 6

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Name: [796] Airport Wireless Communications System (AWCS)

Acronym: AWCS

Description: Enhancement of availability, adaptability, and expediency of airport-aircraft communications is essential for conveying timely, reliable situational awareness updates amongst airport facilities and aircraft. The Airport Wireless Communications System (AWCS) will enable this capability by establishing a wireless communications network infrastructure that will disseminate timely advisories to various aviation stakeholders (e.g., pilots, controllers, dispatchers, airlines, and ramp personnel).

Due to the flexibility in configuring such a wireless network, the AWCS nodes will be placed in close proximity to airport sensors and ground-based operational elements, averting the topological and availability constraints of the Airport Cable Loop System and airport configuration changes. Based upon WiMAX over C-Band technology, AWCS will enable mobile and fixed assets to maintain high-speed communications that mitigate surface and aerodrome traffic risks (e.g., runway incursion, wake turbulence and weather advisories, clearance and dispatch information).

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 796 / 16

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Name: [811] National Airspace Data Interchange Network : Message-Switched Network Rehost (NMR)

Acronym: NMR

Description: NMR provides the rehosting of NADIN MSN and adds an IP in addition to an X.25 interface. (NADIN MSN only has an X.25 interface.) NMR allows decommissioning of the NADIN MSN Concentrators at ARTCCs, CERAPs, NNCC, and WJHTC.

IP is provided by the Combined Services Access Point (CSAP), a suite of routers and a KVM switch (Keyboard, Video, Mouse) for packet sniffing over the Web. CSAP provides a common, fault-tolerant interface between FTI and NAS subsystems such as ECG, ADAS, WMSCR, RMMS/RMLS, CCSPs (Arinc and Seta) and AFTN.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 811 / 7

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Name: [821] Time Based Flow Management

Acronym: TBFM

Description: The Time Based Flow Management (TBFM) Program will:

- (a) expand the rule and scope of time-based metering operations more widely throughout the NAS,
- (b) develop and implement mature initiatives,
- (c) demonstrate proof of concept, prototyping, and planning for future initiatives, and
- (d) close the performance gap in transition of Traffic Management Advisor (TMA) system to the follow-on system called Integrated Enterprise Solution (IES).

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Air / Ground  
Enterprise Services

Flight Domain(s): En Route, Surface, TFM, Terminal

Update Date: 01-Feb-2013 by Saro Ramakrishnan

ID / Revision: 821 / 9

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Name: [857] Advanced Dynamic Airspace Management

Acronym: ADAM

Description: ADAM 1 manages airspace data and facilitates digital data exchange through a Service Oriented Architecture (SOA) and exchange of data through web services within AIM. ADAM will employ a common data model [i.e., Aeronautical Information Exchange Model (AIXM)] and a common architecture to improve data quality and standardization among, for example, such airspace sector management applications as Sector Design and Analysis Tool (SDAT), Temporary Flight Restriction (TFR) Builder and iOEAAA.

ADAM 1 will encompass (a) Advanced Dynamic Airspace Management, which will reserve, deconflict, manage and distribute altitude reservations (Formerly CARF), (b) TFR and (c) Create Airspace.

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Surface, TFM, Terminal

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 857 / 10

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Name: [873] NextGen Surface Observing Capability

Acronym: NSOC

Description: NextGen Surface Observing Capability will replace the existing systems, e.g. ASOS/AWOS/AWSS, SAWS, F-420 & likely DASI with a single automated surface observing system (likely a joint venture with NWS, possibly DoD).

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 873 / 9

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Name: [874] Airborne Flight Management System

Acronym: FMS

Description: A computer system that uses a large data base to allow routes to be preprogrammed and fed into the system by means of a data loader. The system is constantly updated with respect to position accuracy by reference to conventional navigation aids i.e., DME, GPS/WAAS. The sophisticated program and its associated data base insures that the most appropriate aids are automatically selected during the information update cycle.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 874 / 12

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Name: [882] Approach Lighting System : Model I

Acronym: ALS I

Description: Approach Light System (ALS)- An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns the aircraft with the extended centerline of the runway on his/her final approach for landing. Condenser-Discharge Sequential Flashing Lights/Sequenced Flashing Lights may be installed in conjunction with the ALS at some airports.  
ALSF-1- Approach Light System with Sequenced Flashing Lights in ILS Cat-I configuration. Other configurations include:  
ALSF 1, MALS, MALSR,

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 882 / 13

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Name: [883] Approach Lighting System : Model II

Acronym: ALS II/III

Description: Approach Light System (ALS)- An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns the aircraft with the extended centerline of the runway on his/her final approach for landing. Condenser-Discharge Sequential Flashing Lights/Sequenced Flashing Lights may be installed in conjunction with the ALS at some airports.  
ALSF-2- Approach Light System with Sequenced Flashing Lights in ILS Cat-II configuration. The ALSF-2 may operate as an SSALR when weather conditions permit. Other configurations include:  
SALS, ALS 3, RWCLL, TDZL, ALS 2, ALS 2/SSALR, ALSF 2

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 883 / 12

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Name: [887] Common Support Services - Weather

Acronym: CSS-Wx

Description: CSS-Wx WP1 is the first phase of RWI/CSS-Wx that will demonstrate timelier dissemination of observations and forecasts via netcentric access with an component called the 4-D Weather Cube (4-D Wx Cube). The 4-D Wx Cube, led by NWS and fully coordinated with the FAA, will provide improved observations and forecast weather information. CSS-Wx WP1 will access and disseminate this information, to facilitate FAA operational decision making with near real-time transfer of weather information throughout the NAS. This will aid NextGen Air Navigation Service Providers and Users alike. Thus, it will enable them to collaborate and mitigate weather impacts on NAS operations and safety.

CSS-Wx WP1 will also eventually subsume the functionality of WARP communication components--WINS (Weather Information Network Server) and FBWTG (FAA Bulk Weather TeleCommunications Gateway). Today, WINS disseminates various types of weather information from WARP to automation systems such as URET, DOTS+, and ATOP. Connecting to NWS' Telecommunications Gateway in Silver Spring, MD, the FBWTG brings in gridded data from the NWS modeling center, aircraft observations of winds and temperatures from MDGRS, and icing, turbulence, and convective products from NWS' Aviation Weather Center in Kansas City, MO.

Other components of CSS-Wx WP 1 entail weather processing with the implementation of the NextGen Weather Processor Work Package 1 (NWP WP1), a component of CSS-Wx WP1 that will likely be implemented in the 2013 timeframe. NWP WP1 subsumes the functionality of WARP and eventually that of CIWS.

Where these NNEW WP 1 components will reside has not yet been determined. That information will emerge pending the results of the FAA's acquisition

where these NNEW WPT components will reside has not yet been determined. That information will emerge pending the results of the FAA's acquisition process that will examine and analyze the alternatives for each NNEW component from a cost-benefit perspective.

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 887 / 15

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Name: [891] Automated Radar Terminal System : Model IE

Acronym: ARTS IE

Description: Automated Radar Terminal System - Model IE (ARTS-1E) is a Stand Alone Tower Systems used at towers without automation system available for support. There are approximately 11 systems in three states.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 891 / 9

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Name: [892] Electronic Flight Bag

Acronym: EFB

Description: Electronic Flight Bag is a software and data-services solution to digitize logbooks, charts and other flight documents to achieve paperless cockpit. Class 1, usually COTS, including laptops; Class 2, the same but connected to aircraft systems when in use, so requires approval; Class 3, installed equipment.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 892 / 7

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Name: [896] National Offload Program

Acronym: NOP

Description: National Offload Program (NOP) is an automated system that pulls data from selected NAS systems into a data warehouse before funneling it into other programs. The NOP systems is national in scope and supports the administrative, regulatory, disciplinary, investigative security and security risk management programs designed to provide personnel, operational, facility, and asset management capabilities.

It receives tracking data from each ATC automation system (ERAM, STARS, ARTS), collects the data in the NOP archives and extracts it with airspace tools such as the Sector Design and Analysis Tool - SDAT).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 896 / 6

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Name: [898] National Airspace Incident Monitoring System

Acronym: NAIMS

Description: The National Airspace Incident Monitoring System (NAIMS) is a group of FAA databases of all reported instances of operational errors made by flight crews or air traffic controllers, with such reports being compulsory for FAA personnel witnessing such errors.

The WJHTC assembles all reports from NAIMS and the Aviation Safety Reporting System (ASRS), which is a non-compulsory database maintained by NASA, for data sample periods for use in safety assessment reports.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 898 / 4

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Name: [900] National Airspace Performance Reporting System

Acronym: NAPRS

Description: The National Airspace Performance Reporting System (NAPRS) is an "off-line" software package used to collect data regarding NAS outages and resultant NAS service reliability and availability data, as spelled out in FAA Order 6040.15.

The NAPRS process is support by an "off-line" software package for maintenance (Tech Ops) people for reporting and data tracking. collects reported interruptions in NAS services through interruption of systems, subsystems, and equipment or through interruption of facilities operation. Interruption reports specify equipment, date/time of interruption, cause, class of service (FDAT/IDAT, NAMS, CFAD, ECOM, etc.), etc.

State: In-Service

Primary Roadmap: Facilities

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 900 / 7

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Name: [902] Facility Safety Assessment System

Acronym: FSAS

Description: The Facility Safety Assessment System (FSAS) is a national database that contains information related to the Safety Evaluations process. Information includes evaluation checklists, reports, facility information, tracking information, response data, and other statistical information available on the FSAS website. Information contained in reports, mitigation plans, status reports, and closure is submitted through this database system.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 902 / 4

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Name: [903] Mobile/Transportable Airport Surveillance Radar

Acronym: MASR

Description: The Mobile/Transportable Airport Surveillance Radar (MASR) radar system will provide surveillance service to terminal areas, which includes primary, secondary, and weather surveillance and air traffic surveillance security requirements. This system will provide temporary surveillance service upon loss of terminal radar service or planned maintenance outages

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services

Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 903 / 15

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Name: [904] Advanced Vision System

Acronym: Advanced Vision System

Description: Advanced Vision Systems are new technologies that enhance a pilots understanding and situation awareness of their flying environment.

State: Planned

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Airport

Flight Domain(s): En Route, Oceanic, Surface, Terminal

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 904 / 7

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Name: [905] Aeronautical Information System Modernization : Future Briefing System

Acronym: AISM

Description: AIM modernization is currently planned in two segments. Segment 1, focuses on the development of Federal NOTAMs System and CARF modernization. Segment 2, expands NOTAM modernization to encompass a general SWIM and NextGen compliant approach for managing dynamic aeronautical information and providing digital aeronautical services supporting aviation customers - pilots, airlines, military, air traffic management and others. In this approach aeronautical information data will be provided to receivers in a standardized digital format via a web service. This will allow for net-centric data access in which users can retrieve NOTAM data by multiple means. AIM segment 2 functionality is not a part of this FPR but will be addressed in a future requirements document.

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 905 / 7

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Name: [906] Aeronautical Information System Replacement

Acronym: AISR

Description: Aeronautical Information System Replacement is a web-enabled, automation means for the collection and distribution of Service B messages, weather information, flight plan data, Notice to Airmen (NOTAM) messages, Pilot Report (PIREP) message, and other operational information to all Federal Aviation Administration Air Traffic facilities.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 906 / 8

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Name: [909] Airborne High Frequency Data Link

Acronym: HFDL

Description: High Frequency Data Link Avionics (HFDL Avionics) consist of airborne radios operating in the high frequency (HF) range of 3 to 30 MHz. Transmissions on HF are in USB on a sub carrier of 1440 Hz with a symbol speed of 1800 baud, Modulation is 2-PSK, 4-PSK or 8-PSK with effective bit rates of 300, 600, 1200 or 1800 bits/sec.

