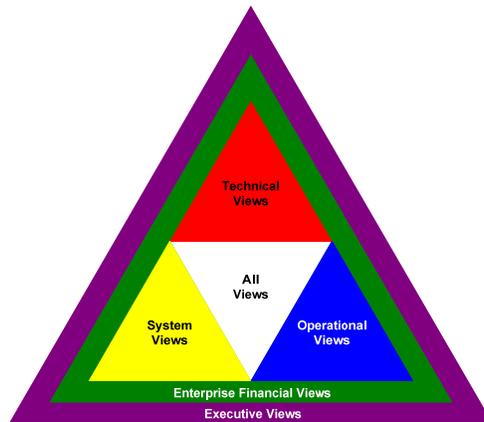




National Airspace System Enterprise Architecture (NAS EA)

Air Traffic Organization



**NextGen Far-Term (2025)
To-Be Enterprise-Level Architecture
Systems Communications Description (SV-2)
Version 1.0
January 29, 2010**

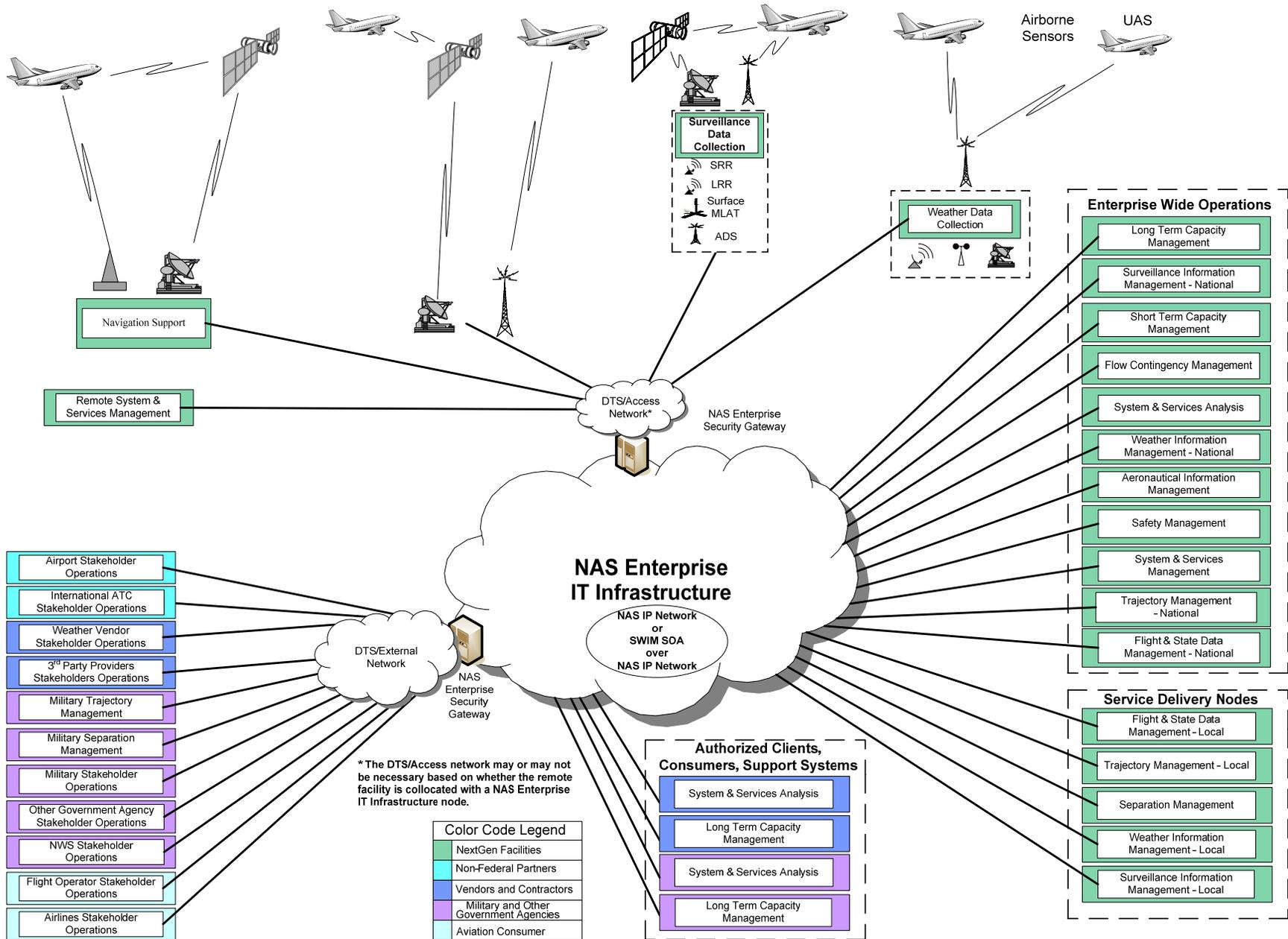


Figure 1: SV-2 NextGen 2025 Systems Communications Description – Rollup Data Flow View

