

**NAS Target Top Level Systems Requirement Document
(Target RD)**



**Department of Transportation
Federal Aviation Administration**

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NAS Target RD

NAS Target Top Level Requirements Document
Version 4.0

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1.0 Introduction

The NAS Target Requirements Document (Target RD) contains the NextGen enterprise level requirements that the NAS will perform. It is used by NAS programs to derive their respective NextGen requirements and serves as the foundation for conducting additional functional decomposition and performance analysis. The Target RD supports NAS design, enterprise architecture engineering, and acquisition activities for new and upgraded systems as well as routine changes to NAS operational equipment.

Accordingly, the objective of the Target RD is to provide positive linkage from the NAS Enterprise Architecture (EA) through to applicable NextGen programs and systems. This fundamental architecture/program pairing provides direct traceability down from the agency mission need to the acquired NextGen system(s).

The Target RD defines the agency's top-level enterprise requirements without constraining technical design alternatives and is partner to the current NAS RD (NAS-RD-2014). The current RD contains the enterprise-level requirements for the current operating NAS and represents the "as-is" baseline set of top-level Air Traffic Control requirements that are being met by equipment, personnel and procedures within today's NAS. Consequently, the Target RD is to be considered the non "as-is" NAS baseline for NextGen.

The Target RD directly maps to the far-term Enterprise Architecture. The NAS far term EA is a comprehensive, multiyear plan for improving and evolving the NAS through 2025. It describes the mission services and capabilities that the NAS must provide in order to ensure safe and efficient Air Traffic Control services to the public. The requirements in the Target RD describe what system functions the NAS must provide, in a NextGen environment, in order to achieve these services and capabilities. The requirements contained in this document do not imply the organizational owners of the service functions.

The service functional requirements in the Target RD are directly traced to the services in the far term SV-4, which defines seven services that enable the NAS performance. They are: Mission Services, Support Services, Service-Oriented Architecture (SOA) Core Services, Administrative Services, Enterprise Governance, Technical Infrastructure Services, and Interaction Services. Each service consists of lower-level service functions. In addition, the Target RD integrates enterprise-level NSIP segment Bravo requirements into the subject architecture. These NSIP-derived requirements are the lowest-order (i.e., children) requirements to the specified architecture services and functions.

Service functional interoperability requirements in the Target RD are directly traced to service data exchanges as defined in the far term SV-6, which is aligned with the SV-4 service functional requirements. Inclusion of these requirements provides aggregate service integration at the NAS/NextGen enterprise level.

2.0 Purpose

The Target RD serves as the top level NextGen source for programs to use to derive their respective requirements for the future NAS. The document defines requirements without constraining technical design alternatives, while also identifying global design principle requirements that are necessary to evolve NextGen more efficiently. The Target RD supports NAS design, enterprise architecture engineering, and acquisition activities for new and upgraded systems as well as routine changes to operational NAS equipment up through baseline year 2025. It is the baseline for conducting additional lower-level functional decomposition and performance analysis.

An objective of the Target RD is to directly map the enterprise level NAS requirements to the future 2025 Enterprise Architecture (EA). This mapping will eventually allocate the enterprise level requirements down to the systems that perform them as identified on the 2025 roadmaps. As new program offices create EA views per the Acquisition Management System (AMS), this mapping will help the programs stay aligned with the NAS EA as NextGen evolves. In this version of the NAS Target RD, enterprise level requirements associated with the increments contained in the MITRE CAASD Functional Analysis for Segment Bravo Increments, dated March 2013 are inserted into the document where applicable and into Table II: NAS Requirements Allocation Matrix, along with the systems associated with the increment as an example of how the FAA will govern program/system allocations in the future. As additional increment requirements are developed and associated allocations are made they will be captured and approved in the annual update process for this NAS Target RD.

2.1 Background

In 2010 it was decided that two NAS Requirements Documents (NAS RDs) were necessary to properly manage requirement configurations at the enterprise-level. The NAS-RD-2010 replaced the dated NAS-SR-1000 series to serve as the current top level NAS requirements baseline going forward. The Target RD provides a detailed, projected NextGen requirements baseline for the NAS to achieve the goals of enhancing safety and reliability of air transportation, and to improve efficiency in the NAS, while reducing aviation's impact on the environment. These new capabilities described by the Target RD will define new program/system requirements that will be implemented going forward from the current baseline. The goal is to format the documents in a similar fashion so that the NAS Systems Engineers can clearly see what is changing from a requirements perspective by reviewing the documents side by side.

2.2 Scope

The NAS Enterprise Architecture (NAS EA) is a comprehensive, multi-year plan for improving and evolving the NAS through 2025. It describes the services and capabilities that the NAS must provide in order to ensure safe and efficient Air Traffic Control services to the public. The requirements in the Target RD describe what system functions the NAS must provide in order to achieve these services and capabilities. The

requirements contained in this document do not imply the organizational owners of the functions.

For this document, requirements are traced to all services in the SV-4, which defines seven parent services that enable the NAS performance. They are: Interaction Services, Mission Services, Support Services, Service Oriented Architecture (SOA) Core Services, Technical Infrastructure Services, Enterprise Governance Services, and Administrative Services. Each service consists of lower level functions.

Service functional interoperability requirements are traced to the SV-6. These requirements are divided by service function, and further subdivided into internal and external NAS inputs and outputs. Diagram 3.0-I explains this process.

NAS enterprise-level requirements derived off of MITRE CAASD Functional Analysis for Segment Bravo Increments; dated March 2013 which are underlying the NAS Segment Bravo Implementation Plan (NSIP) 2013 have been integrated into this version of the document. These requirements are the lowest order children to the defined parent EA service/function. Each NSIP derived requirement is uniquely identified with an Asterisk (*) and an aggregation of these requirements are included in Table III in the back of the document, including complete NSIP and associated system traceability. As previously stated, this serves as an example of additional decomposition that must be done to ensure that allocations are properly captured for eventual implementation.

Section 4 (Support Requirements) identifies appropriate RMA and security requirements. The security section is new this year, and is intended to provide enhanced cyber security guidance as NextGen development matures.

Finally, all terms and data exchanges are defined in accordance with the 2025 EA AV-2 Integrated Dictionary. These are identified in Appendix B.

2.3 Intended Use

Programs develop architecture products that align with the NAS EA as prescribed by the AMS. These products and their associated links to the Target RD provide programs with a framework to determine which enterprise level requirements they are responsible for. The direct link between the NAS/ NextGen Top Level (parent) requirements and the (child) program requirements documents provide positive traceability and configuration management as the NAS evolves towards a NextGen environment. When changes are made to the Target RD, the effects on program requirements can be documented and traced. Conversely, if a program requirement change is proposed by the program office, its direct impact to NAS services, the EA, and NextGen in particular can also be documented.

Though program/system requirements are traced, the Target RD is not meant to imply allocation of NAS top level service functions directly to systems. This is handled by the

subject program office unless otherwise noted by the agency. The process for allocation currently occurs by a combination of program requirements, NAS top level requirements, and EA products.

The Target RD covers not only functional requirements, but also several global requirements. These are key principles that newly acquired systems must demonstrate to be integrated with NextGen in 2025. In the same way that the program offices determine which functional requirements they are fulfilling, they must also determine which principles to consider.

2.4 NAS Target RD Updates

As the vision of NextGen and the EA evolve, the Target RD will evolve as well. This top level requirements document will be updated annually to ensure alignment with the EA, NSIP, and the NextGen roadmaps. These RD updates will be bundled together with the annual updates of EA products to ensure proper configuration management.

We welcome your recommendations, ideas, and opinions regarding the Target RD. Send comments to the following members of the NAS Requirements Services Branch, ANG-B1:

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3.0 NAS Requirements

Table I identifies complete NAS requirements traceability to the NextGen Enterprise Architecture, RMS, NSIP, and NIST cybersecurity source material.

Table II provides positive NAS requirements allocation to appropriate NextGen systems in accordance with the Far Term Enterprise Architecture SV-5 and appropriate NSIP segment analysis.

Note: *SV-5 is TBD.*

Appendix A defines all requirements data items and terms as identified in the NAS Far Term NextGen AV-2 Integrated Dictionary.

Figure 3.0-I delineates the top level NAS/NextGen enterprise service hierarchy as specified in paragraph 3.0.

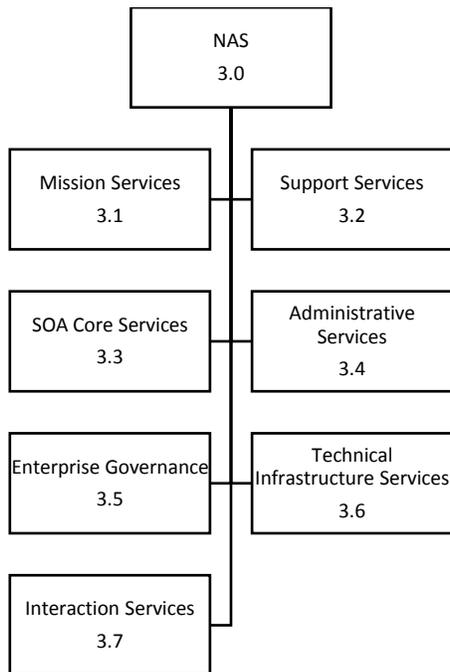


Figure 3.0-I

Diagram 3.0-I describes the top level NAS SV-4 and SV-6 service interoperability process flow which is employed in paragraphs 3.1 through 3.7. Note that the Diagram 3.0-I paragraph numbering examples are for Mission Services (paragraph 3.1) only.

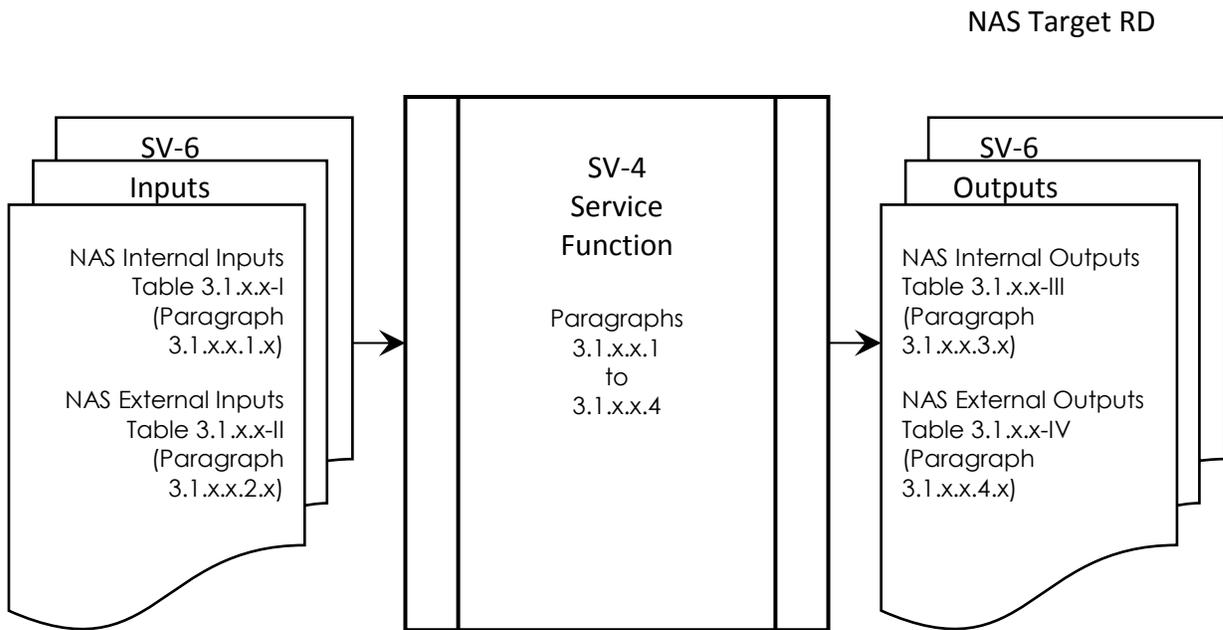


Diagram 3.0-1
NAS Target RD Service Interoperability Process Flow

3.0.1 Global NAS Requirements

Global NAS requirements allow the NAS to evolve more efficiently to yield intended improvements to services it provides. Programs should refer to their Enterprise Architecture (EA) and Information Systems Security Officer (ISSO) point of contact in order to determine applicability. Unless otherwise stated, each global NAS requirement is applicable to every service.

- 3.0.1.1 The NAS shall validate the accuracy, completeness, and integrity of information inputs.
- 3.0.1.2 The NAS shall integrate local exception event data into enterprise wide situational awareness.
- 3.0.1.3 The NAS shall utilize data environments for the applications of services in different time horizons.
- 3.0.1.4 The NAS shall apply appropriate performance standards for the applications of services in different time horizons.
- 3.0.1.5 The NAS shall provide data time stamps at predefined rates and accuracies based on the criticality of the subject data.
- 3.0.1.6 The NAS shall provide precise time and frequency to all NAS sub-systems requiring a time and/or frequency source.

3.0.1.7 The NAS shall perform mission services within a service oriented architecture environment.

3.0.1.7.1 The NAS shall provide enterprise-wide net-centric data management.

3.0.1.7.2 The NAS shall publish information in a standardized format in accordance with FAA Order 1375.1 and the NAS EA Logical Data Model.

3.0.1.7.3 The NAS shall provide enterprise-wide net-centric data access.

3.0.1.7.4 The NAS shall perform mission services in accordance with adaptable business rules and processes.

3.0.1.7.5 The NAS shall apply business rules and processes to implement FAA policies and procedures for real-time adaptation functions.

3.0.1.7.6 The NAS shall provide application services for use by multiple mission services.

3.0.1.8 The NAS internal client applications that communicate with public internet servers shall comply with the OMB "Transition to IPv6" memorandum.

3.0.1.9 The NAS enterprise networks shall comply with the OMB Transition to IPv6 memorandum.

3.0.1.10 The NAS shall comply with all applicable Federal Information Processing Standards (FIPS), National Institute of Standards and Technology (NIST), FAA, DOT, OMB and other Federal guidelines and industry best practices for Information System Security.

3.0.1.11 The NAS shall respond to any Information System Security violation event.

3.0.1.12 The NAS shall identify system error conditions.

3.0.1.13 The NAS shall implement solutions to system error conditions.

3.0.1.14 The NAS shall comply with all directives, orders and policies within the NAS EA Technical View-1 (TV-1, Standards).

3.0.1.15 The NAS shall comply with Human Factors Design Standard HF-STD-001.

3.0.1.16 The NAS shall comply with FAA Information Security Orders.

3.0.1.16.1 The NAS shall comply with order 1370.82A, Information Systems Security Program.

3.0.1.16.2 The NAS shall comply with order 1370.91, Information Systems Security Patch Management.

3.0.1.16.3 The NAS shall comply with 1370.92A, Password and PIN Management Policy.

3.0.1.16.4 The NAS shall comply with 1370.94A, Wireless Technologies Security Policy

3.0.1.16.5 The NAS shall comply with order JO 1370.96, ATO System Access Control.

3.0.1.16.6 The NAS shall comply with order JO 1370.98, ATO IT Infrastructure Requirements for Non-FAA Connectivity.

3.0.1.16.7 The NAS shall comply with order JO 1370.99, ATO NAS Information System Security Patch Management.

3.0.1.16.8 The NAS shall comply with 1370.100, Media Sanitization and Destruction Policy.

3.0.1.16.9 The NAS shall comply with JO 1370.101, ATO Information Security Incident Response and Reporting Policy.

3.0.1.16.10 The NAS shall comply with 1370.102 System Use Notification and Disclaimer Statement Policy.

3.0.1.16.11 The NAS shall comply with 1370.103, Encryption Policy.

3.0.1.16.12 The NAS shall comply with 1370.104, Digital Signature Policy.

3.0.1.16.13 The NAS shall comply with 1370.105, Logical Access Control Policy.

3.0.1.16.14 The NAS shall comply with 1370.106, Information System Security Awareness and Training Policy.

3.0.1.16.15 The NAS shall comply with 1370.108, Voice Over Internet Protocol (VoIP) Security Policy.

3.0.1.16.16 The NAS shall comply with 1370.109, Software Assurance Policy.

3.0.1.16.17 The NAS shall comply with 1370.111, Removable Media Security Policy.

3.0.1.16.18 The NAS shall comply with 1370.112, FAA Application Security Policy.

3.0.1.16.19 The NAS shall comply with order JO 1370.114, Implementation of FAA Telecommunications Infrastructure Services and IS Requirements in the NAS.

3.0.1.16.20 The NAS shall comply with 1370.115, Domain Name System (DNS) Security Policy.

3.0.1.16.21 The NAS shall comply with 1370.116, Boundary Protection Policy.

3.0.1.16.22 The NAS shall comply with order 1600.1E, Personnel Security Program.

3.0.1.16.23 The NAS shall comply with 1600.6E, Facility Security Policy.

3.0.1.16.24 The NAS shall comply with order 1600.69B, FAA Facility Security Management Program.

3.0.1.16.25 The NAS shall comply with order 1600.75, Protecting Sensitive Unclassified Information.

3.0.1.16.26 The NAS shall comply with order 1600.76, Sensitive Compartmented Information (SCI) Program Management.

3.0.1.16.27 The NAS shall comply with 1800.66, Configuration Management Policy.

3.0.1.16.28 The NAS shall comply with order 4600.27B, Personal Property Management.

3.1 Mission Services

Mission services are the application services which provide mission business logic. They are residing in the NAS systems that support air traffic operations. Mission Service subscribes information provided by Support Services such as single authoritative source weather information or Flight and State Data.

Figure 3.1-I delineates the top level Mission Services hierarchy as specified in paragraph 3.1.

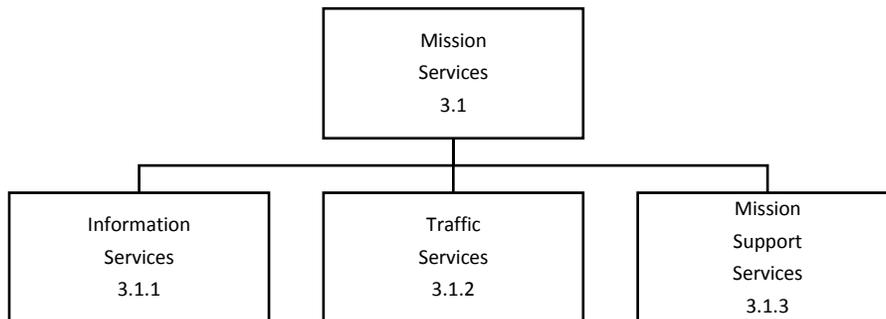


Figure 3.1-I
Mission Services Hierarchy

3.1.1 Information Services

Information Services includes those mission services which provide common situational awareness required to support command and control operations related to the control and management of air traffic.

Figure 3.1.1-I delineates the top level Information Services hierarchy as specified in paragraph 3.1.1.

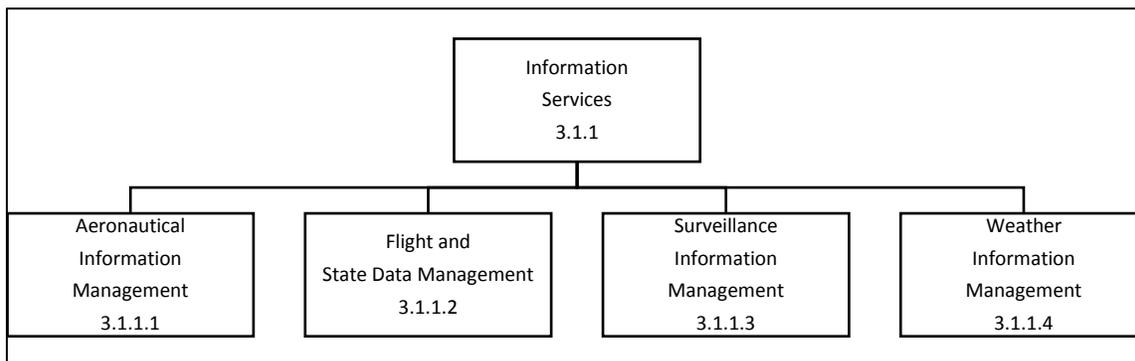


Figure 3.1.1-0-I
Information Services Hierarchy

3.1.1.1 Aeronautical Information Management

Aeronautical Information Management (AIM) is the means to ensure that all stakeholders have access to critical information about system resources, procedures, constraints, and other factors impacting the use of the airspace system. It is the authoritative source for information produced by other functions and external entities. Aeronautical information includes all information concerning airspace and airports (the

structure and status airspace volumes, routes fixes, runways, taxiways, etc.), NAS service information (definition and status of procedures, communications services, navigation services, separation standards, infrastructure components, etc.), terrain and obstacles (identification, location, associated restrictions, and status), and traffic management advisories (airspace restrictions, flow management advisories, traffic management initiatives, flow constraints, etc.).

Table 3.1.1.1- I

Aeronautical Information Management Internal NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.1.1.1	Flow Contingency Management	Aeronautical Information Management	Flow Constraint Advisories
3.1.1.1.1.2	Flow Contingency Management	Aeronautical Information Management	TMI Advisories
3.1.1.1.1.3	Long Term Capacity Management	Aeronautical Information Management	Airport Structures Definition
3.1.1.1.1.4	Long Term Capacity Management	Aeronautical Information Management	Airspace Structures Definition
3.1.1.1.1.5	Long Term Capacity Management	Aeronautical Information Management	Terrain and Obstacle Definitions
3.1.1.1.1.6	Long Term Capacity Management	Aeronautical Information Management	System Information
3.1.1.1.1.7	Short Term Capacity Management	Aeronautical Information Management	Airspace Fix Status
3.1.1.1.1.8	Short Term Capacity Management	Aeronautical Information Management	Airspace Volume Status
3.1.1.1.1.9	Short Term Capacity Management	Aeronautical Information Management	Route Status
3.1.1.1.1.10	Short Term Capacity Management	Aeronautical Information Management	SAA Status
3.1.1.1.1.11	Short Term Capacity Management	Aeronautical Information Management	Airspace Restriction Advisories
3.1.1.1.1.12	Short Term Capacity Management	Aeronautical Information Management	Congestion Advisories
3.1.1.1.1.13	Short Term Capacity Management	Aeronautical Information Management	Route Status Advisories
3.1.1.1.1.14	Short Term Capacity Management	Aeronautical Information Management	Runway Status
3.1.1.1.1.15	Short Term Capacity Management	Aeronautical Information Management	Surface Fix Status
3.1.1.1.1.16	Short Term Capacity Management	Aeronautical Information Management	Taxiway Status
3.1.1.1.1.17	System and Services Management	Aeronautical Information Management	NAS Service Status
3.1.1.1.1.18	System and Services Management	Aeronautical Information Management	NAS Infrastructure Status

Table 3.1.1.1-II

Aeronautical Information Management External NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.1.2.1	Aircraft Flight Management System	Aeronautical Information Management	NOTAM Input
3.1.1.1.2.2	Airport Stakeholder System	Aeronautical Information Management	Airport Operational Status
3.1.1.1.2.3	Airport Stakeholder System	Aeronautical Information Management	Airport Structures Definition
3.1.1.1.2.4	Flight Operator Stakeholder System	Aeronautical Information Management	NOTAM Input
3.1.1.1.2.5	FOC Stakeholder System	Aeronautical Information Management	NOTAM Input
3.1.1.1.2.6	International ATC Stakeholder System	Aeronautical Information Management	Aeronautical Information
3.1.1.1.2.7	Military ATC Stakeholder System	Aeronautical Information Management	NOTAM Input
3.1.1.1.2.8	Military Stakeholder System	Aeronautical Information Management	NOTAM Input
3.1.1.1.2.9	Other Government Agency Stakeholder System	Aeronautical Information Management	NOTAM Input

3.1.1.1.1 The NAS shall process internal NAS Aeronautical Information Management Information Services input data as defined in Table 3.1.1.1-I.

3.1.1.1.2 The NAS shall process external NAS Aeronautical Information Management Information Services input data as defined in Table 3.1.1.1-II.

3.1.1.1.3 The NAS shall process internal NAS Aeronautical Information Management Information Services output data as defined in Table 3.1.1.1-III.

The NAS shall process external NAS Aeronautical Information Management Information Services output data as defined in Table 3.1.1.1-IV.

*3.1.1.1.5 The NAS shall provide airport reference and configuration information to AOCs and FOCs using the AIXM standard.

*3.1.1.1.6 The NAS shall issue digital NOTAMs.

Table 3.1.1.1-III

Aeronautical Information Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.1.3.1	Aeronautical Information Management	Flow Contingency Management	Airspace Status
3.1.1.1.3.2	Aeronautical Information Management	Flow Contingency Management	System Status
3.1.1.1.3.3	Aeronautical Information Management	Flow Contingency Management	Airport Structures Definition
3.1.1.1.3.4	Aeronautical Information Management	Flow Contingency Management	Airport Status
3.1.1.1.3.5	Aeronautical Information Management	Flow Contingency Management	Airspace Structures Definition
3.1.1.1.3.6	Aeronautical Information Management	Flow Contingency Management	System Information
3.1.1.1.3.7	Aeronautical Information Management	Safety Management	Airspace Status
3.1.1.1.3.8	Aeronautical Information Management	Safety Management	Airport Structures Definition
3.1.1.1.3.9	Aeronautical Information Management	Safety Management	Terrain and Obstacle Definitions
3.1.1.1.3.10	Aeronautical Information Management	Safety Management	Airport Status
3.1.1.1.3.11	Aeronautical Information Management	Safety Management	Airspace Structures Definition
3.1.1.1.3.12	Aeronautical Information Management	Safety Management	System Information
3.1.1.1.3.13	Aeronautical Information Management	Separation Management	Airspace Status
3.1.1.1.3.14	Aeronautical Information Management	Separation Management	System Status
3.1.1.1.3.15	Aeronautical Information Management	Separation Management	Airport Structures Definition
3.1.1.1.3.16	Aeronautical Information Management	Separation Management	Terrain and Obstacle Definitions
3.1.1.1.3.17	Aeronautical Information Management	Separation Management	Airport Status
3.1.1.1.3.18	Aeronautical Information Management	Separation Management	Airspace Restriction Advisories
3.1.1.1.3.19	Aeronautical Information Management	Separation Management	Airspace Structures Definition
3.1.1.1.3.20	Aeronautical Information Management	Separation Management	System Information
3.1.1.1.3.21	Aeronautical Information Management	Short Term Capacity Management	Airspace Status
3.1.1.1.3.22	Aeronautical Information Management	Short Term Capacity Management	System Status
3.1.1.1.3.23	Aeronautical Information Management	Short Term Capacity Management	Airport Structures Definition
3.1.1.1.3.24	Aeronautical Information Management	Short Term Capacity Management	Terrain and Obstacle Definitions
3.1.1.1.3.25	Aeronautical Information Management	Short Term Capacity Management	Airport Status
3.1.1.1.3.26	Aeronautical Information Management	Short Term Capacity Management	Traffic Management Advisories
3.1.1.1.3.27	Aeronautical Information Management	Short Term Capacity Management	Airspace Structures Definition
3.1.1.1.3.28	Aeronautical Information Management	Short Term Capacity Management	System Information
3.1.1.1.3.29	Aeronautical Information Management	Surveillance Information Management	Airport Structures Definition
3.1.1.1.3.30	Aeronautical Information Management	Surveillance Information Management	Terrain and Obstacle Definitions

Aeronautical Information Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.1.3.31	Aeronautical Information Management	Surveillance Information Management	Airspace Structures Definition
3.1.1.1.3.32	Aeronautical Information Management	System and Services Analysis	Airspace Status
3.1.1.1.3.33	Aeronautical Information Management	System and Services Analysis	Airport Structures Definition
3.1.1.1.3.34	Aeronautical Information Management	System and Services Analysis	Terrain and Obstacle Definitions
3.1.1.1.3.35	Aeronautical Information Management	System and Services Analysis	Airport Status
3.1.1.1.3.36	Aeronautical Information Management	System and Services Analysis	Airspace Structures Definition
3.1.1.1.3.37	Aeronautical Information Management	Trajectory Management	Airspace Status
3.1.1.1.3.38	Aeronautical Information Management	Trajectory Management	System Status
3.1.1.1.3.39	Aeronautical Information Management	Trajectory Management	Airport Structures Definition
3.1.1.1.3.40	Aeronautical Information Management	Trajectory Management	Terrain and Obstacle Definitions
3.1.1.1.3.41	Aeronautical Information Management	Trajectory Management	Airport Status
3.1.1.1.3.42	Aeronautical Information Management	Trajectory Management	Traffic Management Advisories
3.1.1.1.3.43	Aeronautical Information Management	Trajectory Management	Airspace Structures Definition
3.1.1.1.3.44	Aeronautical Information Management	Trajectory Management	System Information
3.1.1.1.3.45	Aeronautical Information Management	Weather Information Management	Airport Structures Definition
3.1.1.1.3.46	Aeronautical Information Management	Weather Information Management	Airspace Structures Definition
3.1.1.1.3.47	Aeronautical Information Management	System and Services Analysis	System Information

Table 3.1.1.1- IV

Aeronautical Information Management External NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.1.1.4.1	Aeronautical Information Management	Aircraft Flight Management System	Airspace Status
3.1.1.1.4.2	Aeronautical Information Management	Aircraft Flight Management System	Airport Structures Definitions
3.1.1.1.4.3	Aeronautical Information Management	Aircraft Flight Management System	Terrain and Obstacle Definitions
3.1.1.1.4.4	Aeronautical Information Management	Aircraft Flight Management System	Airport Status
3.1.1.1.4.5	Aeronautical Information Management	Aircraft Flight Management System	Traffic Management Advisories
3.1.1.1.4.6	Aeronautical Information Management	Aircraft Flight Management System	NAS Service Status
3.1.1.1.4.7	Aeronautical Information Management	Aircraft Flight Management System	Airspace Structures Definitions
3.1.1.1.4.8	Aeronautical Information Management	Aircraft Flight Management System	System Information
3.1.1.1.4.9	Aeronautical Information Management	3 rd Party Providers Stakeholder System	Aeronautical Information
3.1.1.1.4.10	Aeronautical Information Management	Airport Stakeholder System	System Status
3.1.1.1.4.11	Aeronautical Information Management	Airport Stakeholder System	Flow Constraint Advisories
3.1.1.1.4.12	Aeronautical Information Management	Airport Stakeholder System	System Information
3.1.1.1.4.13	Aeronautical Information Management	Flight Operator Stakeholder System	Airspace Status
3.1.1.1.4.14	Aeronautical Information Management	Flight Operator Stakeholder System	Airport Structures Definition
3.1.1.1.4.15	Aeronautical Information Management	Flight Operator Stakeholder System	Terrain and Obstacle Definitions
3.1.1.1.4.16	Aeronautical Information Management	Flight Operator Stakeholder System	Airport Status
3.1.1.1.4.17	Aeronautical Information Management	Flight Operator Stakeholder System	Traffic Management Advisories
3.1.1.1.4.18	Aeronautical Information Management	Flight Operator Stakeholder System	NAS Service Status
3.1.1.1.4.19	Aeronautical Information Management	Flight Operator Stakeholder System	Airspace Structures Definition
3.1.1.1.4.20	Aeronautical Information Management	Flight Operator Stakeholder System	System Information
3.1.1.1.4.21	Aeronautical Information Management	FOC Stakeholder System	Airspace Status
3.1.1.1.4.22	Aeronautical Information Management	FOC Stakeholder System	System Status
3.1.1.1.4.23	Aeronautical Information Management	FOC Stakeholder System	Airport Structures Definition
3.1.1.1.4.24	Aeronautical Information Management	FOC Stakeholder System	Terrain and Obstacle Definitions
3.1.1.1.4.25	Aeronautical Information Management	FOC Stakeholder System	Airport Status
3.1.1.1.4.26	Aeronautical Information Management	FOC Stakeholder System	Traffic Management Advisories
3.1.1.1.4.27	Aeronautical Information Management	FOC Stakeholder System	Airspace Structures Definition
3.1.1.1.4.28	Aeronautical Information Management	FOC Stakeholder System	System Information
3.1.1.1.4.29	Aeronautical Information Management	International ATC Stakeholder System	Airspace Status
3.1.1.1.4.30	Aeronautical Information Management	International ATC Stakeholder System	Airport Structures Definition

Aeronautical Information Management External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.1.4.31	Aeronautical Information Management	International ATC Stakeholder System	Terrain and Obstacle Definitions
3.1.1.1.4.32	Aeronautical Information Management	International ATC Stakeholder System	Airport Status
3.1.1.1.4.33	Aeronautical Information Management	International ATC Stakeholder System	Traffic Management Advisories
3.1.1.1.4.34	Aeronautical Information Management	International ATC Stakeholder System	NAS Service Status
3.1.1.1.4.35	Aeronautical Information Management	International ATC Stakeholder System	Airspace Structures Definition
3.1.1.1.4.36	Aeronautical Information Management	International ATC Stakeholder System	System Information
3.1.1.1.4.37	Aeronautical Information Management	Military ATC Stakeholder System	Airspace Status
3.1.1.1.4.38	Aeronautical Information Management	Military ATC Stakeholder System	System Status
3.1.1.1.4.39	Aeronautical Information Management	Military ATC Stakeholder System	Airport Structures Definition
3.1.1.1.4.40	Aeronautical Information Management	Military ATC Stakeholder System	Terrain and Obstacle Definitions
3.1.1.1.4.41	Aeronautical Information Management	Military ATC Stakeholder System	Airport Status
3.1.1.1.4.42	Aeronautical Information Management	Military ATC Stakeholder System	Traffic Management Advisories
3.1.1.1.4.43	Aeronautical Information Management	Military ATC Stakeholder System	Airspace Structures Definition
3.1.1.1.4.44	Aeronautical Information Management	Military ATC Stakeholder System	System Information
3.1.1.1.4.45	Aeronautical Information Management	Military Stakeholder System	Airspace Status
3.1.1.1.4.46	Aeronautical Information Management	Military Stakeholder System	System Status
3.1.1.1.4.47	Aeronautical Information Management	Military Stakeholder System	Airport Structures Definition
3.1.1.1.4.48	Aeronautical Information Management	Military Stakeholder System	Terrain and Obstacle Definitions
3.1.1.1.4.49	Aeronautical Information Management	Military Stakeholder System	Airport Status
3.1.1.1.4.50	Aeronautical Information Management	Military Stakeholder System	Traffic Management Advisories
3.1.1.1.4.51	Aeronautical Information Management	Military Stakeholder System	Airspace Structures Definition
3.1.1.1.4.52	Aeronautical Information Management	Military Stakeholder System	System Information
3.1.1.1.4.53	Aeronautical Information Management	Other Government Agency Stakeholder System	Airspace Status
3.1.1.1.4.54	Aeronautical Information Management	Other Government Agency Stakeholder System	System Status
3.1.1.1.4.55	Aeronautical Information Management	Other Government Agency Stakeholder System	Airport Structures Definition
3.1.1.1.4.56	Aeronautical Information Management	Other Government Agency Stakeholder System	Terrain and Obstacle Definitions
3.1.1.1.4.57	Aeronautical Information Management	Other Government Agency Stakeholder System	Airport Status
3.1.1.1.4.58	Aeronautical Information Management	Other Government Agency Stakeholder System	Traffic Management Advisories
3.1.1.1.4.59	Aeronautical Information Management	Other Government Agency Stakeholder System	Airspace Structures Definition
3.1.1.1.4.60	Aeronautical Information Management	Other Government Agency Stakeholder System	System Information

3.1.1.2 Flight & State Data Management

Flight & State Data Management (F&SDM) is the means through which the NAS maintains and distributes all flight information, including, aircraft characteristics and capabilities, flight crew capabilities and authority, flight security profile, flight plans and trajectories (planned and proposed), flow management schedules (arrival, departure, metering), flight status (including flight progress, aircraft systems status, and emergency and security status), clearance delivery status, and which NAS facility and specialist has control of the flight.