State: In-Service

Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): Oceanic  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 909 / 11

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Name: [910] Airborne Ultra High Frequency Data Link  
Acronym: Airborne UHF Data Link  
Description: Ultra High Frequency Data Link-1 Avionics (UHF Avionics) consist of airborne radios operating in the ultra high frequency (UHF) range that receive and transmit data to between aircraft and ground stations.  
State: In-Service  
Primary Roadmap: Air / Ground  
Secondary Roadmap(s): Aircraft  
Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal  
Update Date: 01-Feb-2013 by Mary Yee  
ID / Revision: 910 / 8

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Name: [912] Airports Geographic Information System  
Acronym: AGIS  
Description: The Airports Geographic Information System maintains the airport and aeronautical data required to meet the demands of the Next Generation National Airspace System. Guided by the program advisory circulars, the airport sponsor/proponent becomes a key link in the airport and aeronautical information chain. Through a single internet based web application the airport can access its data along with the ability to submit changes as required. The changes are processed according to defined business rules ensuring that the required FAA office making the changes is notified. The system will be enhanced under AIM Segment2 and remain an operational system. (Verify with Bob McMullen)  
State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 912 / 7

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Name: [913] Approach Lighting System : Model III

Acronym: tbd

Description: tbd

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Air / Ground  
Airport  
Facilities

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 913 / 3

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Name: [914] Auto-Pilot

Acronym: Auto-Pilot

Description: An airborne electronics system that automatically stabilizes an aircraft about its three axis and can maintain any desired trajectory.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None  
Flight Domain(s): En Route, Oceanic, Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 914 / 6

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Name: [915] Autothrottle  
Acronym: Auto-Throttle  
Description: Power control system for main propulsion engines linked electro-mechanically to the Automatic Flight Control System (AFCS) and in some aircraft to the auto-land system so that thrust is varied automatically to maintain the aircraft on the desired flight path.  
State: In-Service  
Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): En Route, Oceanic, Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 915 / 7

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Name: [916] Avionics Automatic Dependent Surveillance - Broadcast : In  
Acronym: tbd  
Description: tbd  
State: In-Service  
Primary Roadmap: - Not Available -  
Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Steve Amato

ID / Revision: 916 / 1

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Name: [917] Avionics Automatic Dependent Surveillance - Broadcast : Out

Acronym: ADS-B: Out

Description: tbd

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Andrew Martin

ID / Revision: 917 / 2

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Name: [918] Avionics Flight Information Service - Broadcast

Acronym: tbd

Description: tbd

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Steve Amato

ID / Revision: 918 / 1

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Name: [919] Avionics Traffic Information Service - Broadcast

Acronym: tbd

Description: tbd

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Steve Amato

ID / Revision: 919 / 1

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Name: [920] Coded Time Source

Acronym: CTS

Description: The current Coded Time Source (CTS) was installed in the late 1990's. It currently provides service to all the Air Traffic Control (ATC) systems and many other critical, essential, and mission support systems in the en route Air Route Traffic Control Centers (ARTCC) throughout the CONUS (Continental United States). This service includes older formats of the Inter-Range Instrumentation Group (IRIG) IRIG-B and IRIG-E time codes as well as a unique Octopus connection. The Octopus connection originates from a proprietary 86-362-3 card included with the TrueTime XL-DC Time and Frequency Receiver. Symmetricom (formally TrueTime) can provide the same "form, fit, and function" "drop-in" replacement with the Xli Time and Frequency Receiver. The Xli units include the required IRIG-B, IRIG-E, as well as the unique 86-362-3 Octopus cards.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures

Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 920 / 8

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Name: [921] Digital Audio Legal Recorder (DALR)

Acronym: DALR

Description: The Digital Audio Legal Recorder (DALR) provides the legal recording capability between air traffic controllers, pilots and ground-based air traffic control TRACONS and towers. This acquisition replaces and updates obsolescent equipment at current FAA and DoD sites.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 921 / 7

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Name: [922] Enhanced Flight Vision System

Acronym: EFVS

Description: EFVS uses imaging-sensor technologies, which may be based on forward looking infrared, millimeter wave radiometry, millimeter wave radar, low level light intensification, or other technologies, to provide a real-time enhanced image of the external scene topography to the pilot.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None  
Flight Domain(s): Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 922 / 11

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Name: [923] Federal NOTAM System  
Acronym: FNS  
Description: Accurate, timely distribution of aeronautical information is critical to the safety and efficiency of the National Airspace System (NAS). The Federal NOTAM System (FNS) is a component of the NAS, and a centerpiece of the FAA's AIM Modernization plan. In order to accomplish this modernization the FAA has reached out to stakeholders from different industries to create a modern digital NOTAM system designed to meet current and future customer needs.  
State: Planned  
Primary Roadmap: Automation  
Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 923 / 8

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Name: [924] Global Positioning System Receiver Autonomous Integrity Monitor

Acronym: GPS RAIM

Description: Global Positioning System (GPS) Receiver Autonomous Integrity Monitoring (RAIM) prediction system in the mid 1990s to support both Air Force and Federal Aviation Administration (FAA) use of TSO C129 receivers. The system is used to predict TSO C129 GPS RAIM availability for non-precision approach (NPA) operations for a group of military and civilian airfields. GPS RAIM outages for military airfields are available as M-Series NOTAMs and for civilian airfields. They are available as aeronautical information from Automated Flight Service Stations. NEED to get update from Dan Gerecht

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 924 / 7

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Name: [925] Ground Based Augmentation System Avionics : Cat I Approach Avionics

Acronym: CAT I ILS Avionics

Description: GBAS CAT I Avionics receives the GBAS signal then processes the signal and displays the information to the pilot allowing him to perform the approach.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 925 / 6

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Name: [926] Ground Based Augmentation System Avionics : Cat II/III Approach Avionics

Acronym: tbd  
Description: tbd  
State: Planned  
Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Mary Yee  
ID / Revision: 926 / 2

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Name: [927] Hazard Tracking System  
Acronym: HTS  
Description: tbd  
State: In-Service  
Primary Roadmap: Safety  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Cindy Magee  
ID / Revision: 927 / 3

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Name: [928] Head-Up Display  
Acronym: HUD

Description: A head-up display (HUD) is any transparent display that presents data without requiring the user to look away from his or her usual viewpoint. The origin of the name stems from the user being able to view information with his or her head "up" and looking forward, instead of angled down looking at lower instruments.

Although they were initially developed for military aviation, HUDs are now used in commercial aircraft, automobiles, and other applications.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Surface, Terminal

Update Date: 01-Feb-2013 by Saro Ramakrishnan

ID / Revision: 928 / 6

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Name: [929] Instrument landing System Avionics : Cat I Approach Avionics

Acronym: ILS CAT I Avionics

Description: Instrument Landing System (ILS) Avionics are a composite of marker beacon, localizer, and glide slope receivers. Up to three separate marker beacons broadcast tone-modulated 75-MHz signals, which the avionics displays as distance to the runway approach end. The end-of-runway localizer radiates a tone-modulated runway centerline signal on one of 40 ILS channels in the very high frequency (VHF) frequency range of 108.10 to 111.95 MHz. The glide slope radiates a tone-modulated precision descent angle signal on one of 40 channels in the ultrahigh frequency (UHF) frequency range of 329.3 to 335.0 MHz. Localizer and glide slope channels are paired so both are selected at the ILS receiver with a single channel selection. CAT I avionics are only certified for CAT I ILS approaches.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 929 / 4

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Name: [930] Instrument landing System Avionics : Cat II/III Approach Avionics

Acronym: ILS CAT II/III Avionics

Description: Instrument Landing System (ILS) Avionics are a composite of marker beacon, localizer, and glide slope receivers. Up to three separate marker beacons broadcast tone-modulated 75-MHz signals, which the avionics displays as distance to the runway approach end. The end-of-runway localizer radiates a tone-modulated runway centerline signal on one of 40 ILS channels in the very high frequency (VHF) frequency range of 108.10 to 111.95 MHz. The glide slope radiates a tone-modulated precision descent angle signal on one of 40 channels in the ultrahigh frequency (UHF) frequency range of 329.3 to 335.0 MHz. Localizer and glide slope channels are paired so both are selected at the ILS receiver with a single channel selection. CAT II/III avionics are only certified for CAT I and CAT II/III ILS approaches.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 930 / 5

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Name: [931] Integrated Noise Model

Acronym: INM

Description: The Integrated Noise Model (INM) is a computer model that evaluates aircraft noise impacts in the vicinity of airports. It is developed based on the algorithm and framework from SAE AIR 1845 standard, which used Noise-Power-Distance (NPD) data to estimate noise accounting for specific operation mode, thrust setting, and source-receiver geometry, acoustic directivity and other environmental factors. The INM can output either noise contours for an area or noise level at pre-selected locations. The noise output can be either exposure-based, maximum-level-based, or time-based.

What is INM Designed to Do?

In the United States, INM is preferred model typically used for FAR Part 150 noise compatibility planning and for FAA Order 1050 environmental assessments and environmental impact statements. The INM has many analytical uses, such as:

- Assessing current aircraft noise impacts around a given airport or heliport
- Assessing changes in noise impact resulting from new or extended runways or runway configurations
- Assessing changes in noise impact resulting from new traffic demand and fleet mix
- Evaluating noise impacts from new operational procedures

State: In-Service

Primary Roadmap: Airspace and Procedures

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 931 / 11

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Name: [934] Interim Voice Switch Replacement (IVSR)

Acronym: IVSR

Description: The Interim Voice Switch Replacement (IVSR) is a fully digital, totally non-blocking voice communication switching system. The IVSR was established to provide voice switches for newly constructed facilities (i.e., ATCT and TRACON) and to provide replacement switches for existing facilities until the NVS voice switch acquisition program is fielded.

IVSR Contract Extension will be available until 2014. It can be used to replace GSA, ICSS, RDVS, STVS, and ETVS switches in this time-frame with legacy type switches.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 934 / 6

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Name: [935] Laser Imaging Detection and Ranging

Acronym: LIDAR

Description: tbd

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 935 / 5

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Name: [937] Moving Map Display

Acronym: Moving Map Display

Description: A Moving Map Display is a display in which a symbol, representing the aircraft, remains stationary while the map or chart image moves beneath the symbol so that the display simulates the horizontal movement of the aircraft in which it is installed. In some cases, the map or chart remains stationary while the symbol moves across the screen.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 937 / 7

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Name: [940] National Aeronautical Charting Group System

Acronym: NACGS

Description: Description Pending

State: In-Service

Primary Roadmap: Airspace and Procedures

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 940 / 7

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Name: [942] System Information NextGen Automated Maintenance Management System

Acronym: SIN AMMS

Description: To achieve the "to-be" state of a modernized supply chain infrastructure and the NextGen Mission Service Requirements, the System Information Modernization initiative will provide increased capacity and better operational performance in the United States airspace system that reduces congestion and meets projected demand in an environmentally sound manner. In addition, NextGen AMMS will help improve NAS Situational Awareness.

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Enterprise Services  
Human Systems Integration

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 942 / 14

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Name: [944] Safety Risk Management Tracking System

Acronym: SRMTS

Description: tbd

State: Planned

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Cindy Magee

ID / Revision: 944 / 3

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Name: [946] Surveillance Interface Modernization

Acronym: SIM

Description: Surveillance Interface Modernization (SIM) is a portfolio approach to implementing Internet Protocol data distribution and connectivity and ASTERIX data formatting for surveillance and automation systems.

The SIM activity is intended to improve interface and data distribution for terminal and en route surveillance and automation systems.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Air / Ground  
Automation  
Communications  
Enterprise Services  
Facilities  
Human Systems Integration  
Safety

Flight Domain(s): En Route, Surface, Terminal

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 946 / 14

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Name: [947] Synthetic Vision System

Acronym: SVS

Description: Synthetic Vision Systems (SVS) are a set of technologies that provide pilots with intuitive means of understanding their flying environment. SVS systems provide situation awareness to the operators by using terrain, obstacle, geo-political, hydrological and other databases. A typical SVS application uses a set of databases stored on board the aircraft, an image generator computer, and a display. Navigation solution is obtained through the use of GPS and Inertial Reference Systems.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 947 / 9

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Name: [948] Temporary Flight Restriction Builder

Acronym: TFR Bldr

Description: This software program increases the consistency of FAA's TFRs and minimizes human errors. It provides three types of output: The traditional, difficult to read all caps version; a plain language version; and a data packet that allows users to display the TFR data in any way they need.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 948 / 10

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Name: [950] Timing Backup

Acronym: tbd

Description: tbd

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): Air / Ground  
Weather  
Communications  
Navigation  
Surveillance  
Facilities

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 950 / 5

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Name: [951] Very High Frequency (VHF) Handheld Radios

Acronym: VHF Handheld

Description: VHF Non Emergency Handheld Transceivers are used by Air Transportation System Specialists (ATSSs) to communicate with Ground Controllers before crossing runways. These radios contribute to the safe movement of FAA personnel on the airport operational area (AOA).