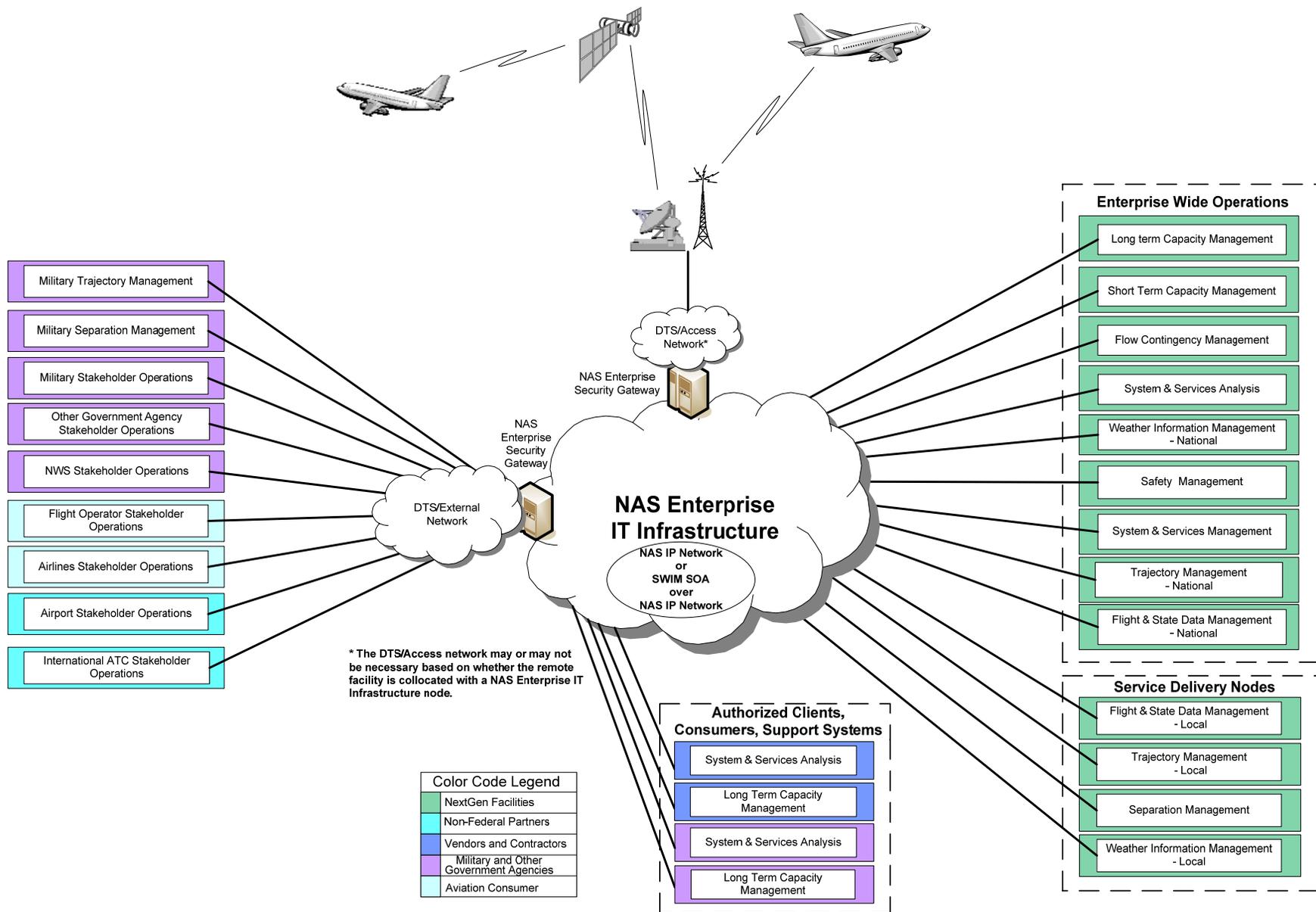


Figure 2: SV-2 NextGen 2025 Systems Communications Description – Voice Communications View