Table 3.1.1.2-I

Flight & State Data Management Internal NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.2.1.1	Separation Management	Flight & State Data Management	Flight Status
3.1.1.2.1.2	Separation Management	Flight & State Data Management	Short Term Trajectory Projections
3.1.1.2.1.3	Trajectory Management	Flight & State Data Management	Flight Status
3.1.1.2.1.4	Trajectory Management	Flight & State Data Management	Aircraft Status
3.1.1.2.1.5	Trajectory Management	Flight & State Data Management	Clearance Status
3.1.1.2.1.6	Trajectory Management	Flight & State Data Management	Clearance
3.1.1.2.1.7	Trajectory Management	Flight & State Data Management	Flight Progress
3.1.1.2.1.8	Trajectory Management	Flight & State Data Management	Pending Trajectories
3.1.1.2.1.9	Trajectory Management	Flight & State Data Management	Long Term Trajectory Projections
3.1.1.2.1.10	Trajectory Management	Flight & State Data Management	Proposed Trajectories
3.1.1.2.1.11	Trajectory Management	Flight & State Data Management	Intended Trajectories
3.1.1.2.1.12	Trajectory Management	Flight & State Data Management	Trial Trajectories

Table 3.1.1.2-II

Flight & State Data Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.1.2.2.1	Aircraft Flight Management System	Flight & State Data Management	Aircraft Characteristics
3.1.1.2.2.2	Aircraft Flight Management System	Flight & State Data Management	Flight Objectives
3.1.1.2.2.3	Aircraft Flight Management System	Flight & State Data Management	Pilot Authorization
3.1.1.2.2.4	Aircraft Flight Management System	Flight & State Data Management	Aircraft Capabilities
3.1.1.2.2.5	Aircraft Flight Management System	Flight & State Data Management	Proposed Trajectories
3.1.1.2.2.6	Flight Operator Stakeholder System	Flight & State Data Management	Aircraft Capabilities
3.1.1.2.2.7	Flight Operator Stakeholder System	Flight & State Data Management	Aircraft Characteristics
3.1.1.2.2.8	Flight Operator Stakeholder System	Flight & State Data Management	Flight Objectives
3.1.1.2.2.9	Flight Operator Stakeholder System	Flight & State Data Management	Pilot Authorization
3.1.1.2.2.10	FOC Stakeholder System	Flight & State Data Management	Aircraft Capabilities
3.1.1.2.2.11	FOC Stakeholder System	Flight & State Data Management	Aircraft Characteristics
3.1.1.2.2.12	FOC Stakeholder System	Flight & State Data Management	Flight Objectives
3.1.1.2.2.13	FOC Stakeholder System	Flight & State Data Management	Pilot Authorization
3.1.1.2.2.14	International ATC Stakeholder System	Flight & State Data Management	Flight Information

3.1.1.2.1 The NAS shall process internal NAS Flight & State Data Management Information Service input data as defined in Table 3.1.1.2-I.

3.1.1.2.2 The NAS shall process external NAS Flight & State Data Management Information Service input data as defined in Table 3.1.1.2-II.

3.1.1.2.3 The NAS shall process internal NAS Flight & State Data Management Information Service output data as defined in Table 3.1.1.2-III.

The NAS shall process external NAS Flight & State Data Management Information Service output data as defined in Table 3.1.1.2-IV.

*3.1.1.2.5 The NAS shall receive amended pre-departure routes.

*3.1.1.2.6 The NAS shall send updated pre-departure flight data to air traffic control towers.

*3.1.1.2.7 The NAS shall provide electronic flight data.

*3.1.1.2.8 The NAS shall integrate flight plan information with surface surveillance data.

*3.1.1.2.9 The NAS shall distribute updated flight specific surface flow management data.

*3.1.1.2.10 The NAS shall issue non-voice-based revised departure clearances.

Table 3.1.1.2-III

Flight & State Data Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.2.3.1	Flight & State Data Management	Flow Contingency Management	Flight Assignment to Flow
3.1.1.2.3.2	Flight & State Data Management	Flow Contingency Management	Altitude Reservations
3.1.1.2.3.3	Flight & State Data Management	Flow Contingency Management	Flight Objectives
3.1.1.2.3.4	Flight & State Data Management	Flow Contingency Management	Flight Status
3.1.1.2.3.5	Flight & State Data Management	Flow Contingency Management	Trajectories
3.1.1.2.3.6	Flight & State Data Management	Flow Contingency Management	Flight Operator Information
3.1.1.2.3.7	Flight & State Data Management	Flow Contingency Management	Flow Management Schedules
3.1.1.2.3.8	Flight & State Data Management	Safety Management	Flight Assignment to Flow
3.1.1.2.3.9	Flight & State Data Management	Safety Management	Altitude Reservations
3.1.1.2.3.10	Flight & State Data Management	Safety Management	Flight Objectives
3.1.1.2.3.11	Flight & State Data Management	Safety Management	Flight Status
3.1.1.2.3.12	Flight & State Data Management	Safety Management	Trajectories
3.1.1.2.3.13	Flight & State Data Management	Safety Management	Flight Operator Information
3.1.1.2.3.14	Flight & State Data Management	Safety Management	Flow Management Schedules
3.1.1.2.3.15	Flight & State Data Management	Separation Management	Intended Trajectories
3.1.1.2.3.16	Flight & State Data Management	Separation Management	Flight Objectives
3.1.1.2.3.17	Flight & State Data Management	Separation Management	Aircraft Status
3.1.1.2.3.18	Flight & State Data Management	Separation Management	Clearance Status
3.1.1.2.3.19	Flight & State Data Management	Separation Management	Flight Operator Information
3.1.1.2.3.20	Flight & State Data Management	Short Term Capacity Management	Flight Assignment to Flow
3.1.1.2.3.21	Flight & State Data Management	Short Term Capacity Management	Altitude Reservations
3.1.1.2.3.22	Flight & State Data Management	Short Term Capacity Management	Flight Objectives
3.1.1.2.3.23	Flight & State Data Management	Short Term Capacity Management	Aircraft Status
3.1.1.2.3.24	Flight & State Data Management	Short Term Capacity Management	Trajectories
3.1.1.2.3.25	Flight & State Data Management	Short Term Capacity Management	Flight Operator Information
3.1.1.2.3.26	Flight & State Data Management	Short Term Capacity Management	Flow Management Schedules

Flight & State Data Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.2.3.27	Flight & State Data Management	Surveillance Information Management	Intended Trajectories
3.1.1.2.3.28	Flight & State Data Management	Surveillance Information Management	Flight Objectives
3.1.1.2.3.29	Flight & State Data Management	Surveillance Information Management	Aircraft Characteristics
3.1.1.2.3.30	Flight & State Data Management	Surveillance Information Management	Short Term Trajectory Projections
3.1.1.2.3.31	Flight & State Data Management	System and Services Analysis	Flight Assignment to Flow
3.1.1.2.3.32	Flight & State Data Management	System and Services Analysis	Altitude Reservations
3.1.1.2.3.33	Flight & State Data Management	System and Services Analysis	Flight Objectives
3.1.1.2.3.34	Flight & State Data Management	System and Services Analysis	Flight Status
3.1.1.2.3.35	Flight & State Data Management	System and Services Analysis	Trajectories
3.1.1.2.3.36	Flight & State Data Management	System and Services Analysis	Flight Operator Information
3.1.1.2.3.37	Flight & State Data Management	System and Services Analysis	Flow Management Schedules
3.1.1.2.3.38	Flight & State Data Management	Trajectory Management	Flight Assignment to Flow
3.1.1.2.3.39	Flight & State Data Management	Trajectory Management	Altitude Reservations
3.1.1.2.3.40	Flight & State Data Management	Trajectory Management	Flight Objectives
3.1.1.2.3.41	Flight & State Data Management	Trajectory Management	Flight Status
3.1.1.2.3.42	Flight & State Data Management	Trajectory Management	Trajectories
3.1.1.2.3.43	Flight & State Data Management	Trajectory Management	Flight Operator Information
3.1.1.2.3.44	Flight & State Data Management	Trajectory Management	Flow Management Schedules

Table 3.1.1.2-IV

Flight & State Data Management External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.2.4.1	Flight & State Data Management	Airport Stakeholder System	Projected Trajectories
3.1.1.2.4.2	Flight & State Data Management	Airport Stakeholder System	Flight Objectives
3.1.1.2.4.3	Flight & State Data Management	Airport Stakeholder System	Aircraft Characteristics
3.1.1.2.4.4	Flight & State Data Management	Airport Stakeholder System	Pilot Authorization
3.1.1.2.4.5	Flight & State Data Management	Airport Stakeholder System	Flight Status
3.1.1.2.4.6	Flight & State Data Management	International ATC Stakeholder System	Flight Assignment to Flow
3.1.1.2.4.7	Flight & State Data Management	International ATC Stakeholder System	Altitude Reservations
3.1.1.2.4.8	Flight & State Data Management	International ATC Stakeholder System	Flight Objectives
3.1.1.2.4.9	Flight & State Data Management	International ATC Stakeholder System	Flight Status
3.1.1.2.4.10	Flight & State Data Management	International ATC Stakeholder System	Trajectories
3.1.1.2.4.11	Flight & State Data Management	International ATC Stakeholder System	Flight Operator Information
3.1.1.2.4.12	Flight & State Data Management	International ATC Stakeholder System	Flow Management Schedules
3.1.1.2.4.13	Flight & State Data Management	Military ATC Stakeholder System	Flight Assignment to Flow
3.1.1.2.4.14	Flight & State Data Management	Military ATC Stakeholder System	Altitude Reservations
3.1.1.2.4.15	Flight & State Data Management	Military ATC Stakeholder System	Flight Objectives
3.1.1.2.4.16	Flight & State Data Management	Military ATC Stakeholder System	Flight Status
3.1.1.2.4.17	Flight & State Data Management	Military ATC Stakeholder System	Trajectories
3.1.1.2.4.18	Flight & State Data Management	Military ATC Stakeholder System	Flight Operator Information
3.1.1.2.4.19	Flight & State Data Management	Military ATC Stakeholder System	Flow Management Schedules
3.1.1.2.4.20	Flight & State Data Management	Military Stakeholder System	Flight Objectives
3.1.1.2.4.21	Flight & State Data Management	Military Stakeholder System	Flight Status
3.1.1.2.4.22	Flight & State Data Management	Military Stakeholder System	Trajectories
3.1.1.2.4.23	Flight & State Data Management	Military Stakeholder System	Flight Operator Information
3.1.1.2.4.24	Flight & State Data Management	Other Government Agency Stakeholder System	Flight Assignment to Flow
3.1.1.2.4.25	Flight & State Data Management	Other Government Agency Stakeholder System	Altitude Reservations
3.1.1.2.4.26	Flight & State Data Management	Other Government Agency Stakeholder System	Flight Objectives
3.1.1.2.4.27	Flight & State Data Management	Other Government Agency Stakeholder System	Flight Status
3.1.1.2.4.28	Flight & State Data Management	Other Government Agency Stakeholder System	Trajectories
3.1.1.2.4.29	Flight & State Data Management	Other Government Agency Stakeholder System	Flight Operator Information

3.1.1.3 Surveillance Information Management

Surveillance Information Management (SIM) is the means for collecting and processing raw surveillance information and transforming it into an integrated, comprehensive, and authoritative source for all consumers and service providers. The processing includes correlating surveillance information with flight data to provide continuous identification and tracking of each flight. It also involves the derivation of information from the surveillance data, such as velocity and intent.

Table 3.1.1.3-I

Surveillance Information Management Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.1.3.1.1	Aeronautical Information Management	Surveillance Information Management	Airport Structures Definition
3.1.1.3.1.2	Aeronautical Information Management	Surveillance Information Management	Terrain and Obstacle Definitions
3.1.1.3.1.3	Aeronautical Information Management	Surveillance Information Management	Airspace Structures Definition
3.1.1.3.1.4	Flight & State Data Management	Surveillance Information Management	Intended Trajectories
3.1.1.3.1.5	Flight & State Data Management	Surveillance Information Management	Flight Objectives
3.1.1.3.1.6	Flight & State Data Management	Surveillance Information Management	Aircraft Characteristics
3.1.1.3.1.7	Flight & State Data Management	Surveillance Information Management	Short Term Trajectory Projections
3.1.1.3.1.8	Surveillance Data Collection	Surveillance Information Management	Surveillance Data

Table 3.1.1.3-II

Surveillance Information Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.1.3.2.1	TBD	TBD	TBD

3.1.1.3.1 The NAS shall process internal NAS Surveillance Information Management Information Services input data as defined in Table 3.1.1.3-I.

3.1.1.3.2 The NAS shall process external NAS Surveillance Information Management Information Services input data as defined in Table 3.1.1.3-II.

Note: Paragraph 3.1.1.3.2 and Table 3.1.1.3-II are currently undefined by the Far Term Enterprise Architecture (EA). They are included here as a placeholder for future EA definition and for service interoperability documentation standardization.

3.1.1.3.3 The NAS shall process internal NAS Surveillance Information Management Information Services output data as defined in Table 3.1.1.3-III.

3.1.1.3.4 The NAS shall process external NAS Surveillance Information Management Information Services output data as defined in Table 3.1.1.3-IV.

3.1.1.3.5 The NAS shall track airborne aircraft.

3.1.1.3.6 The NAS shall track ground vehicles.

3.1.1.3.7 The NAS shall integrate surveillance data.

Table 3.1.1.3-III

Surveillance Information Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.3.3.1	Surveillance Information Management	Safety Management	Surveillance Information Airborne
3.1.1.3.3.2	Surveillance Information Management	Safety Management	Surveillance Information Surface
3.1.1.3.3.3	Surveillance Information Management	Separation Management	Surveillance Information Airborne
3.1.1.3.3.4	Surveillance Information Management	Separation Management	Surveillance Information Surface
3.1.1.3.3.5	Surveillance Information Management	System and Services Analysis	Surveillance Information Airborne
3.1.1.3.3.6	Surveillance Information Management	System and Services Analysis	Surveillance Information Surface
3.1.1.3.3.7	Surveillance Information Management	Trajectory Management	Surveillance Information Airborne
3.1.1.3.3.8	Surveillance Information Management	Trajectory Management	Surveillance Information Surface
3.1.1.3.3.9	Surveillance Information Management	Flow Contingency Management	Surveillance Information Integrated
3.1.1.3.3.10	Surveillance Information Management	Safety Management	Surveillance Information Integrated
3.1.1.3.3.11	Surveillance Information Management	System and Services Analysis	Surveillance Information Integrated
3.1.1.3.3.12	Surveillance Information Management	Trajectory Management	Surveillance Information Integrated

Table 3.1.1.3-IV

Surveillance Information Management External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.3.4.1	Surveillance Information Management	Aircraft Flight Management System	Surveillance Information Airborne
3.1.1.3.4.2	Surveillance Information Management	Aircraft Flight Management System	Surveillance Information Surface
3.1.1.3.4.3	Surveillance Information Management	Airport Stakeholder System	Surveillance Information Airborne
3.1.1.3.4.4	Surveillance Information Management	Airport Stakeholder System	Surveillance Information Surface
3.1.1.3.4.5	Surveillance Information Management	Military ATC Stakeholder System	Surveillance Information Airborne
3.1.1.3.4.6	Surveillance Information Management	3 rd Party Providers Stakeholder System	Surveillance Information Integrated
3.1.1.3.4.7	Surveillance Information Management	Airport Stakeholder System	Surveillance Information Integrated
3.1.1.3.4.8	Surveillance Information Management	Flight Operator Stakeholder System	Surveillance Information Integrated
3.1.1.3.4.9	Surveillance Information Management	FOC Stakeholder System	Surveillance Information Integrated
3.1.1.3.4.10	Surveillance Information Management	International ATC Stakeholder System	Surveillance Information Integrated
3.1.1.3.4.11	Surveillance Information Management	Military Stakeholder System	Surveillance Information Integrated
3.1.1.3.4.12	Surveillance Information Management	Other Government Agency Stakeholder System	Surveillance Information Integrated

3.1.1.4 Weather Information Management

Weather Information Management (WIM) is the means for collecting and processing raw weather information and transforming it into an integrated, comprehensive, and authoritative source for all consumers and service providers. The processing includes interpolation between sources to provide complete lateral and vertical coverage, and probabilistic extrapolation from current conditions into the future so as to provide a 4-D representation of the weather situation that can be used for decision making related to the current traffic situation and for planning to accommodate projected demand. It also includes the derivation of products and data that can be applied to decision support tools, support trajectory-based operations, and provide advisories of hazardous weather to consumers.

Table 3.1.1.4-I

Weather Information Management Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.1.4.1.1	Aeronautical Information Management	Weather Information Management	Airport Structures Definition
3.1.1.4.1.2	Aeronautical Information Management	Weather Information Management	Airspace Structures Definition
3.1.1.4.1.3	Weather Data Collection	Weather Information Management	Weather Data Surface
3.1.1.4.1.4	Weather Data Collection	Weather Information Management	Weather Data Radar
3.1.1.4.1.5	Weather Data Collection	Weather Information Management	Weather Data Airborne

Table 3.1.1.4-II

Weather Information Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.1.4.2.1	Aircraft Flight Management System	Weather Information Management	PIREPS
3.1.1.4.2.2	NWS Stakeholder System	Weather Information Management	Authoritative Weather Data
3.1.1.4.2.3	NWS Stakeholder System	Weather Information Management	Weather Products Graphical
3.1.1.4.2.4	NWS Stakeholder System	Weather Information Management	Weather Advisories
3.1.1.4.2.5	Weather Vendor Stakeholder System	Weather Information Management	Commercial Weather Products

- 3.1.1.4.1 The NAS shall process internal NAS Weather Information Management Information Services input data as defined in Table 3.1.1.4-I.
- 3.1.1.4.2 The NAS shall process external NAS Weather Information Management Information Services input data as defined in Table 3.1.1.4-II.
- 3.1.1.4.3 The NAS shall process internal NAS Weather Information Management Information Services output data as defined in Table 3.1.1.4-III.
- 3.1.1.4.4 The NAS shall process external NAS Weather Information Management Information Services output data as defined in Table 3.1.1.4-IV.
- 3.1.1.4.5 The NAS shall integrate weather data.
 - *3.1.1.4.5.1 The NAS shall provide up to 2 hour convective weather forecast predictions.
 - *3.1.1.4.5.2 The NAS shall generate extended 8 hour convective weather forecast predictions accompanied with an identified level of confidence in the forecast.
- 3.1.1.4.6 The NAS shall maintain weather information.

3.1.1.4.7 The NAS shall analyze climate data for strategic planning.

3.1.1.4.8 The NAS shall perform probabilistic forecasting.

3.1.1.4.9 The NAS shall translate weather information.

3.1.1.4.10 The NAS shall generate weather products.

*3.1.1.4.10.1 The NAS shall provide 4-D weather observation with forecast information for specified domain and time frames.

3.1.1.4.11 The NAS shall generate weather advisories.

Table 3.1.1.4-III

Weather Information Management Internal NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.1.4.3.1	Weather Information Management	Safety Management	Weather Conditions
3.1.1.4.3.2	Weather Information Management	Safety Management	Weather Condition Projections
3.1.1.4.3.3	Weather Information Management	Safety Management	Weather Parameters
3.1.1.4.3.4	Weather Information Management	Safety Management	Weather Impact to Airspace
3.1.1.4.3.5	Weather Information Management	Safety Management	Weather Advisories
3.1.1.4.3.6	Weather Information Management	Separation Management	Weather Conditions
3.1.1.4.3.7	Weather Information Management	Separation Management	Weather Condition Projections
3.1.1.4.3.8	Weather Information Management	Separation Management	Weather Parameters
3.1.1.4.3.9	Weather Information Management	Separation Management	Weather Impact to Airspace
3.1.1.4.3.10	Weather Information Management	System and Services Analysis	Weather Conditions
3.1.1.4.3.11	Weather Information Management	System and Services Analysis	Weather Condition Projections
3.1.1.4.3.12	Weather Information Management	System and Services Analysis	Weather Parameters
3.1.1.4.3.13	Weather Information Management	Trajectory Management	Weather Conditions
3.1.1.4.3.14	Weather Information Management	Trajectory Management	Weather Condition Projections
3.1.1.4.3.15	Weather Information Management	Trajectory Management	Weather Parameters
3.1.1.4.3.16	Weather Information Management	Trajectory Management	Weather Impact to Airspace
3.1.1.4.3.17	Weather Information Management	Flow Contingency Management	Weather Impact to Airspace
3.1.1.4.3.18	Weather Information Management	Flow Contingency Management	Weather Conditions
3.1.1.4.3.19	Weather Information Management	Flow Contingency Management	Weather Condition Projections
3.1.1.4.3.20	Weather Information Management	Flow Contingency Management	Weather Parameters
3.1.1.4.3.21	Weather Information Management	Short Term Capacity	Weather Impact to Airspace

Weather Information Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
	Management	Management	
3.1.1.4.3.22	Weather Information Management	Short Term Capacity Management	Weather Conditions
3.1.1.4.3.23	Weather Information Management	Short Term Capacity Management	Weather Condition Projections
3.1.1.4.3.24	Weather Information Management	Short Term Capacity Management	Weather Parameters
3.1.1.4.3.25	Weather Information Management	System and Services Analysis	Weather Impact to Airspace
3.1.1.4.3.26	Weather Information Management	System and Services Analysis	Climate Constraints
3.1.1.4.3.27	Weather Information Management	System and Services Analysis	Weather Advisories
3.1.1.4.3.28	Weather Information Management	System and Services Analysis	Weather Products Area
3.1.1.4.3.29	Weather Information Management	System and Services Analysis	Weather Products Trajectory Based
3.1.1.4.3.30	Weather Information Management	System and Services Analysis	Weather Information
3.1.1.4.3.31	Weather Information Management	Trajectory Management	Projected Winds
3.1.1.4.3.32	Weather Information Management	Safety Management	Weather Impact and Advisories

Table 3.1.1.4-IV

Weather Information Management External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.1.4.4.1	Weather Information Management	Aircraft Flight Management System	Weather Advisories
3.1.1.4.4.2	Weather Information Management	Aircraft Flight Management System	Weather Products Area
3.1.1.4.4.3	Weather Information Management	Aircraft Flight Management System	Weather Products Trajectory Based
3.1.1.4.4.4	Weather Information Management	Aircraft Flight Management System	Weather Conditions
3.1.1.4.4.5	Weather Information Management	Aircraft Flight Management System	Weather Conditions Projections
3.1.1.4.4.6	Weather Information Management	3 rd Party Providers Stakeholder System	Weather Advisories
3.1.1.4.4.7	Weather Information Management	3 rd Party Providers Stakeholder System	Weather Products Area
3.1.1.4.4.8	Weather Information Management	Airport Stakeholder System	Weather Advisories
3.1.1.4.4.9	Weather Information Management	Airport Stakeholder System	Weather Products Area
3.1.1.4.4.10	Weather Information Management	Flight Operator Stakeholder System	Weather Advisories
3.1.1.4.4.11	Weather Information Management	Flight Operator Stakeholder System	Weather Products Area
3.1.1.4.4.12	Weather Information Management	Flight Operator Stakeholder System	Weather Products Trajectory Based
3.1.1.4.4.13	Weather Information Management	FOC Stakeholder System	Weather Advisories
3.1.1.4.4.14	Weather Information Management	FOC Stakeholder System	Weather Products Area
3.1.1.4.4.15	Weather Information Management	FOC Stakeholder System	Weather Products Trajectory Based
3.1.1.4.4.16	Weather Information Management	International ATC Stakeholder System	Weather Advisories
3.1.1.4.4.17	Weather Information Management	International ATC Stakeholder System	Weather Products Area
3.1.1.4.4.18	Weather Information Management	Military ATC Stakeholder System	Weather Advisories
3.1.1.4.4.19	Weather Information Management	Military ATC Stakeholder System	Weather Products Area
3.1.1.4.4.20	Weather Information Management	Military Stakeholder System	Weather Advisories
3.1.1.4.4.21	Weather Information Management	Military Stakeholder System	Weather Products Area
3.1.1.4.4.22	Weather Information Management	NWS Stakeholder System	PIREPS
3.1.1.4.4.23	Weather Information Management	NWS Stakeholder System	Weather Advisories
3.1.1.4.4.24	Weather Information Management	NWS Stakeholder System	Weather Conditions
3.1.1.4.4.25	Weather Information Management	NWS Stakeholder System	Weather Condition Projections
3.1.1.4.4.26	Weather Information Management	NWS Stakeholder System	Weather Parameters
3.1.1.4.4.27	Weather Information Management	NWS Stakeholder System	Weather Advisories NAS

3.1.2 Traffic Services

Traffic Services includes those mission services which provide support for command and control operations related to the control and management of air traffic.

Figure 3.1.2-I delineates the top level Traffic Services hierarchy as specified in paragraph 3.1.2.

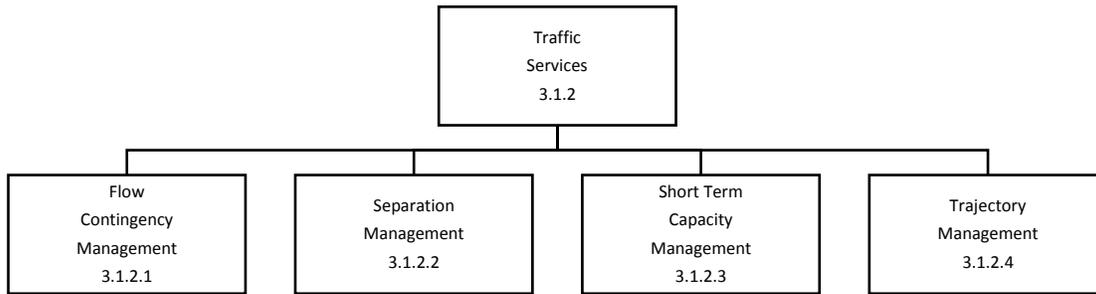


Figure 3.1.2-0-I
Traffic Services Hierarchy

3.1.2.1 Flow Contingency Management

Flow Contingency Management (FCM) comprises strategic flow initiatives addressing large demand/capacity imbalances within CM plans resulting from severe weather or airspace restrictions. FCM ensures the efficient management of major flows of traffic while minimizing the impact on other operations.