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 951 / 8

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Name: [952] Aeronautical Common Service

Acronym: ACS

Description: The Aeronautical Common Service will provide a single trusted source of Aeronautical Information (AI). It will ingest AI from authoritative sources, assist in managing and maintaining that information, and will distribute the resultant AI to users and systems through a set of AIM enterprise web services.

State: Planned  
Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 952 / 9

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Name: [959] Geodetic Computational System  
Acronym: GCS  
Description: This user-friendly interface is one part of the development designed to support the compilation of aeronautical charts and products. It provides the ability to perform geodetic computations. The COMPSYS interface includes eight geodetic computations.  
State: In-Service  
Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 959 / 6

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Name: [960] Aeronautical Navigation Database System  
Acronym: ANDS  
Description: AERONAUTICAL NAVIGATION DATA SYSTEM (ANDS). This system is used to develop, process, disseminate, and publish digital and analog data, information, compilations, and reports, compile, and disseminate aeronautical charts and related products and services of the U S and Its territories and also includes covering international airspace as required primarily by( U S Civil aviation): and to compile, print, and disseminate non-aeronautical navigational, transportation, or pub safety-related products and services when in the best interests of the Government. The system contains data that is critical to the production of aeronautical data models, data sets, a digital and/or analog charts.

State: Planned  
Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 960 / 5

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Name: [961] Airport and Navigation Aids Database System  
Acronym: AIRNAV  
Description: Airport and Navigation Aids Database System is the repository of aeronautical data related to airports, runways, lighting, NAVAID and their components, obstacles, no transgression zones, monitors, etc.  
State: In-Service  
Primary Roadmap: Airspace and Procedures  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 961 / 8

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Name: [962] Airport Weather Information System  
Acronym: AWIS  
Description: See description for ASOS  
State: In-Service

Primary Roadmap: Weather  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 962 / 5

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Name: [963] Airports and Navigation Aids Database System  
Acronym: AIRNAV-1  
Description: Airport and Navigation Aids Database System is the repository of aeronautical data related to airports, runways, lighting, NAVAID and their components, obstacles, no transgression zones, monitors, etc. As it related to the devlopment and maintenance of instrument flight procedures.  
State: In-Service  
Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 963 / 7

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Name: [965] Event Manager  
Acronym: EM  
Description: The Technical Operations safety event team (SET) process has two primary elements: 1) a methodology for initial assessment of event criticality and immediate action that may be required and, 2) a monthly review and potential severity classification of all events occurring in the previous month, including executive-level review of classes of events that have high severity potential, or that require safety-related capital.  
  
The addition of executive oversight provided by the Technical Operations Safety and Compliance Board and Technical Operations Safety and Compliance Executive Committee (TOS&CB/TOS&CEC). These activities meet monthly, and have solidified the safety and compliance event management activities for the division by providing a venue for resolution of issues that have been trending adversely, or may require long-term engineering or capital solutions. This process serves as one example of how we are integrating single-event management with divisional strategic direction to reduce frequency and severity of events.

State: In-Service  
Primary Roadmap: Facilities  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 965 / 8

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Name: [969] Aviation System Standards Enterprise Database  
Acronym: AVN EDS  
Description: TBD  
State: In-Service  
Primary Roadmap: - Not Available -  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Steve Amato  
ID / Revision: 969 / 1

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Name: [970] Civilian Air Route System  
Acronym: CARS  
Description: TBD  
State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Steve Amato

ID / Revision: 970 / 1

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Name: [972] Computerized Voice Reservation System

Acronym: CVRS

Description: The Computerized Voice Reservation System (e-CVRS) is a Web-based application that allocates and manages arrival and departure slots at high-density traffic airports (HDTA). The FAA requires that unscheduled Instrument Flight Rules (IFR) operations have a reservation in order to properly manage the flow of traffic at these airports. This Web interface has been developed to simplify the reservation process and allow for more reservation flexibility.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by James Grant

ID / Revision: 972 / 3

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Name: [973] Daily Flight Log and Dispatch (DFL Dispatch) System

Acronym: DFL/Dispatch

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Steve Amato  
ID / Revision: 973 / 1

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Name: [974] Devcondor Database System  
Acronym: DEVCONDOR  
Description: The Devcondor Database System stores a variety of NAS data used to compile NACO aeronautical products and supports other FAA systems, DoD systems, and the aviation industry.  
State: In-Service  
Primary Roadmap: - Not Available -  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Mary Yee  
ID / Revision: 974 / 4

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Name: [975] Digital Aeronautical Database System  
Acronym: DADS  
Description: The Digital Aeronautical Database System provides an interface between AVN's digital aeronautical production database and CAD/GIS (Geographical Information System) software to support the production of hardcopy and softcopy aeronautical chart products and datasets on an internationally defined production cycle. Also, produces radar video maps (RVMS) and obstruction modeling systems.  
State: In-Service  
Primary Roadmap: Airspace and Procedures  
Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 975 / 5

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Name: [979] FALCON II

Acronym: FALCON II

Description: The Falcon II is a tactical High Frequency (HF) radio system manufactured by the Harris Corporation as Falcon II AN/VRC-104. This high-frequency radio system is used for US Department of Defense (DoD) Mine Resistant Ambush Protected (MRAP), All Terrain Vehicles (M-ATV).

The Department of Defense will use the AN/VRC-104 radio system to provide reliable, secure beyond line-of-sight terrestrial communications. Beyond line-of-sight communications-such as HF and tactical satellite.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 979 / 6

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Name: [980] Flight Inspection Report Processing System

Acronym: FIRPS

Description: The Flight Inspection Report Processing System (FIRPS) is a electronic database system that facilitates managing flight inspection data in accordance with FAA Order 8240.36L. FAA Order 8240.36L provides policy, guidance, and distribution requirements for flight inspection reports and records when using FIRPS.

Flight inspection files (e.g., flight inspection reports, data sheets, oscillographic recordings, electronic media, photographs, correspondence) are federal records. Unless classified by specific authority, they are available, on request, to the public by the authority of the Freedom of Information Act, Title 5, United States Code, Section 552. The policy and legal requirements for records management are contained in other Federal Aviation Administration (FAA) orders. Guidelines for record disposition are contained in FAA Order 1350.15, Records Organization, Transfer, and Destruction Standards.

State: In-Service  
Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 980 / 5

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Name: [981] Flight Operations Management System  
Acronym: FOMS  
Description: Flight Operations Management includes how a flight inspection mission is organized and coordinated. Flight Operations Management System (FOMS) is the primary application to publish flight inspection requirements, mission execution, and historical data and is the electronic component of these types of records.  
State: In-Service  
Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 981 / 5

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Name: [982] Flight Service Automation System  
Acronym: FSAS  
Description: The Flight Service Automation System (FSAS) provides general aviation pilots with weather briefings and graphics, notices to airmen (NOTAM), and simplified flight plan filing.  
State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 982 / 4

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Name: [983] Fully Digital Minimum Safe Altitude Warning System

Acronym: FDMSAWS

Description: A function of the ARTS III computer that aids the controller by alerting him/her when a tracked Mode C equipped aircraft is below or is predicted by the computer to go below a predetermined minimum safe altitude based on a digital terrain data base.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 983 / 6

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Name: [984] Magnetic Variation System

Acronym: MVS

Description: Magnetic Variation (MagVar) is an important piece of information, needed whenever it is necessary to convert between true to magnetic directions, or when converting between Lat/Lon and Range/Bearing. In the system, the goal is to have all direction output (Wind Direction, Heading, Waypoint and Back Bearing) in magnetic because most sailors, using binnacles or hockey pucks, expect it. MagVar is sometimes required by the system to convert true to magnetic, particularly with waypoint bearing because some NMEA sources only output true bearing (e.g. RMB).

State: In-Service

Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 984 / 6

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Name: [985] Maintenance Data Terminal  
Acronym: MDT  
Description: The MDT is the primary tool for FAA field personnel to perform equipment maintenance. The MDT is connected to the MDR via an RS-232 interface, as specified in the MDR SSS. The MDT SW then signs on to the MDR in a secure manner and carries out the tasks of interrogating MDR parameter values and other relevant maintenance information as needed and verifying the modifications.  
State: In-Service  
Primary Roadmap: Facilities  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 985 / 7

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Name: [988] Radio Coverage Analysis System (RCAS)  
Acronym: RCAS  
Description: Radio Coverage Analysis System (RCAS) is the examination of current industry practices for verification coverage analysis and approaches to demonstrate sufficiency of verification coverage. This process includes the identification of problems or issues that industry is currently experiencing. It also proposes approaches to mitigate these problems or issues and propose verification coverage criteria applicable to complex electronic hardware (CEH) and validation of these approaches and criteria. This research will study the level of testing needed to ensure that embedded logic on a chip is sufficiently exercised for use in safety critical aviation applications. It will consider advanced verification methods including, but not limited to, elemental analysis, formal methods, or other industry practice for verification coverage analysis of CEH levels and propose verification coverage criteria appropriate to these design assurance levels. It will identify safety issues with current and emerging industry practices to verification coverage analysis as well as identify approaches to mitigate those safety issues.

Radio wave propagation can be categorized as LOS (Line Of Sight) and non-LOS modes. LOS is direct point-to-point propagation with no obstructions in between. Non-LOS is indirect propagation in the absence of LOS path which consists of diffraction, reflection and scattering. In the HF band (3 - 30 MHz), propagation is primarily using sky wave for long distance communications. VHF and UHF (30 MHz - 3 GHz) waves travel by LOS and ground bounce propagation. The SHF (3 to 30 GHz) wave uses strictly LOS propagation.

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 988 / 5

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Name: [992] Airway Facilities Technicians Network Portal

Acronym: AFTechNet

Description: The AOP-100 mission is to manage and enhance NAS services from a national perspective. The AFTechNet Web site is an excellent database and source for determining existing Facility Service and Equipment Profiles (FSEP).

State: In-Service

Primary Roadmap: Facilities

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Sunbong Han

ID / Revision: 992 / 4

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Name: [993] Visual ARTS IIIa

Acronym: Visual IIIA

Description: TBD  
State: In-Service  
Primary Roadmap: - Not Available -  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Steve Amato  
ID / Revision: 993 / 1

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Name: [995] Visual Common ARTS  
Acronym: Visual CARTS  
Description: TBD  
State: In-Service  
Primary Roadmap: - Not Available -  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Steve Amato  
ID / Revision: 995 / 1

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Name: [996] Visual Micro-EARTS  
Acronym: Visual MEARTS  
Description: TBD  
State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Steve Amato

ID / Revision: 996 / 1

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Name: [997] Visual STARS

Acronym: Visual STARS

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Steve Amato

ID / Revision: 997 / 1

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Name: [1000] Obstacle Repository System

Acronym: ORS

Description: Definition pending

State: In-Service

Primary Roadmap: Airspace and Procedures

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1000 / 5

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Name: [1002] Flight Services Resource Management Tool

Acronym: FSRMT

Description: TBD

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1002 / 6

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Name: [1003] Common Arts Software Development LAN

Acronym: CASDL

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1003 / 4

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Name: [1005] Dimensions CM

Acronym: DCM

Description: A modified power control and monitoring system (PCMS), new or modified electrical switchgear, Engine Generators, static switches, load banks, power wiring, and control wiring. New E/G's will be furnished by the FAA later in the future under Phase II with new or modified Standby Bus 1 and 2 Switchgear.