Table of Contents

NextGen 2025 Systems Communications Description SV-2.....	1
Overview	1
System Communication Description SV-2 Terminology	2
Figure 3: NextGen 2025 Systems Communications Description SV-2 – Surveillance Information Flow.....	3
Figure 4: NextGen 2025 Systems Communications Description SV-2 – Weather Information Flow.....	4
Figure 5: NextGen 2025 Systems Communications Description SV-2 – Aeronautical Information Flow.....	5
Figure 6: NextGen 2025 Systems Communications Description SV-2 – Flight Information Flow.....	6
Figure 7: NextGen 2025 Systems Communications Description SV-2 – Command & Control Information Flow.....	7

NextGen 2025 Systems Communications Description SV-2

Overview

The NextGen 2025 Systems Communications Description (SV-2) consists of a data view and a voice view, each showing the communications connectivity between the functions shown on the System Interface Description (SV-1p). In addition, the data view is decomposed into five views representing the data connectivity for five information flows. The five information flows are the Surveillance Information Flow, Weather Information Flow, Flight Information Flow, Command and Control Information Flow, and the Aeronautical Information Flow. The specific information that is associated with each of the five information flow categories can be found in the Operational Information Exchange Matrix (OV-3). The following are descriptions of the five information flow categories:

Surveillance Information Flow

The surveillance information flow includes information about current aircraft movement. This includes acquisition of the aircraft's 3-D position, velocity, and maneuver information in real-time and the extrapolation of similar information when not available through acquisition. In the NextGen time frame, it will also include the derivation of an official integrated surveillance situation view.

Weather Information Flow

The weather information flow includes the acquisition of weather parameter information in real-time and the extrapolation of similar information when not available through acquisition. It includes the derivation of projected parameters, weather conditions (current and projected), tailored products, and, in the NextGen time frame, an official integrated weather situation view to be used by all consumers. It includes weather sources, weather processing, and distribution. The weather flow does not include dissemination of the weather that is part of the aeronautical information flow (i.e., NOTAMs).

Flight Information Flow

The flight information flow includes collection, derivation, and distribution of flight plan information (such as planned trajectory or route(s), aircraft type, aircraft equipage, performance capabilities, etc.) and flight status information (such as phase of flight, positive control vs. self-separation, emergency status, clearance status, and other flight status events). Flight information flow does not include the process of planning the flight (i.e., the provision of weather briefings and aeronautical information) nor the generation and distribution of trajectory projections and other flight status projections as part of command and control operations.

Command and Control Information Flow

The command and control information flow includes information related to the command and control operations (Trajectory Management, Separation Management, Flow Contingency Management, Short and Long Term Capacity Management, System and Services Management, and Safety Management). This includes both management and control of traffic and the establishment and management of system resources (airspace structures, procedures, services, staffing, network monitoring and control, maintenance information, etc.). It includes the projection of flight information (aircraft position,