Table 3.1.2.1-I

Flow Contingency Management Internal NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.1.1.1	Aeronautical Information Management	Flow Contingency Management	Airspace Status
3.1.2.1.1.2	Aeronautical Information Management	Flow Contingency Management	System Status
3.1.2.1.1.3	Aeronautical Information Management	Flow Contingency Management	Airport Structures Definition
3.1.2.1.1.4	Aeronautical Information Management	Flow Contingency Management	Airport Status
3.1.2.1.1.5	Aeronautical Information Management	Flow Contingency Management	Airspace Structures Definition
3.1.2.1.1.6	Aeronautical Information Management	Flow Contingency Management	System Information
3.1.2.1.1.7	Flight & State Data Management	Flow Contingency Management	Flight Assignment to Flow
3.1.2.1.1.8	Flight & State Data Management	Flow Contingency Management	Altitude Reservations
3.1.2.1.1.9	Flight & State Data Management	Flow Contingency Management	Flight Objectives
3.1.2.1.1.10	Flight & State Data Management	Flow Contingency Management	Flight Status
3.1.2.1.1.11	Flight & State Data Management	Flow Contingency Management	Trajectories
3.1.2.1.1.12	Flight & State Data Management	Flow Contingency Management	Flight Operator Information

Flow Contingency Management Internal NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.1.1.13	Flight and State Data Management	Flow Contingency Management	Flow Management Schedules
3.1.2.1.1.14	Safety Management	Flow Contingency Management	Safety Issues
3.1.2.1.1.15	Short Term Capacity Management	Flow Contingency Management	Capacity Plan Inputs
3.1.2.1.1.16	Short Term Capacity Management	Flow Contingency Management	Capacity Management Plans
3.1.2.1.1.17	Short Term Capacity Management	Flow Contingency Management	Demand Projection
3.1.2.1.1.18	Short Term Capacity Management	Flow Contingency Management	Capacity Analysis Results
3.1.2.1.1.19	Short Term Capacity Management	Flow Contingency Management	Congestion
3.1.2.1.1.20	Surveillance Information Management	Flow Contingency Management	Surveillance Information Integrated
3.1.2.1.1.21	System and Services Management	Flow Contingency Management	External System Status
3.1.2.1.1.22	System and Services Management	Flow Contingency Management	System Status
3.1.2.1.1.23	System and Services Management	Flow Contingency Management	Planned System Outages
3.1.2.1.1.24	Trajectory Management	Flow Contingency Management	Trajectory Impact Analysis
3.1.2.1.1.25	Weather Information Management	Flow Contingency Management	Weather Impact to Airspace
3.1.2.1.1.26	Weather Information Management	Flow Contingency Management	Weather Conditions
3.1.2.1.1.27	Weather Information Management	Flow Contingency Management	Weather Conditions Projections
3.1.2.1.1.28	Weather Information Management	Flow Contingency Management	Weather Parameters

Table 3.1.2.1-II

Flow Contingency Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.2.1.2.1	Airport Stakeholder System	Flow Contingency Management	Flow Management Plan Inputs
3.1.2.1.2.2	Flight Operation Stakeholder System	Flow Contingency Management	Flow Management Plan Inputs
3.1.2.1.2.3	FOC Stakeholder System	Flow Contingency Management	Flow Management Plan Inputs
3.1.2.1.2.4	International ATC Stakeholder System	Flow Contingency Management	Flow Management Plan Inputs

3.1.2.1.1 The NAS shall process internal NAS Flow Contingency Management Traffic Services input data as defined in Table 3.1.2.1-I.

3.1.2.1.2 The NAS shall process external NAS Flow Contingency Management Traffic Services input data as defined in Table 3.1.2.1-II.

3.1.2.1.3 The NAS shall process internal NAS Flow Contingency Management Traffic Services output data as defined in Table 3.1.2.1-III.

3.1.2.1.4 The NAS shall process external NAS Flow Contingency Management Traffic Services output data as defined in Table 3.1.2.1-IV.

3.1.2.1.5 The NAS shall support flow management collaboration.

*3.1.2.1.5.1 The NAS shall generate projected arrival and departure demand runway schedules.

*3.1.2.1.5.2 The NAS shall display projected arrival and departure demand runway schedules.

3.1.2.1.6 The NAS shall assess flow situations.

*3.1.2.1.6.1 The NAS shall model proposed flow strategies that include traffic management initiative and weather impact combinations.

*3.1.2.1.6.2 The NAS shall determine airport acceptance rate forecasts based on airport configuration, weather forecast, separation parameters, and traffic conditions.

*3.1.2.1.6.3 The NAS shall identify potential NAS resource demands based on surface time predictions, metering time predictions, time-out delay times, ICAO flight plan information, and the effects of in-place traffic management initiatives.

*3.1.2.1.6.4 The NAS shall predict flow blockages during the last 90 minutes of flight.

3.1.2.1.7 The NAS shall predict delays.

3.1.2.1.8 The NAS shall predict flow constraint non-conformance.

3.1.2.1.9 The NAS shall identify airspace security issues.

3.1.2.1.10 The NAS shall manage flows.

*3.1.2.1.10.1 The NAS shall plan departure flows by providing strategic insights on integrated traffic, weather, and available airspace capacity within 2 hours of departure.

3.1.2.1.11 The NAS shall manage sequencing plans.

*3.1.2.1.11.1 The NAS shall display real-time arrival flight sequences per runway assignment to the terminal controller.

3.1.2.1.12 The NAS shall generate flow advisories.

Table 3.1.2.1-III

Flow Contingency Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.1.3.1	Flow Contingency Management	Aeronautical Information Management	Flow Constraints Advisories
3.1.2.1.3.2	Flow Contingency Management	Aeronautical Information Management	TMI Advisories
3.1.2.1.3.3	Flow Contingency Management	Safety Management	Flow Management Plans
3.1.2.1.3.4	Flow Contingency Management	Short Term Capacity Management	Flow Management Plans
3.1.2.1.3.5	Flow Contingency Management	System and Services Analysis	Flow Constraint Advisories
3.1.2.1.3.6	Flow Contingency Management	System and Services Analysis	TMI Advisories
3.1.2.1.3.7	Flow Contingency Management	System and Services Analysis	Flow Management Plans
3.1.2.1.3.8	Flow Contingency Management	System and Services Management	Flow Management Plans
3.1.2.1.3.9	Flow Contingency Management	System and Services Management	Flow Management Analysis Results
3.1.2.1.3.10	Flow Contingency Management	System and Services Management	Flow Management Plan Inputs
3.1.2.1.3.11	Flow Contingency Management	Trajectory Management	Flow Management Constraints
3.1.2.1.3.12	Flow Contingency Management	Trajectory Management	Sequencing Plans
3.1.2.1.3.13	Flow Contingency Management	Trajectory Management	Flight Assignment to Flow

Table 3.1.2.1-IV

Flow Contingency Management External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.1.4.1	Flow Contingency Management	Airport Stakeholder System	Flow Management Plans
3.1.2.1.4.2	Flow Contingency Management	Airport Stakeholder System	Flow Management Analysis Results
3.1.2.1.4.3	Flow Contingency Management	Airport Stakeholder System	Flow Management Plan Inputs
3.1.2.1.4.4	Flow Contingency Management	Flight Operator Stakeholder System	Flow Management Plans
3.1.2.1.4.5	Flow Contingency Management	Flight Operator Stakeholder System	Flow Management Analysis Results
3.1.2.1.4.6	Flow Contingency Management	Flight Operator Stakeholder System	Flow Management Plan Inputs
3.1.2.1.4.7	Flow Contingency Management	FOC Stakeholder System	Flow Management Plans
3.1.2.1.4.8	Flow Contingency Management	FOC Stakeholder System	Flow Management Analysis Results
3.1.2.1.4.9	Flow Contingency Management	FOC Stakeholder System	Flow Management Plan Inputs
3.1.2.1.4.10	Flow Contingency Management	International ATC Stakeholder System	Flow Management Plans
3.1.2.1.4.11	Flow Contingency Management	International ATC Stakeholder System	Flow Management Analysis Results
3.1.2.1.4.12	Flow Contingency Management	International ATC Stakeholder System	Flow Management Plan Inputs
3.1.2.1.4.13	Flow Contingency Management	Military Stakeholder System	Flow Management Plans
3.1.2.1.4.14	Flow Contingency Management	Military Stakeholder System	Flow Management Analysis Results
3.1.2.1.4.15	Flow Contingency Management	Military Stakeholder System	Flow Management Plan Inputs
3.1.2.1.4.16	Flow Contingency Management	Other Gov. Agency Stakeholder System	Flow Management Plans
3.1.2.1.4.17	Flow Contingency Management	Other Gov. Agency Stakeholder System	Flow Management Analysis Results
3.1.2.1.4.18	Flow Contingency Management	Other Gov. Agency Stakeholder System	Flow Management Plan Inputs

3.1.2.2 Separation Management

Separation Management (SM) is the tactical response to violations or projected violations of separation standards. It generates tactical variations of flight trajectories to resolve projected conflicts between aircraft, and between an aircraft and an aviation hazard, such as obstacles to flight, restricted airspace, or severe weather. It also generates tactical variations of flight trajectories in response to specific airspace security events.

Table 3.1.2.2-I

Separation Management Internal NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.2.1.1	Aeronautical Information Management	Separation Management	Airspace Status
3.1.2.2.1.2	Aeronautical Information Management	Separation Management	System Status
3.1.2.2.1.3	Aeronautical Information Management	Separation Management	Airport Structures Definition
3.1.2.2.1.4	Aeronautical Information Management	Separation Management	Terrain and Obstacle Definitions
3.1.2.2.1.5	Aeronautical Information Management	Separation Management	Airport Status
3.1.2.2.1.6	Aeronautical Information Management	Separation Management	Airspace Restriction Advisories
3.1.2.2.1.7	Aeronautical Information Management	Separation Management	Airspace Structures Definition
3.1.2.2.1.8	Aeronautical Information Management	Separation Management	System Information
3.1.2.2.1.9	Flight & State Data Management	Separation Management	Intended Trajectories
3.1.2.2.1.10	Flight & State Data Management	Separation Management	Flight Objectives
3.1.2.2.1.11	Flight & State Data Management	Separation Management	Aircraft Status
3.1.2.2.1.12	Flight & State Data Management	Separation Management	Clearance Status
3.1.2.2.1.13	Flight & State Data Management	Separation Management	Flight Operator Information
3.1.2.2.1.14	Surveillance Information Management	Separation Management	Surveillance Information Airborne
3.1.2.2.1.15	Surveillance Information Management	Separation Management	Surveillance Information Surface
3.1.2.2.1.16	Weather Information Management	Separation Management	Weather Conditions
3.1.2.2.1.17	Weather Information Management	Separation Management	Weather Condition Projections
3.1.2.2.1.18	Weather Information Management	Separation Management	Weather Parameters
3.1.2.2.1.19	Weather Information Management	Separation Management	Weather Impact to Airspace

Table 3.1.2.2-II

Separation Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.2.2.1	Aircraft Flight Management System	Separation Management	Aircraft Status

3.1.2.2.1 The NAS shall process internal NAS Separation Management Traffic Services input data as defined in Table 3.1.2.2-I.

3.1.2.2.2 The NAS shall process external NAS Separation Management Traffic Services input data as defined in Table 3.1.2.2-II.

3.1.2.2.3 The NAS shall process internal NAS Separation Management Traffic Services output data as defined in Table 3.1.2.2-III.

3.1.2.2.4 The NAS shall process external NAS Separation Management Traffic Services output data as defined in Table 3.1.2.2-IV.

3.1.2.2.5 The NAS shall project short term trajectories.

3.1.2.2.6 The NAS shall predict separation conflicts.

*3.1.2.2.6.1 The NAS shall issue an alert notification to the en route radar controller indicating a wake turbulence conflict if detected when 3 nm separation procedures are in effect for en route and transitional airspace.

*3.1.2.2.6.2 The NAS shall issue an alert notification to the oceanic controller when a conflict is predicted based on actual surveillance data.

*3.1.2.2.6.3 The NAS shall issue an alert notification to the en route controller when an en route to oceanic transition conflict is predicted.

3.1.2.2.7 The NAS shall detect separation violations.

3.1.2.2.8 The NAS shall assess separation constraints.

*3.1.2.2.8.1 The NAS shall apply pair-wise wake separation standards based on individual aircraft types.

3.1.2.2.9 The NAS shall resolve separation problems.

3.1.2.2.10 The NAS shall detect abnormal flight behavior.

Table 3.1.2.2-III

Separation Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.2.3.1	Separation Management	Flight & State Data Management	Flight Status
3.1.2.2.3.2	Separation Management	Flight & State Data Management	Short Term Trajectory Projections
3.1.2.2.3.3	Separation Management	Safety Management	Flight Status
3.1.2.2.3.4	Separation Management	System and Services Analysis	Flight Status
3.1.2.2.3.5	Separation Management	Trajectory Management	Flight Status
3.1.2.2.3.6	Separation Management	Trajectory Management	Short Term Trajectory Projections

Table 3.1.2.2-IV

Separation Management External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.2.4.1	Separation Management	Aircraft Flight Management System	Clearance

3.1.2.3 Short Term Capacity Management

Short Term Capacity Management (STCM) is the means through which strategic planning is performed for applying available assets to adjust system capacity to meet the demand. It involves the assessment of demand within an operational timeframe, and the allocation of available resources to provide sufficient capacity to meet that demand. It also predicts congestion where capacity cannot be increased sufficiently to meet demand. It works in coordination with Flow Contingency Management to resolve predicted congestion by adjusting airspace and route configurations to match the needs of specific flow initiatives.

Table 3.1.2.3-I

Short Term Capacity Management Internal NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.3.1.1	Aeronautical Information Management	Short Term Capacity Management	Airspace Status
3.1.2.3.1.2	Aeronautical Information Management	Short Term Capacity Management	System Status
3.1.2.3.1.3	Aeronautical Information Management	Short Term Capacity Management	Airport Structures Definition
3.1.2.3.1.4	Aeronautical Information Management	Short Term Capacity Management	Terrain and Obstacle Definitions
3.1.2.3.1.5	Aeronautical Information Management	Short Term Capacity Management	Airport Status
3.1.2.3.1.6	Aeronautical Information Management	Short Term Capacity Management	Traffic Management Advisories
3.1.2.3.1.7	Aeronautical Information Management	Short Term Capacity Management	Airspace Structures Definition
3.1.2.3.1.8	Aeronautical Information Management	Short Term Capacity Management	System Information
3.1.2.3.1.9	Flight & State Data Management	Short Term Capacity Management	Flight Assignment to Flow
3.1.2.3.1.10	Flight & State Data Management	Short Term Capacity Management	Altitude Reservations
3.1.2.3.1.11	Flight & State Data	Short Term Capacity	Flight Objectives

Short Term Capacity Management Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
	Management	Management	
3.1.2.3.1.12	Flight & State Data Management	Short Term Capacity Management	Aircraft Status
3.1.2.3.1.13	Flight & State Data Management	Short Term Capacity Management	Trajectories
3.1.2.3.1.14	Flight & State Data Management	Short Term Capacity Management	Flight Operator Information
3.1.2.3.1.15	Flight & State Data Management	Short Term Capacity Management	Flow Management Schedules
3.1.2.3.1.16	Flow Contingency Management	Short Term Capacity Management	Flow Management Plans
3.1.2.3.1.17	Safety Management	Short Term Capacity Management	Safety Issues
3.1.2.3.1.18	System and Services Management	Short Term Capacity Management	Maintenance Situation Information
3.1.2.3.1.19	System and Services Management	Short Term Capacity Management	External System Status
3.1.2.3.1.20	System and Services Management	Short Term Capacity Management	System Status
3.1.2.3.1.21	System and Services Management	Short Term Capacity Management	Planned System Outages
3.1.2.3.1.22	Weather Information Management	Short Term Capacity Management	Weather Impact to Airspace
3.1.2.3.1.23	Weather Information Management	Short Term Capacity Management	Weather Conditions
3.1.2.3.1.24	Weather Information Management	Short Term Capacity Management	Weather Condition Projections
3.1.2.3.1.25	Weather Information Management	Short Term Capacity Management	Weather Parameters

Table 3.1.2.3-II

Short Term Capacity Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.2.3.2.1	Airport Stakeholder System	Short Term Capacity Management	Capacity Plan Inputs
3.1.2.3.2.2	Flight Operator Stakeholder System	Short Term Capacity Management	Capacity Plan Inputs
3.1.2.3.2.3	FOC Stakeholder System	Short Term Capacity Management	Capacity Plan Inputs
3.1.2.3.2.4	International ATC Stakeholder System	Short Term Capacity Management	Capacity Plan Inputs
3.1.2.3.2.5	Military Stakeholder System	Short Term Capacity Management	Airspace Restrictions Request
3.1.2.3.2.6	Military Stakeholder System	Short Term Capacity Management	Capacity Plan Inputs
3.1.2.3.2.7	Military Stakeholder System	Short Term Capacity Management	SAA Schedule Request
3.1.2.3.2.8	Other Gov. Agency Stakeholder System	Short Term Capacity Management	Airspace Restrictions Request
3.1.2.3.2.9	Other Gov. Agency Stakeholder System	Short Term Capacity Management	Capacity Plan Inputs

3.1.2.3.1 The NAS shall process internal NAS Short Term Capacity Management Traffic Services input data as defined in Table 3.1.2.3-I.

3.1.2.3.2 The NAS shall process external NAS Short Term Capacity Management Traffic Services input data as defined in Table 3.1.2.3-II.

3.1.2.3.3 The NAS shall process internal NAS Short Term Capacity Management Traffic Services output data as defined in Table 3.1.2.3-III.

3.1.2.3.4 The NAS shall process external NAS Short Term Capacity Management Traffic Services output data as defined in Table 3.1.2.3-IV.

3.1.2.3.5 The NAS shall support capacity management collaboration.

3.1.2.3.6 The NAS shall manage airspace restrictions.

3.1.2.3.7 The NAS shall manage SAA.

*3.1.2.3.7.1 The NAS shall predict traffic flow constraints based on the current SAA activation schedule and current airspace configuration information.

*3.1.2.3.7.2 The NAS shall manage adapted SAA Release Areas within en route and oceanic airspace.

*3.1.2.3.7.3 The NAS shall manage Local Activity Airspace within en route airspace.

3.1.2.3.8 The NAS shall manage altitude reservations.

3.1.2.3.9 The NAS shall assess airspace situations.

3.1.2.3.10 The NAS shall manage capacity.

3.1.2.3.11 The NAS shall generate airspace advisories.

Table 3.1.2.3-III

Short Term Capacity Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.3.3.1	Short Term Capacity Management	Aeronautical Information Management	Airspace Fix Status
3.1.2.3.3.2	Short Term Capacity Management	Aeronautical Information Management	Airspace Volume Status
3.1.2.3.3.3	Short Term Capacity Management	Aeronautical Information Management	Route Status
3.1.2.3.3.4	Short Term Capacity Management	Aeronautical Information Management	SAA Status
3.1.2.3.3.5	Short Term Capacity Management	Aeronautical Information Management	Airspace Restriction Advisories
3.1.2.3.3.6	Short Term Capacity Management	Aeronautical Information Management	Congestion Advisories
3.1.2.3.3.7	Short Term Capacity Management	Aeronautical Information Management	Route Status Advisories
3.1.2.3.3.8	Short Term Capacity Management	Aeronautical Information Management	Runway Status

Short Term Capacity Management Internal NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.2.3.3.9	Short Term Capacity Management	Aeronautical Information Management	Surface Fix Status
3.1.2.3.3.10	Short Term Capacity Management	Aeronautical Information Management	Taxiway Status
3.1.2.3.3.11	Short Term Capacity Management	Flow Contingency Management	Capacity Plan Inputs
3.1.2.3.3.12	Short Term Capacity Management	Flow Contingency Management	Capacity Management Plans
3.1.2.3.3.13	Short Term Capacity Management	Flow Contingency Management	Demand Projections
3.1.2.3.3.14	Short Term Capacity Management	Flow Contingency Management	Capacity Analysis Results
3.1.2.3.3.15	Short Term Capacity Management	Flow Contingency Management	Congestion
3.1.2.3.3.16	Short Term Capacity Management	Safety Management	Capacity Plan Inputs
3.1.2.3.3.17	Short Term Capacity Management	Safety Management	Capacity Management Plans
3.1.2.3.3.18	Short Term Capacity Management	Safety Management	Demand Projections
3.1.2.3.3.19	Short Term Capacity Management	Safety Management	Capacity Analysis Results
3.1.2.3.3.20	Short Term Capacity Management	Safety Management	Congestion
3.1.2.3.3.21	Short Term Capacity Management	System and Services Analysis	Capacity Plan Inputs
3.1.2.3.3.22	Short Term Capacity Management	System and Services Analysis	Capacity Management Plans
3.1.2.3.3.23	Short Term Capacity Management	System and Services Analysis	Airspace Volume Status
3.1.2.3.3.24	Short Term Capacity Management	System and Services Analysis	Route Status
3.1.2.3.3.25	Short Term Capacity Management	System and Services Analysis	SAA Status
3.1.2.3.3.26	Short Term Capacity Management	System and Services Analysis	Airspace Restriction Advisories
3.1.2.3.3.27	Short Term Capacity Management	System and Services Analysis	Congestion Advisories
3.1.2.3.3.28	Short Term Capacity Management	System and Services Analysis	Route Status Advisories
3.1.2.3.3.29	Short Term Capacity Management	System and Services Analysis	Runway Status
3.1.2.3.3.30	Short Term Capacity Management	System and Services Analysis	Surface Fix Status
3.1.2.3.3.31	Short Term Capacity Management	System and Services Analysis	Taxiway Status
3.1.2.3.3.32	Short Term Capacity Management	System and Services Analysis	Airspace Fix Status
3.1.2.3.3.33	Short Term Capacity Management	System and Services Analysis	Capacity Plan Inputs
3.1.2.3.3.34	Short Term Capacity Management	System and Services Analysis	Capacity Management Plan
3.1.2.3.3.35	Short Term Capacity Management	System and Services Analysis	Demand Projection
3.1.2.3.3.36	Short Term Capacity Management	System and Services Analysis	Capacity Analysis Results
3.1.2.3.3.37	Short Term Capacity Management	System and Services Analysis	Congestion

Table 3.1.2.3-IV

Short Term Capacity Management External NAS Outputs

Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.2.3.4.1	Short Term Capacity Management	Airport Stakeholder System	Capacity Plan Inputs
3.1.2.3.4.2	Short Term Capacity Management	Airport Stakeholder System	Capacity Plan Inputs
3.1.2.3.4.3	Short Term Capacity Management	Airport Stakeholder System	Demand Projection
3.1.2.3.4.4	Short Term Capacity Management	Airport Stakeholder System	Capacity Analysis Results
3.1.2.3.4.5	Short Term Capacity Management	Airport Stakeholder System	Congestion
3.1.2.3.4.6	Short Term Capacity Management	Flight Operator Stakeholder System	Capacity Plan Inputs
3.1.2.3.4.7	Short Term Capacity Management	Flight Operator Stakeholder System	Capacity Management Plans
3.1.2.3.4.8	Short Term Capacity Management	Flight Operator Stakeholder System	Demand Projection
3.1.2.3.4.9	Short Term Capacity Management	Flight Operator Stakeholder System	Capacity Analysis Results
3.1.2.3.4.10	Short Term Capacity Management	Flight Operator Stakeholder System	Congestion
3.1.2.3.4.11	Short Term Capacity Management	FOC Stakeholder System	Capacity Plan Inputs
3.1.2.3.4.12	Short Term Capacity Management	FOC Stakeholder System	Capacity Management Plans
3.1.2.3.4.13	Short Term Capacity Management	FOC Stakeholder System	Demand Projection
3.1.2.3.4.14	Short Term Capacity Management	FOC Stakeholder System	Capacity Analysis Results
3.1.2.3.4.15	Short Term Capacity Management	FOC Stakeholder System	Congestion
3.1.2.3.4.16	Short Term Capacity Management	International ATC Stakeholder System	Capacity Plan Inputs
3.1.2.3.4.17	Short Term Capacity Management	International ATC Stakeholder System	Capacity Management Plans
3.1.2.3.4.18	Short Term Capacity Management	International ATC Stakeholder System	Demand Projection
3.1.2.3.4.19	Short Term Capacity Management	International ATC Stakeholder System	Capacity Analysis Results
3.1.2.3.4.20	Short Term Capacity Management	International ATC Stakeholder System	Congestion
3.1.2.3.4.21	Short Term Capacity Management	Military Stakeholder System	Airspace Restriction Response
3.1.2.3.4.22	Short Term Capacity Management	Military Stakeholder System	Capacity Plan Inputs
3.1.2.3.4.23	Short Term Capacity Management	Military Stakeholder System	Capacity Management Plans
3.1.2.3.4.24	Short Term Capacity Management	Military Stakeholder System	Demand Projection
3.1.2.3.4.25	Short Term Capacity Management	Military Stakeholder System	Capacity Analysis Results
3.1.2.3.4.26	Short Term Capacity Management	Military Stakeholder System	Airspace Security Event Response
3.1.2.3.4.27	Short Term Capacity Management	Military Stakeholder System	SAA Status
3.1.2.3.4.28	Short Term Capacity Management	Military Stakeholder System	Congestion
3.1.2.3.4.29	Short Term Capacity Management	Military Stakeholder System	Altitude Reservations
3.1.2.3.4.30	Short Term Capacity Management	Other Gov. Agency Stakeholder System	Airspace Restriction Response
3.1.2.3.4.31	Short Term Capacity Management	Other Gov. Agency Stakeholder System	Capacity Plan Inputs
3.1.2.3.4.32	Short Term Capacity	Other Gov. Agency	Capacity Management Plans

Short Term Capacity Management External NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
	Management	Stakeholder System	
3.1.2.3.4.33	Short Term Capacity Management	Other Gov. Agency Stakeholder System	Demand Projection
3.1.2.3.4.34	Short Term Capacity Management	Other Gov. Agency Stakeholder System	Capacity Analysis Results
3.1.2.3.4.35	Short Term Capacity Management	Other Gov. Agency Stakeholder System	SAA Status
3.1.2.3.4.36	Short Term Capacity Management	Other Gov. Agency Stakeholder System	Congestion

3.1.2.4 Trajectory Management

Trajectory Management (TM) is the adjustment of individual aircraft within a flow to provide efficient trajectories, manage complexity, and ensure that conflicts can be safely resolved.

Table 3.1.2.4-I

Trajectory Management Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.2.4.1.1	Aeronautical Information Management	Trajectory Management	Airspace Status
3.1.2.4.1.2	Aeronautical Information Management	Trajectory Management	System Status
3.1.2.4.1.3	Aeronautical Information Management	Trajectory Management	Airport Structures Definition
3.1.2.4.1.4	Aeronautical Information Management	Trajectory Management	Terrain and Obstacles Definitions
3.1.2.4.1.5	Aeronautical Information Management	Trajectory Management	Airport Status
3.1.2.4.1.6	Aeronautical Information Management	Trajectory Management	Traffic Management Advisories
3.1.2.4.1.7	Aeronautical Information Management	Trajectory Management	Airspace Structures Definition
3.1.2.4.1.8	Aeronautical Information Management	Trajectory Management	System Information
3.1.2.4.1.9	Flight & State Data Management	Trajectory Management	Flight Assignment to Flow
3.1.2.4.1.10	Flight & State Data Management	Trajectory Management	Altitude Reservations
3.1.2.4.1.11	Flight & State Data Management	Trajectory Management	Flight Objectives
3.1.2.4.1.12	Flight & State Data Management	Trajectory Management	Flight Status
3.1.2.4.1.13	Flight & State Data Management	Trajectory Management	Trajectories
3.1.2.4.1.14	Flight & State Data Management	Trajectory Management	Flight Operator Information
3.1.2.4.1.15	Flight & State Data Management	Trajectory Management	Flow Management Schedules
3.1.2.4.1.16	Flow Contingency Management	Trajectory Management	Flow Management Constraints
3.1.2.4.1.17	Flow Contingency Management	Trajectory Management	Sequencing Plans
3.1.2.4.1.18	Flow Contingency Management	Trajectory Management	Flight Assignment to Flow
3.1.2.4.1.19	Separation Management	Trajectory Management	Flight Status

Trajectory Management Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.2.4.1.20	Separation Management	Trajectory Management	Short Term Trajectory Projections
3.1.2.4.1.21	Surveillance Information Management	Trajectory Management	Surveillance Information-Airborne
3.1.2.4.1.22	Surveillance Information Management	Trajectory Management	Surveillance Information-Surface
3.1.2.4.1.23	Surveillance Information Management	Trajectory Management	Surveillance Information-Integrated
3.1.2.4.1.24	Weather Information Management	Trajectory Management	Weather Conditions
3.1.2.4.1.25	Weather Information Management	Trajectory Management	Weather Condition Projections
3.1.2.4.1.26	Weather Information Management	Trajectory Management	Weather Parameters
3.1.2.4.1.27	Weather Information Management	Trajectory Management	Weather Impact to Airspace
3.1.2.4.1.28	Weather Information Management	Trajectory Management	Projected Winds

Table 3.1.2.4-II

Trajectory Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.2.4.2.1	Aircraft Flight Management System	Trajectory Management	Proposed Trajectories
3.1.2.4.2.2	Aircraft Flight Management System	Trajectory Management	Response to Trajectory Alternative
3.1.2.4.2.3	Flight Operator Stakeholder System	Trajectory Management	Trajectory Acceptance
3.1.2.4.2.4	Flight Operator Stakeholder System	Trajectory Management	Proposed Trajectories
3.1.2.4.2.5	FOC Stakeholder System	Trajectory Management	Trajectory Acceptance
3.1.2.4.2.6	FOC Stakeholder System	Trajectory Management	Proposed Trajectories

3.1.2.4.1 The NAS shall process internal NAS Trajectory Management Traffic Services input data as defined in Table 3.1.2.4-I.

3.1.2.4.2 The NAS shall process external NAS Trajectory Management Traffic Services input data as defined in Table 3.1.2.4-II.

3.1.2.4.3 The NAS shall process internal NAS Trajectory Management Traffic Services output data as defined in Table 3.1.2.4-III.

3.1.2.4.4 The NAS shall process external NAS Trajectory Management Traffic Services output data as defined in Table 3.1.2.4-IV.

3.1.2.4.5 The NAS shall support trajectory negotiations.

*3.1.2.4.5.1 The NAS shall allow proposed trajectory modification recommendations to meet flow constraints for airborne flights.

*3.1.2.4.5.2 The NAS shall provide airspace users potential traffic conflict information.

*3.1.2.4.5.3 The NAS shall provide airspace users preferred trajectory probability information.

*3.1.2.4.5.4 The NAS shall provide controllers information on alternative clearances that more closely align with an oceanic flight's preferred trajectory.

3.1.2.4.6 The NAS shall project long term trajectories.

3.1.2.4.7 The NAS shall monitor conformance.

3.1.2.4.8 The NAS shall monitor traffic management constraints.

*3.1.2.4.8.1 The NAS shall monitor issued constraints for a flight.

3.1.2.4.9 The NAS shall assess trajectory constraints.

3.1.2.4.10 The NAS shall develop trajectories.

*3.1.2.4.10.1 The NAS shall amend intended flight trajectories.

3.1.2.4.11 The NAS shall assess procedure applicability.

3.1.2.4.12 The NAS shall evaluate trajectories.

*3.1.2.4.12.1 The NAS shall evaluate user requested conflict probe trial plan trajectories using integrated route, altitude and speed menus on the en route radar and data consoles.

The NAS shall derive flow management schedules.

*3.1.2.4.13.1 The NAS shall permit metering use during reroute operations under severe weather conditions.

*3.1.2.4.13.2 The NAS shall permit path stretching to satisfy metering times when the flight is in en route airspace.

*3.1.2.4.13.3 The NAS shall generate arrival runway assignments for each flight in terminal airspace.

*3.1.2.4.13.4 The NAS shall generate arrival runway sequences for each flight in terminal airspace.

*3.1.2.4.13.5 The NAS shall permit modifications to assigned runways and sequences in terminal airspace.

*3.1.2.4.13.6 The NAS shall permit terminal airspace arrival metering.