State: In-Service

Primary Roadmap: Facilities

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1005 / 6

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Name: [1007] Aviation System Performance Metrics

Acronym: ASPM

Description: The Aviation System Performance Metrics (ASPM) online access system provides detailed data on IFR flights to and from the ASPM airports (currently 77); and all flights by the ASPM carriers (currently 22), including flights by those carriers to international and domestic non-ASPM airports. ASPM also includes airport weather, runway configuration, and arrival and departure rates. This combination of data provides a robust picture of air traffic activity for these airports and air carriers. Preliminary next-day ASPM data is used by the FAA for close monitoring of airport efficiency and other aspects of system performance, and finalized ASPM data is invaluable for retrospective trend analysis and targeted studies.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1007 / 9

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Name: [1009] NOTAM Tracking System

Acronym: NOTAM TS

Description: Used by NFPO and NACO to input FDC NOTAMs.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1009 / 4

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Name: [1013] Integrated Communication Switching System

Acronym: ICSS

Description: The Integrated Communication Switching System (ICSS) provides radio and telephone access through a series of push-button switches. With the use of FAA-furnished transmitters and receivers, the analog ICSSs provide radio communications between ATC operators/Flight Service specialists and pilots in aircraft. The telephone features provide landline communications between local operators/specialists and those at remote locations (En Route Centers) and access to private branch exchanges (PBX). ICSS systems are becoming logistically unsupportable and replacement switches are required to ensure the continuity of effective air traffic control services.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1013 / 2

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Name: [1016] Communications Facilities Enhancement (CFE)

Acronym: CFE

Description: The Communications Facilities Enhancement (CFE) program conducts communications facilities work, purchases required equipment, and implements grounding, bonding, and testing to meet FAA facility specifications. The CFE program is responsible for establishing, expanding, or relocating air-ground radio communication facilities required to increase National Airspace System (NAS) capacity and improve NAS efficiency. The growth in air traffic operational requirements has historically dictated the need for greatly increased air/ground communications coverage. In response, this program was established to provide additional air/ground communications frequencies by establishing new, relocating existing, and/or expanding remote communications facilities (RCF).

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1016 / 5

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Name: [1017] Common Digitizer 2

Acronym: CD-2

Description: The Common Digitizer 2 is a microprocessor-based, bus oriented, modular dual redundant channel, radar processor. It is installed at FAA, USAF, and joint radar sites. The information provided by the system includes target positional data (range, azimuth, and altitude) and target identity (beacon code).

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation

navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1017 / 4

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Name: [1019] Airport Surface Surveillance Capability

Acronym: ASSC

Description: Airport Surface Surveillance Capability (ASSC) is a modular surface surveillance system capable of processing multilateration and Automatic Dependent Surveillance-Broadcast (ADS-B) sensor data which provides airport surface surveillance to air traffic controllers. ASSC provides low cost surface surveillance for airport areas.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1019 / 6

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Name: [1020] Alternate Position, Navigation and Timing

Acronym: APNT

Description: Today, legacy navigation aids (NAVAIDs) provide backup to GNSS. The Jet and Victor routes are based on VOR, VOR/DME and /or NDBs. Approach services are provided by VOR, VOR/DME, NDB, and ILS. Radar vectors are also used to assist aircraft that are not DME/DME/Inertial (DDI) equipped or are beyond NAVAID coverage. An Alternate Position, Navigation & Timing service needs to mitigate a GNSS interference event that impacts multiple en route sectors and / or a major metropolitan airspace area, including the operations at satellite and reliever airports, for a period of time ranging from a few minutes to several days. The goal of the FAA's APNT research is to provide a cost effective Alternative PNT. Technologies being considered by the FAA include an upgraded DME network, a passive wide area multi-lateration (WAM) system to determine aircraft positions using ground-based assets and uplinked to the user via ADS-B, and a network of Pseudolite stations determining position using one-way signals.

State: Planned

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1020 / 6

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Name: [1022] Airport Cable Loop (ACL)

Acronym: ACL

Description: The Airport Cable Loop Program is a sustainment program that replaces degraded airport communication infrastructure and equipment. All towers and on-airport surveillance, navigation, landing, and communication nodes send and receive information via this communications infrastructure, the communications backbone of the airport. Most of the communications within the NAS is comprised of aged copper cable (some are beyond their respective service life), first installed when the facilities were commissioned. The majority of the cable has been spliced numerous times, which has further reduced the cables service life and capacity, as well as increased the maintainability requirements to keep the services that are running over the cable operationally available for ATC. The program also replaces communications equipment that is nearing or has reached its end of life, (i.e., multiplexers, channel banks.)

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1022 / 4

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Name: [1024] Marker Beacon

Acronym: MB

Description: An electronic navigation facility transmitting a 75 MHz vertical fan or boneshaped radiation pattern. Marker beacons are identified by their modulation frequency and keying code, and when received by compatible airborne equipment, indicate to the pilot, both aurally and visually, that he/she is passing over the facility.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1024 / 5

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Name: [1025] Runway Incursion Device

Acronym: RID

Description: The RID is a local controller aid to help ensure that only one local or ground controller has control or authorization to operate on or near a runway at a given time. The device is designed to aid coordination between the two controllers by providing a visual and audio cue that a runway is available for use. The RID may consist of two or three boxes; two controller positions and one supervisor's position. The front panel of each box contains a Red LED, a Green LED, a momentary switch, an audio output jack, and adjustment knobs for audio and light levels. One of the controller boxes also includes a microphone to record the audio message to be transmitted when the momentary switch is depressed to relinquish control of the runway. The supervisor's box is configured slightly different with two RED LEDs, versus Red and Green, to identify which controller has control at a given time.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1025 / 4

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Name: [1026] Tactical Air Navigation

Acronym: TACAN

Description: TACTICAL AIR NAVIGATION- An ultra-high frequency electronic rho-theta air navigation aid which provides suitably equipped aircraft a continuous indication of bearing and distance to the TACAN station.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1026 / 4

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Name: [1027] Safety Analysis System

Acronym: SAS

Description: TBD

State: Planned

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Saro Ramakrishnan

ID / Revision: 1027 / 2

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Name: [1031] Enhanced Low Visibility Operations

Acronym: ELVO

Description: ELVO: The Enhanced Low Visibility Operations (ELVO) program supports the efforts of Flight Standards in expanding FAA Order 8400.13 to include Runway Visual Range (RVR) 1800, Special Authorization (SA) Category (CAT) I, SA CAT II, and other capabilities to improve low visibility service delivery in the NAS. In some cases, only procedure development is required, but in other cases, limited additional ground infrastructure is needed. Allowing lower RVR-defined minima for takeoff and landing operations increases the number of operations that can take place during periods of low visibility, thereby reducing delays and diverts and increasing the NAS capacity. Current efforts include all of the above and research on potential RVR 1800 for WAAS LPVs and work toward the future of low visibility, such as additional RVR capability and other sensors, such as EFVS and SVS.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Airport  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1031 / 9

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Name: [1040] DME NextGen RNAV-Terminal

Acronym: DME NextGen RNAV-Terminal

Description: There is a requirement for improved DME/DME Service in terminal airspace. The Navigation performance level targeted is RNP 1, 99.9% availability from FL 180 down to the FAF or 1000 ft. The coverage volume to be targeted will primarily be SID/STAR areas out to 130 NM range in all of the Terminal airspace at the Core 30 Airports, to include coverage in BIG airspace and/or metroplex areas. Mission Support Services, ATO Terminal, Flight Standards and Aircraft Certification Offices all support this requirement. Both DME/DME and DME/DME/IRU technologies/equipage will be considered.

State: Planned

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1040 / 9

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Name: [1065] Integrated Control and Monitoring System

Acronym: ICMS

Description: ICMS - The Integrated Control and Monitoring System (ICMS) is a critical safety and efficiency enhancement product that integrates the control & monitoring functions of NAVAID systems and VISAID systems into a single source and distributes it to numerous networked workstations.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Facilities

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1065 / 2

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Name: [1085] Future Air Navigation System

Acronym: FANS

Description: The Future Air Navigation System (DL/FANS 1/A) is based on the International Civil Aviation Organization (ICAO) concept of a phased approach to implementing a modern, satellite-based, global Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) system.

The following aircraft avionics are required to support an initial FANS implementation. These functions are referred to as FANS-1; the French developed equivalent for the Airbus A-330/340 is called FANS-A: Automatic Dependent Surveillance (ADS), air traffic control (ATC) data link, Airline Operational Center (AOC) data link, and the Global Positioning System (GPS).

The FANS operational environment extends beyond the aircraft to include satellite, ground-based receiver/transmitter stations, and a controller/pilot data link system.

FANS 1/A consists of three message applications: AFN (ATS Facility Notification for logon to ATC via data link), ADS (Automatic Dependent Surveillance), CPDLC (Controller Pilot Data Link Communications). FANS 1/A uses the existing Aircraft Communications Addressing and Reporting System (ACARS) air/ground network to carry data link messages to/from the aircraft.

FANS 1 (Boeing implementation) was first certified in June of 1995 for use in the South Pacific. Oakland, Fiji, Auckland, and Brisbane Flight Information Regions (FIRs) were the initial participants for CPDLC using Inmarsat geosynchronous satcom. The latter three FIRs also used ADS for surveillance.

An earlier version of the Operational Evolution Partnership (OEP) identified the Advanced Technologies and Oceanic Procedures (ATOP) program for implementation of FANS 1/A in Oakland, Anchorage and New York FIRs beginning in 2003. There are approximately 1,000 FANS 1/A equipped aircraft in service as of mid-2002. All long-range model commercial transport aircraft have FANS 1 or FANS A either as standard equipment or as an option. In oceanic and remote areas, where FANS 1/A is currently in use, the Inmarsat geosynchronous (GEO) satellite constellation provides the air/ground data link.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1085 / 4

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Name: [1093] Remote Maintenance Monitoring System

Acronym: RMMS

Description: The Remote Maintenance and Monitoring System (RMMS) is a collection of subsystems that includes telecommunication components, hardware, and software, which serve to automate and streamline the maintenance and operations of the National Airspace System (NAS). Functions supported via the Remote Maintenance Monitoring system include equipment monitoring, outage reporting, control, certification, automated logging, and configuration management. RMMS subsystems consist of the Remote Monitoring System (RMS) hardware on the remote systems to be monitored, the Maintenance Automation System Software and Control Function (MASS / MCF).

There are approximately 5,000 RMS units in service.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1093 / 5

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Name: [1097] Information Display System  
Acronym: IDS  
Description: The IDS replacement system is designed around an open architecture, that uses touch screen technology, has full redundancy, and interfaces to both existing and planned weather and FAA information networks. IDSR is a project intended to replace the over 2300 IDS-4 workstations in the operational NAS. In order to maintain operational availability of IDS until a Nextgen based long term replacement is decided.  
State: In-Service  
Primary Roadmap: Automation  
Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1097 / 4

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Name: [1099] NAS External Boundary Protection

Acronym: EBP

Description: This includes controls to protect connections and information flows between NAS and non-NAS entities. The external boundary protection concepts in the emerging NAS Security Architecture have the following major implications (drivers) on the SWIM security architectures:  
All SWIM information flows must pass through an enterprise-level NAS boundary protection zone and be subject to a set of controls applied at the boundary.  
SWIM must support creation of application-layer guard gateways for NAS mission protection zone and be subject to a set of controls applied at the boundary

State: Planned

Primary Roadmap: Information System Security

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1099 / 4

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Name: [1100] Identity and Key Mgmt Service

Acronym: IKM

Description: This includes capabilities for managing a PKI and managing information about identities of NAS operator (humans) and systems (devices). At a minimum, device and user identity and key management capabilities are assumed to be available for use by SWIM core and by SIP systems. This SWIM architecture relies heavily on the existence of this infrastructure. More sophisticated capabilities (single sign-on, centralized policy decision point) may or may not be available in SWIM Segment 2.

State: Planned

Primary Roadmap: Information System Security

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1100 / 3

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Name: [1101] Certified S/W

Acronym: CSM

Description: This consists of a capability to provide approved software and patches, and to allow these to be distributed for us throughout the NAS in a secure manner. The implications on the SWIM architecture are:  
Distributions of SWIM software (for both the SWIM core and SIP-provided components) must be signed by a NAS entity with the authority to approve software for use within the NAS.  
Processes must be included in SWIM service provisioning and SIP and SWIM Core support operations to ensure that SWIM Software is properly signed before deployment.

