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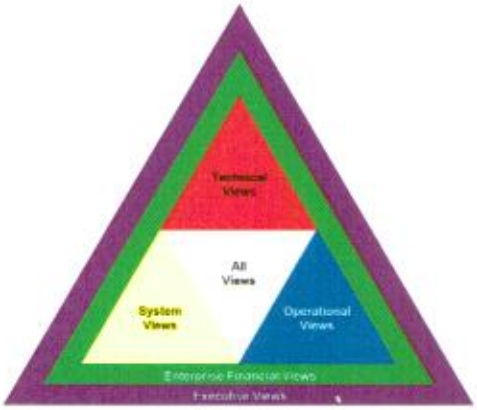
National Airspace System Enterprise Architecture Framework (NASEA)

Air Traffic Organization



National Airspace System (NAS)
High-Level Operational Concept Graphic (OV-1)
Supplemental Integrated Dictionary (AV-2)
AS-IS
Version 1.0

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Approved by: _____ Date: 16 May 2012
NAS Chief Architect, ANG-B2

Version History

VERSION	PUBLICATION DATE	PRIMARY AUTHOR(S)	DESCRIPTION OF CHANGE
1.0	9/13/2011	AJP-15, NAS Enterprise Architecture Team	Original document

Element Type	Name	Description
Facility	Air Route Traffic Control Center (ARTCC)	An Air Route Traffic Control Center (ARTCC) is a facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft. Ref: Pilot/Controller Glossary http://www.faa.gov/air_traffic/publications/atpubs/PCG/pcg.pdf
Facility	Air Route Traffic Control Center (ARTCC) Providing Oceanic Air Traffic Control (ATC)	An Air Route Traffic Control Center (ARTCC) is a facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. 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 (ZNY) and Oakland (ZOA) En Route Centers, but use different equipment and procedures than domestic en route controllers. A facility in Anchorage (ZAN) also provides ATC services. Smaller oceanic operations are located at the Miami and Houston en route centers to provide services to the Caribbean and the Gulf of Mexico. Ref: FAA Website http://hf.tc.faa.gov/domains/enrouteoceanic.htm
Facility	Air Traffic Control System Command Center (ARTSCC)	An Air Traffic Control System Command Center (ARTSCC) is an Air Traffic Tactical Operations facility responsible for monitoring and managing the flow of air traffic throughout the NAS, producing a safe, orderly, and expeditious flow of traffic while minimizing delays. The following functions are located at the ATCSCC: a. Central Altitude Reservation Function (CARF). Responsible for coordinating, planning, and approving special user requirements under the Altitude Reservation (ALTRV) concept. b. Airport Reservation Office (ARO). Responsible for approving IFR flights at designated high density traffic airports. c. U.S. Notice to Airmen (NOTAM) Office. Responsible for collecting, maintaining, and distributing NOTAMs for the U.S. civilian and military, as well as international aviation communities. d. Weather Unit. Monitor all aspects of weather for the U.S. that might affect aviation including cloud cover, visibility, winds, precipitation, thunderstorms, icing, turbulence, and more. Provide forecasts based on observations and on discussions with meteorologists from various National Weather Service offices, FAA facilities, airlines, and private weather services. Ref: Pilot/Controller Glossary