Table 3.1.2.4-III

Trajectory Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.4.3.1	Trajectory Management	Flight & State Data Management	Flight Status
3.1.2.4.3.2	Trajectory Management	System and Services Analysis	Flight Status
3.1.2.4.3.3	Trajectory Management	Flight & State Data Management	Aircraft Status
3.1.2.4.3.4	Trajectory Management	Flight & State Data Management	Clearance Status
3.1.2.4.3.5	Trajectory Management	Flight & State Data Management	Clearance
3.1.2.4.3.6	Trajectory Management	Flight & State Data Management	Flight Progress
3.1.2.4.3.7	Trajectory Management	Flight & State Data Management	Pending Trajectories
3.1.2.4.3.8	Trajectory Management	Flight & State Data Management	Long Term Trajectory Projections
3.1.2.4.3.9	Trajectory Management	Flight & State Data Management	Proposed Trajectories
3.1.2.4.3.10	Trajectory Management	Flight & State Data Management	Intended Trajectories
3.1.2.4.3.11	Trajectory Management	Flight & State Data Management	Trial Trajectories
3.1.2.4.3.12	Trajectory Management	Flow Contingency Management	Trajectory Impact Analysis

Table 3.1.2.4-IV

Trajectory Management External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.2.4.4.1	Trajectory Management	Aircraft Flight Management System	Trajectory Alternatives
3.1.2.4.4.2	Trajectory Management	Aircraft Flight Management System	Clearance
3.1.2.4.4.3	Trajectory Management	FOC Stakeholder System	Trajectory Alternatives
3.1.2.4.4.4	Trajectory Management	Flight Operator System	Trajectory Alternatives

3.1.3 Mission Support Services

Mission Support Services includes those mission services which provide support for the sustainment and improvement of operational capabilities, and which provide ancillary analytic capabilities in support of command and control.

Figure 3.1.3-I delineates the top level Mission Support Services hierarchy as specified in paragraph 3.1.3.

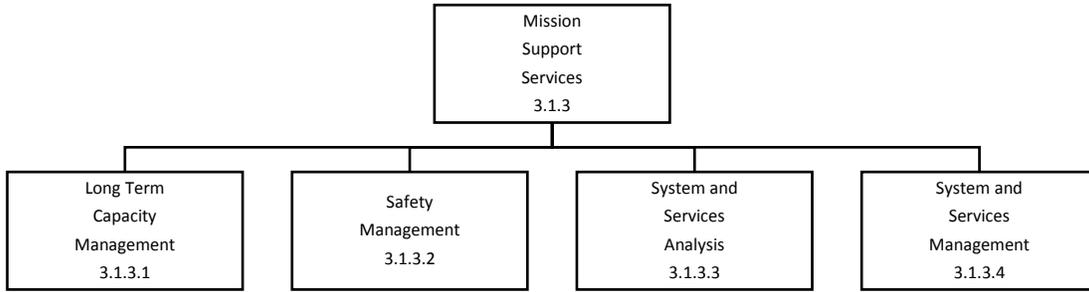


Figure 3.1.3-0-I
Mission Support Services Hierarchy

3.1.3.1 Long Term Capacity Management

Long Term Capacity Management (LTCM) is the means through which new system capacity is generated or developed. It provides the tools that support the management of capacity during operations, including airspace configurations, pre-defined routes and fixes, procedures, airport infrastructure improvements, and staffing structures.

Table 3.1.3.1-I

Long Term Capacity Management Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.1.1.1	Safety Management	Long Term Capacity Management	System Analysis Results
3.1.3.1.1.2	Safety Management	Long Term Capacity Management	Safety Analysis Results
3.1.3.1.1.3	System and Services Analysis	Long Term Capacity Management	Recorded Operational Data
3.1.3.1.1.4	System and Services Analysis	Long Term Capacity Management	Operational Trends
3.1.3.1.1.5	System and Services Analysis	Long Term Capacity Management	Operational Performance Metrics
3.1.3.1.1.6	System and Services Analysis	Long Term Capacity Management	Environmental Impact
3.1.3.1.1.7	System and Services Analysis	Long Term Capacity Management	Airspace Security Analysis Results
3.1.3.1.1.8	System and Services Analysis	Long Term Capacity Management	Analysis Results

Table 3.1.3.1-II

Long Term Capacity Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.1.2.1	3rd Party Providers Stakeholder System	Long Term Capacity Management	Capacity Improvement Inputs
3.1.3.1.2.2	3rd Party Providers Stakeholder System	Long Term Capacity Management	Utilization Forecast
3.1.3.1.2.3	Airport Stakeholder System	Long Term Capacity Management	Capacity Improvement Inputs
3.1.3.1.2.4	Airport Stakeholder System	Long Term Capacity Management	Operational Performance Metrics
3.1.3.1.2.5	Airport Stakeholder System	Long Term Capacity Management	Utilization Forecast
3.1.3.1.2.6	Flight Operator Stakeholder System	Long Term Capacity Management	Consumer Needs
3.1.3.1.2.7	Flight Operator Stakeholder System	Long Term Capacity Management	Utilization Forecast
3.1.3.1.2.8	FOC Stakeholder System	Long Term Capacity Management	Capacity Improvement Inputs
3.1.3.1.2.9	FOC Stakeholder System	Long Term Capacity Management	Consumer Needs
3.1.3.1.2.10	FOC Stakeholder System	Long Term Capacity Management	Utilization Forecast
3.1.3.1.2.11	International ATC Stakeholder System	Long Term Capacity Management	Capacity Improvement Inputs
3.1.3.1.2.12	International ATC Stakeholder System	Long Term Capacity Management	Utilization Forecast
3.1.3.1.2.13	Military Stakeholder System	Long Term Capacity Management	Capacity Improvement Inputs
3.1.3.1.2.14	Military Stakeholder System	Long Term Capacity Management	Operational Trends

Long Term Capacity Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
		Management	
3.1.3.1.2.15	Military Stakeholder System	Long Term Capacity Management	Consumer Needs
3.1.3.1.2.16	Military Stakeholder System	Long Term Capacity Management	Utilization Forecast
3.1.3.1.2.17	Other Gov. Agency Stakeholder System	Long Term Capacity Management	Capacity Improvement Inputs
3.1.3.1.2.18	Other Gov. Agency Stakeholder System	Long Term Capacity Management	Consumer Needs
3.1.3.1.2.19	Other Gov. Agency Stakeholder System	Long Term Capacity Management	Utilization Forecast

- 3.1.3.1.1 The NAS shall process internal NAS Long Term Capacity Management Information Services input data as defined in Table 3.1.3.1-I.
- 3.1.3.1.2 The NAS shall process external NAS Long Term Capacity Management Information Services input data as defined in Table 3.1.3.1-II.
- 3.1.3.1.3 The NAS shall process internal NAS Long Term Capacity Management Information Services output data as defined in Table 3.1.3.1-III.
- 3.1.3.1.4 The NAS shall process external NAS Long Term Capacity Management Information Services output data as defined in Table 3.1.3.1-IV.
- 3.1.3.1.5 The NAS shall support capacity development collaboration.
- 3.1.3.1.6 The NAS shall identify capacity needs.
- 3.1.3.1.7 The NAS shall evaluate obstacles.
- 3.1.3.1.8 The NAS shall develop capacity improvement plans.
- 3.1.3.1.9 The NAS shall develop procedures.
- 3.1.3.1.10 The NAS shall evaluate airspace capacity improvement plans.
- 3.1.3.1.11 The NAS shall generate adaptation data.

Table 3.1.3.1-III

Long Term Capacity Management Internal NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.1.3.1	Long Term Capacity Management	Aeronautical Information Management	Airport Structures Definition
3.1.3.1.3.2	Long Term Capacity Management	Aeronautical Information Management	Airspace Structures Definition
3.1.3.1.3.3	Long Term Capacity Management	Aeronautical Information Management	Terrain and Obstacles Definition
3.1.3.1.3.4	Long Term Capacity Management	Aeronautical Information Management	System Information
3.1.3.1.3.5	Long Term Capacity Management	Safety Management	Capacity Improvement Plans
3.1.3.1.3.6	Long Term Capacity Management	Safety Management	Proposed System Changes
3.1.3.1.3.7	Long Term Capacity Management	System and Services Analysis	Capacity Improvement Plans
3.1.3.1.3.8	Long Term Capacity Management	System and Services Analysis	Capacity Improvement Analysis Results
3.1.3.1.3.9	Long Term Capacity Management	System and Services Analysis	Proposed System Changes

Table 3.1.3.1-IV

Long Term Capacity Management External NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.1.4.1	Long Term Capacity Management	3 rd Party Providers Stakeholder System	Capacity Improvement Plans
3.1.3.1.4.2	Long Term Capacity Management	3 rd Party Providers Stakeholder System	Capacity Improvement Analysis Results
3.1.3.1.4.3	Long Term Capacity Management	3 rd Party Providers Stakeholder System	Proposed System Changes
3.1.3.1.4.4	Long Term Capacity Management	Airport Stakeholder System	Capacity Improvement Plans
3.1.3.1.4.5	Long Term Capacity Management	Airport Stakeholder System	Capacity Improvement Analysis Results
3.1.3.1.4.6	Long Term Capacity Management	Airport Stakeholder System	Proposed System Changes
3.1.3.1.4.7	Long Term Capacity Management	Flight Operator Stakeholder System	Capacity Improvement Plans
3.1.3.1.4.8	Long Term Capacity Management	Flight Operator Stakeholder System	Capacity Improvement Analysis Results
3.1.3.1.4.9	Long Term Capacity Management	Flight Operator Stakeholder System	Proposed System Changes
3.1.3.1.4.10	Long Term Capacity Management	FOC Stakeholder System	Capacity Improvement Plans
3.1.3.1.4.11	Long Term Capacity Management	FOC Stakeholder System	Capacity Improvement Analysis Results
3.1.3.1.4.12	Long Term Capacity Management	FOC Stakeholder System	Proposed System Changes
3.1.3.1.4.13	Long Term Capacity Management	International ATC Stakeholder System	Capacity Improvement Plans
3.1.3.1.4.14	Long Term Capacity Management	International ATC Stakeholder System	Capacity Improvement Analysis Results
3.1.3.1.4.15	Long Term Capacity Management	International ATC Stakeholder System	Proposed System Changes
3.1.3.1.4.16	Long Term Capacity Management	Military Stakeholder System	Capacity Improvement Plans
3.1.3.1.4.17	Long Term Capacity Management	Military Stakeholder System	Capacity Improvement Analysis Results
3.1.3.1.4.18	Long Term Capacity Management	Military Stakeholder System	Proposed System Changes
3.1.3.1.4.19	Long Term Capacity Management	Other Gov Agency	Capacity Improvement Plans

Long Term Capacity Management External NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
	Management	Stakeholder System	
3.1.3.1.4.20	Long Term Capacity Management	Other Gov Agency Stakeholder System	Capacity Improvement Analysis Results
3.1.3.1.4.21	Long Term Capacity Management	Other Gov Agency Stakeholder System	Proposed System Changes

3.1.3.2 Safety Management

Safety Management Service is the means through which safety information is collected, derived from other system data, and analyzed to determine relative risk and appropriate means for mitigation.

Table 3.1.3.2-I

Safety Management Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.2.1.1	Aeronautical Information Management	Safety Management	Airspace Status
3.1.3.2.1.2	Aeronautical Information Management	Safety Management	Airport Structures Definition
3.1.3.2.1.3	Aeronautical Information Management	Safety Management	Terrain and Obstacle Definitions
3.1.3.2.1.4	Aeronautical Information Management	Safety Management	Airport Status
3.1.3.2.1.5	Aeronautical Information Management	Safety Management	Airspace Structures Definition
3.1.3.2.1.6	Aeronautical Information Management	Safety Management	System Information
3.1.3.2.1.7	Flight & State Data Management	Safety Management	Flight Assignment to Flow
3.1.3.2.1.8	Flight & State Data Management	Safety Management	Altitude Reservations
3.1.3.2.1.9	Flight & State Data Management	Safety Management	Flight Objectives
3.1.3.2.1.10	Flight & State Data Management	Safety Management	Flight Status
3.1.3.2.1.11	Flight & State Data Management	Safety Management	Trajectories
3.1.3.2.1.12	Flight & State Data Management	Safety Management	Flight Operator Information
3.1.3.2.1.13	Flight & State Data Management	Safety Management	Flow Management Schedules
3.1.3.2.1.14	Flow Contingency Management	Safety Management	Flow Management Plans
3.1.3.2.1.15	Long Term Capacity Management	Safety Management	Capacity Improvement Plans
3.1.3.2.1.16	Long Term Capacity Management	Safety Management	Proposed System Changes
3.1.3.2.1.17	Separation Management	Safety Management	Flight Status
3.1.3.2.1.18	Short Term Capacity Management	Safety Management	Capacity Plan Inputs
3.1.3.2.1.19	Short Term Capacity Management	Safety Management	Capacity Management Plans
3.1.3.2.1.20	Short Term Capacity Management	Safety Management	Demand Projection
3.1.3.2.1.21	Short Term Capacity Management	Safety Management	Capacity Analysis Results

Safety Management Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.2.1.22	Short Term Capacity Management	Safety Management	Congestion
3.1.3.2.1.23	Surveillance Information Management	Safety Management	Surveillance Information Airborne
3.1.3.2.1.24	Surveillance Information Management	Safety Management	Surveillance Information Surface
3.1.3.2.1.25	Surveillance Information Management	Safety Management	Surveillance Information Integrated
3.1.3.2.1.26	Surveillance Data Collection	Safety Management	Surveillance Data
3.1.3.2.1.27	System & Services Analysis	Safety Management	Recorded Operational Data
3.1.3.2.1.28	System & Services Analysis	Safety Management	Operational Trends
3.1.3.2.1.29	System & Services Analysis	Safety Management	Operational Performance Metrics
3.1.3.2.1.30	System & Services Analysis	Safety Management	Analysis Results
3.1.3.2.1.31	System & Services Management	Safety Management	External System Status
3.1.3.2.1.32	System & Services Management	Safety Management	System Status
3.1.3.2.1.33	System & Services Management	Safety Management	Planned System Outages
3.1.3.2.1.34	Weather Information Management	Safety Management	Weather Conditions
3.1.3.2.1.35	Weather Information Management	Safety Management	Weather Condition Projections
3.1.3.2.1.36	Weather Information Management	Safety Management	Weather Parameters
3.1.3.2.1.37	Weather Information Management	Safety Management	Weather Impact to Airspace
3.1.3.2.1.38	Weather Information Management	Safety Management	Weather Advisories
3.1.3.2.1.39	Weather Information Management	Safety Management	Weather Impact and Advisories

Table VI

Safety Management External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.2.2.1	TBD	TBD	TBD

3.1.3.2.1 The NAS shall process internal NAS Safety Management Information Services input data as defined in Table 3.1.3.2-I.

3.1.3.2.2 The NAS shall process external NAS Safety Management Information Services input data as defined in Table 3.1.3.2-II.

Note: Paragraph 3.1.3.2.2 and Table 3.1.3.2-II are currently undefined by the Far Term Enterprise Architecture (EA). They are included here as a placeholder for future EA definition and for service interoperability documentation standardization.

3.1.3.2.3 The NAS shall process internal NAS Safety Management Information Services output data as defined in Table 3.1.3.2-III.

3.1.3.2.4 The NAS shall process external NAS Safety Management Information Services output data as defined in Table 3.1.3.2-IV.

- 3.1.3.2.5 The NAS shall support safety collaboration.
- 3.1.3.2.6 The NAS shall perform safety analysis.
- 3.1.3.2.7 The NAS shall perform safety monitoring.
- 3.1.3.2.8 The NAS shall manage safety data.

Table 3.1.3.2-III

Safety Management Internal NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.2.3.1	Safety Management	Flow Contingency Management	Safety Issues
3.1.3.2.3.2	Safety Management	Long Term Capacity Management	System Analysis Results
3.1.3.2.3.3	Safety Management	Short Term Capacity Management	Safety Issues
3.1.3.2.3.4	Safety Management	System & Services Analysis	Safety Issues
3.1.3.2.3.5	Safety Management	System & Services Analysis	System Analysis Results
3.1.3.2.3.6	Safety Management	System & Services Management	Safety Issues

Table 3.1.3.2-IV

Safety Management External NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.2.4.1	Safety Management	3rd Party Providers Stakeholder System	Safety Information
3.1.3.2.4.2	Safety Management	Airport Stakeholder System	Safety Information
3.1.3.2.4.3	Safety Management	Flight Operator Stakeholder System	Safety Information
3.1.3.2.4.4	Safety Management	FOC Stakeholder System	Safety Information
3.1.3.2.4.5	Safety Management	International ATC Stakeholder System	Safety Issues
3.1.3.2.4.6	Safety Management	International ATC Stakeholder System	System Analysis Results
3.1.3.2.4.7	Safety Management	Military Stakeholder System	Safety Issues
3.1.3.2.4.8	Safety Management	Military Stakeholder System	System Analysis Results
3.1.3.2.4.9	Safety Management	Other Gov. Agency Stakeholder System	Safety Issues
3.1.3.2.4.10	Safety Management	Other Gov. Agency Stakeholder System	System Analysis Results

3.1.3.3 System and Services Analysis

System & Services Analysis (S&SA) includes both real-time and off-line analysis of information gathered throughout the system and from external entities. It is used to assess system performance and to support investigations of accidents, incidents, and criminal activity. It also includes the recording of operational information (including voice communications) for analysis and archival purposes.

Table 3.1.3.3-I

System and Services Analysis Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange

System and Services Analysis Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.1.4.3.1	Aeronautical Information Management	System & Services Analysis	Airspace Status
3.1.1.4.3.2	Aeronautical Information Management	System & Services Analysis	Airport Structures Definition
3.1.1.4.3.3	Aeronautical Information Management	System & Services Analysis	Terrain and Obstacle Definitions
3.1.1.4.3.4	Aeronautical Information Management	System & Services Analysis	Airport Status
3.1.1.4.3.5	Aeronautical Information Management	System & Services Analysis	Airspace Structures Definition
3.1.3.3.1.1	Aeronautical Information Management	System & Services Analysis	System Information
3.1.3.3.1.2	Flight & State Data Management	System & Services Analysis	Flight Assignment to Flow
3.1.3.3.1.3	Flight & State Data Management	System & Services Analysis	Altitude Reservations
3.1.3.3.1.4	Flight & State Data Management	System & Services Analysis	Flight Objectives
3.1.3.3.1.5	Flight & State Data Management	System & Services Analysis	Flight Status
3.1.3.3.1.6	Flight & State Data Management	System & Services Analysis	Trajectories
3.1.3.3.1.7	Flight & State Data Management	System & Services Analysis	Flight Operator Information
3.1.3.3.1.8	Flight & State Data Management	System & Services Analysis	Flow Management Schedules
3.1.3.3.1.9	Flow Contingency Management	System & Services Analysis	Flow Constraint Advisories
3.1.3.3.1.10	Flow Contingency Management	System & Services Analysis	TMI Advisories
3.1.3.3.1.11	Flow Contingency Management	System & Services Analysis	Flow Management Plans
3.1.3.3.1.12	Long Term Capacity Management	System & Services Analysis	Capacity Improvement Plans
3.1.3.3.1.13	Long Term Capacity Management	System & Services Analysis	Capacity Improvement Analysis Results
3.1.3.3.1.14	Long Term Capacity Management	System & Services Analysis	Proposed System Changes
3.1.3.3.1.15	Navigation Support	System & Services Analysis	Satellite Navigation Correction Information
3.1.3.3.1.16	Safety Management	System & Services Analysis	Safety Issues
3.1.3.3.1.17	Safety Management	System & Services Analysis	System Analysis Results
3.1.3.3.1.18	Separation Management	System & Services Analysis	Flight Status
3.1.3.3.1.19	Short Term Capacity Management	System & Services Analysis	Capacity Plan Inputs
3.1.3.3.1.20	Short Term Capacity Management	System & Services Analysis	Capacity Management Plans
3.1.3.3.1.21	Short Term Capacity Management	System & Services Analysis	Airspace Volume Status
3.1.3.3.1.22	Short Term Capacity Management	System & Services Analysis	Route Status
3.1.3.3.1.23	Short Term Capacity Management	System & Services Analysis	SAA Status
3.1.3.3.1.24	Short Term Capacity Management	System & Services Analysis	Airspace Restriction Advisories
3.1.3.3.1.25	Short Term Capacity Management	System & Services Analysis	Congestion Advisories
3.1.3.3.1.26	Short Term Capacity Management	System & Services Analysis	Route Status Advisories
3.1.3.3.1.27	Short Term Capacity Management	System & Services Analysis	Runway Status
3.1.3.3.1.28	Short Term Capacity	System & Services Analysis	Surface Fix Status

System and Services Analysis Internal NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
	Management		
3.1.3.3.1.29	Short Term Capacity Management	System & Services Analysis	Taxiway Status
3.1.3.3.1.30	Short Term Capacity Management	System & Services Analysis	Airspace Fix Status
3.1.3.3.1.31	Surveillance Information Management	System & Services Analysis	Surveillance Information Airborne
3.1.3.3.1.32	Surveillance Information Management	System & Services Analysis	Surveillance Information Surface
3.1.3.3.1.33	Surveillance Information Management	System & Services Analysis	Surveillance Information Integrated
3.1.3.3.1.34	Surveillance Data Collection	System & Services Analysis	Surveillance Data
3.1.3.3.1.35	System & Services Management	System & Services Analysis	External System Status
3.1.3.3.1.36	System & Services Management	System & Services Analysis	System Metrics
3.1.3.3.1.37	System & Services Management	System & Services Analysis	System Status
3.1.3.3.1.38	System & Services Management	System & Services Analysis	Planned System Outages
3.1.3.3.1.39	Trajectory Management	System & Services Analysis	Flight Status
3.1.3.3.1.40	Weather Information Management	System & Services Analysis	Weather Conditions
3.1.3.3.1.41	Weather Information Management	System & Services Analysis	Weather Condition Projections
3.1.3.3.1.42	Weather Information Management	System & Services Analysis	Weather Parameters
3.1.3.3.1.43	Weather Information Management	System & Services Analysis	Weather Impact to Airspace
3.1.3.3.1.44	Weather Information Management	System & Services Analysis	Climate Constraints
3.1.3.3.1.45	Weather Information Management	System & Services Analysis	Weather Advisories
3.1.3.3.1.46	Weather Information Management	System & Services Analysis	Weather Products Area
3.1.3.3.1.47	Weather Information Management	System & Services Analysis	Weather Products Trajectory Based
3.1.3.3.1.48	Weather Information Management	System & Services Analysis	Weather Information
3.1.3.3.1.49	Weather Data Collection	System & Services Analysis	Weather Data Airborne
3.1.3.3.1.50	Weather Data Collection	System & Services Analysis	Weather Data Surface
3.1.3.3.1.51	Weather Data Collection	System & Services Analysis	Weather Data Radar

Table 3.1.3.3-II

System and Services Analysis External NAS Inputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.3.2.1	Military ATC Stakeholder System	System & Services Analysis	Recorded Operational Data

3.1.3.3.1 The NAS shall process internal NAS System and Services Analysis Information Services input data as defined in Table 3.1.3.3-I.

3.1.3.3.2 The NAS shall process external NAS System and Services Analysis Information Services input data as defined in Table 3.1.3.3-II.

3.1.3.3.3 The NAS shall process internal NAS System and Services Analysis Information Services output data as defined in Table 3.1.3.3-III.

3.1.3.3.4 The NAS shall process external NAS System and Services Analysis Information Services output data as defined in Table 3.1.3.3-IV.

3.1.3.3.5 The NAS shall manage post operations data.

3.1.3.3.6 The NAS shall perform operational analysis.

3.1.3.3.7 The NAS shall perform operational modeling.

Table 3.1.3.3-III

System and Services Analysis Internal NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.3.3.1	System and Services Analysis	Long Term Capacity Management	Recorded Operational Data
3.1.3.3.3.2	System and Services Analysis	Long Term Capacity Management	Operational Trends
3.1.3.3.3.3	System and Services Analysis	Long Term Capacity Management	Operational Performance Metrics
3.1.3.3.3.4	System and Services Analysis	Long Term Capacity Management	Environmental Impact
3.1.3.3.3.5	System and Services Analysis	Long Term Capacity Management	Airspace Security Analysis Results
3.1.3.3.3.6	System and Services Analysis	Long Term Capacity Management	Analysis Results
3.1.3.3.3.7	System and Services Analysis	Safety Management	Recorded Operational Data
3.1.3.3.3.8	System and Services Analysis	Safety Management	Operational Trends
3.1.3.3.3.9	System and Services Analysis	Safety Management	Operational Performance Metrics
3.1.3.3.3.10	System and Services Analysis	Safety Management	Analysis Results

Table 3.1.3.3-IV

System and Services Analysis External NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.1.3.3.4.1	System and Services Analysis	Military Stakeholder System	Recorded Information
3.1.3.3.4.2	System and Services Analysis	Other Gov. Agency Stakeholder System	Recorded Information

3.1.3.4 System and Services Management

System & Services Management (S&SM) represents the enterprise-wide maintenance and system management function. It monitors the health of all system elements, identifies the impact of system issues on operational services, responds to failures and degradations of service, and provides logistics and preventative maintenance support to minimize system outages and degradation of services. It also monitors the health of external entities critical to the success of collaborative operations.

Table 3.1.3.4-I

System and Services Management Internal NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.3.4.1.1	Flow Contingency Management	System & Services Management	Flow Management Plans
3.1.3.4.1.2	Flow Contingency Management	System & Services Management	Flow Management Analysis Results
3.1.3.4.1.3	Flow Contingency Management	System & Services Management	Flow Management Plan Inputs
3.1.3.4.1.4	Navigation Support	System & Services Management	Satellite Navigation Correction Information
3.1.3.4.1.5	Safety Management	System & Services Management	Safety Issues
3.1.3.4.1.6	Short Term Capacity Management	System & Services Management	Capacity Plan Inputs
3.1.3.4.1.7	Short Term Capacity Management	System & Services Management	Capacity Management Plans
3.1.3.4.1.8	Short Term Capacity Management	System & Services Management	Demand Projection
3.1.3.4.1.9	Short Term Capacity Management	System & Services Management	Capacity Analysis Results
3.1.3.4.1.10	Short Term Capacity Management	System & Services Management	Congestion

Table 3.1.3.4-II

System and Services Management External NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.3.4.2.1	Aircraft Flight Management System	System & Services Management	External System Status
3.1.3.4.2.2	Airport Stakeholder System	System & Services Management	External System Status
3.1.3.4.2.3	FOC Stakeholder System	System & Services Management	External System Status
3.1.3.4.2.4	International ATC Stakeholder System	System & Services Management	External System Status
3.1.3.4.2.5	Military ATC Stakeholder System	System & Services Management	External System Status
3.1.3.4.2.6	NWS Stakeholder System	System & Services Management	External System Status
3.1.3.4.2.7	Weather Vendor Stakeholder System	System & Services Management	External System Status

3.1.3.4.1 The NAS shall process internal NAS System and Services Management Information Services input data as defined in Table 3.1.3.4-I.

3.1.3.4.2 The NAS shall process external NAS System and Services Management Information Services input data as defined in Table 3.1.3.4-II.

3.1.3.4.3 The NAS shall process internal NAS System and Services Management Information Services output data as defined in Table 3.1.3.4-III.

3.1.3.4.4 The NAS shall process external NAS System and Services Management Information Services output data as defined in Table 3.1.3.4-IV.

Note: *Paragraph 3.1.3.4.4 and Table 3.1.3.4-IV are currently undefined by the Far Term Enterprise Architecture (EA). They are included here as a placeholder for future EA definition and for service interoperability documentation standardization.*

- 3.1.3.4.5 The NAS shall support maintenance collaboration.
- 3.1.3.4.6 The NAS shall monitor service status.
- 3.1.3.4.7 The NAS shall reconfigure systems.
- 3.1.3.4.8 The NAS shall adjust system parameters.

Table 3.1.3.4-III

System and Services Management Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.3.4.3.1	System and Services Management	Aeronautical Information Management	NAS Service Status
3.1.3.4.3.2	System and Services Management	Aeronautical Information Management	NAS Infrastructure Status
3.1.3.4.3.3	System and Services Management	Flow Contingency Management	External System Status
3.1.3.4.3.4	System and Services Management	Flow Contingency Management	System Status
3.1.3.4.3.5	System and Services Management	Flow Contingency Management	Planned System Outages
3.1.3.4.3.6	System and Services Management	Safety Management	External System Status
3.1.3.4.3.7	System and Services Management	Safety Management	System Status
3.1.3.4.3.8	System and Services Management	Safety Management	Planned System Outages
3.1.3.4.3.9	System and Services Management	Short Term Capacity Management	Maintenance Situation Information
3.1.3.4.3.10	System and Services Management	Short Term Capacity Management	External System Status
3.1.3.4.3.11	System and Services Management	Short Term Capacity Management	System Status
3.1.3.4.3.12	System and Services Management	Short Term Capacity Management	Planned System Outages
3.1.3.4.3.13	System and Services Management	System & Services Analysis	External System Status
3.1.3.4.3.14	System and Services Management	System & Services Analysis	System Metrics
3.1.3.4.3.15	System and Services Management	System & Services Analysis	System Status
3.1.3.4.3.16	System and Services Management	System & Services Analysis	Planned System Outages

Table 3.1.3.4-IV

System and Services Management External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.1.3.4.4.1	TBD	TBD	TBD

3.2 Support Services

Note: Paragraph 3.2 is currently undefined by the Far Term Enterprise Architecture (EA). Support Services are included here as a placeholder for future EA definition and for document standardization.

Figure 3.2-I delineates the top level Support Services hierarchy as specified in paragraph 3.2.

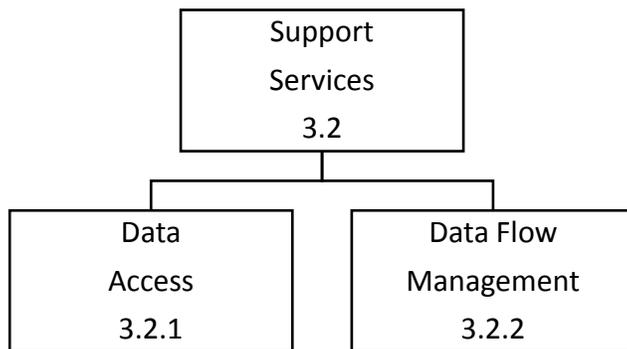


Figure 3.2-0-I
Support Services Hierarchy

3.2.1 Data Access

Figure 3.2.1-I delineates the top level Data Access Support Services hierarchy as specified in paragraph 3.2.1.

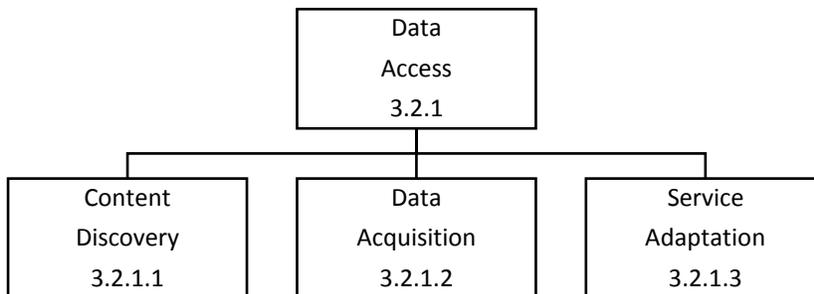


Figure 3.2.1-0-I
Data Access Hierarchy

3.2.1.1 Content Discovery

TBD.

3.2.1.2 Data Acquisition

TBD.

3.2.1.3 Service Adaptation

TBD.

3.2.2 Data Flow Management Services

Figure 3.2.2-I delineates the top level Data Flow Management Support Services hierarchy as specified in paragraph 3.2.2.