State: Planned

Primary Roadmap: Information System Security

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1101 / 4

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Name: [1102] Internal Protection Enforcement Service

Acronym: IPE

Description: A key principle of the emerging NAS security Architecture is that the NAS must be divided into enclaves, and that information flows crossing from one enclave to another must be subject to controls to ensure that only authorized (non-malicious) traffic is allowed to flow. These concepts in the NAS Security Architecture create the following drivers on the SWIM architecture:  
SWIM must provide capabilities to control which NAS end systems are allowed to access services from other enclaves, and to control which information is allowed to flow among different NAS internal enclaves.

State: Planned

Primary Roadmap: Information System Security

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1102 / 4

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Name: [1103] Intrusion Detection and Incident Response Service

Acronym: IDR

Description: This area includes instrumentation (e.g., network sensors and host based sensors) within the NAS to collect information that may indicate an intrusion or other security-related incident is happening, capabilities to monitor, analyze, and correlate this information, and capabilities to coordinate an effective response, including correcting the problems as well as performing activities such as auditing, reporting and forensics analysis. These concepts in the NAS security Architecture imply creation of the following drivers on the SWIM architecture:  
SWIM components (both SWIM-core and SIP-provided) must be instrumented to provide incident detection visibility to the central monitoring, analysis, and correlation facilities (e.g., Cyber Security Management Center (CSMC)). This includes both network-based sensors, and also potentially feeds of host-generated logs and audit information.  
SWIM support systems must provide for coordination with central incident detection and response entities (e.g., CSMC and SIG) to respond to security incidents.

State: Planned

Primary Roadmap: Information System Security

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1103 / 5

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Name: [1104] Aeronautical Mobile Airport Communications System (AeroMACS)

Acronym: AeroMACS

Description: AeroMACS is a broadband wireless mobile communications technology in protected spectrum (5091-5150 MHz) for airport surface applications safety and regularity of flight. It is a physical and MAC layer standard based on the commercial WiMAX Forum profile of the IEEE 802.16-2009 standard commercially provided. The system has a high-rate IP network connectivity between base stations and mobile and stationary users (subscriber stations) on the airport surface. It is International interoperability through joint RTCA / EUROCAE standard AeroMACS profile and MOPS leading to ICAO ACP Working Group S standard.

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1104 / 3

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Name: [1107] Conference Control System - Warrenton (CCS-W)

Acronym: CCS-W

Description: The Federal Aviation Administration (FAA) Conference Control System - Warrenton (CCS-W) communications system is installed at the FAA David J. Hurley Air Traffic Control Systems Command Center (ATCSCC) in Warrenton, VA. The system is configured with up to 200 operator positions and more than 500 conferences with up to 1,000 participants each. It is an enhanced upgrade to the Conference Control System (CCS) that was installed at the ATCSCC former site in Herndon, VA. The CCS-W is a telecommunications conferencing system that provides voice connectivity, switching, and teleconferencing capabilities for the Traffic Management Specialists and the National Airspace System (NAS) Operations Manager, at the ATCSCC. CCS-W enables collaborative communications with the ATCSCC Traffic Management Specialists, Traffic Management Units (TMUs) at Air Route Traffic Control Centers (ARTCCs), Terminal Radar Approach Control (TRACON) facilities, the Severe Weather Group at ARTCCs, FAA Regional Offices, FAA Headquarters, Airline Operations Centers (AOCs), and the general aviation (GA) community. The new Command Center is co-located with the FAA's Potomac Terminal Radar Approach Control (TRACON), a consolidated approach and departure control facility that opened in 2002.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1107 / 3

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Name: [1108] Data Comm Integration Services (DCIS)

Acronym: DCIS

Description: Data Comm Integration Services (DCIS) will continue with ERAM software development for En Route Computer-Human Interface upgrades, and begin requirements and design of En Route Controller Pilot Data Link Communications (CPDLC) applications. The Data Communications Network Service (DCNS) contract will be awarded and it will provide a Very High Frequency Digital Link (VDL Mode-2 (VDL-2)) air/ground network, integration and engineering services, and avionics equipage.

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): Air / Ground

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

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Name:	[1116] Future Air Navigation System (DL/FANS 1/A)
Acronym:	FANS
Description:	<p>The Future Air Navigation System (DL/FANS 1/A) is based on the International Civil Aviation Organization (ICAO) concept of a phased approach to implementing a modern, satellite-based, global Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) system.</p> <p>The following aircraft avionics are required to support an initial FANS implementation. These functions are referred to as FANS-1; the French developed equivalent for the Airbus A-330/340 is called FANS-A: Automatic Dependent Surveillance (ADS), air traffic control (ATC) data link, Airline Operational Center (AOC) data link, and the Global Positioning System (GPS).</p> <p>The FANS operational environment extends beyond the aircraft to include satellite, ground-based receiver/transmitter stations, and a controller/pilot data link system.</p> <p>FANS 1/A consists of three message applications: AFN (ATS Facility Notification for logon to ATC via data link), ADS (Automatic Dependent Surveillance), CPDLC (Controller Pilot Data Link Communications). FANS 1/A uses the existing Aircraft Communications Addressing and Reporting System (ACARS) air/ground network to carry data link messages to/from the aircraft.</p> <p>FANS 1 (Boeing implementation) was first certified in June of 1995 for use in the South Pacific. Oakland, Fiji, Auckland, and Brisbane Flight Information Regions (FIRs) were the initial participants for CPDLC using Inmarsat geosynchronous satcom. The latter three FIRs also used ADS for surveillance.</p> <p>An earlier version of the Operational Evolution Partnership (OEP) identified the Advanced Technologies and Oceanic Procedures (ATOP) program for implementation of FANS 1/A in Oakland, Anchorage and New York FIRs beginning in 2003. There are approximately 1,000 FANS 1/A equipped aircraft in service as of mid-2002. All long-range model commercial transport aircraft have FANS 1 or FANS A either as standard equipment or as an option. In oceanic and remote areas, where FANS 1/A is currently in use, the Inmarsat geosynchronous (GEO) satellite constellation provides the air/ground data link.</p>
State:	Planned
Primary Roadmap:	Communications
Secondary Roadmap(s):	Aircraft Air / Ground Automation Airport Weather Communications Navigation Surveillance Airspace and Procedures Enterprise Services Facilities Human Systems Integration Information System Security Safety
Flight Domain(s):	None
Update Date:	01-Feb-2013 by Eleni Hailu

ID / Revision: 1116 / 6

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Name: [1117] Future Air Navigation System (FANS 3/C)

Acronym: ATN FANS 3/C

Description: FANS 3C affects avionics architectures and integrated solutions that target trajectory based operations as part of communication services based on the RTCA SC-214 baseline 2 standards.

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1117 / 5

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Name: [1118] Interim Voice Switch Replacement (IVSR) Bridge

Acronym: IVSR Bridge

Description: IVSR Bridge Contract will be available between 2014-2017 pending cost approval from EC. It can be used to replace GSA, ICSS, RDVS, STVS, and ETVS in this time-frame with network-capable switches.

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Saro Ramakrishnan

ID / Revision: 1118 / 2

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Name: [1120] NAS Interference Detection, Location, and Mitigation (NAS IDLM)

Acronym: NAS IDLM

Description: A program called the NAS Interference Detection, Location, and Mitigation (NAS IDLM) is being developed. NAS IDLM is to provide frequency spectrum integrity for interference-free use of communications, navigation, and surveillance (CNS) radio frequencies throughout the NAS.

This support activity is charged with detecting, analyzing, and locating radio frequency sources that affect the function and operation of National Airspace System (NAS) subsystems that provide advertised services to users. To be successful, this activity requires a significant set of test equipment that can analyze the radio frequency (RF) spectrum and isolate interfering frequency(ies) and their location. Without this support activity the FAA risks the loss of services that are provided to users through the radio spectrum.

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1120 / 3

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Name: [1121] National Airspace System (NAS) Recovery Communications (RCOM)

Acronym: RCOM

Description: The RCOM program gives the FAA the C3 capability to directly manage and operate the NAS during local, regional and national emergencies, when normal common-carrier communications are interrupted. The NAS C3 provides and enhances a variety of fixed-position, portable, and transportable C3 systems to support emergency operations. Such C3 systems include the automatic digital network/defense messaging system; secure telephone unit third generation/secure telephone equipment; secure facsimile; very high frequency (VHF)/frequency modulated (FM); high-frequency single-side band; satellite telephone network; wireless notification system; secure conferencing system; Emergency Operations Network (EON); and the classified Automated Detection and Process Terminal (ADAPT) for communicating in emergency situations. These C3 systems enable the FAA and other Federal agencies to exchange classified and unclassified messages to protect national security. The RCOM program also supports the Washington Operations Center Complex and modernizes several FAA "continuity of operations" sites, which ensures FAA executives have the ability to command and communicate during times of crisis.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1121 / 3

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Name: [1124] National Radio Communications System (NRCS)

Acronym: NRCS

Description: High Frequency fixed service provides point-to-point (PTP) communications primarily in support of the National Radio Communications System (NRCS), known internally as Command and Control Communications (C3).

To provide for emergencies where catastrophic loss of wire communications might occur, long distance communications capability is needed. The Regional Emergency Network provides communication between ARTCC's, the Regional Office, the regional relocation site, other regions, and Civil Defense offices. This network is a part of the National and Civil Defense Emergency System. Authorized emissions are upper sideband (USB) or lower sideband (LSB), suppressed carrier independent sideband (ISB)

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1124 / 3

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Name: [1133] Ultra High Frequency (UHF) Avionics Radio

Acronym: UHF Airborne Radios

Description: The Ultra High Frequency Avionics (UHF Avionics) are analog, ultra high frequency, amplitude modulation (UHF - AM) radio devices operating in the 225-400 MHz frequency band, which are multi-channel transceivers, installed in an airborne military platform. These airborne devices support the tactical two-way voice communications/coordination between the military pilot in the military aircraft and the controller on the ground.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1133 / 4

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Name: [1134] Voice Switch By-Pass (VSPB)

Acronym: VSPB

Description: There are approximately 300 Voice Switch By-Passes (VSBPs) currently deployed to Air Traffic Control facilities. The Voice Switch By-pass component parts provide backup to various communications voice switches used by air traffic control personnel at Air Traffic Control Towers and Terminal Radar Approach Control facilities. The VSBP operates totally independent of existing voice switch systems. It provides direct connectivity between air traffic controller and existing air-to-ground radio communication equipment for primary frequency assigned to that air traffic control operational position.

VSBP component parts activation must be by a positive action by the air traffic controller (insertion of the air traffic controller's headset plugged into the Voice Switch ByPass jack box). It also provides a push-to-talk signal compatible with the push-to-talk requirements of existing primary air-to-ground radio communication equipment system (both local and remote). Also provided is an audio path (both transmit and receive) compatible with existing primary air-to-ground radio communication equipment system (both local and remote). The system is capable of manual reassignment and connection of primary air-to-ground communication equipment at existing air traffic control positions. It will also provide a transparent interface

compatibility with the existing air traffic control facility legal voice communication recorder.

The VSBP equipment system is the only FAA Air Traffic Control VSBP equipment in production that has completed the FAA's Operational Test and Evaluation (OT&E), Independent Test and Evaluation (IOT&E) and In-Service Decision (ISD) Review process. The VSBP equipment has approved technical documentation and the FAA infrastructure in place to support air traffic and maintenance (TECHOPS) technical training and support requirements. The VSBP equipment system supports the FAA safety of flight requirements.

The VSBP equipment system supports the FAA safety of flight requirements. The VSBP allows the FAA to continue deploying VSBP equipment systems until the NVS contract is awarded.

State: In-Service  
Primary Roadmap: Communications  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1134 / 4

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Name: [1137] Computer Aided Engineering Graphics (CAEG)  
Acronym: CAEG  
Description: Provides the FAA's platform for the development and management of 2 dimensional engineering drawings in support of the construction, operations and maintenance and disposal of NAS facilities  
State: In-Service  
Primary Roadmap: Facilities  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1137 / 3

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Name: [1138] WAAS Master Stations (WMS)

Acronym: WMS

Description: Received Process GPS satellite range data from WRS which then perform additional processing before sending the resulting correction data to redundant WAAS Ground Uplink Stations (GUS).