Element Type	Name	Description
Facility	Automated Flight Service Station	An Automated Flight Service Station is an air traffic facility which provides preflight and in-flight meteorological and aeronautical briefings, in-flight communications including En Route Flight Advisory Service ("Flight Watch"), development, translation, processing and coordination of aeronautical, meteorological and aviation information (such as NOTAMs), search and rescue, and support of air shows, fly-ins and other aviation events. Ref: Pilot/Controller Glossary
System	Earth Ground Station	An Earth Ground Station is an on-ground terminal linked to an aircraft by an antenna and associated electronic equipment for the purpose of transmitting or receiving messages via satellite communications (SATCOM).
System	Long Range Radar	A Long Range Radar is a surveillance radar capable of detecting targets at a range of 250nm and is normally used in the enroute environment. Ref: Glossary of Terms, Definitions, Acronyms, and Abbreviations Related to the National Airspace System http://handle.dtic.mil/100.2/ADA226707
Facility	National Operations Control Center (NOCC)	The NOCC provides national coordination of facility restoration activities and provides status information on NAS equipment. The NOCC is responsible for collecting, tracking and reporting data from field organizations for NAS status, facility and service interruptions, special events and disasters. The NOCC monitors critical situations as they evolve and notifies, mobilizes or directs key organizations while coordinating these events with Air Traffic and Airway Facilities. The NOCC is a conduit to the regional Maintenance Control Centers (MCC) for restoration of key NAS facilities and services, and communicates electronically with FAA technicians responsible for maintaining the NAS. Ref: FAA Website http://www.fly.faa.gov/Products/Information/NOCC/nocc.html
System	Navigation Aids	Navigation Aids (Navaids) are any means of obtaining a fix or Line of Position (LOP) as an aid to dead reckoning or position determination including celestial navigation, maps and charts, pressure differential, radar and radio navigation. Ref: Glossary of Terms, Definitions, Acronyms, and Abbreviations Related to the National Airspace System http://handle.dtic.mil/100.2/ADA226707
System	Surveillance Broadcast Services Ground Station	The Surveillance Broadcast Services Ground Station supports Air-Ground broadcast services. This includes the reception of Automatic Dependent Surveillance-Broadcast (ADS-B) from equipped aircraft/vehicles and the transmission of Traffic Information Service-Broadcast (TIS-B) and Flight Information Service-Broadcast (FIS-B) reports from the TIS-FIS Broadcast Servers for use by equipped aircraft. Ref: SBS Integrated Dictionary (AV-2) September 2006

Element Type	Name	Description
System	Short Range Radar	Short Range Radar is used to detect and display an aircraft's position in the terminal area. It provides range and azimuth information but does not provide elevation data. Coverage can extend up to 60 miles. Ref: Pilot/Controller Glossary
System	Surface Radar	Surface Radar is surveillance equipment specifically designed to detect aircraft, vehicular traffic, and other objects, on the surface of an airport, and to present the image on a tower display. It is used to augment visual observation by tower personnel of aircraft and/or vehicular movements on runways and taxiways. Ref: Pilot/Controller Glossary
Facility	Terminal Radar Approach Control (TRACON)	A Terminal Radar Approach Control (TRACON) is a FAA facility that houses air traffic controllers who use radar displays and radios to guide aircraft approaching and departing airports generally within a 30- to 50-mile radius up to 10,000 feet, as well as aircraft that may be flying over that airspace. Once an aircraft that is landing is within five miles of an airport and below 2,500 feet, TRACON controllers hand the aircraft off to air traffic controllers in the airport tower. When a departing aircraft leaves the TRACON's range of control, TRACON controllers hand responsibility for the aircraft off to controllers at FAA En Route Centers who guide the aircraft at higher altitudes while it is en route to the next airport. While TRACON controllers do not handle landings and takeoffs like airport tower controllers, they are responsible for the safe separation of aircraft flying in the busy areas surrounding airports. Ref: Pilot/Controller Glossary
Facility	Tower	A Tower is a terminal facility using air/ground communications, visual signaling, and other devices, to provide air traffic control services to airborne aircraft operating in the vicinity of an airport, and to aircraft and vehicles operating on the movement area. Ref: Pilot/Controller Glossary
System	Weather Observing Station	A Weather Observation Station consists of a suite of sensors that 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. The sensors measure weather parameters such as wind speed and direction, temperature and dew point, visibility, cloud heights, precipitation, barometric pressure and detects and identifies hazardous low-level windshear. Ref: FAA Website http://www.faa.gov/air_traffic/weather/asos/