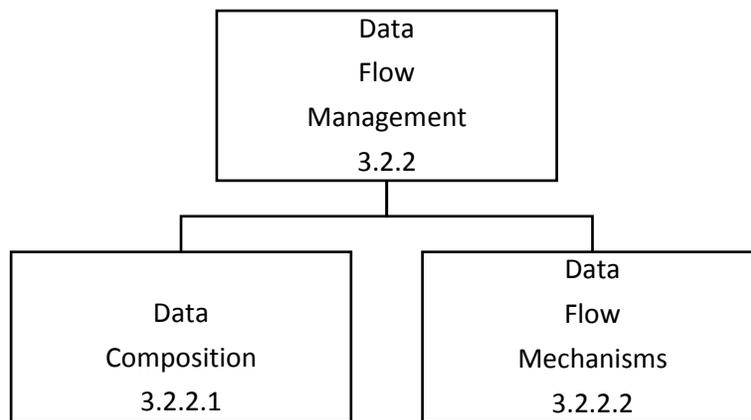


Figure 3.2.2-0-I
Data Flow Management Services Hierarchy

3.2.2.1 Data Composition

TBD.

3.2.2.2 Data Flow Mechanisms

TBD.

3.3 SOA Core Services

Note: Paragraph 3.3 is currently undefined by the Far Term Enterprise Architecture (EA). Core Services are included here as a placeholder for future EA definition and for document standardization.

Figure 3.3-I delineates the top level SOA Core Services hierarchy as specified in paragraph 3.3.

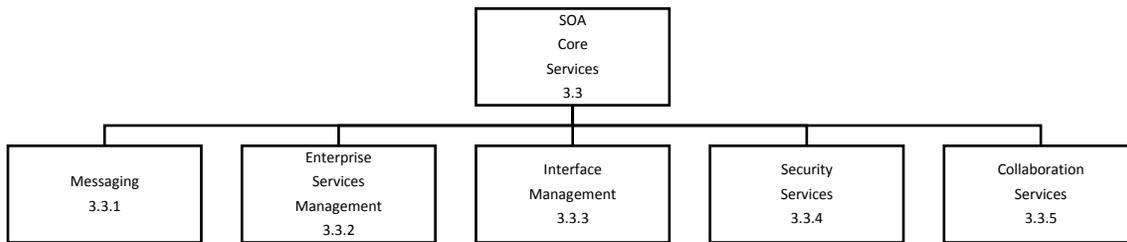


Figure 3.3-0-I
SOA Core Services Hierarchy

3.3.1 Messaging Services

Figure 3.3.1-I delineates the top level Messaging hierarchy as specified in paragraph 3.3.1.

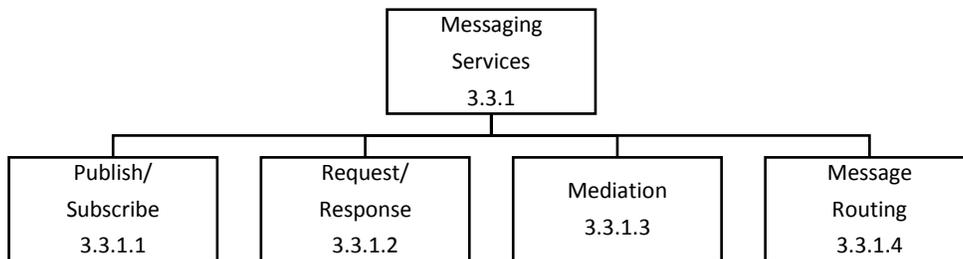


Figure 3.3.1-0-I
Messaging Services Hierarchy

3.3.1.1 Publish/Subscribe

TBD.

3.3.1.2 Request/Response

TBD.

3.3.1.3 Mediation

TBD.

3.3.1.4 Message Routing

TBD.

3.3.2 Enterprise Service Management

Figure 3.3.2-I delineates the top level Enterprise Service Management hierarchy as specified in paragraph 3.3.2.

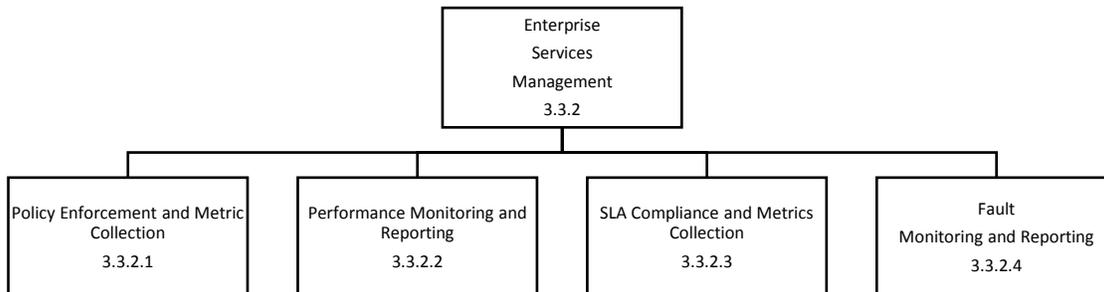


Figure 3.3.2-0-I
Enterprise Service Management Hierarchy

3.3.2.1 Policy Enforcement and Metric Collection

TBD.

3.3.2.2 Performance Monitoring and Reporting

TBD.

3.3.2.3 SLA Compliance and Metrics Collection

TBD.

3.3.2.4 Fault Monitoring and Reporting

TBD.

3.3.3 Interface Management

Figure 3.3.3-I delineates the top level Interface Management hierarchy as specified in paragraph 3.3.3.

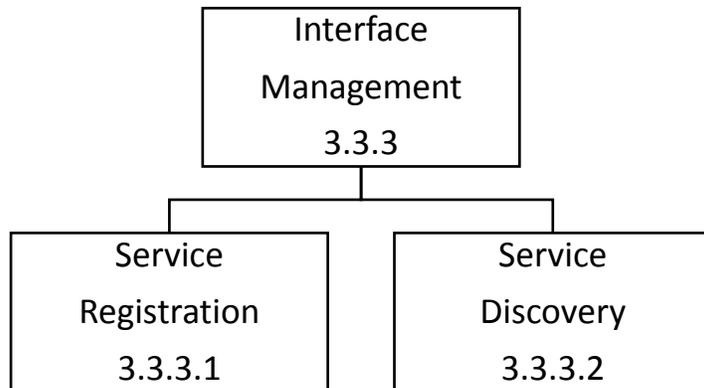


Figure 3.3.3-0-1
Interface Management Hierarchy

3.3.3.1 Service Registration

TBD.

3.3.3.2 Service Discovery

TBD.

3.3.4 Security Services

Figure 3.3.4-1 delineates the top level Security Services hierarchy as specified in paragraph 3.3.4.

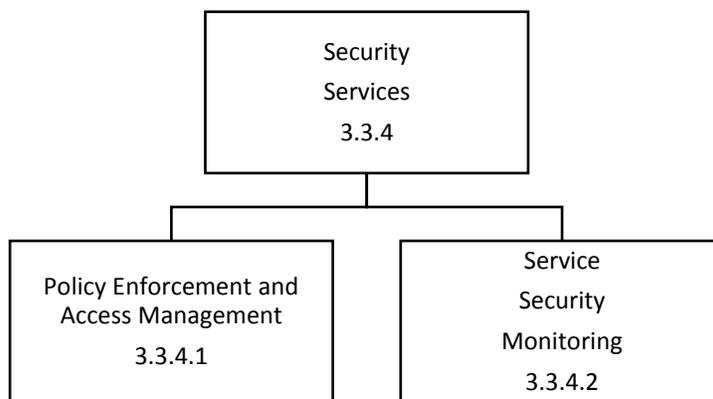


Figure 3.3.4-0-1
Security Services Hierarchy

3.3.4.1 Policy Enforcement and Access Management

TBD.

3.3.4.2 Service Security Monitoring

TBD.

3.3.5 Collaboration Services

Figure 3.3.5-I delineates the top level Collaboration Services hierarchy as specified in paragraph 3.3.5.

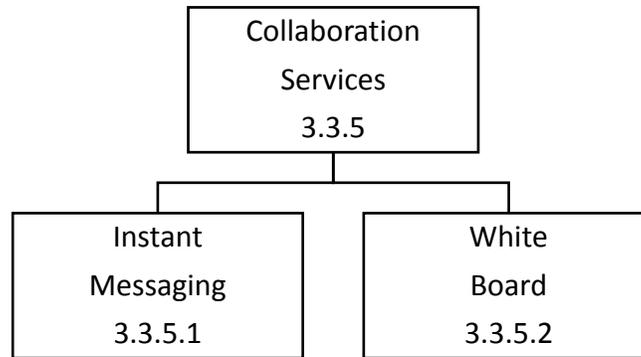


Figure 3.3.5-0-I
Collaboration Services Hierarchy

3.3.5.1 Instant Messaging

TBD.

3.3.5.2 White Board

TBD.

3.4 Administrative Services

Note: Paragraph 3.4 is currently undefined by the Far Term Enterprise Architecture (EA). Administrative Services are included here as a placeholder for future EA definition and for document standardization.

Figure 3.4-I delineates the top level Administrative Services hierarchy as specified in paragraph 3.4.

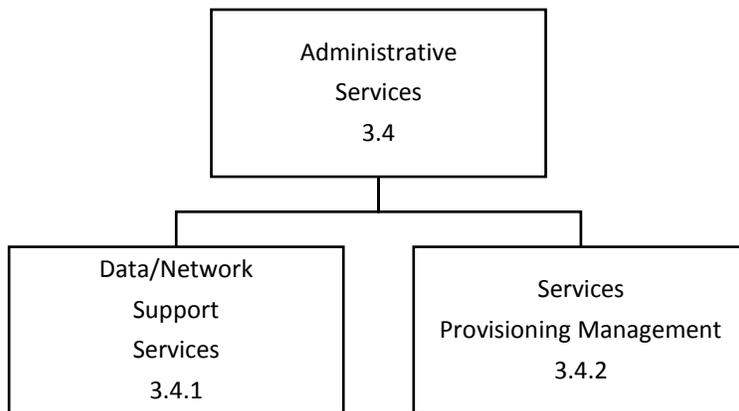


Figure 3.4-0-I
Administrative Services Hierarchy

3.4.1 Data/Network Support Services

Figure 3.4.1-I delineates the top level Data/Network Support Services hierarchy as specified in paragraph 3.4.1.

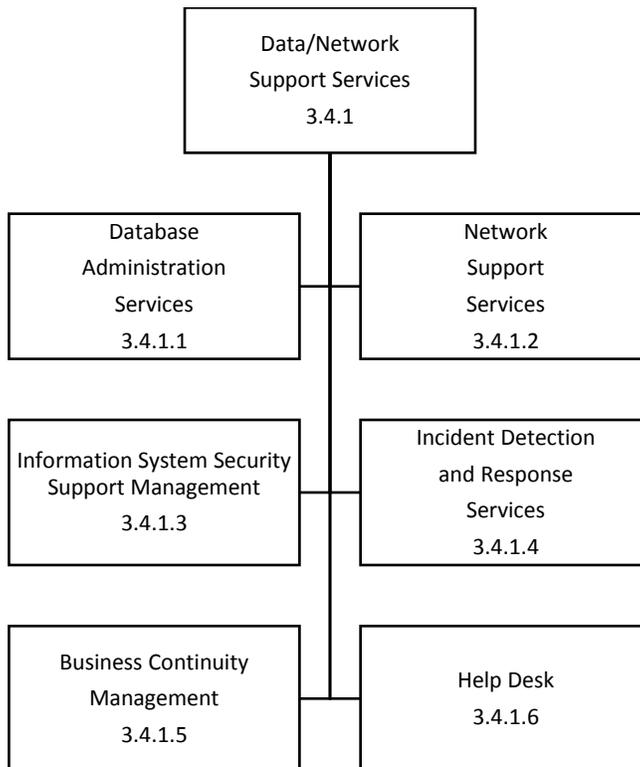


Figure 3.4.1-0-I
Data/Network Support Services Hierarchy

3.4.1.1 Database Administration Services

TBD.

3.4.1.2 Network Support Services

TBD.

3.4.1.3 Information System Security Support Management

TBD.

3.4.1.4 Incident Detection and Response Services

TBD.

3.4.1.5 Business Continuity Management

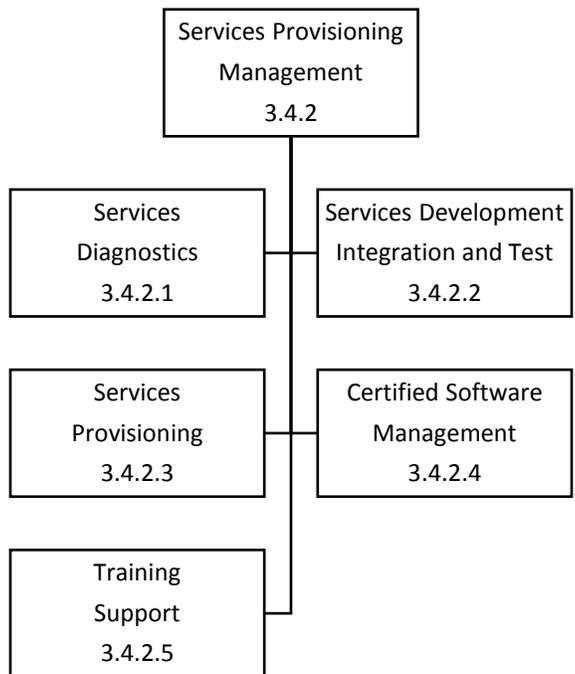
TBD.

3.4.1.6 Help Desk

TBD.

3.4.2 Services Provisioning Management Administrative Services

Figure 3.4.2-I delineates the top level Services Provisioning Management Administrative Services hierarchy as specified in paragraph 3.4.2.



**Figure 3.4.2-0-I
Services Provisioning Management Hierarchy**

3.4.2.1 Services Diagnostics

TBD.

3.4.2.2 Services Development Integration and Test

TBD.

3.4.2.3 Services Provisioning

TBD.

3.4.2.4 Certified Software Management

TBD.

3.4.2.5 Training Support

TBD.

3.5 Enterprise Governance

Note: Paragraph 3.5 is currently undefined by the Far Term Enterprise Architecture (EA). Enterprise Governance is included here as a placeholder for future EA definition and for document standardization.

Figure 3.5-I delineates the top level Enterprise Governance hierarchy as specified in paragraph 3.5.

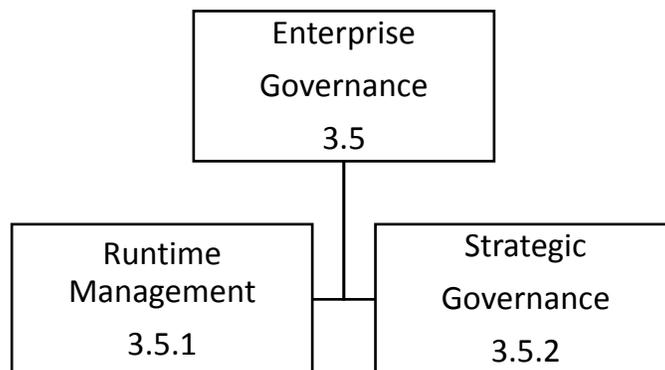


Figure 3.5-0-I
Enterprise Governance Hierarchy

3.5.1 Runtime Management Enterprise Governance

Figure 3.5.1-I delineates the top level Runtime Management hierarchy as specified in paragraph 3.5.1.

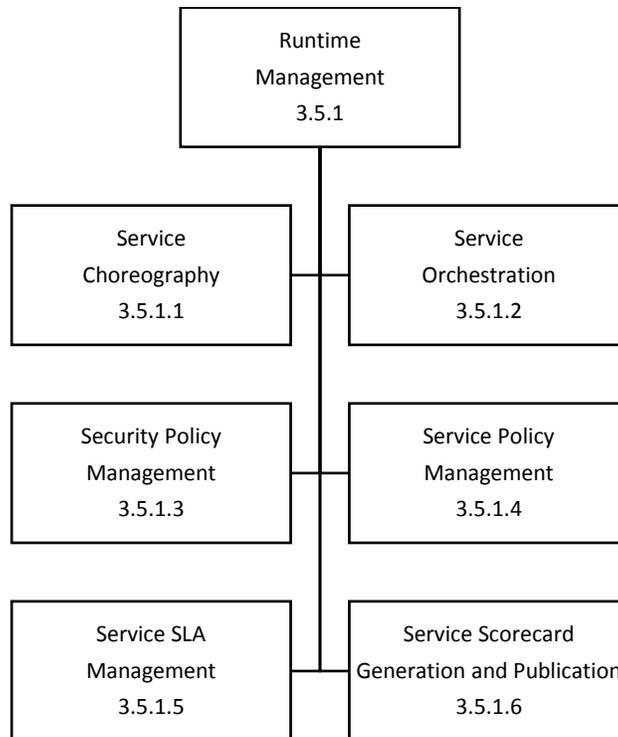


Figure 3.5.1-0-I
Runtime Management Hierarchy

3.5.1.1 Service Choreography

TBD.

3.5.1.2 Service Orchestration

TBD.

3.5.1.3 Security Policy Management

TBD.

3.5.1.4 Service Policy Management

TBD.

3.5.1.5 Service SLA Management

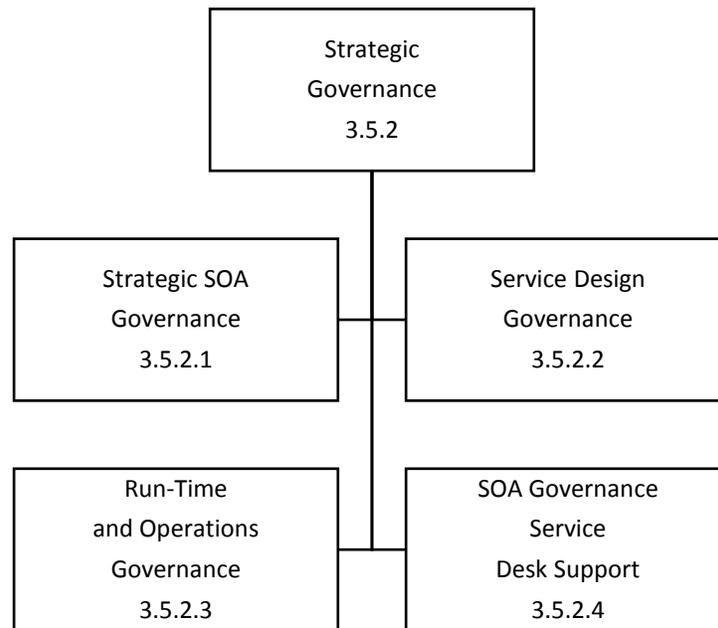
TBD.

3.5.1.6 Service Scorecard Generation and Publication

TBD.

3.5.2 Strategic Governance

Figure 3.5.2-I delineates the top level Strategic Governance hierarchy as specified in paragraph 3.5.2.



**Figure 3.5.2-0-1
Strategic Governance Hierarchy**

3.5.2.1 Strategic SOA Governance

TBD.

3.5.2.2 Service Design Governance

TBD.

3.5.2.3 Run-Time and Operations Governance

TBD.

3.5.2.4 SOA Governance Service Desk Support

TBD.

3.6 Technical Infrastructure Services

Note: Paragraphs 3.6.9 through 3.6.11 are defined by the current Far Term Enterprise Architecture (EA). The remainder of Technical Infrastructure Service is included here as a placeholder for future EA definition and for document standardization.

Figure 3.6-1 delineates the top level Technical Infrastructure Services hierarchy as specified in paragraph 3.6.

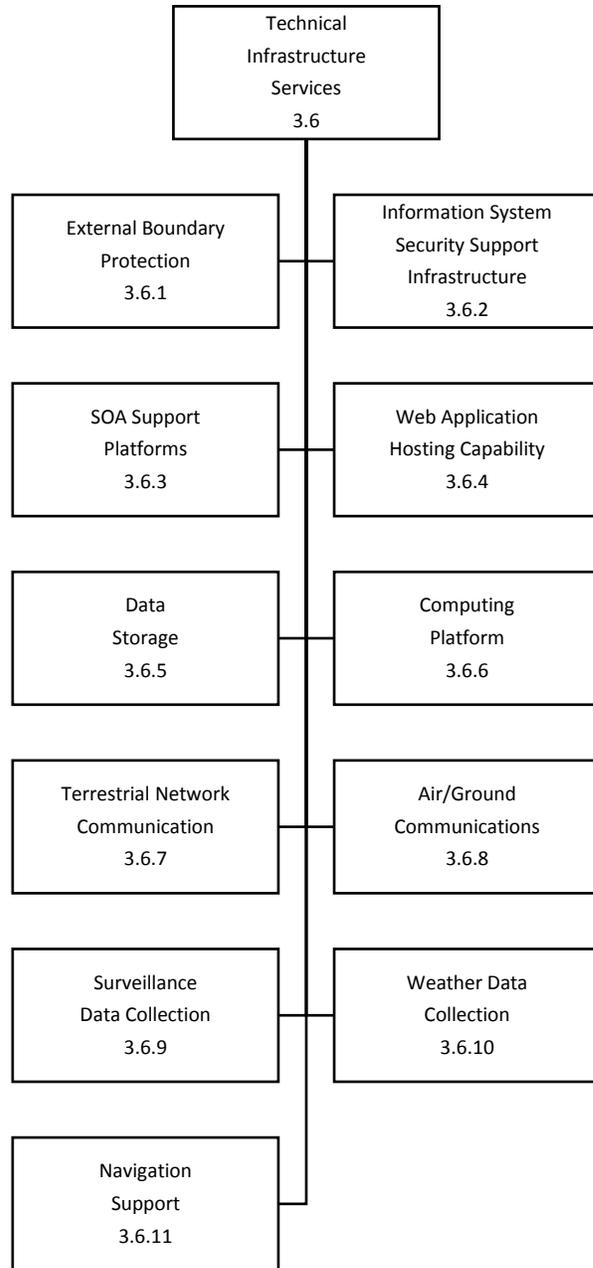


Figure 3.6-0-I
Technical Infrastructure Services Hierarchy

3.6.1 External Boundary Protection

TBD.

3.6.2 Information System Security Support

TBD.

3.6.3 SOA Support Platforms

TBD.

3.6.4 Web Application Hosting Capability

TBD.

3.6.5 Data Storage

TBD.

3.6.6 Computing Platform

TBD.

3.6.7 Terrestrial Network Communications

TBD.

3.6.8 Air/Ground Communication

TBD.

3.6.9 Surveillance Data Collection

Includes functions required for collecting and distributing raw surveillance information for both airborne aircraft and ground vehicles.

Table 3.6.9-I

Surveillance Data Collection Internal NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.9.1.1	TBD	TBD	TBD

Table 3.6.9-II

Surveillance Data Collection External NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.9.2.1	ADS Processor	Surveillance Data Collection	Surveillance Data
3.6.9.2.2	Transponder	Surveillance Data Collection	Surveillance Data

3.6.9.1 The NAS shall process internal NAS Surveillance Data Collection input data as defined in Table 3.6.9-I.

Note: *Paragraph 3.6.9.1 and Table 3.6.9-I are currently undefined by the Far Term Enterprise Architecture (EA). They are included here as a placeholder for future EA definition and for service interoperability documentation standardization.*

3.6.9.2 The NAS shall process external NAS Surveillance Data Collection input data as defined in Table 3.6.9-II.

3.6.9.3 The NAS shall process internal NAS Surveillance Data Collection output data as defined in Table 3.6.9-III.

3.6.9.4 The NAS shall process external NAS Surveillance Data Collection output data as defined in Table 3.6.9-IV.

3.6.9.5 The NAS shall acquire airborne aircraft surveillance data.

3.6.9.6 The NAS shall acquire surface vehicle surveillance data.

Table 3.6.9-III

Surveillance Data Collection Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.9.3.1	Surveillance Data Collection	Safety Management	Surveillance Data
3.6.9.3.2	Surveillance Data Collection	Surveillance Information Management	Surveillance Data
3.6.9.3.3	Surveillance Data Collection	System and Services Analysis	Surveillance Data

Table 3.6.9-IV

Surveillance Data Collection External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.9.4.1	Surveillance Data Collection	Military Stakeholder System	Surveillance Data

3.6.10 Weather Data Collection

Includes functions required for collecting and maintaining raw weather information from ground-based and airborne sensors. Raw weather information includes measurements of atmospheric parameters that can be processed and analyzed to derive atmospheric conditions and forecasts. Maintenance of this information includes validating the information and the sources when generated by external stakeholders, maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).

Table 3.6.10-1

Weather Data Collection Internal NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.10.1.1	TBD	TBD	TBD

Table 3.6.10-II

Weather Data Collection External NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.10.2.1	Weather Sensor Aircraft	Weather Data Collection	Weather Data Airborne

3.6.10.1 The NAS shall process internal NAS Weather Data Collection input data as defined in Table 3.6.10-I.

Note: Paragraph 3.6.10.1 and Table 3.6.10-I are currently undefined by the Far Term Enterprise Architecture (EA). They are included here as a placeholder for future EA definition and for service interoperability documentation standardization.

3.6.10.2 The NAS shall process external NAS Weather Data Collection input data as defined in Table 3.6.10-II.

3.6.10.3 The NAS shall process internal NAS Weather Data Collection output data as defined in Table 3.6.10-III.

3.6.10.4 The NAS shall process external NAS Weather Data Collection output data as defined in Table 3.6.10-IV.

3.6.10.5 The NAS shall acquire surface weather data.

3.6.10.6 The NAS shall acquire weather radar data.

3.6.10.7 The NAS shall acquire weather aloft data.

Table 3.6.10-III

Weather Data Collection Internal NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.6.10.3.1	Weather Data Collection	System and Services Analysis	Weather Data Airborne
3.6.10.3.2	Weather Data Collection	System and Services Analysis	Weather Data Surface
3.6.10.3.3	Weather Data Collection	System and Services Analysis	Weather Data Radar
3.6.10.3.4	Weather Data Collection	System and Services Analysis	Weather Data
3.6.10.3.5	Weather Data Collection	Weather Information Management	Weather Data Surface
3.6.10.3.6	Weather Data Collection	Weather Information Management	Weather Data Radar
3.6.10.3.7	Weather Data Collection	Weather Information Management	Weather Data Airborne

Table 3.6.10-IV

Weather Data Collection External NAS Outputs			
Paragraph Number	Sending Service	Receiving Service	Data Exchange
3.6.10.4.1	Weather Data Collection	NWS Stakeholder System	Weather Data Airborne
3.6.10.4.2	Weather Data Collection	NWS Stakeholder System	Weather Data Surface

3.6.11 Navigation Support

Navigation Support includes functions performed by ground-based navigation and landing systems that provide electronic reference signals to assist an aircraft in determining its position relative to a navigation fix or runway. It also includes the provision of visual reference to flight crews.

Table 3.6.11-I

Navigation Support Internal NAS Inputs			
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<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.11.1.1	TBD	TBD	TBD

Table 3.6.11-II

Navigation Support External NAS Inputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.11.2.1	Satellite Navigation Service	Navigation Support	GPS Signal

3.6.11.1 The NAS shall process internal NAS Navigation Support input data as defined in Table 3.6.11-I.

Note: Paragraph 3.6.11.1 and Table 3.6.11-I are currently undefined by the Far Term Enterprise Architecture (EA). They are included here as a placeholder for future EA definition and for service interoperability documentation standardization.

3.6.11.2 The NAS shall process external NAS Navigation Support input data as defined in Table 3.6.11-II.

3.6.11.3 The NAS shall process internal NAS Navigation Support output data as defined in Table 3.6.11-III.

3.6.11.4 The NAS shall process external NAS Navigation Support output data as defined in Table 3.6.11-IV.

3.6.11.5 The NAS shall provide electronic spatial reference.

3.6.11.6 The NAS shall provide visual spatial reference.

Table 3.6.11-III

Navigation Support Internal NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.11.3.1	Navigation Support	System and Services Analysis	Satellite Navigation Correction Information
3.6.11.3.2	Navigation Support	System and Services Management	Satellite Navigation Correction Information

Table 3.6.11-IV

Navigation Support External NAS Outputs			
<i>Paragraph Number</i>	<i>Sending Service</i>	<i>Receiving Service</i>	<i>Data Exchange</i>
3.6.11.4.1	Navigation Support	Navigation Processor	Visual Surface Guidance
3.6.11.4.2	Navigation Support	Navigation Processor	Visual Approach Guidance
3.6.11.4.3	Navigation Support	Navigation Processor	Electronic Approach Guidance
3.6.11.4.4	Navigation Support	Navigation Processor	Electronic Route Guidance
3.6.11.4.5	Navigation Support	Navigation Processor	Electronic Surface Guidance
3.6.11.4.6	Navigation Support	Navigation Processor	Satellite Navigation Correction Information

3.7 Interaction Services

Note: Paragraph 3.7 is currently undefined by the Far Term Enterprise Architecture (EA). Interaction Services are included here as a placeholder for future EA definition and for document standardization.

Figure 3.7-1 delineates the top level Interaction Services hierarchy as specified in paragraph 3.7.

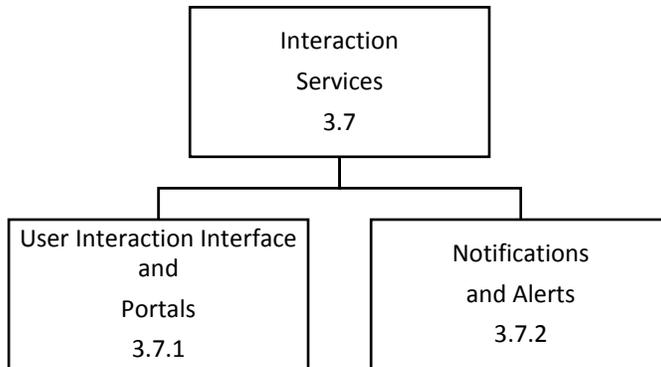


Figure 3.7-0-1
Interaction Services Hierarchy

3.7.1 User Interaction Interface and Portals

Figure 3.7.1-1 delineates the top level User Interaction Interface and Portals hierarchy as specified in paragraph 3.7.1.

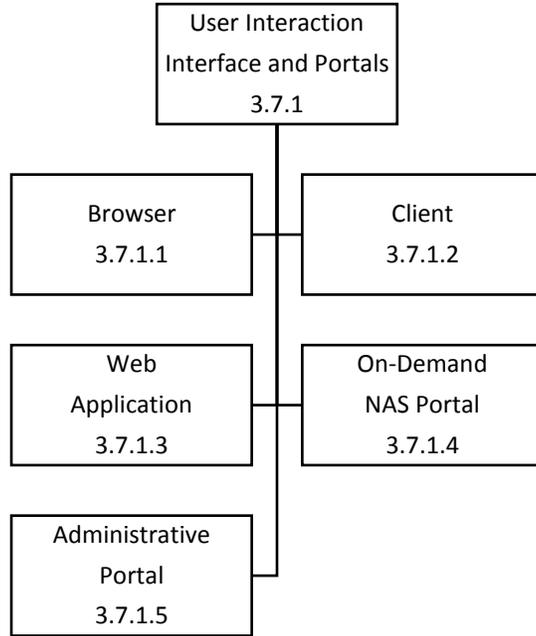


Figure 3.7.1-0-1
User Interaction Interface and Portals Hierarchy

3.7.1.1 Browser

TBD.

3.7.1.2 Client

TBD.

3.7.1.3 Web Application

TBD.

3.7.1.4 On-Demand NAS Portal

TBD.

3.7.1.5 Administrative Portal

TBD.

3.7.2 Notification and Alerts

TBD.

Figure 3.7.2-I delineates the top level Notification and Alerts hierarchy as specified in paragraph 3.7.2.