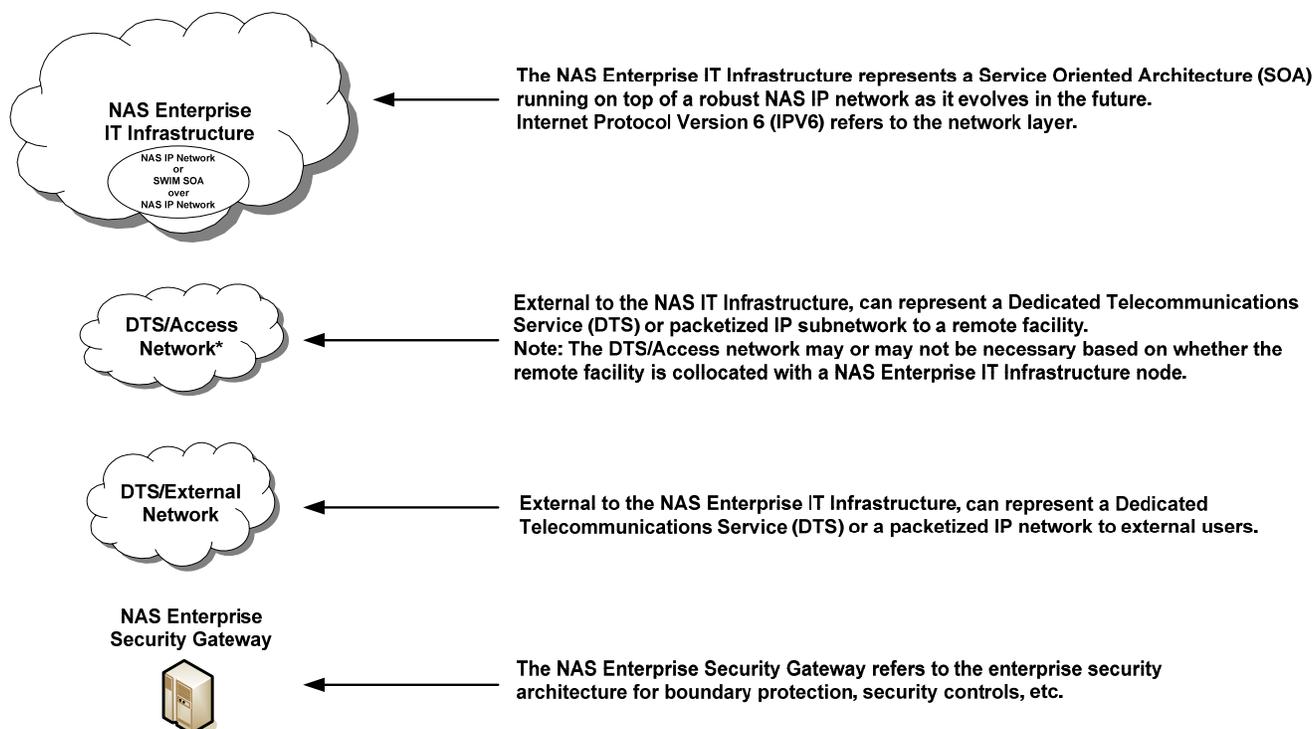
velocity, maneuvers, and trajectory) as part of the input to the command and control decision making process. It includes the generation of aeronautical information consisting of airspace structure and status, service structure and status, and certain geographical information (e.g., airport and runway status). It does not include the distribution of aeronautical information. It does not include the flow of weather and flight information prior to its use by the command and control operations.

Aeronautical Information Flow

The aeronautical information flow includes collection and distribution of information to support flight planning and collaborative decision making. This includes 1) airspace structure and status, 2) geographic structure and status, 3) service structure and status, 4) hazardous weather advisories as special NOTAMs, and, 5) selected flow management decisions. It does not include the processes associated with the generation or use of this information.

System Communication Description SV-2 Terminology

For a description of each of the individual boxes, color scheme definitions, etc refer to the NextGen 2025 System Interface Description SV-1p. The SV-2 views are consistent with these characterizations and descriptions. The SV-2 views are showing basic connectivity, not necessarily redundancy requirements that will be shown at a project level. Elements that are specific to the SV-2 views are as follows:



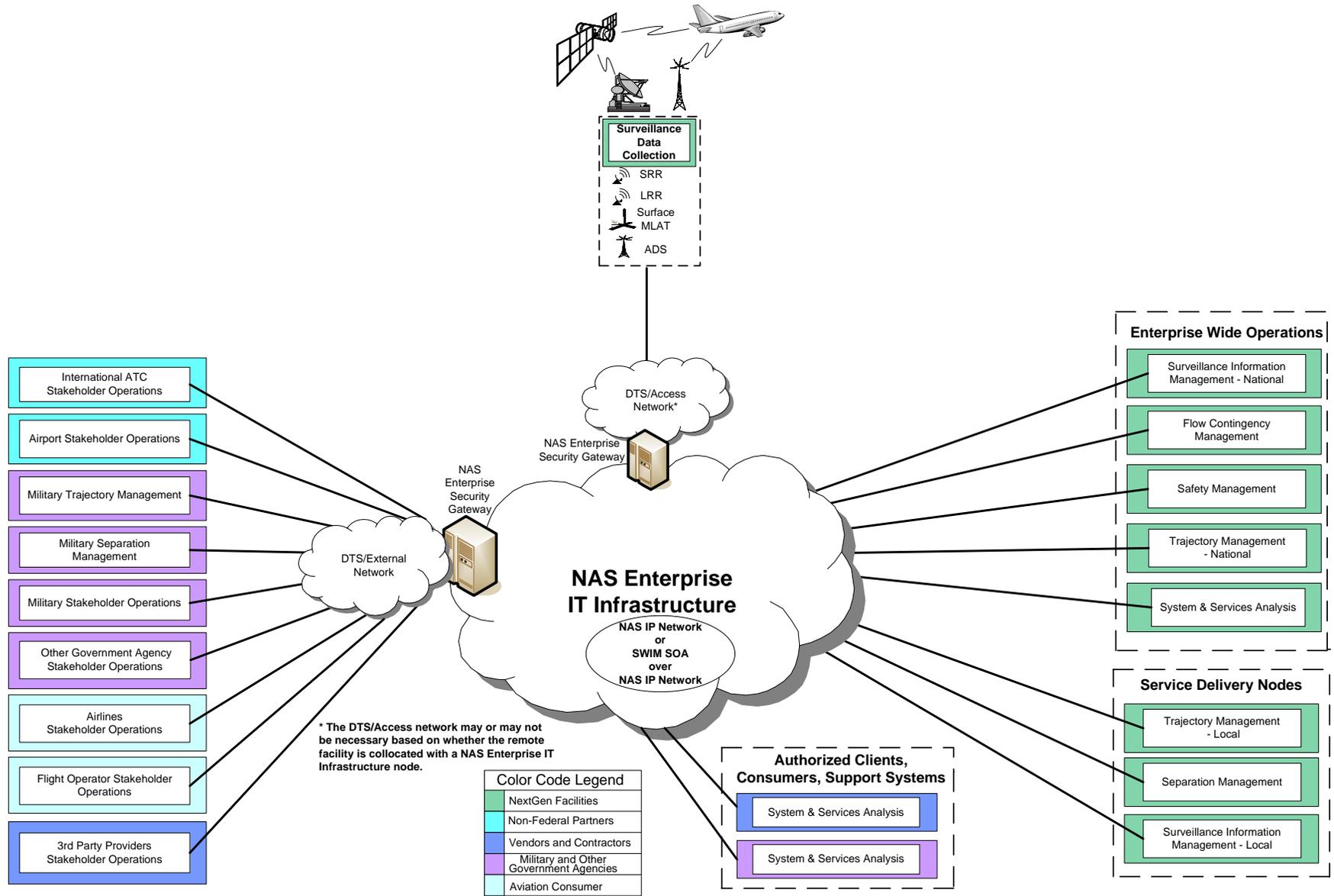


Figure 3: SV-2 NextGen 2025 Systems Communications Description – Surveillance Information Flow