State: In-Service

Primary Roadmap: Facilities

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1138 / 4

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Name: [1139] WAAS Reference Stations (WRS)

Acronym: WRS

Description: WAAS Reference Stations (WRS) receive and process GPS satellite range data which is forwarded to redundant WAAS Master Stations (WMS) for additional processing before sending the resulting correction data to redundant WAAS Ground Uplink Stations (GUS).

State: In-Service

Primary Roadmap: Facilities

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1139 / 4

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Name: [1140] Precision Runway Monitor - Alternate (Multilateration Technology)

Acronym: PRM-A (MT)

Description: The Precision Runway Monitor Alternate (PRM-A) system is a low cost cooperative surveillance system that uses Multi-lateration Technology (M/LAT) technology derived from ASDE-X to provide aircraft position and identification for parallel approach airspace volumes. The PRM-A system correlates surveillance data from terminal and surface radars, multi-lateration receivers, and Automatic Dependent Surveillance-Broadcast (ADS-B) systems.

PRM-A supports tracking and maintaining separation standards for aircraft on simultaneous independent approaches on parallel runways spaced less than 4,300 feet apart. Parallel approaches can be performed during poor visibility and adverse weather conditions without reduced delays and lost capacity. The target position update rate is one second as compared to 4.8 seconds with traditional terminal beacon systems. .

PRM-A data is displayed on high resolution displays and automation systems such as Standard Terminal Automation Replacement System (STARS). Automatic conflict alerting is also provided

PRM-A performance will be evaluated at the Detroit's Metropolitan Wayne County Airport (DTW) airport, as a first article test site, with plans for certification in 2008. The related Decision Point # 36 may be moved to September 2009. The decision will determine whether to expand PRM-A implementation in the NAS and replace PRM E-Scan systems with PRM-A.

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1140 / 3

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Name: [1141] Precision Runway Monitor : Alternate

Acronym: PRM-A

Description: The Precision Runway Monitor Alternate (PRM-A) system is a low cost cooperative surveillance system that uses Multi-lateration Technology (M/LAT) technology derived from ASDE-X to provide aircraft position and identification for parallel approach airspace volumes. The PRM-A system correlates surveillance data from terminal and surface radars, multi-lateration receivers, and Automatic Dependent Surveillance-Broadcast (ADS-B) systems.

PRM-A supports tracking and maintaining separation standards for aircraft on simultaneous independent approaches on parallel runways spaced less than 4,300 feet apart. Parallel approaches can be performed during poor visibility and adverse weather conditions without reduced delays and lost capacity. The target position update rate is one second as compared to 4.8 seconds with traditional terminal beacon systems. .

PRM-A data is displayed on high resolution displays and automation systems such as Standard Terminal Automation Replacement System (STARS). Automatic conflict alerting is also provided

PRM-A performance will be evaluated at the Detroit's Metropolitan Wayne County Airport (DTW) airport, as a first article test site, with plans for certification in 2008. The related Decision Point # 36 may be moved to September 2009. The decision will determine whether to expand PRM-A implementation in the NAS and replace PRM E-Scan systems with PRM-A.

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1141 / 3

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Name: [1143] Precision Runway Monitor-Electronic Scan and Alternate

Acronym: PRM-ESA

Description: The Precision Runway Monitor (PRM-E/A) system is a highly accurate electronic scan (e-scan) radar that tracks and processes aircraft targets at a 1-second update rate (as opposed to 4.8 seconds with conventional radars). The system is sometimes referred to as PRM-E. The PRM system provides controllers with automatic alerts and high-resolution displays that, in conjunction with specific procedures, enable pilots to fly simultaneous independent approaches to parallel runways spaced less than 4,300 feet apart. Without PRM parallel runways can be used for simultaneous independent approaches only during Visual Meteorological Conditions. With PRM, simultaneous independent approaches can be made to closely spaced parallel runways under Instrument Meteorological Conditions (IMC). The inability of pilots to conduct such approaches during adverse weather reduces throughput and increases delays.

PRM systems were commissioned at the Minneapolis-St. Paul International Airport (KMSP) in Oct. 1997, Lambert-Saint Louis International Airport (KSTL) in Oct. 1998, and Philadelphia International Airport (KPHL) in Sep. 2001. A PRM system was installed at New York's John F. Kennedy International Airport (KJFK) but was subsequently dismantled and removed. A PRM was commissioned at San Francisco International Airport (KSFO) in Oct. 2004. A PRM system was commissioned at Cleveland Hopkins International Airport (KCLE) in May 2005. A PRM was commissioned at the Atlanta Hartsfield-Jackson International Airport (KATL) in Apr. 2007.

Note that the PRM at Minneapolis-St. Paul (KMSP) was recently removed and sent to the FAA William J. Hughes Technical in Atlantic City, NJ.

PRM systems may be sustained until 2016 with service life improvements. However, a decision will be made in 2011 as to migration of PRM to PRM-A, based on multilateration technology.

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1143 / 3

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Name: [1144] TPX-42 Beacon Interrogator (Military)

Acronym: TPX-42 BI Military

Description: The TPX-42 beacon interrogator is a military analog interrogator (Identify Friend or Foe (IFF)) system used to detect and report the identity and location of aircraft in a specific volume of airspace. The designation TPX-42 may also refer to a complete beacon and display system. The TPX-42 beacon interrogator subsystem It is used in conjunction with the DOD GPN-20 military airport surveillance radar (ASR) and FAA ASR-9. The TPX-42 is similar to the FAA's Air Traffic Control Radar Beacon Interrogator Models 4 and 5 (ATCBI-4/5). TPX-42 systems provide service to the NAS.

Plans are to replace the TPX-42 beacon systems as the DASR or ASR-11 systems are implemented. Three DOD systems, collocated with ASR-9 primary systems at Hill AFB, may remain operational for the near term. Replacement systems have not been designated.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1144 / 3

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Name: [1145] Reduced Vertical Separation Minimum Altimeter (Domestic)

Acronym: RVSMALT

Description: Reduced Vertical Separation Minimum Altimeter (Domestic) is a source of altitude data or information that was added to support the RVSM capability. It consists of two independent altimeters with enhanced transducers or double aneroid sensors for computing altitude. The altitude source is connected through the static system to provide an automatic means of correcting the known static source error of the aircraft to improve aircraft altitude measurement capability. Domestic RVSM Alt may also be used to satisfy Oceanic RVSM and the altitude sensor may be included within an air data computer.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security

Information System Security  
Safety

Flight Domain(s): En Route

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1145 / 6

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Name: [1151] Automatic Dependent Surveillance-Contract

Acronym: ADS-C

Description: ADS-C differs from ADS-B in that ADS-C is based on a negotiated one-to-one peer relationship between an aircraft providing ADS information and a ground facility requiring receipt of ADS messages. For example, ADS-C reports are employed in the Future Air Navigation System (FANS) using the Aircraft Communication Addressing and Reporting System (ACARS) as the communication protocol. During flight over areas without radar coverage (e.g. oceanic and polar), reports are periodically sent by an aircraft to the controlling air traffic region.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): Air / Ground

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1151 / 7

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Name: [1152] Automatic Dependent Surveillance-B Out

Acronym: ADS-B Out

Description: ADS-B Out the aircraft transmits its position and velocity every second. This provides ATC and other ADS-B In equipped aircraft realtime traffic information

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airspace and Procedures  
Facilities  
Human Systems Integration  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1152 / 6

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Name: [1153] Emergency Locator Transmitter

Acronym: ELT

Description: A radio transmitter attached to the aircraft structure which operates from its own power source on 406MHz, 121.5 MHz and 243.0 MHz. It aids in locating downed aircraft by radiating a downward sweeping audio tone, 2-4 times per second. It is designed to function without human action after an accident.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1153 / 6

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Name: [1154] Synthetic Visual System

Acronym: SVS

Description: Synthetic Vision System (SVS) is a computer-mediated reality system for aerial vehicles, that uses 3D to provide pilots with clear and intuitive means of understanding their flying environment. The Synthetic Vision provides situational awareness to the operators by using terrain, obstacle, geo-political, hydrological and other databases. A typical SVS application uses a set of databases stored on board the aircraft, an image generator computer, and a display. Navigation solution is obtained through the use of GPS and Inertial Reference Systems.

State: In-Service  
Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Mary Yee  
ID / Revision: 1154 / 4

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Name: [1155] Surface Movement, Guidance and Control System  
Acronym: SMGCS  
Description: In order to enhance taxiing capabilities in low visibility conditions and reduce the potential for runway incursions, improvements have been made in signage, lighting, and markings. These include Stop bar Lights, Runway Guard Lights, Taxiway Centerline lighting, Geographic Position Markings and Clearance Bar Lighting.  
State: In-Service  
Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): Terminal  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1155 / 5

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Name: [1159] Integrated Reporting Information System  
Acronym: IRIS

Description: The Integrated Reporting Information System (IRIS) is a flexible and scalable web-based system that supports post operational analysis and evaluation of the National Airspace System (NAS) performance and Traffic Management Initiatives (TMI), such as Ground Delay Programs (GDP), Airspace Flow Programs (AFP) and Ground Stops (GS). IRIS users have access to near real-time Traffic Flow Management System (TFMS) data and a rolling 45-day historical data set for the entire NAS. IRIS leverages some of the latest web technologies currently available, to provide a wide variety of dynamic, interactive and summary reports. These reports provide users with access to both summary and aggregate metrics, and a way to drill-down to detailed, individual flight information.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Sunbong Han

ID / Revision: 1159 / 1

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Name: [1160] Identity and Access Management Service

Acronym: IAM

Description: This includes capabilities for managing a PKI and managing information about identities of NAS operator (humans) and systems (devices). At a minimum, device and user identity and key management capabilities are assumed to be available for use by SWIM core and by SIP systems. This SWIM architecture relies heavily on the existence of this infrastructure. More sophisticated capabilities (single sign-on, centralized policy decision point) may or may not be available in SWIM Segment 2.

State: Planned

Primary Roadmap: Information System Security

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1160 / 3

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Name: [1161] Meteorological Data Collection and Reporting System

Acronym: MDCRS

Description: The Meteorological Data Collection and Reporting System (MDCRS) is designed to support improved weather forecasting, particularly for upper-air wind and severe weather. First developed for the Federal Aviation Administration (FAA) and the National Weather Service (NWS) in 1991, MDCRS collects and organizes up to 100,000 real-time, automated position and weather reports per day from participating aircraft. The data is then forwarded to the NWS World Area Forecasting Center, where it's used as input for their predictive weather models.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1161 / 5

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Name: [1163] Logon/Protocol Gateway (PGW) (ERAM R4.2)

Acronym: PGW ERAM R4.2

Description: Hardware updates will be required to create a protocol and security gateway function with expanded FAA Telecommunications Infrastructure (FTI) capacity for the En Route Automation Modernization (ERAM) system. This will be implemented through software development of Logon/Protocol/Gateway (PGW) ERAM R4.2 that will also be implemented for aircraft log-on capability. The PGW will perform as the Front End Processor (FEP) for all Data Comm domain systems and inspect messages downlinked by the aircraft prior to transferring them to NAS systems. The National Logon Service is architected to collect all flight plans and perform logon-to-flight plan correlation on behalf of all domain systems providing Data Comm services.

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): Air / Ground

Flight Domain(s): None

Update Date: 01-Feb-2013 by Mary Yee

ID / Revision: 1163 / 2

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Name: [1164] CV4400

Acronym: CV4400

Description: The CV4400 is a surveillance interface device used to interface terminal short-range surveillance systems to en route automation systems. The CV4400 utilizes a "skip-scan" capability that only transmits reports from every other scan of the terminal radar to the en route automation system in order to more closely match the 12 second update rate of en route long-range surveillance systems.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1164 / 3

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Name: [1165] TDX2000

Acronym: TDX2000

Description: The TDX2000 is a surveillance interface device used to interface ASR-8 radars (and co-located ATCBI systems) to digital terminal automation systems. The TDX2000 digitizes the analog output of the ASR-8 radar and co-located ATCBI system, generates corresponding surveillance track reports and transmits these to the digital terminal automation system.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft  
Air / Ground  
Automation  
Airport  
Weather  
Communications  
Navigation  
Surveillance  
Airspace and Procedures  
Enterprise Services  
Facilities  
Human Systems Integration  
Information System Security  
Safety

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1165 / 3

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Name: [1172] Secure Supply Chain Service

Acronym: SSCS

Description: This consists of solutions to manage ISS requirements up and down the NAS supply chain related to the suppliers, planners, implementers, and maintainers of NAS systems, software, and networks.