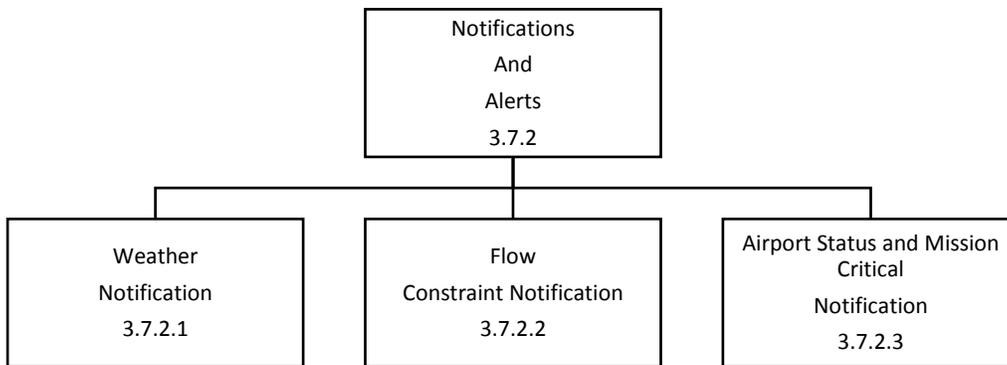


Figure 3.7.2-I
Notification and Alerts Hierarchy

3.7.2.1 Weather Notification

TBD.

3.7.2.2 Flow Constraint Notification

TBD.

3.7.2.3 Airport Status and Mission Critical Notification

TBD.

4.0 Support Requirements

4.1 RMA Service Availability

Reliability, Maintainability, and Availability (RMA) requirements are used to maintain consistency of NAS services. FAA RMA Handbook – 006A allocates the RMA requirements to the Services and Capabilities which are supported by one or more strings of systems called Service Threads. Service Threads bridge the gap between unallocated functional requirements and the specifications for systems that support them.

The referenced RMA handbook defines service availability criticality as follows:

- a) Safety-Critical - A key service in the protection of human life. Loss of a Safety-Critical service increases the risk in the loss of human life.
- b) Efficiency-Critical - A key service that is used in present operation of the NAS. Loss of an Efficiency-Critical Service has a major impact in the present operational capacity.
- c) Essential - A service that if lost would significantly raise the risk associated with providing efficient NAS operations.
- d) Routine - A service which, if lost, would have a minor impact on the risk associated with providing safe and efficient NAS operations.

4.1.1 Safety-Critical NAS Services shall have availability equal to or greater than .99999.

4.1.2 Efficiency-Critical NAS Services shall have availability equal to or greater than .9999.

4.1.3 Essential NAS Services shall have availability equal to or greater than .999.

4.1.4 Routine NAS Services shall have availability equal to or greater than .99.

4.1.5 The NAS shall restore efficiency-critical services no later than 6 seconds from the detection of the failure.

4.1.6 The NAS shall restore essential services no later than 10 minutes from the detection of the failure.

4.2 Security

Access to NAS information, facilities and equipment must be controlled, and agency people, information, facilities and equipment must be protected. Accordingly, the NAS is required to develop and implement appropriate activities and plans for resilience, and to restore any NAS capabilities or services that are impaired due to a physical or cyber security event. FAA Mission Support and NAS Domains must identify cyber security risks, protect critical infrastructure services, detect cyber security events, implement activities to respond, and implement the appropriate activities to maintain plans for resilience and to recover FAA capabilities or services that were impaired due to a cyber-security event or incident.

For Cyber Security Framework Glossary Terms (See AV-1, Additional Glossary terms in Appendix A)

- 4.2.1 The NAS shall identify systems, assets, and data that are cyber threat vulnerable.
 - 4.2.1.1 The NAS shall inventory physical devices and systems.
 - 4.2.1.2 The NAS shall inventory software platforms and applications.
 - 4.2.1.3 The NAS shall map communication and data flows.
 - 4.2.1.4 The NAS shall catalogue external information systems access.
 - 4.2.1.5 The NAS shall authorize external information systems access.
 - 4.2.1.6 The NAS shall identify critical service dependencies and functions.
 - 4.2.1.7 The NAS shall identify Asset Vulnerabilities.
 - 4.2.1.8 The NAS shall document Asset Vulnerabilities.
- 4.2.2 The NAS shall protect against cyber security events.
 - 4.2.2.1 The NAS shall manage identities and credentials for authorized devices and users.
 - 4.2.2.2 The NAS shall manage asset physical access.
 - 4.2.2.3 The NAS shall protect asset physical access.
 - 4.2.2.4 The NAS shall manage asset remote access.
 - 4.2.2.5 The NAS shall protect data-at-rest.
 - 4.2.2.6 The NAS shall protect data-in-transit.
 - 4.2.2.7 The NAS shall protect against unauthorized data disclosures.

- 4.2.2.8 The NAS shall maintain backup information.
- 4.2.2.9 The NAS shall perform asset maintenance and repair with approved and controlled tools.
- 4.2.2.10 The NAS shall protect communication and control networks.
- 4.2.3 The NAS shall detect cyber security events.
 - 4.2.3.1 The NAS shall analyze detected events and incidents.
 - 4.2.3.2 The NAS shall determine the impact of events and incidents.
 - 4.2.3.3 The NAS shall establish event and incident alert thresholds.
 - 4.2.3.4 The NAS shall monitor networks for potential cyber security events and incidents.
 - 4.2.3.5 The NAS shall monitor physical environments for potential cyber security events and incidents.
 - 4.2.3.6 The NAS shall monitor external service provider activity for potential cyber security events and incidents.
 - 4.2.3.7 The NAS shall monitor for unauthorized personnel, connections, devices and software.
 - 4.2.3.8 The NAS shall perform vulnerability scans.
 - 4.2.3.9 The NAS shall communicate cyber security event and incident detection information to appropriate Aviation Domain parties and DHS.
- 4.2.4 The NAS shall respond to cyber security events.
 - 4.2.4.1 The NAS shall evaluate cyber security event detection notifications.
 - 4.2.4.2 The NAS shall contain cyber security incidents.
 - 4.2.4.3 The NAS shall mitigate cyber security incidents.
- 4.2.5 The NAS shall recover from cyber security events.
 - 4.2.5.1 The NAS shall develop cyber security event and incident recovery plans.
 - 4.2.5.2 The NAS shall transmit cyber security event and incident recovery information.

Table I: NAS Requirements Traceability Matrix

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
3.0	NAS Requirements	Title	
3.0.1	Global NAS Requirements	Title	
3.0.1.1	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.2	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.3	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.4	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.5	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.6	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.7	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.7.1	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.7.2	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.7.3	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.7.4	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.7.5	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.7.6	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.8	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.9	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.10	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.11	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.12	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.13	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.14	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.15	Global NAS Requirement	NAS-RD-2025, Version 1	Technical Review Board Approval of NAS-RD-2025, Version 1, dated 16 November 2011
3.0.1.16	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.1	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.2	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.3	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework

Table I: NAS Requirements Traceability Matrix

Paragraph Number	NAS Requirement	Requirement Source	Source Information
3.0.1.16.4	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.5	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.6	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.7	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.8	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.9	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.10	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.11	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.12	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.13	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.14	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.15	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.16	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.17	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.18	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.19	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.20	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.21	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.22	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.23	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.24	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.25	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.26	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.27	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.0.1.16.28	Global NAS Requirement	NAS CCB	John Chung, NIST cyber security framework
3.1	Mission Services	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.1	Information Services	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
3.1.1.1	Aeronautical Information Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.1.1.1	Aeronautical Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.1.1.1 through 3.1.1.1.1.18	Aeronautical Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.1.2	Aeronautical Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.1.2.1 through 3.1.1.1.2.9	Aeronautical Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.1.3	Aeronautical Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.1.3.1 through 3.1.1.1.3.47	Aeronautical Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.1.4	Aeronautical Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.1.4.1 through 3.1.1.1.4.60	Aeronautical Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.1.5	Aeronautical Information Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.1.6	Aeronautical Information Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.2	Flight & State Data Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.1.2.1	Flight & State Data Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.2.1.1 through 3.1.1.2.1.12	Flight & State Data Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.2.2	Flight & State Data Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.2.2.1 through 3.1.1.2.2.14	Flight & State Data Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
3.1.1.2.3	Flight & State Data Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.2.3.1 through 3.1.1.2.3.44	Flight & State Data Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.2.4	Flight & State Data Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.2.4.1 through 3.1.1.2.4.29	Flight & State Data Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.2.5	Flight & State Data Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.2.6	Flight & State Data Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.2.7	Flight & State Data Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.2.8	Flight & State Data Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.2.9	Flight & State Data Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.2.10	Flight & State Data Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.3	Surveillance Information Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.1.3.1	Surveillance Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.3.1.1 through 3.1.1.3.1.8	Surveillance Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.3.2	Surveillance Information Management	TBD	TBD
3.1.1.3.2.1	Surveillance Information Management	TBD	TBD
3.1.1.3.3	Surveillance Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.3.3.1 through 3.1.1.3.3.12	Surveillance Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.3.4	Surveillance Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.3.4.1 through	Surveillance Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
3.1.1.3.4.12			
3.1.1.3.5	Surveillance Information Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.1.3.6	Surveillance Information Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.1.3.7	Surveillance Information Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.1.4	Weather Information Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.1.4.1	Weather Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.4.1.1 through 3.1.1.4.1.5	Weather Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.4.2	Weather Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.4.2.1 through 3.1.1.4.2.5	Weather Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.4.3	Weather Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.4.3.1 through 3.1.1.4.3.32	Weather Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.4.4	Weather Information Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.4.4.1 through 3.1.1.4.4.27	Weather Information Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.1.4.5	Weather Information Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.1.4.5.1	Weather Information Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.4.5.2	Weather Information Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.4.6	Weather Information Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.1.4.7	Weather Information Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.1.4.8	Weather Information Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.1.4.9	Weather Information Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.1.4.10	Weather Information	SV-4	Far Term Systems/Services Functionality

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
	Management		Description Version 3.0, dated 20 December 2012
3.1.1.4.11	Weather Information Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2	Traffic Services	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1	Flow Contingency Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.2.1.1	Flow Contingency Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.1.1.1 through 3.1.2.1.1.28	Flow Contingency Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.2	Flow Contingency Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.1.2.1 through 3.1.2.1.2.4	Flow Contingency Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.3	Flow Contingency Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.1.3.1 through 3.1.2.1.3.13	Flow Contingency Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.4	Flow Contingency Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.1.4.1 through 3.1.2.1.4.18	Flow Contingency Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.5	Flow Contingency Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.5.1	Flow Contingency Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.5.2	Flow Contingency Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.6	Flow Contingency Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.6.1	Flow Contingency Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.6.2	Flow Contingency Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.6.3	Flow Contingency	NSIP	Mitre CAASD Functional Analysis for Segment

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
	Management		Bravo Increments, dated March 2013
3.1.2.1.6.4	Flow Contingency Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.7	Flow Contingency Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.8	Flow Contingency Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.9	Flow Contingency Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.10	Flow Contingency Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.10.1	Flow Contingency Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.11	Flow Contingency Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.1.11.1	Flow Contingency Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.12	Flow Contingency Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.2	Separation Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.2.2.1	Separation Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.2.1.1 through 3.1.2.2.1.19	Separation Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.2.2	Separation Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.2.2.1	Separation Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.2.3	Separation Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.2.3.1 through 3.1.2.2.3.6	Separation Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.2.4	Separation Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.2.4.1	Separation Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality

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Paragraph Number	NAS Requirement	Requirement Source	Source Information
			Description Version 3.0, dated 20 December 2012
3.1.2.2.5	Separation Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.2.6	Separation Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.2.6.1	Separation Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.2.6.2	Separation Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.2.6.3	Separation Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.2.7	Separation Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.2.8	Separation Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.2.8.1	Separation Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.2.9	Separation Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.2.10	Separation Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3	Short Term Capacity Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.2.3.1	Short Term Capacity Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.3.1.1 through 3.1.2.3.1.25	Short Term Capacity Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.2	Short Term Capacity Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.3.2.1 through 3.1.2.3.2.9	Short Term Capacity Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.3	Short Term Capacity Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.3.3.1 through 3.1.2.3.3.37	Short Term Capacity Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.4	Short Term Capacity Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.3.4.1	Short Term Capacity	SV-6	Far Term Systems/Services Data Exchange Matrix

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
through 3.1.2.3.4.36	Management	SV-4	Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.5	Short Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.6	Short Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.7	Short Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.7.1	Short Term Capacity Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.3.7.2	Short Term Capacity Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.3.7.3	Short Term Capacity Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.3.8	Short Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.9	Short Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.10	Short Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.3.11	Short Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4	Trajectory Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.2.4.1	Trajectory Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.4.1.1 through 3.1.2.4.1.28	Trajectory Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.2	Trajectory Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.4.2.1 through 3.1.2.4.2.6	Trajectory Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.3	Trajectory Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.2.4.3.1 through 3.1.2.4.3.12	Trajectory Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.4	Trajectory Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix

Table I: NAS Requirements Traceability Matrix

Paragraph Number	NAS Requirement	Requirement Source	Source Information
			Version 3.0, dated 20 December 2012
3.1.2.4.4.1 through 3.1.2.4.4.4	Trajectory Management	SV-6 SV-4	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012 Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.5	Trajectory Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.5.1	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.5.2	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.5.3	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.5.4	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.6	Trajectory Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.7	Trajectory Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.8	Trajectory Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.8.1	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.9	Trajectory Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.10	Trajectory Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.10.1	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.11	Trajectory Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.12	Trajectory Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.12.1	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13	Trajectory Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.2.4.13.1	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.2	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.3	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.4	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.5	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.6	Trajectory Management	NSIP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.3	Mission Support Services	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.1	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
		AV-2	Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.3.1.1	Long Term Capacity Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.1.1.1 through 3.1.3.1.1.8	Long Term Capacity Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.1.2	Long Term Capacity Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.1.2.1 through 3.1.3.1.2.19	Long Term Capacity Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.1.3	Long Term Capacity Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.1.3.1 through 3.1.3.1.3.9	Long Term Capacity Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.1.4	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.1.4.1 through 3.1.3.1.4.21	Long Term Capacity Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.1.5	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.1.6	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.1.7	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.1.8	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.1.9	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.1.10	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.1.11	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.2	Safety Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.3.2.1	Safety Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.2.1.1 through 3.1.3.2.1.39	Safety Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.2.2	Safety Management	TBD	TBD

Table I: NAS Requirements Traceability Matrix

Paragraph Number	NAS Requirement	Requirement Source	Source Information
3.1.3.2.2.1	Safety Management	TBD	TBD
3.1.3.2.3	Safety Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.2.3.1 through 3.1.3.2.3.6	Safety Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.2.4	Safety Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.2.4.1 through 3.1.3.2.4.10	Safety Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.2.5	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.2.6	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.2.7	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.2.8	Long Term Capacity Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.3	System and Services Analysis	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.3.3.1	System and Services Analysis	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.3.1.1 through 3.1.3.3.1.51	System and Services Analysis	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.3.2	System and Services Analysis	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.3.2.1	System and Services Analysis	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.3.3	System and Services Analysis	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.3.3.1 through 3.1.3.3.3.10	System and Services Analysis	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.3.4	System and Services Analysis	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.3.4.1 through 3.1.3.3.4.2	System and Services Analysis	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012

Table I: NAS Requirements Traceability Matrix

Paragraph Number	NAS Requirement	Requirement Source	Source Information
3.1.3.3.5	System and Services Analysis	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.3.6	System and Services Analysis	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.3.7	System and Services Analysis	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.4	System and Services Management	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.1.3.4.1	System and Services Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.4.1.1 through 3.1.3.4.1.10	System and Services Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.4.2	System and Services Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.4.2.1 through 3.1.3.4.2.7	System and Services Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.4.3	System and Services Management	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.4.3.1 through 3.1.3.4.3.16	System and Services Management	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.1.3.4.4	System and Services Management	TBD	TBD
3.1.3.4.4.1	System and Services Management	TBD	TBD
3.1.3.4.5	System and Services Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.4.6	System and Services Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.1.3.4.7	System and Services Management	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.2	Support Services		
3.2.1	Data Access Services		
3.2.1.1	Content Discovery Support		
3.2.1.2	Data Acquisition Support		
3.2.1.3	Service Adaptation Support		
3.2.2	Data Flow Management Services		
3.2.2.1	Data Composition Support		
3.2.2.2	Data Flow Mechanisms Support		
3.3	SOA Core Services		
3.3.1	Messaging Services		

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Paragraph Number	NAS Requirement	Requirement Source	Source Information
3.3.1.1	Publish Subscribe Messaging Services		
3.3.1.2	Request Reply Messaging Services		
3.3.1.3	Mediation Messaging Services		
3.3.1.4	Message Routing Services		
3.3.2	Enterprise Service Management		
3.3.2.1	Policy Enforcement and Metric Collection Services		
3.3.2.2	Performance Monitoring and Reporting Services		
3.3.2.3	SLA Compliance and Metrics Collection Services		
3.3.2.4	Fault Monitoring and Reporting Services		
3.3.3	Interface Management		
3.3.3.1	Service Registration		
3.3.3.2	Service Discovery		
3.3.4	Security Services		
3.3.4.1	Policy Enforcement and Access Management Services		
3.3.4.2	Security Monitoring Services		
3.3.5	Collaboration Services		
3.3.5.1	Instant Messaging Collaboration Services		
3.3.5.2	White Board Collaboration Services		
3.4	Administrative Services		
3.4.1	Data/Network Support Administrative Services		
3.4.1.1	Database Administrative Services		
3.4.1.2	Network Support Administrative Services		
3.4.1.3	Information System Security Support Management Administrative Services		
3.4.1.4	Incident Detection and Response Administrative Services		
3.4.1.5	Business Continuity Management Administrative Services		
3.4.1.6	Help Desk Administrative Services		
3.4.2	Services Provisioning Management Administrative Services		
3.4.2.1	Services Diagnostics Administrative Services		
3.4.2.2	Services Development Integration and Test		

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
	Administrative Services		
3.4.2.3	Services Provisioning Administrative Services		
3.4.2.4	Certified Software Management Administrative Services		
3.4.2.5	Training Support Administrative Services		
3.5	Enterprise Governance		
3.5.1	Runtime Enterprise Governance		
3.5.1.1	Service Choreography Enterprise Governance		
3.5.1.2	Service Orchestration Enterprise Governance		
3.5.1.3	Security Policy Management Enterprise Governance		
3.5.1.4	Service Policy Management Enterprise Governance		
3.5.1.5	Service SLA Management Enterprise Governance		
3.5.1.6	Service Scorecard Generation and Publication Enterprise Governance		
3.5.2	Strategic Enterprise Governance		
3.5.2.1	Strategic SOA Enterprise Governance		
3.5.2.2	Service Design Governance		
3.5.2.3	Run-Time and Operations Enterprise Governance		
3.5.2.4	SOA Enterprise Governance Service Desk Support		
3.6	Technical Infrastructure Services		
3.6.1	External Boundary Protection Technical Infrastructure Services		
3.6.2	Information System Security Support Technical Infrastructure Services		
3.6.3	SOA Support Platforms Technical Infrastructure Services		
3.6.4	Web Application Hosting Capability Technical Infrastructure Services		
3.6.5	Data Storage Technical Infrastructure Services		
3.6.6	Computing Platform Technical Infrastructure Services		
3.6.7	Terrestrial Network Communications Technical		

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
	Infrastructure Services		
3.6.8	Air/Ground Communication Technical Infrastructure Services		
3.6.9	Surveillance Data Collection	SV-4 AV-2	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far-Term Integrated Dictionary Version 3.0, dated 20 December 2012
3.6.9.1	Surveillance Data Collection	TBD	TBD
3.6.9.1.1	Surveillance Data Collection	TBD	TBD
3.6.9.2	Surveillance Data Collection	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.9.2.1 through 3.6.9.2.2	Surveillance Data Collection	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.9.3	Surveillance Data Collection	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.9.3.1 through 3.6.9.3.3	Surveillance Data Collection	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.9.4	Surveillance Data Collection	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.9.4.1	Surveillance Data Collection	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.9.5	Surveillance Data Collection	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.6.9.6	Surveillance Data Collection	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.6.10	Weather Data Collection	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.6.10.1	Weather Data Collection	TBD	TBD
3.6.10.1.1	Weather Data Collection	TBD	TBD
3.6.10.2	Weather Data Collection	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.10.2.1	Weather Data Collection	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.10.3	Weather Data Collection	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.10.3.1 through 3.6.10.3.7	Weather Data Collection	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.10.4	Weather Data Collection	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix

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Paragraph Number	NAS Requirement	Requirement Source	Source Information
			Version 3.0, dated 20 December 2012
3.6.10.4.1 through 3.6.10.4.2	Weather Data Collection	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.10.5	Weather Data Collection	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.6.10.6	Weather Data Collection	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.6.10.7	Weather Data Collection	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.6.11	Navigation Support	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.6.11.1	Navigation Support	TBD	TBD
3.6.11.1.1	Navigation Support	TBD	TBD
3.6.11.2	Navigation Support	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.11.2.1	Navigation Support	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.11.3	Navigation Support	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.11.3.1 through 3.6.11.3.2	Navigation Support	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.11.4	Navigation Support	SV-4 SV-6	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012 Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.11.4.1 through 3.6.11.4.6	Navigation Support	SV-6	Far Term Systems/Services Data Exchange Matrix Version 3.0, dated 20 December 2012
3.6.11.5	Navigation Support	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.6.11.6	Navigation Support	SV-4	Far Term Systems/Services Functionality Description Version 3.0, dated 20 December 2012
3.7	Interaction Services		
3.7.1	User Interface and Portals Interaction Services		
3.7.1.1	Browser Interaction Services		
3.7.1.2	Client Interaction Services		
3.7.1.3	Web Application Interaction Services		
3.7.1.4	On-Demand NAS Portal Interaction Services		
3.7.1.5	Administrative Portal Interaction Services		
3.7.2	Notification and Alerts Interaction Services		
3.7.2.1	Weather Notification Interaction Services		

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Paragraph Number	NAS Requirement	Requirement Source	Source Information
3.7.2.2	Flow Constraint Notification Interaction Services		
3.7.2.3	Airport Status and Mission Critical Notification Interaction Services		
4.0	Support Requirements	Title	
4.1	RMA Service Availability	Title	
4.1.1	RMA Requirement	FAA RMA Handbook	FAA-HDBK-006A FEDERAL AVIATION ADMINISTRATION Reliability, Maintainability, and Availability (RMA) HANDBOOK, dated 7 January 2008
4.1.2	RMA Requirement	FAA RMA Handbook	FAA-HDBK-006A FEDERAL AVIATION ADMINISTRATION Reliability, Maintainability, and Availability (RMA) HANDBOOK, dated 7 January 2008
4.1.3	RMA Requirement	FAA RMA Handbook	FAA-HDBK-006A FEDERAL AVIATION ADMINISTRATION Reliability, Maintainability, and Availability (RMA) HANDBOOK, dated 7 January 2008
4.1.4	RMA Requirement	FAA RMA Handbook	FAA-HDBK-006A FEDERAL AVIATION ADMINISTRATION Reliability, Maintainability, and Availability (RMA) HANDBOOK, dated 7 January 2008
4.1.5	RMA Requirement	FAA RMA Handbook	FAA-HDBK-006A FEDERAL AVIATION ADMINISTRATION Reliability, Maintainability, and Availability (RMA) HANDBOOK, dated 7 January 2008
4.1.6	RMA Requirement	FAA RMA Handbook	FAA-HDBK-006A FEDERAL AVIATION ADMINISTRATION Reliability, Maintainability, and Availability (RMA) HANDBOOK, dated 7 January 2008
4.2	Security Requirements	Title	
4.2.1	Security Requirement	NIST cyber security framework	John Chung
4.2.1.1	Security Requirement	NIST SP 800-53 Rev. 4 CM-8; FAA Info Security Orders	NIST ID.AM-1; Order 1800.66, 4600.27B
4.2.1.2	Security Requirement	NIST SP 800-53 Rev. 4 CM-8	NIST ID.AM-2
4.2.1.3	Security Requirement	NIST SP 800-53 Rev. 4 AC-4, CA-3, CA- 9, PL-8; FAA Info Security Orders	NIST ID.AM-3; Order 1370.116
4.2.1.4	Security Requirement	NIST SP 800-53 Rev. 4 AC-20, SA-9; FAA Info	NIST ID.AM-4; Order 1370.116, 1370.114, 1200.22D, 1600.75

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Paragraph Number	NAS Requirement	Requirement Source	Source Information
		Security Orders	
4.2.1.5	Security Requirement	NIST SP 800-53 Rev. 4 AC-20, SA-9; FAA Info Security Orders	NIST ID.AM-4; Order 1370.116, 1370.114, 1200.22D, 1600.75
4.2.1.6	Security Requirement	NIST SP 800-53 Rev. 4 CP-8, PE-9, PE-11, PM-8, SA-14	NIST ID.BE-4
4.2.1.7	Security Requirement	NIST SP 800-53 Rev. 4 CA-2, CA-7, CA-8, RA-3, RA-5, SA-5, SA-11, SI-2, SI-4, SI-5	NIST ID.RA-1
4.2.1.8	Security Requirement	NIST SP 800-53 Rev. 4 CA-2, CA-7, CA-8, RA-3, RA-5, SA-5, SA-11, SI-2, SI-4, SI-5	NIST ID.RA-1
4.2.2	Security Requirement	NIST cyber security framework	John Chung
4.2.2.1	Security Requirement	NIST SP 800-53 Rev. 4 AC-2, IA Family; FAA Info Security Orders	NIST PR.AC-1; Order 1370.105, 1370.96, 1370.92
4.2.2.2	Security Requirement	NIST SP 800-53 Rev. 4 PE-2, PE-3, PE-4, PE-5, PE-6, PE-9	NIST PR.AC-2
4.2.2.3	Security Requirement	NIST SP 800-53 Rev. 4 PE-2, PE-3, PE-4, PE-5, PE-6, PE-9	NIST PR.AC-2
4.2.2.4	Security Requirement	NIST SP 800-53 Rev. 4 AC-17, AC-19, AC-20	NIST PR.AC-3
4.2.2.5	Security Requirement	NIST SP 800-53 Rev. 4 SC-28	NIST PR.DS-1
4.2.2.6	Security Requirement	NIST SP 800-53 Rev. 4 SC-8	NIST PR.DS-2
4.2.2.7	Security Requirement	NIST SP 800-53 Rev. 4 AC-4, AC-5, AC-	NIST PR.DS-5; Order 1280.1B, 1200.22D,1600.75

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Paragraph Number	NAS Requirement	Requirement Source	Source Information
		6, PE-19, PS-3, PS-6, SC-7, SC-8, SC-13, SC-31, SI-4; FAA Info Security Orders	
4.2.2.8	Security Requirement	NIST SP 800-53 Rev. 4 CP-4, CP-6, CP-9	NIST PR.IP-4
4.2.2.9	Security Requirement	NIST SP 800-53 Rev. 4 MA-2, MA-3, MA-5	NIST PR.MA-1
4.2.2.10	Security Requirement	NIST SP 800-53 Rev. 4 AC-4, AC-17, AC-18, CP-8, SC-7	NIST PR.PT-4
4.2.3	Security Requirement	NIST cyber security framework	John Chung
4.2.3.1	Security Requirement	NIST SP 800-53 Rev. 4 AU-6, CA-7, IR-4, SI-4	NIST DE.AE-2
4.2.3.2	Security Requirement	NIST SP 800-53 Rev. 4 CP-2, IR-4, RA-3, SI-4	NIST DE.AE-4
4.2.3.3	Security Requirement	NIST SP 800-53 Rev. 4 IR-4, IR-5, IR-8	NIST DE.AE-5
4.2.3.4	Security Requirement	NIST SP 800-53 Rev. 4 AC-2, AU-12, CA-7, CM-3, SC-5, SC-7, SI-4	NIST DE.CM-1
4.2.3.5	Security Requirement	NIST SP 800-53 Rev. 4 CA-7, PE-3, PE-6, PE-20	NIST DE.CM-2
4.2.3.6	Security Requirement	NIST SP 800-53 Rev. 4 CA-7, PS-7, SA-4, SA-9, SI-4	NIST DE.CM-6
4.2.3.7	Security Requirement	NIST SP 800-53 Rev. 4 AU-12, CA-7, CM-3, CM-8, PE-3, PE-6, PE-20, SI-4	NIST DE.CM-7

Table I: NAS Requirements Traceability Matrix			
Paragraph Number	NAS Requirement	Requirement Source	Source Information
4.2.3.8	Security Requirement	NIST SP 800-53 Rev. 4 RA-5	NIST DE.CM-8
4.2.3.9	Security Requirement	NIST SP 800-53 Rev. 4 AU-6, CA-2, CA-7, RA-5, SI-4	NIST DE.DP-4
4.2.4	Security Requirement	NIST cyber security framework	John Chung
4.2.4.1	Security Requirement	NIST SP 800-53 Rev. 4 AU-6, CA-7, IR-4, IR-5, PE-6, SI-4; FAA Info Security Orders	NIST RS.AN-1; Order 1370.101A
4.2.4.2	Security Requirement	NIST SP 800-53 Rev. 4 IR-4	NIST RS.MI-1
4.2.4.3	Security Requirement	NIST SP 800-53 Rev. 4 IR-4	NIST RS.MI-2
4.2.5	Security Requirement	NIST cyber security framework	John Chung
4.2.5.1	Security Requirement	NIST SP 800-53 Rev. 4 CP-10, IR-4, IR-8	NIST RC.RP-1
4.2.5.2	Security Requirement	NIST SP 800-53 Rev. 4 CP-2, IR-4	NIST RC.CO-3

Table II: NAS Requirements Allocation Matrix

Table II: NAS Requirements Allocation Matrix			
Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
3.0	NAS Requirements		
3.0.1	Global NAS Requirement		
3.0.2	Global NAS Requirement		
3.0.3	Global NAS Requirement		
3.0.4	Global NAS Requirement		
3.0.5	Global NAS Requirement		
3.0.6	Global NAS Requirement		
3.0.7	Global NAS Requirement		
3.0.7.1	Global NAS Requirement		
3.0.7.2	Global NAS Requirement		
3.0.7.3	Global NAS Requirement		
3.0.7.4	Global NAS Requirement		
3.0.7.5	Global NAS Requirement		
3.0.7.6	Global NAS Requirement		
3.0.8	Global NAS Requirement		
3.0.9	Global NAS Requirement		
3.0.10	Global NAS Requirement		
3.0.11	Global NAS Requirement		
3.0.12	Global NAS Requirement		
3.0.13	Global NAS Requirement		
3.0.14	Global NAS Requirement		
3.0.15	Global NAS Requirement		
3.0.1.16	Global NAS Requirement		
3.0.1.16.1	Global NAS Requirement		
3.0.1.16.2	Global NAS Requirement		
3.0.1.16.3	Global NAS Requirement		
3.0.1.16.4	Global NAS Requirement		
3.0.1.16.5	Global NAS Requirement		
3.0.1.16.6	Global NAS Requirement		
3.0.1.16.7	Global NAS Requirement		
3.0.1.16.8	Global NAS Requirement		
3.0.1.16.9	Global NAS Requirement		
3.0.1.16.10	Global NAS Requirement		
3.0.1.16.11	Global NAS Requirement		
3.0.1.16.12	Global NAS Requirement		
3.0.1.16.13	Global NAS Requirement		
3.0.1.16.14	Global NAS Requirement		
3.0.1.16.15	Global NAS Requirement		
3.0.1.16.16	Global NAS Requirement		
3.0.1.16.17	Global NAS Requirement		
3.0.1.16.18	Global NAS Requirement		
3.0.1.16.19	Global NAS Requirement		
3.0.1.16.20	Global NAS Requirement		
3.0.1.16.21	Global NAS Requirement		
3.0.1.16.22	Global NAS Requirement		
3.0.1.16.23	Global NAS Requirement		
3.0.1.16.24	Global NAS Requirement		
3.0.1.16.25	Global NAS Requirement		
3.0.1.16.26	Global NAS Requirement		
3.0.1.16.27	Global NAS Requirement		
3.0.1.16.28	Global NAS Requirement		