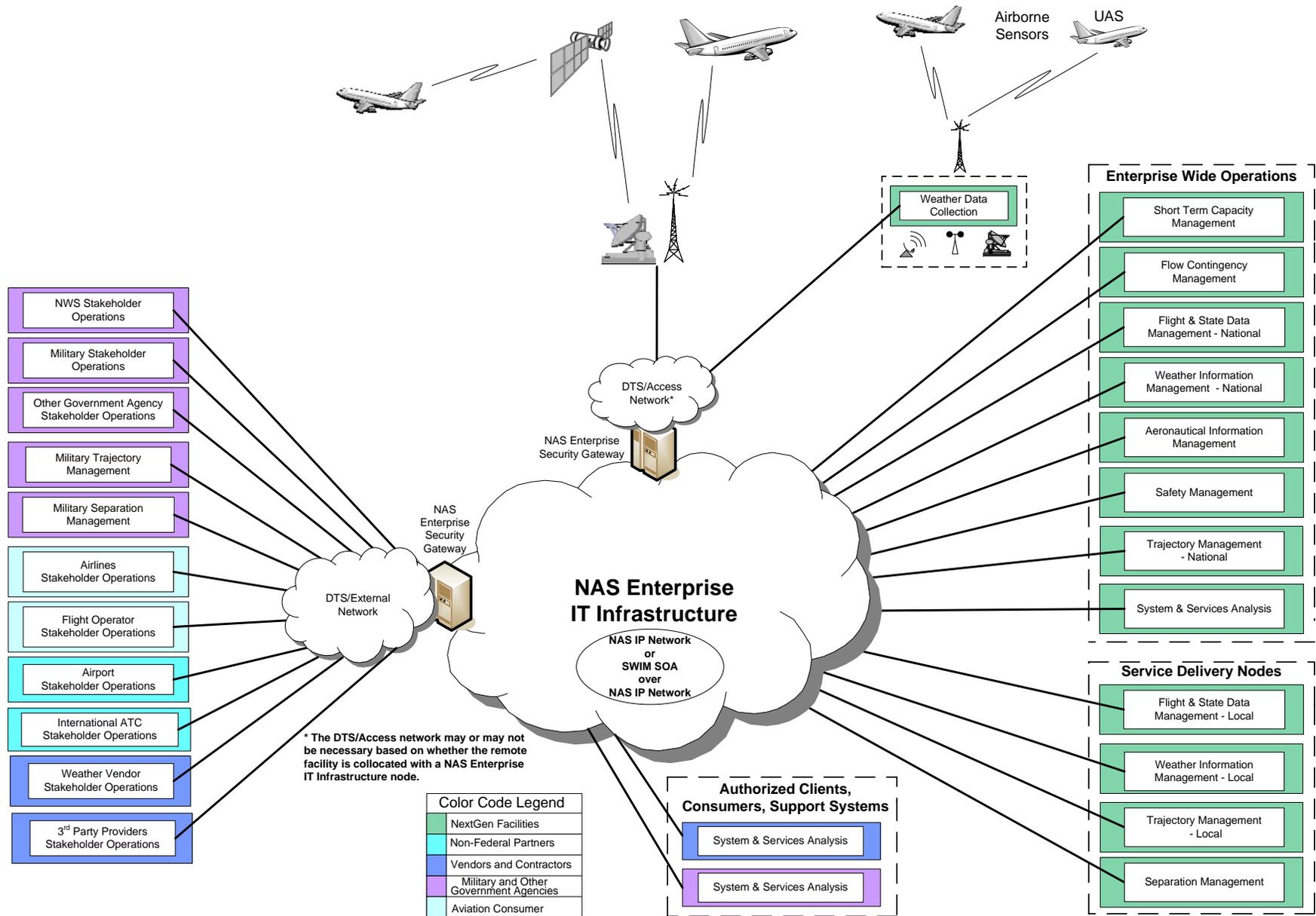


Figure 4: SV-2 NextGen 2025 Systems Communications Description – Weather Information Flow