State: Planned

Primary Roadmap: Information System Security

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1172 / 2

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Name: [1173] Run-time Subscription Management

Acronym:

Description: Run-Time Subscription Management Service Allows Consumers to dynamically subscribe to a SOA Service

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1173 / 2

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Name: [1174] Message Reliability QoS

Acronym:

Description: Message Reliability QoS Allows for guaranteed delivery and durable subscriptions

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1174 / 2

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Name: [1175] Content and Protocol Mediation

Acronym:

Description: Provides message content and protocol transformation capabilities

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1175 / 2

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Name: [1176] Performance Monitoring

Acronym:

Description: Provides monitoring, reporting and management services to enable RMA3 levels of Availability for the NEMS

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1176 / 2

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Name: [1177] Security Controls

Acronym:

Description: Support for digital certificates, binary username tokens, SAML tokens, enhanced ACLs, and encryption

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1177 / 2

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Name: [1178] Web Service Proxy

Acronym:

Description: Provides support for request/response messaging utilizing Simple Object Access Protocol (SOAP) and Restful web services

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1178 / 2

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Name: [1179] Run-Time Registry

Acronym:

Description: Registry updated in real-time as Services are on-ramped onto the NEMS

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1179 / 2

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Name: [1180] Producer/Consumer SLA Management

Acronym:

Description: Provides the functionality to establish and monitor SLAs between producers and consumers

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1180 / 2

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Name: [1181] Enterprise Repository

Acronym:

Description: A repository of SOA Services where users can document on-ramped Services and discover Services available for Consumption

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1181 / 2

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Name: [1182] Instrument Procedure Development System

Acronym: IPDS

Description: IPDS provides the capability to design both space-based navigation and ground-based navigation procedures. It will be released in two modules, with deployment beginning in FY2010. IPDS makes up a component of the IFPA system designed to replace IAPA in FY2012.

State: In-Service

Primary Roadmap: Airspace and Procedures

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1182 / 2

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Name: [1183] Automated Process Tracking System

Acronym: APTS

Description: Definition pending

State: In-Service

Primary Roadmap: Airspace and Procedures

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1183 / 2

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Name: [1184] Automated Flight Service Station

Acronym: AFSS CONUS

Description: On February 1, 2005, the FAA awarded a contract for AFSS/FSS services in the Continental United States (CONUS), Puerto Rico, and Hawaii to Lockheed Martin Corporation. Lockheed's automation system, the Flight Service 21 (FS21), began a phased-in replacement (except for Alaska) of the FAA Model 1 Full Capacity (M1FC) and OASIS on October 4, 2005. With continued FAA oversight, Lockheed Martin will maintain delivery of flight services including personnel and hardware systems as part of the FS21 contract. Additional information can be found at <http://www.lmafsshr.com>. As a result of FS21, OASIS was no longer required in CONUS, and the last OASIS was de-installed in late 2007. The phase out of the OASIS consisted of removal of all hardware from the 16 operational CONUS AFSS sites and the FAA Academy.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1184 / 2

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Name: [1185] Standard Terminal Automation Replacement System E/L

Acronym: STARS E/L

Description: Definition pending

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1185 / 2

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Name: [1186] Automatic Dependent Surveillance - Broadcast In Avionics

Acronym: ADS-B In Avionics

Description: Definition pending

State: Planned

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1186 / 2

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Name: [1187] Automatic Dependent Surveillance - Broadcast Out Avionics

Acronym: ADS-B Out Avionics

Description: Definition pending

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1187 / 2

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Name: [1188] NAS Enterprise Service Bus

Acronym: NAS ESB

Description: Enterprise Service Bus (ESB) Interoperability Support  
-Web Service Virtualization  
-Message Compression  
-Message Filtering  
-Multi-threading  
-Message Batching

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1188 / 2

---

Name: [1189] Data Communication Avionics

Acronym: Data Com Avionics

Description: Definition pending

State: Planned

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1189 / 2

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Name: [1190] NAS Enterprise Service Bus Enhancement

Acronym:

Description: Enhancement to current NAS ESB

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1190 / 2

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Name: [1191] Dynamic Subscriptions

Acronym:

Description: Provides the capability to support the initiation of a subscription by a Consumer for Consumer specified content

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1191 / 2

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Name: [1192] Special Activity Airspace (SAA) Service

Acronym: SAA

Description: The Special Activity Airspace (SAA) Static Repository (SR) Notification Service provides notification to subscribers of new SAAs create and existing SAAs updated

The Special Activity Airspace (SAA) Operational Repository (OR) Notification Service provides notification to subscribers of new SAA Schedules created or updates to existing SAA Schedules.

The Special Activity Airspace (SAA) service facilitates the creation, reading, update and deletion of SAA shape information.

The Special Activity Airspace (SAA) Schedule service facilitates the creation, reading, update and deletion of SAA Schedule information.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1192 / 2

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Name: [1193] Aeronautical Common Service (ACS)

Acronym: ACS

Description: The data query service provides users with the ability to search the full set of aeronautical data stored in the ACS.

The data mapping service provides the aeronautical data from the ACS database in a geo-registered display through the use of an OGC-compliant Web Map Service (WMS).

The Feature Portrayal Service supports representation of the aeronautical feature data stored in the ACS using multiple common and standard symbology formats. The FPS provides data symbolization in a manner that is consistent with the aeronautical charts and other products that are published to support air navigation.

The ACS Data Update Notification Service provides a publication/subscription web service for updates to the aeronautical information stored in the ACS.

The data collection services support the capture of digital aeronautical data directly from the authoritative source of the data.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1193 / 2

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Name: [1194] Terminal Automation Services

Acronym:

Description: Terminal Automation Services Provide

- Pending flight plan data
- Track data for each system track, and flight plan data for each pending and associated flight plan to the GeNUS subsystem.
- System status updates
- Minimum Safe Altitude Warning (MSA W) and Conflict Alert (CA) data for each associated track to the GeNUS sub-system.
- Operator Sign-In and Sign-Out event data via SISO event messages.
- Airport Instrument Meteorological Condition (IMC) status information to GeNUS.
- Traffic count information to GeNUS.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1194 / 2

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Name: [1195] En Route Automation Services

Acronym:

Description: En Route Automation Services :

- Provide 4D Volume and 4D Restrictions information
- Provide 4D Profile exchange between pilots and controllers
- Provide Re-route submissions delivered to En Route for approval
- Provide Aircraft State and Intent data
- Allows automation/airspace staff to create alternative sector and approach control airspace configurations
- Allows Distribution of alternative sector and approach control airspace configurations
- Provide Alternative sector and approach control airspace configurations
- SOAizing existing En Route-Approach Control Interfacility communication
- Provides Automation of ATC communications between controllers and pilots

- Provides all data from ATC data clearances to command center, TMA and ARTCCS for use in calculations.
- Provides runway status changes as weather conditions change.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1195 / 2

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Name: [1196] Traffic Flow Automation Services

Acronym:

Description: Traffic Flow Automation Services includes:

- Flow Evaluation Area (FEA)
- Flow Constraint Area (FCA) Distribution Service
- Public Reroute Distribution Service
- Airspace Flow Program (AFP) Distribution Service
- Ground Delay Program (GDP) Distribution Service
- Ground Stop (GS) Distribution Service
- Advisory Distribution Service (Delay, Reroute, Free Formatted)

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1196 / 2

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Name: [1197] Flow Publication Service (FPS)

Acronym: FPS  
Description: Provides Traffic Management Initiative (TMI) data  
State: Planned  
Primary Roadmap: Enterprise Services  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1197 / 2

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Name: [1198] Weather Message Switching Center Replacement (WMSCR) Service  
Acronym: WMSCR Service  
Description: WMSCR Services Provides:  
- Pilot weather reports  
- Raw text and an air pressure data  
- Consumers with the ability to request PIREPs and Altimeter Settings by airport ID or by setting a center and radius of a circle  
- Consumer with a capability to acknowledge a PIREP receipt  
State: Planned  
Primary Roadmap: Enterprise Services  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1198 / 2

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Name: [1199] Time Based Flow Management Service

Acronym:

Description: Will provide the following:  
- Aircraft information (flight plan information, Estimated Times of Arrivals (ETAs), Scheduled Times of Arrival (STAs), Meter Reference Element (MRE) information, and Scheduling information)  
  
- Configuration information (Arrival Airport Configuration Information, Airport Acceptance Rate Group, TRACON Acceptance Rate Group, Meter Point Acceptance Rate Group, Runway Acceptance Rate Group, Super Stream Class Configuration Group, and Satellite Airport Configuration Group)  
  
- Status Group information (TBFM Metering Status, TBFM Interface Status)

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1199 / 2

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Name: [1200] Flight Data Publication Service

Acronym:

Description: Flight Data Publication Service:  
- Publishes flight-specific Common Message Set (CMS) data. Merged "flight" and "track" dataset.  
- Publishes airspace-specific Common Message Set (CMS) data. Includes data for Sector configuration, route status, and altimeter setting  
- Publishes the following: Traffic counts, beacon code utilization, and sign in/sign out  
- Publishes General Information (GI) messages

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1200 / 2

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Name: [1201] Legacy Weather Data Service

Acronym:

Description: Publishes a value-added data product based on the NEXRAD radar feed  
Publishes WSR-88D radar data: DVL, EET, GSM, RRM and FTM

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1201 / 2

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Name: [1202] Corridor Integrated Weather System (CIWS) Service

Acronym: CIWS Service

Description: Publishes a mosaic of current estimates of Vertically Integrated Liquid (VIL), which indicate the amount of atmospheric liquid, and covers the Continental U.S. and Southern Canada.

Publishes an additional content variable called precipitation phase, which is included as supplement to the Precipitation Mosaic Service. This content variable indicates the potential at any given point for precipitation that is present to be of a specific type (i.e., liquid, a mixture of liquid and frozen, or frozen).

Publishes a Deterministic two-hour forecast of Vertically Integrated Liquid (VIL) based on storm motion computations, weather classification information, growth and decay trends, satellite data, numerical models, and convective initiation. The product contains 24 VIL forecasts in 5 minute increments out to two hours.

Publishes an echo top altitude representation, which is the maximum altitude at which the observed radar signal drops from a level above 18 dBZ to one below.

Publishes a deterministic two-hour forecast of the Echo Tops. The product contains 24 Echo Tops forecasts in 5 minute increments, out to two hours.

Publishes the Echo Top Tags product, which provides coordinate locations of the echo top measurement with an accompanying altitude value.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1202 / 2

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Name: [1203] Airway Facilities Technicians Network Portal

Acronym: AF TechNet

Description: Technet originally conceived in 1995, TechNet is an Intranet web portal which centralizes access to multiple internal/external resources allowing dissemination of NAS operational information. It also provides links to a myriad of National Airspace System (NAS) related information sources (such as FAA Orders, NOTAMS, GENOTS, weather sites, etc.) Built to resemble Windows environment to maximize user familiarization with navigation of the site and minimize "webpage" stigma. A Security Certification & Authorization Package (SCAP) was completed for TechNet in 2005. Technet is a secure, reliable and redundant source of NAS operational information with infrastructure in place to continue operations during emergencies. The applications and databases are replicated to an off-site location.  
Evolution: Initially, a Word version of the AM Briefing package, Maintenance Alerts, & Lessons Learned were converted to a database format for historical archiving/referencing, search/query, and ad hoc reporting. In its early stages Technet was read only access to the Facility Service & Equipment Profile (FSEP). Equipment is the "common thread" in all TechNet tools & applications. Long-term Outage Schedule (Facility Shutdown Schedule), work-flow re-engineering and multiple sources of input to the National Operations Control Center (NOCC). The system was also used to facilitate collaboration via an on-line tool - National Modification Index (NMI) & National Modification Tracking System (NMMS).  
Technet was also an interface to an Operational Data Store (ODS) providing access to the Maintenance Management System (MMS) logs, Log Interrupt Report (LIR), Log Certification Entry (LCE), Log Corrective Maintenance (LCM), Log Preventive Maintenance (LPM), and Log Equipment.