Table II: NAS Requirements Allocation Matrix			
Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
3.1	Mission Services		
3.1.1	Information Services		
3.1.1.1	Aeronautical Information Management		
3.1.1.1.1	Aeronautical Information Management		
3.1.1.1.1.1 through 3.1.1.1.1.18	Aeronautical Information Management		
3.1.1.1.2	Aeronautical Information Management		
3.1.1.1.2.1 through 3.1.1.1.2.9	Aeronautical Information Management		
3.1.1.1.3	Aeronautical Information Management		
3.1.1.1.3.1 through 3.1.1.1.3.46	Aeronautical Information Management		
3.1.1.1.4	Aeronautical Information Management		
3.1.1.1.4.1 through 3.1.1.1.4.60	Aeronautical Information Management		
3.1.1.1.5	Aeronautical Information Management	ACS, SWIM/NEMS	Mitre CAASD Functional Analysis for Segment Bravo Increments
3.1.1.1.6	Aeronautical Information Management	ACS	Mitre CAASD Functional Analysis for Segment Bravo Increments
3.1.1.2	Flight & State Data Management		
3.1.1.2.1	Flight & State Data Management		
3.1.1.2.1.1 through 3.1.1.2.1.12	Flight & State Data Management		
3.1.1.2.2	Flight & State Data Management		
3.1.1.2.2.1 through 3.1.1.2.2.14	Flight & State Data Management		
3.1.1.2.3	Flight & State Data Management		
3.1.1.2.3.1 through 3.1.1.2.3.44	Flight & State Data Management		
3.1.1.2.4	Flight & State Data Management		
3.1.1.2.4.1 through 3.1.1.2.4.29	Flight & State Data Management		
3.1.1.2.5	Flight & State Data Management	ERAM, Tower FDIO	Mitre CAASD Functional Analysis for Segment Bravo Increments
3.1.1.2.6	Flight & State Data	ERAM,	Mitre CAASD Functional Analysis for

Table II: NAS Requirements Allocation Matrix			
Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
	Management	Tower FDIO	Segment Bravo Increments
3.1.1.2.7	Flight & State Data Management	TFDM	Mitre CAASD Functional Analysis for Segment Bravo Increments
3.1.1.2.8	Flight & State Data Management	TFDM	Mitre CAASD Functional Analysis for Segment Bravo Increments
3.1.1.2.9	Flight & State Data Management	TFDM	Mitre CAASD Functional Analysis for Segment Bravo Increments
3.1.1.2.10	Flight & State Data Management	TFDM, Data Comm	Mitre CAASD Functional Analysis for Segment Bravo Increments
3.1.1.3	Surveillance Information Management		
3.1.1.3.1	Surveillance Information Management		
3.1.1.3.1.1 through 3.1.1.3.1.7	Surveillance Information Management		
3.1.1.3.2	Surveillance Information Management		
3.1.1.3.2.1	Surveillance Information Management		
3.1.1.3.3	Surveillance Information Management		
3.1.1.3.3.1 through 3.1.1.3.3.12	Surveillance Information Management		
3.1.1.3.4	Surveillance Information Management		
3.1.1.3.4.1 through 3.1.1.3.4.12	Surveillance Information Management		
3.1.1.3.5	Surveillance Information Management		
3.1.1.3.6	Surveillance Information Management		
3.1.1.3.7	Surveillance Information Management		
3.1.1.4	Weather Information Management		
3.1.1.4.1	Weather Information Management		
3.1.1.4.1.1 through 3.1.1.4.1.5	Weather Information Management		
3.1.1.4.2	Weather Information Management		
3.1.1.4.2.1 through 3.1.1.4.2.5	Weather Information Management		
3.1.1.4.3	Weather Information Management		
3.1.1.4.3.1 through 3.1.1.4.3.33	Weather Information Management		

Table II: NAS Requirements Allocation Matrix

Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
3.1.1.4.4	Weather Information Management		
3.1.1.4.4.1 through 3.1.1.4.4.27	Weather Information Management		
3.1.1.4.5	Weather Information Management		
3.1.1.4.5.1	Weather Information Management	CSS-Wx, NWP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.4.5.2	Weather Information Management	CSS-Wx, NWP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.4.6	Weather Information Management		
3.1.1.4.7	Weather Information Management		
3.1.1.4.8	Weather Information Management		
3.1.1.4.9	Weather Information Management		
3.1.1.4.10	Weather Information Management		
3.1.1.4.10.1	Weather Information Management	CSS-Wx, SWIM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.1.4.11	Weather Information Management		
3.1.2	Traffic Services		
3.1.2.1	Flow Contingency Management		
3.1.2.1.1	Flow Contingency Management		
3.1.2.1.1.1 through 3.1.2.1.1.28	Flow Contingency Management		
3.1.2.1.2	Flow Contingency Management		
3.1.2.1.2.1 through 3.1.2.1.2.4	Flow Contingency Management		
3.1.2.1.3	Flow Contingency Management		
3.1.2.1.3.1 through 3.1.2.1.3.13	Flow Contingency Management		
3.1.2.1.4	Flow Contingency Management		
3.1.2.1.4.1 through 3.1.2.1.4.18	Flow Contingency Management		
3.1.2.1.5	Flow Contingency Management		

Table II: NAS Requirements Allocation Matrix			
Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
3.1.2.1.5.1	Flow Contingency Management	TFDM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.5.2	Flow Contingency Management	TFDM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.6	Flow Contingency Management		
3.1.2.1.6.1	Flow Contingency Management	TFMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.6.2	Flow Contingency Management	TFMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.6.3	Flow Contingency Management	TBFM, TFDM, TFMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.6.4	Flow Contingency Management	TFMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.7	Flow Contingency Management		
3.1.2.1.8	Flow Contingency Management		
3.1.2.1.9	Flow Contingency Management		
3.1.2.1.10	Flow Contingency Management		
3.1.2.1.10.1	Flow Contingency Management	TFMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.11	Flow Contingency Management		
3.1.2.1.11.1	Flow Contingency Management	TAMR, TBFM, TFDM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.1.12	Flow Contingency Management		
3.1.2.2	Separation Management		
3.1.2.2.1	Separation Management		
3.1.2.2.1.1 through 3.1.2.1.1.19	Separation Management		
3.1.2.2.2	Separation Management		
3.1.2.2.2.1	Separation Management		
3.1.2.2.3	Separation Management		
3.1.2.2.3.1 through 3.1.2.2.3.6	Separation Management		
3.1.2.2.4	Separation Management		
3.1.2.2.4.1	Separation Management		

Table II: NAS Requirements Allocation Matrix			
Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
3.1.2.2.5	Separation Management		
3.1.2.2.6	Separation Management		
3.1.2.2.6.1	Separation Management	ERAM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.2.6.2	Separation Management	ATOP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.2.6.3	Separation Management	ATOP, ERAM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.2.7	Separation Management		
3.1.2.2.8	Separation Management		
3.1.2.2.8.1	Separation Management	n/a	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.2.9	Separation Management		
3.1.2.2.10	Separation Management		
3.1.2.3	Short Term Capacity Management		
3.1.2.3.1	Short Term Capacity Management		
3.1.2.3.1.1 through 3.1.2.3.1.25	Short Term Capacity Management		
3.1.2.3.2	Short Term Capacity Management		
3.1.2.3.2.1 through 3.1.2.3.2.9	Short Term Capacity Management		
3.1.2.3.3	Short Term Capacity Management		
3.1.2.3.3.1 through 3.1.2.3.3.37	Short Term Capacity Management		
3.1.2.3.4	Short Term Capacity Management		
3.1.2.3.4.1 through 3.1.2.3.4.36	Short Term Capacity Management		
3.1.2.3.5	Short Term Capacity Management		
3.1.2.3.6	Short Term Capacity Management		
3.1.2.3.7	Short Term Capacity Management		
3.1.2.3.7.1	Short Term Capacity Management	ACS, TFMS, SWIM/NEMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.3.7.2	Short Term Capacity Management	ERAM, ATOP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.3.7.3	Short Term Capacity	ERAM	Mitre CAASD Functional Analysis for

Table II: NAS Requirements Allocation Matrix

Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
	Management		Segment Bravo Increments, dated March 2013
3.1.2.3.8	Short Term Capacity Management		
3.1.2.3.9	Short Term Capacity Management		
3.1.2.3.10	Short Term Capacity Management		
3.1.2.3.11	Short Term Capacity Management		
3.1.2.4	Trajectory Management		
3.1.2.4.1	Trajectory Management		
3.1.2.4.1.1 through 3.1.2.4.1.28	Trajectory Management		
3.1.2.4.2	Trajectory Management		
3.1.2.4.2.1 through 3.1.2.4.2.6	Trajectory Management		
3.1.2.4.3	Trajectory Management		
3.1.2.4.3.1 through 3.1.2.4.3.12	Trajectory Management		
3.1.2.4.4	Trajectory Management		
3.1.2.4.4.1 through 3.1.2.4.4.4	Trajectory Management		
3.1.2.4.5	Trajectory Management		
3.1.2.4.5.1	Trajectory Management	ERAM, TFMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.5.2	Trajectory Management	ATOP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.5.3	Trajectory Management	NEMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.5.4	Trajectory Management	ATOP	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.6	Trajectory Management		
3.1.2.4.7	Trajectory Management		
3.1.2.4.8	Trajectory Management		
3.1.2.4.8.1	Trajectory Management	ERAM, TFMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.9	Trajectory Management		
3.1.2.4.10	Trajectory Management		
3.1.2.4.10.1	Trajectory Management	ERAM, TFMS	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.11	Trajectory Management		
3.1.2.4.12	Trajectory Management		

Table II: NAS Requirements Allocation Matrix			
Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
3.1.2.4.12.1	Trajectory Management	ERAM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13	Trajectory Management		
3.1.2.4.13.1	Trajectory Management	ERAM, TFMS, TBFM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.2	Trajectory Management	ERAM, TBFM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.3	Trajectory Management	TAMR, TBFM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.4	Trajectory Management	TAMR, TBFM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.5	Trajectory Management	TAMR, TBFM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.2.4.13.6	Trajectory Management	TAMR, TBFM	Mitre CAASD Functional Analysis for Segment Bravo Increments, dated March 2013
3.1.3	Mission Support Services		
3.1.3.1	Long Term Capacity Management		
3.1.3.1.1	Long Term Capacity Management		
3.1.3.1.1.1 through 3.1.3.1.1.8	Long Term Capacity Management		
3.1.3.1.2	Long Term Capacity Management		
3.1.3.1.2.1 through 3.1.3.1.2.19	Long Term Capacity Management		
3.1.3.1.3	Long Term Capacity Management		
3.1.3.1.3.1 through 3.1.3.1.3.9	Long Term Capacity Management		
3.1.3.1.4	Long Term Capacity Management		
3.1.3.1.4.1 through 3.1.3.1.4.21	Long Term Capacity Management		
3.1.3.1.5	Long Term Capacity Management		
3.1.3.1.6	Long Term Capacity Management		
3.1.3.1.7	Long Term Capacity Management		
3.1.3.1.8	Long Term Capacity Management		
3.1.3.1.9	Long Term Capacity		

Table II: NAS Requirements Allocation Matrix			
Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
	Management		
3.1.3.1.10	Long Term Capacity Management		
3.1.3.1.11	Long Term Capacity Management		
3.1.3.2	Safety Management		
3.1.3.2.1	Safety Management		
3.1.3.2.1.1 through 3.1.3.2.1.39	Safety Management		
3.1.3.2.2	Safety Management		
3.1.3.2.2.1	Safety Management		
3.1.3.2.3	Safety Management		
3.1.3.2.3.1 through 3.1.3.2.3.6	Safety Management		
3.1.3.2.4	Safety Management		
3.1.3.2.4.1 through 3.1.3.2.4.10	Safety Management		
3.1.3.2.5	Long Term Capacity Management		
3.1.3.2.6	Long Term Capacity Management		
3.1.3.2.7	Long Term Capacity Management		
3.1.3.2.8	Long Term Capacity Management		
3.1.3.3	System and Services Analysis		
3.1.3.3.1	System and Services Analysis		
3.1.3.3.1.1 through 3.1.3.3.1.51	System and Services Analysis		
3.1.3.3.2	System and Services Analysis		
3.1.3.3.2.1	System and Services Analysis		
3.1.3.3.3	System and Services Analysis		
3.1.3.3.3.1 through 3.1.3.3.3.10	System and Services Analysis		
3.1.3.3.4	System and Services Analysis		
3.1.3.3.4.1 through 3.1.3.3.4.2	System and Services Analysis		
3.1.3.3.5	System and Services Analysis		
3.1.3.3.6	System and Services Analysis		
3.1.3.3.7	System and Services Analysis		
3.1.3.4	System and Services Management		
3.1.3.4.1	System and Services Management		
3.1.3.4.1.1 through 3.1.3.4.1.10	System and Services Management		

Table II: NAS Requirements Allocation Matrix

Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
3.1.3.4.2	System and Services Management		
3.1.3.4.2.1 through 3.1.3.4.2.7	System and Services Management		
3.1.3.4.3	System and Services Management		
3.1.3.4.3.1 through 3.1.3.4.3.16	System and Services Management		
3.1.3.4.4	System and Services Management		
3.1.3.4.4.1	System and Services Management		
3.1.3.4.5	System and Services Management		
3.1.3.4.6	System and Services Management		
3.1.3.4.7	System and Services Management		
3.2	Support Services		
3.2.1	Data Access Services		
3.2.1.1	Content Discovery Support		
3.2.1.2	Data Acquisition Support		
3.2.1.3	Service Adaptation Support		
3.2.2	Data Flow Management Services		
3.2.2.1	Data Composition Support		
3.2.2.2	Data Flow Mechanisms Support		
3.3	SOA Core Services		
3.3.1	Messaging Services		
3.3.1.1	Publish Subscribe Messaging Services		
3.3.1.2	Request Reply Messaging Services		
3.3.1.3	Mediation Messaging Services		
3.3.1.4	Message Routing Services		
3.3.2	Enterprise Service Management		
3.3.2.1	Policy Enforcement and Metric Collection Services		
3.3.2.2	Performance Monitoring and Reporting Services		
3.3.2.3	SLA Compliance and Metrics Collection Services		
3.3.2.4	Fault Monitoring and Reporting Services		
3.3.3	Interface Management		
3.3.3.1	Service Registration		
3.3.3.2	Service Discovery		
3.3.4	Security Services		
3.3.4.1	Policy Enforcement and Access		

Table II: NAS Requirements Allocation Matrix			
Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
	Management Services		
3.3.4.2	Security Monitoring Services		
3.3.5	Collaboration Services		
3.3.5.1	Instant Messaging Collaboration Services		
3.3.5.2	White Board Collaboration Services		
3.4	Administrative Services		
3.4.1	Data/Network Support Administrative Services		
3.4.1.1	Database Administrative Services		
3.4.1.2	Network Support Administrative Services		
3.4.1.3	Information System Security Support Management Administrative Services		
3.4.1.4	Incident Detection and Response Administrative Services		
3.4.1.5	Business Continuity Management Administrative Services		
3.4.1.6	Help Desk Administrative Services		
3.4.2	Services Provisioning Management Administrative Services		
3.4.2.1	Services Diagnostics Administrative Services		
3.4.2.2	Services Development Integration and Test Administrative Services		
3.4.2.3	Services Provisioning Administrative Services		
3.4.2.4	Certified Software Management Administrative Services		
3.4.2.5	Training Support Administrative Services		
3.5	Enterprise Governance		
3.5.1	Runtime Enterprise Governance		
3.5.1.1	Service Choreography Enterprise Governance		
3.5.1.2	Service Orchestration Enterprise Governance		
3.5.1.3	Security Policy Management Enterprise Governance		
3.5.1.4	Service Policy Management Enterprise Governance		
3.5.1.5	Service SLA Management Enterprise Governance		

Table II: NAS Requirements Allocation Matrix			
Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
3.5.1.6	Service Scorecard Generation and Publication Enterprise Governance		
3.5.2	Strategic Enterprise Governance		
3.5.2.1	Strategic SOA Enterprise Governance		
3.5.2.2	Service Design Governance		
3.5.2.3	Run-Time and Operations Enterprise Governance		
3.5.2.4	SOA Enterprise Governance Service Desk Support		
3.6	Technical Infrastructure Services		
3.6.1	External Boundary Protection Technical Infrastructure Services		
3.6.2	Information System Security Support Technical Infrastructure Services		
3.6.3	SOA Support Platforms Technical Infrastructure Services		
3.6.4	Web Application Hosting Capability Technical Infrastructure Services		
3.6.5	Data Storage Technical Infrastructure Services		
3.6.6	Computing Platform Technical Infrastructure Services		
3.6.7	Terrestrial Network Communications Technical Infrastructure Services		
3.6.8	Air/Ground Communication Technical Infrastructure Services		
3.6.9	Surveillance Data Collection		
3.6.9.1	Surveillance Data Collection		
3.6.9.1.1	Surveillance Data Collection		
3.6.9.2	Surveillance Data Collection		
3.6.9.2.1 through 3.6.9.2.2	Surveillance Data Collection		
3.6.9.3	Surveillance Data Collection		
3.6.9.3.1 through 3.6.9.3.3	Surveillance Data Collection		
3.6.9.4	Surveillance Data Collection		
3.6.9.4.1	Surveillance Data Collection		
3.6.9.5	Surveillance Data Collection		
3.6.9.6	Surveillance Data Collection		
3.6.10	Weather Data Collection		
3.6.10.1	Weather Data Collection		

Table II: NAS Requirements Allocation Matrix

Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
3.6.10.1.1	Weather Data Collection		
3.6.10.2	Weather Data Collection		
3.6.10.2.1	Weather Data Collection		
3.6.10.3	Weather Data Collection		
3.6.10.3.1 through 3.6.10.3.7	Weather Data Collection		
3.6.10.4	Weather Data Collection		
3.6.10.4.1 through 3.6.10.4.2	Weather Data Collection		
3.6.10.5	Weather Data Collection		
3.6.10.6	Weather Data Collection		
3.6.10.7	Weather Data Collection		
3.6.11	Navigation Support		
3.6.11.1	Navigation Support		
3.6.11.1.1	Navigation Support		
3.6.11.2	Navigation Support		
3.6.11.2.1	Navigation Support		
3.6.11.3	Navigation Support		
3.6.11.3.1 through 3.6.11.3.2	Navigation Support		
3.6.11.4	Navigation Support		
3.6.11.4.1 through 3.6.11.4.6	Navigation Support		
3.6.11.5	Navigation Support		
3.6.11.6	Navigation Support		
3.7	Interaction Services		
3.7.1	User Interface and Portals Interaction Services		
3.7.1.1	Browser Interaction Services		
3.7.1.2	Client Interaction Services		
3.7.1.3	Web Application Interaction Services		
3.7.1.4	On-Demand NAS Portal Interaction Services		
3.7.1.5	Administrative Portal Interaction Services		
3.7.2	Notification and Alerts Interaction Services		
3.7.2.1	Weather Notification Interaction Services		
3.7.2.2	Flow Constraint Notification Interaction Services		
3.7.2.3	Airport Status and Mission Critical Notification Interaction Services		
4.0	Support Requirements		
4.1	RMA Service Availability		

Table II: NAS Requirements Allocation Matrix

Requirement Number	NAS Service Requirement	NAS System(s)	Supplementary Information
4.1.1	RMA Requirement		
4.1.2	RMA Requirement		
4.1.3	RMA Requirement		
4.1.4	RMA Requirement		
4.1.5	RMA Requirement		
4.1.6	RMA Requirement		
4.2	Security Requirements		
4.2.1	Security Requirement		
4.2.1.1	Security Requirement		
4.2.1.2	Security Requirement		
4.2.1.3	Security Requirement		
4.2.1.4	Security Requirement		
4.2.1.5	Security Requirement		
4.2.1.6	Security Requirement		
4.2.1.7	Security Requirement		
4.2.1.8	Security Requirement		
4.2.2	Security Requirement		
4.2.2.1	Security Requirement		
4.2.2.2	Security Requirement		
4.2.2.3	Security Requirement		
4.2.2.4	Security Requirement		
4.2.2.5	Security Requirement		
4.2.2.6	Security Requirement		
4.2.2.7	Security Requirement		
4.2.2.8	Security Requirement		
4.2.2.9	Security Requirement		
4.2.2.10	Security Requirement		
4.2.3	Security Requirement		
4.2.3.1	Security Requirement		
4.2.3.2	Security Requirement		
4.2.3.3	Security Requirement		
4.2.3.4	Security Requirement		
4.2.3.5	Security Requirement		
4.2.3.6	Security Requirement		
4.2.3.7	Security Requirement		
4.2.3.8	Security Requirement		
4.2.3.9	Security Requirement		
4.2.4	Security Requirement		
4.2.4.1	Security Requirement		
4.2.4.2	Security Requirement		
4.2.4.3	Security Requirement		
4.2.5	Security Requirement		
4.2.5.1	Security Requirement		
4.2.5.2	Security Requirement		

Table III: NAS/NSIP Requirements Correlation Matrix

Table III: NAS/NSIP Requirements Correlation Matrix

NAS RD Requirement Number	NAS EA Mission Service	NAS System(s)	Portfolio	Increment Number	Increment Title	OI Target Dates	OI Title
3.1.1.1.5	AIM	ACS,	On-	103305-12	Provide	2013 to	On-Demand NAS

Table III: NAS/NSIP Requirements Correlation Matrix							
NAS RD Requirement Number	NAS EA Mission Service	NAS System(s)	Portfolio	Increment Number	Increment Title	OI Target Dates	OI Title
		SWIM/NEMS	Demand NAS Information		Improved Advisories for Flight Operations Centers (FOCs)/Airline Operations Centers (AOCs)	2018	Information
3.1.1.1.6	AIM	ACS	On-Demand NAS Information	103306-02	Provide NAS Status via Digital Notices to Airmen (NOTAMs) for ANSP	2013 to 2018	On-Demand NAS Information
3.1.1.2.5	F&SDM	ERAM, Tower FDIO	CATM	104208-11	Delivery of Pre-Departure Reroutes to Controllers	2014 To 2017	Full Collaborative Decision Making
3.1.1.2.6	F&SDM	ERAM, Tower FDIO	CATM	104208-11	Delivery of Pre-Departure Reroutes to Controllers	2014 To 2017	Full Collaborative Decision Making
3.1.1.2.7	F&SDM	TFDM	Improved Surface Operations	104209-31	Electronic Flight Data Exchange	2012 to 2017	Initial Surface Traffic Management
3.1.1.2.8	F&SDM	TFDM	Improved Surface Operations	104209-32	Integrate Surveillance Data with Flight Data (Surface)	2012 to 2017	Initial Surface Traffic Management
3.1.1.2.9	F&SDM	TFDM	Improved Surface Operations	104209-33	Establish Enhanced Data Exchange with Flight Operators (FOC) and Airport Operators	2012 to 2017	Initial Surface Traffic Management
3.1.1.2.10	F&SDM	TFDM, Data Comm	Improved Surface Operations	104207-11	Revised Departure Clearance via Data Comm	2014 to 2018	Enhanced Surface Traffic Operations
3.1.1.4.5.1	WIM	CSS-Wx, NWP	NAS Infrastructure	103119-11	Enhanced NAS-Wide Access of 0-2 Hours Convective Weather on Traffic Forecast for NextGen Decision-Making	2011 to 2018	Initial Integration of Weather Information into NAS Automation and Decision-Making
3.1.1.4.5.2	WIM	CSS-Wx, NWP	NAS Infrastructure	103119-15	Extended Convective Weather on Traffic Forecast for NextGen	2011 to 2018	Initial Integration of Weather Information into NAS Automation and Decision-

Table III: NAS/NSIP Requirements Correlation Matrix							
NAS RD Requirement Number	NAS EA Mission Service	NAS System(s)	Portfolio	Increment Number	Increment Title	OI Target Dates	OI Title
					Decision Making		Making
3.1.1.4.10.1	WIM	CSS-Wx, SWIM	NAS Infra-structure	103119-17	4-D Tailored Volumetric Retrievals of Aviation Weather Information	2011 to 2018	Initial Integration of Weather Information into NAS Automation and Decision-Making
3.1.2.1.5.1	FCM	TFDM	Improved Surface Operations	104209-13	TFDM Scheduler/Sequencer	2012 to 2017	Initial Surface Traffic Management
3.1.2.1.5.2	FCM	TFDM	Improved Surface Operations	104209-13	TFDM Scheduler/Sequencer	2012 to 2017	Initial Surface Traffic Management
3.1.2.1.6.1	FCM	TFMS	CATM	105302-23	Integrate TMI Modeling	2012 To 2018	Continuous Flight Day Evaluation
3.1.2.1.6.2	FCM	TFMS	CATM	105302-25	Airport Acceptance Rate Decision Support	2012 To 2018	Continuous Flight Day Evaluation
3.1.2.1.6.3	FCM	TBFM, TFDM, TFMS	CATM	105302-21	Improve Demand Predictions	2012 To 2018	Continuous Flight Day Evaluation
3.1.2.1.6.4	FCM	TFMS	CATM	104208-23	Arrival Route Availability Planning	2017 To 2023	Full Collaborative Decision Making
3.1.2.1.10.1	FCM	TFMS	CATM	105207-26	Integrated Departure Route Planning	2017 To 2023	Full Collaborative Decision Making
3.1.2.1.11.1	FCM	TAMR, TBFM, TFDM	Time Based Flow Mgmt	104128-21	Terminal Display of Runway Assignment and Sequence to Controllers	2015 to 2018	Time-Based Metering in the Terminal Environment
3.1.2.2.6.1	SM	ERAM	Separation Mgmt	102117-21	Wake Turbulence Mitigations for En Route Controllers	2014 to 2018	Automation Support for Separation Management
3.1.2.2.6.2	SM	ATOP	Separation Mgmt	104102-30	Enhanced Conflict Probe for ATOP Surveillance Airspace	2013 to 2015	Flexible Entry Times for Oceanic Tracks
3.1.2.2.6.3	SM	ATOP, ERAM	Separation Mgmt	104102-31	Oceanic Conflict Probe Alerts for En Route Controller	2013 to 2015	Flexible Entry Times for Oceanic Tracks
3.1.2.2.8.1	SM	n/a	Separation Mgmt	102154-21	Wake Re-Categorization Phase 2 Reduced Separation	2014 to 2020	Wake Re-Categorization Phase 2 Reduced Separation

Table III: NAS/NSIP Requirements Correlation Matrix							
NAS RD Requirement Number	NAS EA Mission Service	NAS System(s)	Portfolio	Increment Number	Increment Title	OI Target Dates	OI Title
3.1.2.3.7.1	STCM	ACS, TFMS, SWIM/NEMS	On-Demand NAS Information	105104-21	Improve SAA-Based Flow Predictions	2014 to 2017	Improved Management of Special Activity Airspace (SAA)
3.1.2.3.7.2	STCM	ERAM <i>En Route</i>	Separation Mgmt	108212-22 <i>En Route</i>	Increased Utilization of SAAs in En Route Airspace	2015 to 2019 <i>En Route</i>	Initial Conflict Resolution Advisories <i>En Route</i>
		ATOP <i>Oceanic</i>		104102-25 <i>Oceanic</i>	Increased Utilization of SAAs in Oceanic Airspace	2013 to 2015 <i>Oceanic</i>	Flexible Entry Times for Oceanic Tracks <i>Oceanic</i>
3.1.2.3.7.3	STCM	ERAM	Separation Mgmt	108212-22	Increased Utilization of SAAs in En Route Airspace	2015 to 2019	Initial Conflict Resolution Advisories
3.1.2.4.5.1	TM	ERAM, TFMS	CATM	105208-21	Airborne Rerouting	2014 To 2017	Traffic Management Initiatives with Flight-Specific Trajectories
3.1.2.4.5.2	TM	ATOP	CATM	104102-21	User Tactical Trajectory Feedback	2013 To 2015	Flexible Entry Times for Oceanic Tracks
3.1.2.4.5.3	TM	NEMS	CATM	104102-23	User Trajectory Planning in Pre-Oceanic Phase	2013 To 2015	Flexible Entry Times for Oceanic Tracks
3.1.2.4.5.4	TM	ATOP	Separation Mgmt	104102-26	Approval of User Requests in Oceanic Airspace Phase 2	2013 to 2015	Flexible Entry Times for Oceanic Tracks
3.1.2.4.8.1	TM	ERAM, TFMS	CATM	105208-21	Airborne Rerouting	2014 To 2017	Traffic Management Initiatives with Flight-Specific Trajectories
3.1.2.4.10.1	TM	ERAM, TFMS	CATM	105208-21	Airborne Rerouting	2014 To 2017	Traffic Management Initiatives with Flight-Specific Trajectories
3.1.2.4.12.1	TM	ERAM	Separation Mgmt	104104-01	Approval of User Requests and Resolving Conflicts with Efficient Maneuvers in En Route Airspace	2014 to 2018	Automation Support for Separation Management
3.1.2.4.13.1	TM	TBFM, ERAM, TFMS	Time Based Flow Mgmt	104120-21	Metering During Reroute Operations	2014 to 2018	Point-in-Space Metering

Table III: NAS/NSIP Requirements Correlation Matrix							
NAS RD Requirement Number	NAS EA Mission Service	NAS System(s)	Portfolio	Increment Number	Increment Title	OI Target Dates	OI Title
3.1.2.4.13.2	TM	TBFM, ERAM	Time Based Flow Mgmt	104123-21	Lateral Maneuvering for Delay Absorption (Path Stretch)	2014 to 2018	Point-in-Space Metering
3.1.2.4.13.3	TM	TBFM, TAMR	Time Based Flow Mgmt	104128-24	Time-Based Metering In the Terminal Environment	2015 to 2018	Time-Based Metering in the Terminal Environment
3.1.2.4.13.4	TM	TBFM, TAMR	Time Based Flow Mgmt	104128-24	Time-Based Metering In the Terminal Environment	2015 to 2018	Time-Based Metering in the Terminal Environment
3.1.2.4.13.5	TM	TBFM, TAMR	Time Based Flow Mgmt	104128-24	Time-Based Metering In the Terminal Environment	2015 to 2018	Time-Based Metering in the Terminal Environment
3.1.2.4.13.6	TM	TBFM, TAMR	Time Based Flow Mgmt	104128-24	Time-Based Metering In the Terminal Environment	2015 to 2018	Time-Based Metering in the Terminal Environment

Appendix A – AV-2 Definitions & Additional Glossary Terms

Term	Definition
3rd Party Provider	A Third Party Provider provides a commercial outlet for NAS information.
Acquire Surface Weather Data	Includes functions required for collecting and distributing raw surface weather information. Raw surface weather information includes measurements of atmospheric parameters near the surface that can be processed and analyzed to derive atmospheric conditions and forecasts.
Acquire Surveillance Data for Airborne Aircraft	Includes functions required for collecting and distributing raw surveillance information for airborne aircraft. Includes functions required for collecting and distributing raw surveillance information for airborne aircraft.
Acquire Surveillance Data for Surface Vehicles	Includes functions required for collecting and distributing raw surveillance information for ground vehicles. Includes functions required for collecting and distributing raw surveillance information for airborne aircraft.
Acquire Weather Aloft Data	Includes functions required for collecting and distributing raw weather aloft information. Raw weather aloft information includes measurements of atmospheric parameters above the surface that can be processed and analyzed to derive atmospheric conditions and forecasts.
Acquire Weather Radar Data	Provides the ability to collect reflectivity data and other related measurements and derived data by weather radar sensors, and maintain this information. This could include information derived from primary surveillance radar returns if those systems are suitably configured. Maintenance of this information includes validating the information and the sources when generated by external stakeholders, maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Adjust System Parameters	Provides the ability to adjust system element parameters, both remotely and on-site, in order to restore the operational status of the element.
Administration Portal	A special kind of portal for administration purpose, i.e. Runtime Management, or Data/Network Support Services.
Administrative Services	Administrative Services provide the mechanisms for establishing and implementing (Services Provisioning and Management) and for keeping the services running properly (Data/Network Support Services).
Aeronautical Information	Information related to flight safety, air navigation, technical,