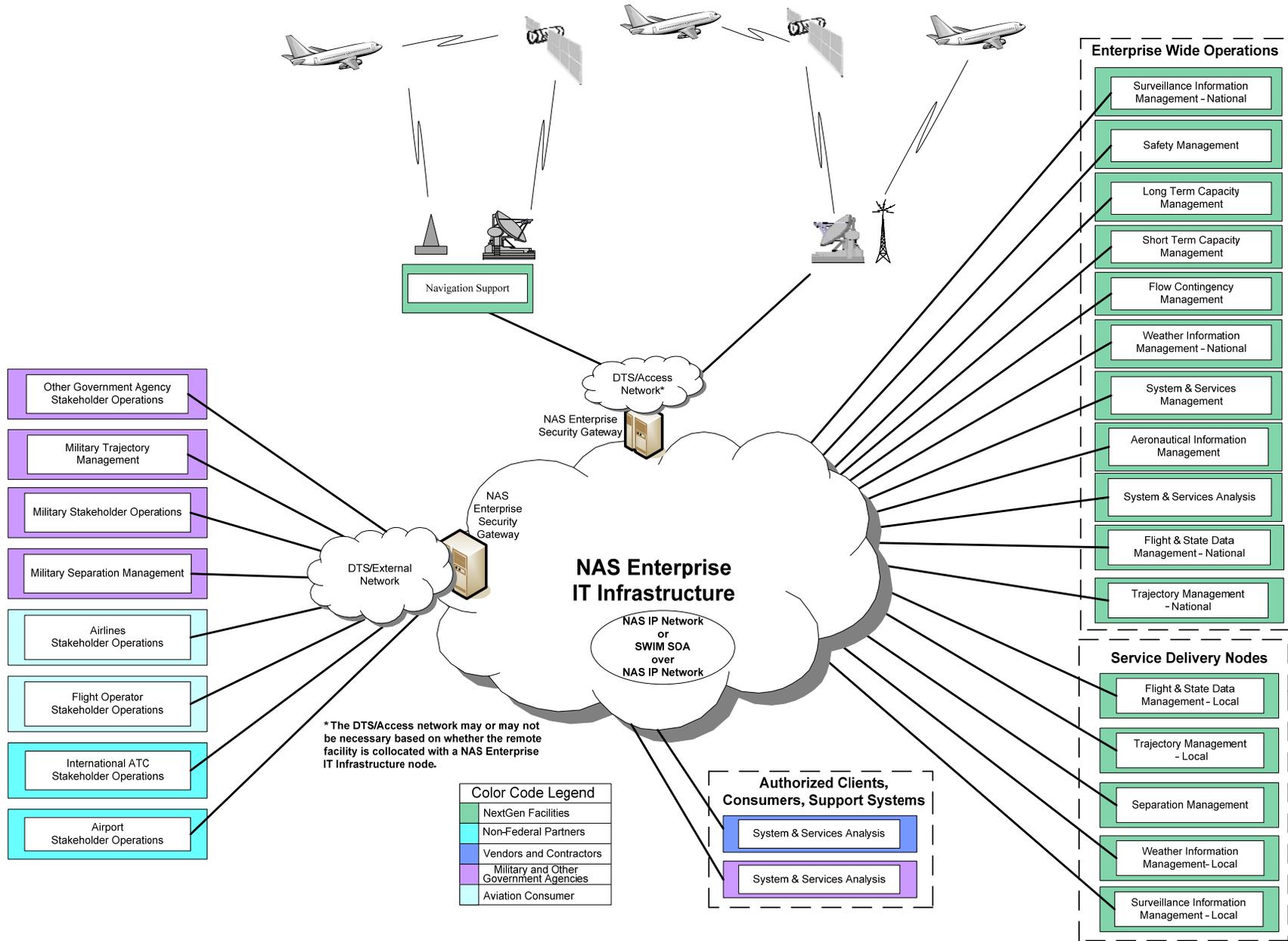


Figure 5: SV-2 NextGen 2025 Systems Communications Description – Aeronautical Information Flow

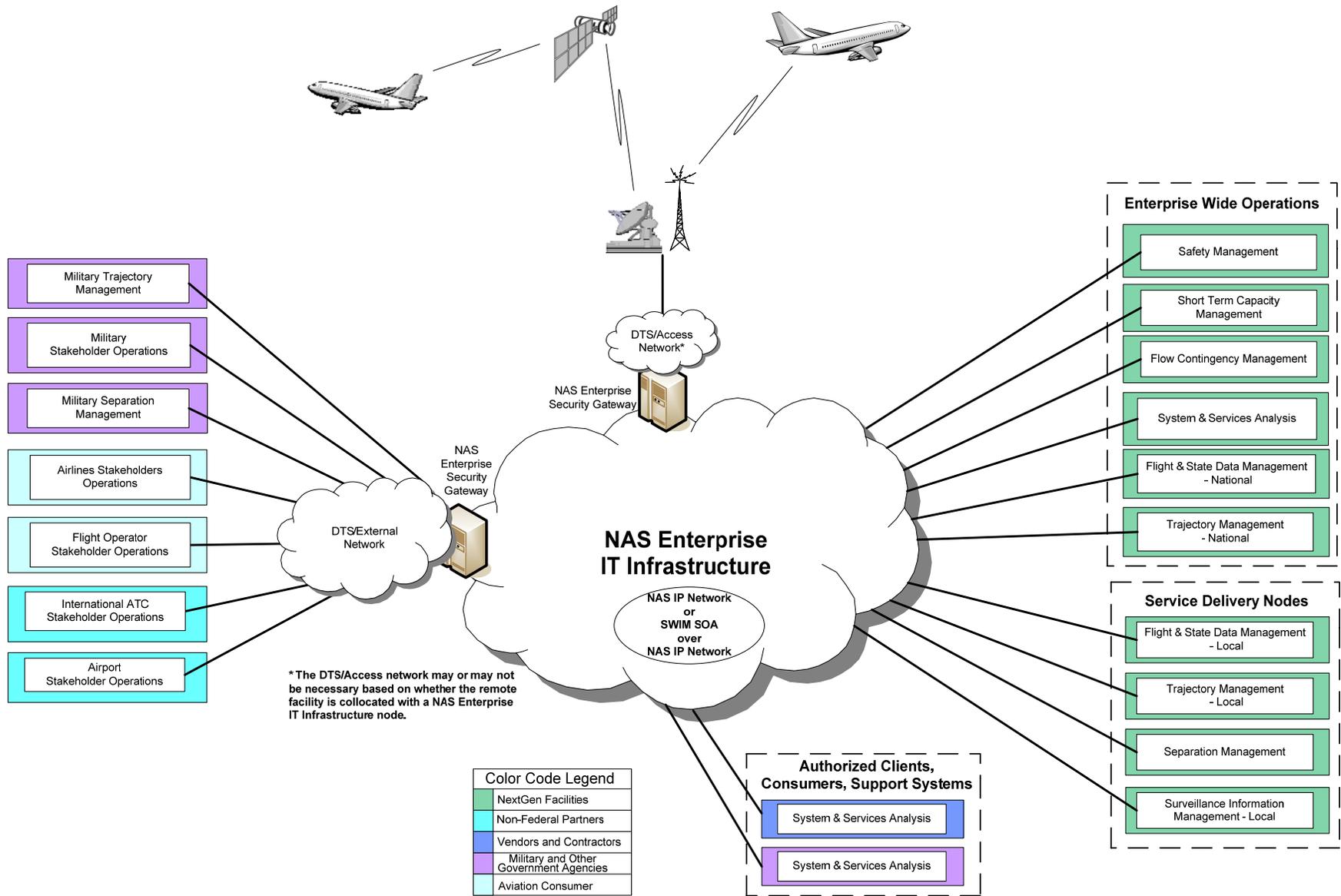


Figure 6: SV-2 NextGen 2025 Systems Communications Description – Flight Information Flow