State: In-Service

Primary Roadmap: Facilities

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1203 / 2

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Name: [1204] Common Shared Services - Weather Services

Acronym: CSS-Wx Service

Description: CSS-Wx WP1 is the first phase of RWI/CSS-Wx that will demonstrate timelier dissemination of observations and forecasts via netcentric access with an component called the 4-D Weather Cube (4-D Wx Cube). The 4-D Wx Cube, led by NWS and fully coordinated with the FAA, will provide improved observations and forecast weather information. CSS-Wx WP1 will access and disseminate this information, to facilitate FAA operational decision making with near real-time transfer of weather information throughout the NAS. This will aid NextGen Air Navigation Service Providers and Users alike. Thus, it will enable them to collaborate and mitigate weather impacts on NAS operations and safety.

CSS-Wx WP1 will also eventually subsume the functionality of WARP communication components--WINS (Weather Information Network Server) and FBWTG (FAA Bulk Weather TeleCommunications Gateway). Today, WINS disseminates various types of weather information from WARP to automation systems such as URET, DOTS+, and ATOP. Connecting to NWS' Telecommunications Gateway in Silver Spring, MD, the FBWTG brings in gridded data from the NWS modeling center, aircraft observations of winds and temperatures from MDCRS, and icing, turbulence, and convective products from NWS' Aviation Weather Center in Kansas City, MO.

Other components of CSS-Wx WP 1 entail weather processing with the implementation of the NextGen Weather Processor Work Package 1 (NWP WP1), a component of CSS-Wx WP1 that will likely be implemented in the 2013 timeframe. NWP WP1 subsumes the functionality of WARP and eventually that of CIWS.

Where these NNEW WP 1 components will reside has not yet been determined. That information will emerge pending the results of the FAA's acquisition process that will examine and analyze the alternatives for each NNEW component from a cost-benefit perspective.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1204 / 2

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Name: [1205] NAS Aeronautical Information Management Enterprise Systems

Acronym: NAIMES

Description: Definition pending

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1205 / 2

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Name: [1206] NAS Informational Display System  
Acronym: NIDS  
Description: Definition pending  
State: In-Service  
Primary Roadmap: Automation  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1206 / 2

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Name: [1207] Common Air Route Surveillance Radar  
Acronym: CARSR  
Description: Definition pending  
State: In-Service  
Primary Roadmap: Surveillance  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1207 / 2

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Name: [1208] NextGen Weather Processor

Acronym: NWP

Description: The NextGen Weather Processor (NWP) is a weather processing platform intended to continue various weather services whose legacy platforms are nearing the end of their service life. Additionally, NWP will provide enhanced forecast for NAS users. It will not only subsume the functionality of the Weather and Radar Processor (WARP) system but will ingest additional data sets to include surface-, airborne-, and space-based data sets to meet the expanded weather requirements of NextGen.

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1208 / 3

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Name: [1209] NextGen Weather Processor Service

Acronym: NWP Service

Description: NWS Services includes NWP WP 1, 2, 3.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1209 / 2

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Name: [1210] STDDS Service

Acronym:

Description: Publishes tower departure event message for a specific airport or ALL airports at a specific TRACON  
Publishes APDS Runway Visual Range observation messages for a specific airport  
This interface provides surface track data, generic flight plan data and surface movement event messages for a specific airport.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1210 / 2

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Name: [1211] Integrated Terminal Weather System (ITWS) Service

Acronym: ITWS Service

Description: ITWS SWIM Segment 1 Service publishes the following data:  
Microburst Terminal Radar Approach Control (TRACON) Map Product, Precipitation TRACON Product, Gust Front TRACON Map Product, Storm Motion (SM) Storm Extrapolated Positions (SEP) 5nm Product, Gust Front Estimated Time To Impact (ETI) Product, SM\_SEP TRACON Product, Wind Profile Product Hazard Text 5 Nautical Mile (nm) Product Tornado Detections Product, Hazard Text TRACON Product, Tornado Alert Product Runway Configuration Product, Configured Alerts Product, ITWS Status Information  
Microburst Automatic Terminal Information Service (ATIS) Product Forecast Image Product, Wind Shear ATIS Product, Forecast Accuracy Product, Terminal Weather Text Normal Product, Forecast Contour Product, Terminal Weather Text Special Product, Hazard Text Long Range Product, Terminal Weather Graphics Product (Availability TBD), Precipitation Long Range Product, Airport Lightning Warning, SM\_SEP Long Range Product, Anomalous Propagation (AP) Status, Storm Motion 5NM, AP Indicated Precipitation Product, Storm Motion TRACON, Precipitation 5nm Product  
  
The current plan is to migrate these data products and Services onto the NEMS. The scope of the Service taxonomy and the scope of the migration effort is currently being defined.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1211 / 2

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Name: [1212] NAS Services Registry Repository

Acronym:

Description: The NAS Service Registry/Repository provides a single place to organize, understand, and manage SOA-related information. In particular, NSRR stores meta-information related to services as well as the relationships between those services. Service meta-information includes several types of data, including a service description, classifications such as protocol types, service category, and delivery channels, and access information such as Interface Requirements Documents (IRD), Web Service Definition Language (WSDL) files, and endpoints.

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1212 / 2

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Name: [1213] FAA Telecommunications Infrastructure (FTI) Network Operations Control Center (NOCC) Services

Acronym: FTI NOCC

Description: FAA Telecommunications Infrastructure (FTI) Network Operations Control Center (NOCC)  
The FTI NOCC provides FTI network performance monitoring.

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1213 / 2

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Name: [1214] NEMC Services

Acronym:

Description: Network Enterprise Management Center  
The NEMC oversees operational and administrative IP services.

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1214 / 2

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Name: [1215] CSMC Services

Acronym:

Description: The FAA's Cyber Security Management Center (CSMC) is a core component of our overall Information Security Services. The CSMC is tasked with protecting our information infrastructure using advanced cyber defense strategies. The CSMC works to enhance our architecture to include cyber security, to harden individual systems and networking elements, improve recover rate times, and enhance boundary protection by completing remediation of vulnerabilities, improved information sharing, and systemic monitoring of systems.  
[faaco.faa.gov/attachments/J-2\\_Past\\_Performance\\_Survey.doc](http://faaco.faa.gov/attachments/J-2_Past_Performance_Survey.doc)

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1215 / 2

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Name: [1216] NAS Security Center Services

Acronym:

Description: NAS operations center established amongst the SIG, Cyber Security Management Center (CSMC), Security Operations Control Center (SOCC), Network Operations Control Center (NOCC) and Network Enterprise Management Center (NEMC).

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1216 / 2

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Name: [1217] FAA Telecommunication Infrastructure (FTI) Security Operations Control Center (SOCC) Services

Acronym: FTI SOCC

Description: FAA Telecommunication Infrastructure (FTI) Security Operations Control Center (SOCC)  
The FTI SOCC provides FTI security networking monitoring for breaches and virus.

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1217 / 2

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Name: [1218] Service Provisioning

Acronym:

Description: Service Provisioning - Service Provisioning is the SWIM business capability with which programs, both NAS and non-NAS, work together to gain access to the SWIM core services. It facilitates the services integration process to complete services provisioning for SWIM compliance and verification, and Test and Evaluation (T&E) before service operations.

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1218 / 2

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Name: [1219] CSS Cloud Services (IaaS)

Acronym:

Description: TBD

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1219 / 2

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Name: [1220] NBPS

Acronym:

Description: NAS Boundary Protection System  
NBPS provides layered security for external users accessing the NAS.

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1220 / 2

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Name: [1221] Two-Way SOA Enhancement

Acronym:

Description: Two-Way SAO Enhancement includes the addition of security controls to the NESG that will allow external users to publish data into the NAS using SOA.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1221 / 2

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Name: [1222] Domain Name Service

Acronym: DNS  
Description: DNS is a NAS enterprise-level capability that allows applications to avoid hard-coding IP addresses.  
State: In-Service  
Primary Roadmap: Enterprise Services  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1222 / 2

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Name: [1223] Network/Precision Time Protocol  
Acronym: NTP  
Description: Network/Precision Time Protocol is a NAS enterprise-level capability that provides accurate network and precision timing for NAS Programs.  
State: In-Service  
Primary Roadmap: Enterprise Services  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1223 / 2

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Name: [1224] Enterprise Level Time & Frequency Solution  
Acronym:  
Description: Enterprise Level Time & Frequency Solution

State: Planned  
Primary Roadmap: Enterprise Services  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1224 / 2

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Name: [1225] Internal Protection and Enforcement  
Acronym: IPE  
Description: A key principle of the emerging NAS security Architecture is that the NAS must be divided into enclaves, and that information flows crossing from one enclave to another must be subject to controls to ensure that only authorized (non-malicious) traffic is allowed to flow. These concepts in the NAS Security Architecture create the following drivers on the SWIM architecture:  
SWIM must provide capabilities to control which NAS end systems are allowed to access services from other enclaves, and to control which information is allowed to flow among different NAS internal enclaves.  
State: Planned  
Primary Roadmap: Enterprise Services  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1225 / 2

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Name: [1226] Surveillance Information Management  
Acronym: SIM

Description: Surveillance Interface Modernization (SIM) is a portfolio approach to implementing Internet Protocol data distribution and connectivity and ASTERIX data formatting for surveillance and automation systems.

The SIM activity is intended to improve interface and data distribution for terminal and en route surveillance and automation systems.

State: In-Service

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1226 / 2

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Name: [1227] Automated Maintenance Management System

Acronym: AMMS

Description: Description Pending

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1227 / 2

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Name: [1228] Operational Analysis and Reporting System

Acronym: OARS

Description: Description Pending

State: In-Service  
Primary Roadmap: Safety  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1228 / 2

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Name: [1229] CEDAR  
Acronym: CEDAR  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Safety  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1229 / 2

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Name: [1230] SATORI  
Acronym: SATORI  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Safety

Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1230 / 2

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Name: [1231] TARP  
Acronym: TARP  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Safety  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1231 / 2

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Name: [1232] OEDP  
Acronym: OEDP  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Safety  
Secondary Roadmap(s): None  
Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1232 / 2

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Name: [1233] DRAAS

Acronym: DRAAS

Description: Description Pending

State: In-Service

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1233 / 2

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Name: [1234] ATSAP

Acronym: ATSAP

Description: Description Pending

State: In-Service

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1234 / 2

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Name: [1235] TSAP

Acronym: TSAP

Description: Description Pending

State: In-Service

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1235 / 2

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Name: [1236] RSTS

Acronym: RSTS

Description: Description Pending

State: In-Service

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1236 / 2

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Name: [1237] SRMTS

Acronym: SRMTS  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Safety  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1237 / 2

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Name: [1238] HTS  
Acronym: HTS  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Safety  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1238 / 2

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Name: [1239] SMIS  
Acronym: SMIS  
Description: Description Pending

State: In-Service  
Primary Roadmap: Safety  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1239 / 2

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Name: [1240] SDS  
Acronym: SDS  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Safety  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1240 / 2

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Name: [1241] Weather Sensor  
Acronym: Wx Sensor  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Air / Ground

Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1241 / 2

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Name: [1242] FANS 1/A+  
Acronym: FANS 1/A+  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): None  
Update Date: 01-Feb-2013 by Eleni Hailu  
ID / Revision: 1242 / 2

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Name: [1243] ADS-C  
Acronym: ADS-C  
Description: Description Pending  
State: In-Service  
Primary Roadmap: Aircraft  
Secondary Roadmap(s): None  
Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1243 / 2

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Name: [1244] MDCRS

Acronym: MDCRS

Description: Description Pending

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Eleni Hailu

ID / Revision: 1244 / 2

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Name: [1245] TFDM

Acronym: TFDM

Description: Description pending

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Matthew Cleveland

ID / Revision: 1245 / 1

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Name: [1246] ADS-B Out

Acronym: ADS-B Out

Description: Description Pending

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Feb-2013 by Matthew Cleveland

ID / Revision: 1246 / 1