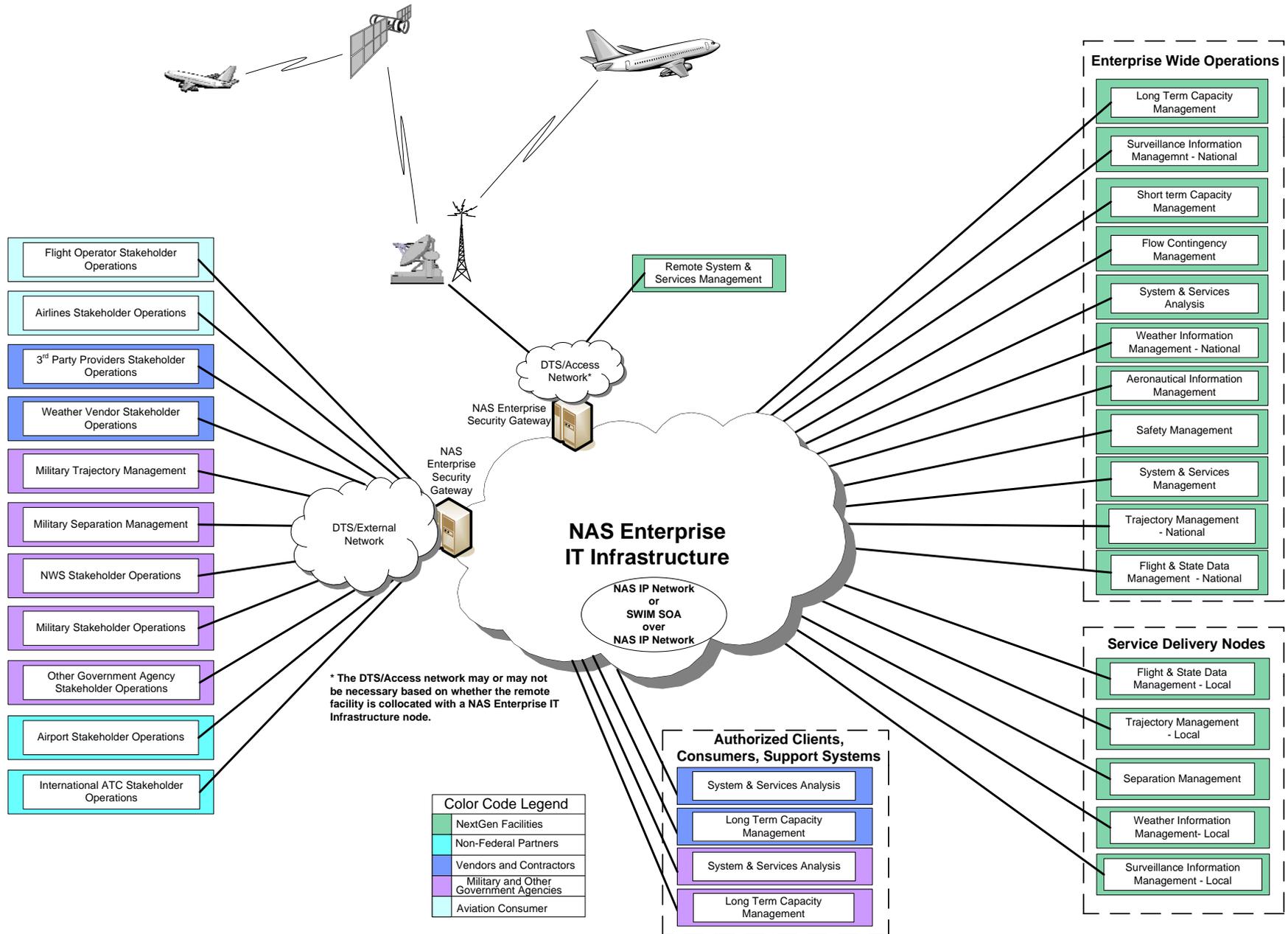


Figure 7: SV-2 NextGen 2025 Systems Communications Description – Command & Control Information Flow