Term	Definition
	administrative or legislative matters.
Aeronautical Information Exchange Model	The Aeronautical Information Exchange Model (AIXM) is designed to enable the management and distribution of Aeronautical Information Services (AIS) data in digital format. The Aeronautical Information Exchange Model (AIXM) Specification supports the data-centric environment. It supports aeronautical information collection, dissemination and transformation throughout the data chain.
Aeronautical Information Management	<p>Aeronautical Information Management (AIM) is the means to ensure that all stakeholders have access to critical information about system resources, procedures, constraints, and other factors impacting the use of the airspace system. It is the authoritative source for information produced by other functions and external entities.</p> <p>Aeronautical information includes functions required to maintain airspace system configuration (airspace structures, routes, procedures, etc.) information. Maintenance of this information includes gathering/receiving the information, validating the information and the sources when generated by external stakeholders, maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).</p>
Air/Ground Communications	Includes data and voice communications services between ground and aircraft systems.
Aircraft	Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface. [Pilot/Controller Glossary]
Aircraft Capabilities	The aircraft's performance parameters and capabilities provided by on-board equipment.
Aircraft Characteristics	A specific aircraft type, such as airplane, balloon, helicopter, etc., and/or having specific equipment (certification), such as RNAV or RVSM. [AIXM 5.1: Class – Aircraft Characteristic]
Aircraft Status	Aircraft Status provides information on the current operating state and condition of the aircraft.
Aircraft Status	Information about the operational condition of an aircraft or equipment on-board the aircraft.
Airport Status	Information about the operational condition of an airport or equipment at the airport that would affect flights into or out of the airport. These can include the following, for

Term	Definition
	example: runway configuration, runway closures, weather conditions, equipment outage.
Airport Status and Mission Critical Notification	Provides web based user interface to subscribe real-time notification of airport status and mission critical information.
Airport Structures Definition	A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft/helicopters. [AIXM 5.1: Class – Airport Heliport]
Airspace Fix Status	Information about the operational condition of a specified airspace fix.
Airspace Restriction Advisories	Advice and information about current and forecast restrictions of a specified volume of airspace provided to assist pilots in the safe conduct of flight and aircraft movement. [adapted from Pilot/Controller Glossary]
Airspace Restriction Response	An airspace user's actions to comply with a constraint on the use of a specified airspace.
Airspace Restrictions Request - Gov	The Airspace Restriction Request provides information concerning a request for a specific restriction (constraint) to be enacted for a particular airspace. The request is typically made for the immediate restriction of airspace.
Airspace Status	The Airspace Status describes the configuration and boundaries of a particular volume of airspace, as well as its current state and condition.
Altitude Reservations	An altitude or altitudes, stated in the order flown, which are to be maintained until reaching a specific point or time. Altitude restrictions may be issued by ATC due to traffic, terrain, or other airspace considerations. [Pilot/Controller Glossary]
Analyze Climate Data for Strategic Planning	Provide the ability to perform trend analysis of historic climate data to identify potential climate changes that might impact standard strategic capacity and flow management plans that are based on historic demand patterns, and maintain this information. Maintenance of this information includes maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Assess Airspace Situation	Includes functions required to assess the current, planned, projected, and/or proposed airspace situation, including airspace capacity, demand on airspace, the impact of weather on airspace, congestion, and underutilized airspace

Term	Definition
	capacity.
Assess Flow Situation	Includes functions required to assess the current, planned, projected, and/or proposed traffic flow situation.
Assess Procedure Applicability	Includes functions required to plan and execute operational procedures and control actions.
Assess Separation Constraints	Includes functions required to assess the constraints involved in predicting, detecting, and resolving separation problems.
Assess Trajectory Constraints	Includes functions required to assess the effects of various factors on the development of new 4-D trajectories or the modification of established 4-D trajectories.
Browser	For accessing information in the form of web pages provided by web servers in the NAS/SWIM network or content from NAS Information Domain systems. In term, the browser displays the provided web page to the user. A web page may contain hyperlinks to other information.
Business Continuity Management	Providing mechanisms to do an orderly restoration of NAS services when there is a disastrous disruption of NAS facility.
Capacity Analysis Results	The decisions, recommendations, and other output resulting from the study of the projected capacity and demand at a NAS resource, such as an en route sector or an arrival runway.
Capacity Improvement Analysis Results	The decisions, recommendations, and other output resulting from the study of methods to improve the capacity at a NAS resource, such as an en route sector or an arrival runway.
Capacity Improvement Plans	A set of proposals designed to improve capacity at a National Airspace System (NAS) resource, such as an airport.
Capacity Management Plans	A set of proposals that outline how to balance demand and capacity at a NAS resource in various operational situations. For example, an outline of actions to take when convective weather is forecast.
Capacity Plan Inputs	Information used to develop a Capacity Improvement Plan. Such information could include a forecast of future demand, changes in the types of aircraft being flown, plans for special use of airspace, and so forth.
Certified Software Management	Providing a central repository of approved software for use in the NAS, including the ability to ensure the integrity of the software.
Clearance	<ol style="list-style-type: none"> 1. Authorization for an aircraft to proceed under conditions specified by an air traffic control unit [ICAO] 2. An authorization by air traffic control for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace. The pilot-in-command of an aircraft may not deviate from the provisions of a visual flight rules (VFR) or instrument flight rules (IFR) air traffic clearance except in an emergency or unless an amended clearance has been obtained. Additionally, the pilot may request a

Term	Definition
	different clearance from that which has been issued by air traffic control (ATC) if information available to the pilot makes another course of action more practicable or if aircraft equipment limitations or company procedures forbid compliance with the clearance issued. Pilots may also request clarification or amendment, as appropriate, any time a clearance is not fully understood, or considered unacceptable because of safety of flight. Controllers should, in such instances and to the extent of operational practicality and safety, honor the pilot's request. 14 CFR Part 91.3(a) states: "The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft." THE PILOT IS RESPONSIBLE TO REQUEST AN AMENDED CLEARANCE if ATC issues a clearance that would cause a pilot to deviate from a rule or regulation, or in the pilot's opinion, would place the aircraft in jeopardy. [Pilot/Controller Glossary]
Clearance Status	The state of a clearance request -- for example, pending, approved, denied.
Client	An application on an end-system that accesses a remote service on another computer system, known as a server, by way of a network. A client application also provides user interfaces with display and keyboard services
Climate Constraints	Restrictions on flights or traffic flow due to prevailing or forecast weather conditions at a specified airspace or NAS resource.
Collaboration Services	Collaboration services allow humans to work together on a shared task. Collaboration services may provide functions such as voice communications, instant messaging, white board with annotations, desktop or window sharing, and web conferencing.
Commercial Authorized Clients, Consumers, & Support Facility	Commercial Authorized Clients, Consumers, & Support Facility includes those third party agents that support the development and operation of NAS.
Computing Platform	Includes a computer's architecture, operating system, programming languages and related runtime libraries or graphic user interface.
Content Discovery	Content Discovery is the generic capability, re-used within various information domains, to identify and access specific data/information provided by the Support and Mission Services.
Data Access	Data Access functions provide consistent data access mechanisms for mission services by receiving data, adapting data from external and legacy sources, and providing content discovery services for various information domains.
Data Acquisition	Mechanisms for queries or passive receipt of persistent data required by the Mission Services.
Data Composition	Manipulation of data to required to match the composition of Mission Services and to support performance and scalability. Examples might include sorting or compression of data.

Term	Definition
Data Flow Management	Data Flow Management provides support services to expedite the transfer of data via compression, encoding, or bulk data transfers.
Data Flow Mechanisms	Movement of information as needed to satisfy data flow requirements of the Mission Services. Examples might include bulk transfers or unique domain driven batching of data.
Data Storage	Primarily considered as the secondary storage for computer files and relational database.
Data/Network Support Services	Support services related to the operation of Database Administration, System & Service Management, Network Support Services, Identity Management, Help Desk, Incident Detection & Response, & Certified Software Management
Database Administration Services	Providing the environmental aspects for databases including recoverability, integrity, security, availability, performance, development, and testing support.
Demand Projection	A forecast of the demand (usually measured as a count of aircraft) for a specified National Airspace System resource, such as a fix, an airspace, an airspace boundary, or an airport.
Derive Flow Management Schedules	Includes functions required to derive various metering schedules from planned (pending and intended) and projected trajectories.
Detect Abnormal Flight Behavior	Includes functions required to detect potential airspace security incidents, including abnormal or erratic flight patterns, failure to respond to control instructions, inappropriate responses to ATC communications, unusual requests for flight plan amendments or trajectory modifications, etc.
Detect Separation Violations	Includes functions required to compare the relative positions of two or more aircraft to identify separation violations, and to compare aircraft positions with the boundaries of buffer zones surrounding obstacles to flight (including terrain, obstacles, restricted airspace, and airspace impacted by weather).
Develop Capacity Improvement Plans	Includes functions required to adjust airspace system configuration components in order to improve capacity or mitigate airspace restrictions that address airspace security requirements.
Develop Procedures	Provides the ability to identify and establish procedures that support other airspace system configuration changes (i.e., to airspace structures, routes, infrastructure, etc.), and new procedures for existing airspace system configurations that might result in improved capacity, improved aviation operational efficiency, or assist in mitigating airspace restrictions that address airspace security requirements.
Develop Trajectories	Includes functions required to develop and maintain trial trajectories (including the modification of established pending or intended trajectories) which support trajectory-based operations, satisfy stakeholder business objectives, and respond to specific airspace security events.

Term	Definition
	Maintenance of these plans includes providing persistence of the information for use by the Trajectory Management mission service, and distributing the information for the purposes of collaboration and coordination. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Enterprise Governance	Enterprise Governance Provides the mechanisms for establishing how well services must work (Strategic Governance) and for ensuring that the services meet the Strategic Governance requirements (Runtime Management).
Enterprise Service Management	Enables a comprehensive view of service for the purposed of passive and active management of services at run-time. ESM complements traditional system management capabilities and should be viewed in the context of overall management operations of systems and applications.
Enterprise Wide Operations (National)	Enterprise Wide Operations consists of those functions that are national in scope.
Environmental Impact	An estimate of the environmental consequences of an existing or future project, procedure, process, equipment, airspace or airport configuration, or rule.
Evaluate Airspace Capacity Improvement Plan	Includes functions required to assess existing and proposed airspace system configurations (airspace structures, routes, procedures, etc.) for suitability to meeting identified capacity needs.
Evaluate Trajectories	Includes functions required to evaluate candidate trajectories to determine whether they are consistent with the trajectory constraints and meet the flight and system objectives, and to select candidate trajectories for use as planned and alternative trajectories. This includes the evaluation and selection of minor adjustments to established trajectories.
External Boundary Protection	Provides appropriate mechanisms that monitor and control communications at the external boundary of the NAS to prevent and detect malicious and other unauthorized communications.
Fault Monitoring and Reporting	Monitor services to determine if a service has a fault and report the fault.
Flight & State Data Management	Flight & State Data Management (F&SDM) is the means through which the NAS maintains and distributes all flight information, including, aircraft characteristics and capabilities, flight crew capabilities and authority, flight security profile, flight plans and trajectories (planned and proposed), flow management schedules (arrival, departure, metering), flight status (including flight progress, aircraft systems status, and emergency and security status), clearance delivery status, and which NAS facility and

Term	Definition
	specialist has control of the flight. It includes functions required for maintaining information provided by flight operators concerning specific flights. Maintenance of this information includes gathering/receiving the information, validating the information and the sources when generated by external stakeholders, maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Flight Assignment to Flow	The appointing of a flight to a stream of traffic. Such assignments are often conducted to balance demand for a resource in the National Airspace System. For example, when demand for a particular arrival fix exceeds its capacity, flights may be assigned to flows that feed other arrival fixes to the airport. The assignment can be determined by the Traffic Management Coordinator (TMC) or an Airline Operational Control (AOC).
Flight Operations Center	Any entity supporting the scheduling, planning, and management of multiple flights for an organization, including airlines, shipping corporations, major businesses, military, law enforcement, etc.
Flight Operator	The Flight Operator node represents general aviation and private (business) consumers.
Flight Progress	An aircraft's actual location along its route of flight, as indicated on the flight's filed flight plan or clearance.
Flight Status	Comparison of a flight's actual location to the intended route of flight, as indicated on the flight's filed flight plan or clearance.
Flight Status	Comparison of a flight's actual location to the intended route of flight, as indicated on the flight's filed flight plan or clearance.
Flow Constraint Advisories	Advice and information about current and forecast restrictions of a specified traffic flow provided to assist pilots in the safe conduct of flight and aircraft movement. [adapted from Pilot/Controller Glossary]
Flow Constraint Advisories	Advice and information about current and forecast restrictions of a specified traffic flow provided to assist pilots in the safe conduct of flight and aircraft movement. [adapted from Pilot/Controller Glossary]
Flow Constraint Notification	Provides web based user interface to subscribe real-time notification of significant Flow Constraint changes.
Flow Contingency Management	Flow Contingency Management (FCM) consists of those functions that support command and control decisions

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	related to managing the flow of air traffic based on capacity constraints and airspace performance requirements. It provides automated assistance in the establishment of temporary flow constraints, traffic management initiatives, and the shifting of flights from one flow to another, matching aircraft capabilities to the performance requirements of specific airspace segments and routes. It works in coordination with Short Term Capacity Management to resolve congestion by identifying potential airspace and route configurations that could support specific flow initiatives. It also responds to requests to divert traffic in response to an airspace security event. [NextGen ATS CONOPS]
Flow Management Analysis Results	The outcome of performing flow analysis.
Flow Management Constraints	Restrictions imposed by traffic flow management personnel on flights at or planned for a specified airspace, traffic flow, airspace fix, or other NAS resource.
Generate Adaptation Data	Provides the ability to translate proposed airspace system configuration changes (airspace structures, routes, procedures, etc.) into adaptation data to be used by supporting automation applications and into data products that can be distributed to, and used by external stakeholders. Also includes generating adaptation data from the evaluation of obstacles.
Generate Airspace Advisories	Includes functions required for generating airspace advisories derived from capacity management plans and associated contingency plans that can be used by both internal and external aviation stakeholders. The maintenance of these products is performed by Aeronautical Information Management.
Generate Flow Advisories	Includes functions required for generating flow advisories derived from flow management plans and associated contingency plans that can be used by both internal and external aviation stakeholders. The maintenance of these products is performed by Aeronautical Information Management.
Generate Weather Advisories	Provides the ability to identify weather conditions requiring the issuance of advisories, and to generate and maintain those advisories. Maintenance of these products includes maintaining the currency of the information (including purging expired information), providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Generate Weather Products	Includes functions required for generating and maintaining products derived from raw and processed weather

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	information that can be used by both internal and external aviation stakeholders. Maintenance of these products includes maintaining the currency of the information (including purging expired information), providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Government Authorized Clients, Consumers, & Support Facility	Governmental Authorized Clients, Consumers, & Support Facility includes those third party government agents that support the development and operation of NAS, such as NASA.
GPS Signal	The output broadcast by the satellites of the Global Positioning System (GPS) that are used for navigation and range identification.
Help Desk	Providing a single point of contact to support NAS personnel in the use of NAS services and to resolve reported problems.
Identify Airspace Security Issues	Includes functions that support the identification and evaluation of traffic conditions that could lead to an airspace security event, including situations identified by system functions (trajectory non-conformance, separation violations, abnormal flight behavior, etc.).
Identify Capacity Needs	Includes functions required for the identification and characterization of capacity shortfalls, both in the current timeframe based on post-operations analysis, and in a future timeframe based on projected growth in demand. These functions compare demand for airspace resources (both projected and historical) to existing and planned system capacity. These functions also analyze the impact of proposed airspace restrictions that accommodate airspace security requirements.
Incident Detection and Response Services	Monitoring, analyzing and correlating incident detection sensor data from throughout the NAS, as well as reporting and coordinating response activities when an incident does occur.
Information Services	Information Services includes those mission services which provide common situational awareness required to support command and control operations related to the control and management of air traffic.
Information System Security Support Infrastructure	Provides capabilities for managing keys and supporting access control in the NAS.
Information System Security Support Management	Managing the Information System Security Support Infrastructure within the Technical Infrastructure Services area.
Instant Messaging	Allows any number of authorized users operating on

Term	Definition
	different computers to collaborate with each other through textual messages delivered in real-time.
Integrate Surveillance Data	Provides the ability to integrate processed surveillance information from multiple sources across geographic areas.
Integrate Weather Data	Provides the ability to integrate raw weather information from multiple sources over a geographic area and altitude range, and maintain this information. Maintenance of this information includes validating the information and the sources when generated by external stakeholders, maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Intended Trajectories	The Intended Trajectory represents information concerning a trajectory that has been agreed upon by both the controller and the aircraft operator/pilot, and has been activated or cleared to fly.
Interaction Services	Interaction Services provide human observation and interaction using workstation elements such as display and keyboard. Purpose of Interaction service is to provide situation awareness and decision support. It often relies on information provided by the business logic of the Mission services and Support Services. Interaction service utilizes Browser and Client to access services which may be hosted remotely on Application servers and Portals on the NAS network.
Interface Management	Interface Management core service functions include capabilities that enable service providers to publish information about services and service consumers to discover information about services. This information includes definition of the syntax and semantics of services and the data produced and consumed by services. Information about different versions of services and data schemas is also managed, as well as information about Service Level Agreements (SLA). In addition to the basic publication and discovery functions, user registration and subscription for notification are also associated supporting functionalities.
International ATC	A Next-Gen non-federal partner who are foreign providers of aviation services that collaborate with the NAS. [Mid-Term NAS EA SV-1 v0.1]
Long Term Capacity Management	Long Term Capacity Management (LTCM) is the means through which new system capacity is generated or

Term	Definition
	developed. It provides the tools that support the management of capacity during operations, including airspace configurations, pre-defined routes and fixes, procedures, airport infrastructure improvements, and staffing structures.
Long Term Trajectory Projections	A long-term less frequently updated trajectory projection used to support Trajectory Management.
Maintain Weather Information	Provides the ability to maintain weather information including raw weather data, information derived from the processing of raw weather data, weather forecasts and weather information received from other meteorological sources. Maintenance of this information includes validating the information and the sources when generated by external stakeholders, maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Manage Airspace Restrictions	Includes functions required to manage airspace restrictions driven by external factors. This includes the identification of affected airspace and routes, and associated capacity management plans, to initiate the development of new capacity management plans to respond to the restriction and mitigate its effects. Includes functions required to manage airspace restrictions driven by external factors
Manage Altitude Reservations	Provides the ability to reserve segments of airspace by altitude to support military and other security operations. This includes the identification of affected airspace and routes, and associated capacity management plans, to initiate the development of new capacity management plans to respond to the reservation and mitigate its effects.
Manage Capacity	Includes functions required to develop and maintain capacity management plans and associated contingency plans which adjust specific airspace system configuration (airspace structures, routes, procedures, etc.) elements in order to increase capacity in response to identified congestion or imposed airspace restrictions. Maintenance of these plans includes maintaining the currency of the information (including purging expired information), providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a

Term	Definition
	human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Manage Flow	Includes functions required to develop and maintain flow management plans and associated contingency plans which adjust specific traffic patterns and flows in order to mitigate the impact of identified congestion or respond to specific airspace security events. Maintenance of these plans includes maintaining the currency of the information (including purging expired information), providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Manage Post Operations Data	Includes functions required for the acquisition, maintenance, and distribution of post operations data. Maintenance of this information includes validating the information and the sources when generated by external stakeholders, maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, and providing persistence of the information at various points of use. The information can be distributed either on demand or according to business rules, and could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Manage SAA	Provides the ability to schedule special activity airspace, including the ability to negotiate schedule changes to mitigate capacity shortfalls, and the development of contingency plans. This includes the identification of affected airspace and routes, and associated capacity management plans, to initiate the development of new capacity management plans to respond to the scheduling of the Special Activity Airspace (SAA) and mitigate its effects.
Manage Safety Data	Includes functions required to acquire, derive, and maintain data related to operational safety risks. Maintenance of this information includes validating the information and the sources when generated by external stakeholders, maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of

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	information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Manage Sequencing Plans	Provides the ability to generate, negotiate, and maintain traffic sequencing plans, including contingency plans that specify the order in which specific flights cross an aeronautical fix in support of flow objectives or constraints, or stakeholder business objectives. Maintenance of these plans includes maintaining the currency of the information (including purging expired information), providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Mediation	Provides the capability for various types of mediation, such as data format transformation, between message senders and receivers.
Message Routing	Provides support for message routing between service providers and service consumers.
Messaging	Messaging is a common enabler for services, providing communication and messaging security.
Military	A NextGen federal partner whose operations consume NAS information and interact with traffic management operations. [Mid-Term NAS EA SV-1 v0.1]
Military ATC	A NextGen federal partner whose military air traffic control (ATC) operations are integrated with the NAS. [Mid-Term NAS EA SV-1 v0.1]
Mission Services	Mission Services provide direct support to command and control operations in the NAS, including the functions required for the management and distribution of operational information, and decision support functions
Mission Support Services	Mission Support Services includes those mission services which provide support for the sustainment and improvement of operational capabilities, and which provide ancillary analytic capabilities in support of command and control.
Monitor Conformance	Includes functions required to compare a vehicle's current and projected position with its intended trajectory to identify when the vehicle is or will be in non-conformance, including whether the vehicle has exceeded safety or

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	security buffer zones, or is operating in a manner that suggests an airspace security event is in progress.
Monitor Service Status	Includes functions required to monitor the performance of system elements and of the services they support.
Monitor Traffic Management Constraints	Includes functions that correlate airspace situation changes (changes in flow constraints, airspace restrictions, and general airspace status) with flight plans and trajectories to identify flight-specific impacts to be addressed through the trajectory management process.
NAS Facility	Any facility that provides a NAS function or hosts a NAS system.
NAS Infrastructure Status	The operational condition of equipment (for example, runway lighting), resources (for example, airport runways), and facilities that support operations in the National Airspace System.
National Weather Service	Official US weather, marine, fire and aviation forecasts, warnings, meteorological products, climate forecasts and information about meteorology.
Navigation Support	Navigation Support includes functions performed by ground-based navigation and landing systems that provide electronic reference signals to assist an aircraft in determining its position relative to a navigation fix or runway. It also includes the provision of visual reference to flight crews.
Network Support Services	Providing maintenance of computer hardware and software that comprises a computer network, including deployment, configuration, maintenance, and monitoring.
NextGen Facility	A NextGen Facility is the transition of existing Air Route Traffic Control Centers (ARTCC), Terminal Radar Control Facilities (TRACON) and Airport Traffic Control Towers (ATCT) to air traffic facilities with improved conditions.
NOTAM Input	Information used to create a Notice to Airmen (NOTAM), which is a notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations. [adapted from Pilot/Controller Glossary]
Notification and Alerts	Provides web based user interface to subscribe real-time NAS Notification and Alerts
On-Demand NAS Portal	Provides a secure unified access point, often in the form of a web-based user interface, and is designed to aggregate and personalize information through application-specific portals.
Operational Trends	The prevailing tendency of factors that may influence demand or capacity in the NAS. Operational trends include the
Other Government Agency	Other government agency includes any agency that interacts with the National Airspace System (NAS), such as the Department of Defense (DOD), the Department of Homeland Security (DHS) and the National Weather Service

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	(NWS).
Pending Trajectories	The Pending Trajectory represents information concerning a trajectory that has been agreed upon by both the controller and the aircraft operator/pilot, but has not yet been activated or cleared to fly.
Perform Operational Analysis	Includes functions required to analyze operational information in support of other mission services.
Perform Operational Modeling	Includes functions required to perform modeling of operational scenarios and configurations in support of system improvements, training, and the identification of operational problems.
Perform Probabilistic Forecasting	Provide the ability to project changes to atmospheric parameters and their derived atmospheric conditions, and assess the probability of those changes over time, and maintain this information. Maintenance of this information includes maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Perform Safety Analysis	Includes functions required to analyze operational data and correlate that data with identified safety risks to establish precursors that can be used for the real-time prediction and mitigation of operational safety risks.
Perform Safety Monitoring	Includes functions required to collect real-time operational data and apply safety risk precursors in order to predict operational safety risks.
Performance Monitoring and Reporting	Monitors services to determine level of performance including but not limited to throughput and response time. It also generates threshold based alerts and reports performance based metrics.
Pilot Authorization	Permission granted by the FAA to a pilot to operate in a specified environment, or operate a specified procedure or specified route; the pilot must have met the requirements outlined by the FAA. For example, pilot authorization may be granted to fly a civil aircraft in the United States that is leased by a non-U.S. citizen, or pilot authorization may be granted to fly a Category II approach.
PIREPS	A report of meteorological phenomena encountered by aircraft in flight. [AIM 2-11-10]
Policy Enforcement and Metric Collection	Enforces policies set by the governance process including SLA compliance and message QoS compliance.
Predict Delays	Provides the ability to determine the impact of flow decisions or potential flow actions on specific aircraft in

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	order to derive operational metrics for use in evaluating proposed flow actions.
Predict Flow Constraint Non-conformance	Provides the ability to monitor and project operational metrics to predict when flow objectives will not be met and when further flow management planning is necessary.
Predict Separation Conflicts	Includes functions required to compare short-term projected trajectories to identify potential conflicts, and to compare short-term projected trajectories with obstacles to flight (including terrain, obstacles, restricted airspace, and airspace impacted by weather).
Project Long Term Trajectories	Includes functions required to predict, for the long-term portion of a projected trajectory, the time-varying position (including altitude) of a vehicle (airborne or surface) based on planned trajectories, vehicle track information (indirectly via the short-term trajectory projection), and the situation in which the vehicle is operating. The long-term portion of a projected trajectory is the strategic portion that extends beyond the time horizon in which the Separation Management mission service operates. It builds on a sampling of the short-term portion of the projected trajectory, which has a higher update rate.
Project Short Term Trajectories	Includes functions required to predict, for the short-term portion of a projected trajectory, the time-varying position (including altitude) of a vehicle (airborne or surface) based on planned trajectories, vehicle track information, and the situation in which the vehicle is operating. The short-term portion of a projected trajectory is the tactical portion that covers the time horizon in which the Separation Management mission service operates. A sampling of the short-term portion of the projected trajectory, which has a higher update rate than the long-term portion, is used as the starting point for the development of the long-term portion of the projected trajectory by the Trajectory Management mission service.
Projected Trajectories	<ol style="list-style-type: none"> 1. The actual projection of a specific flight trajectory based on surveillance and other factors affecting the flight path. 2. A visualization on the air traffic controller's display of the predicted course of an aircraft, created by a decision support tool such as the User Request Evaluation Tool (URET). The projected trajectory may or may not be in conformance with the cleared route.
Proposed Trajectories	<ol style="list-style-type: none"> 1. Trajectories proposed by external stakeholders (e.g., pilot requests for complex clearances, security requests for flight deviations). 2. A set of proposed routes for an aircraft, generated by a decision support tool such as the User Request Evaluation Tool (URET).
Provide Electronic Spatial Reference	Includes functions required for providing electronic spatial reference guidance.
Provide Visual Spatial Reference	Includes functions required for providing visual spatial

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	reference guidance.
Publish/Subscribe	Provides support for publish/subscribe message exchange pattern.
Reconfigure System	Provides the ability to reconfigure system elements, both remotely and on-site, to by-pass failed or degraded elements, or reconfigure the system in support of operational needs.
Remote Facility	Remote Facilities represent geographically disperse locations which host NAS systems. These facilities may be joint-use, i.e., those owned by other government entities including the military. Despite the remote location and shared access, these nodes are functionally considered to be part of the NAS.
Request/Response	Provides support for request/response message exchange pattern.
Resolve Separation Problem	Includes functions required to identify potential adjustments to trajectories that can resolve predicted conflicts or separation violations.
Route Status	The operational condition of a specified route. The condition can be described in terms of "congestion" (where demand exceeds capacity) or by other factors affecting travel along the route, such as convective weather.
Route Status Advisories	Advice and information about the operational condition of a specified route.
Run-Time and Operations Governance	Creates and executes governance process including procedures for runtime management and operations.
Runtime Management	Functions which allow for flexible allocation of NAS SOA resources detailed by run-time governance and service designs. Runtime management provides for Orchestration, Choreography, Policy Compliance, SLA management, and service scorecard management.
Runway Status	The operational condition of a specified runway.
SAA Status	An estimate of the availability of the Special Access Airspace (SAA).
Safety Management	Safety Management Service is the means through which safety information is collected, derived from other system data, and analyzed to determine relative risk and appropriate means for mitigation.
Satellite Navigation Correction Information	A set of proposals to determine how to identify the order of aircraft along a route or destined for a specified National Airspace System (NAS) resource, such as a metering fix.
Satellite	Satellites provide navigations and weather information services. Communication satellites are not shown.
Security Policy Enforcement and Access Management	Provides management of access to data resources that are based on the requesting entity's identity, organizational role, or other considerations such as transaction state or application. Provides mechanisms to enforce security policies based on rules set by the NAS SOA Governance body.
Security Policy Management	Provides management and storing of the rules that allow

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	and limit access privileges to NAS data resources.
Security Services	Functions related to enforcing security policies, monitoring security, and providing secure gateways for data flows.
Separation Management	Separation Management (SM) is the tactical response to violations or projected violations of separation standards. It generates tactical variations of flight trajectories to resolve projected conflicts between aircraft, and between an aircraft and an aviation hazard, such as obstacles to flight, restricted airspace, or severe weather. It also generates tactical variations of flight trajectories in response to specific airspace security events. [SV-1p, 30 Dec 2010]
Sequencing Plans	A short-term rapid-update trajectory projection used to support Separation Management.
Service Adaptation	Adaptation or transformation required to enable legacy applications to use SOA Core Services to exchange information with other services. Service Adaptation allows legacy applications to achieve service orientation without change to the legacy application logic.
Service Choreography	Establishes service interchange patterns for collaborative purposes for interacting services from different provider entities that are not centrally managed.
Service Delivery Node(s) (Local)	Service Delivery Nodes will be facilities that integrate operational domains (e.g., tower control, classic airspace, and trajectory based operations airspace). These facilities could also provide an economical solution for high altitude airspace restructuring that would be needed after implementing the Big Airspace concept.
Service Design Governance	Creates and executes governance process including procedures for the design, implementation, test, and run-time management of the NAS SOA Services.
Service Diagnostics	Collects fault and performance data to perform diagnostics of services in NAS operation.
Service Discovery	Provides the capability for service consumers to be able to easily find information about services including the service access point.
Service Orchestration	Establishes service interaction patterns for combined, centrally managed services.
Service Policy Management	Storing, categorizing, updating, and distributing policies to control monitoring of faults and quality of services.
Service Registration	Provide Service Registry for the providers to register service description including service SLA and QoS characteristics, and meta-data for Service Interfaces.
Service Scorecard Generation and Publication	Collect information from Service Enforcement Point to review performance, capacity, reliability and availability of NAS systems and services and verify Service Policy and SLA are fulfilled.
Service Security Monitoring	Provides monitoring of NAS services for any systems events that may indicate security breach or fraudulent use of NAS system resources.
Service SLA Management	Storing, updating, and distributing SLA to control monitoring

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	of faults and quality of services.
Services Development, Integration, and Test	Prototyping, Developmental Testing and Operational Testing for service qualities including reliability, availability, and SLA policies before deployment.
Services Provisioning	Perform deployment, configuration and maintenance in the lifecycle of certified NAS services.
Services Provisioning Management	Functions related to preparing applications so that they can be deployed into the NAS to provide services to users and to other applications.
Short Term Capacity Management	Short Term Capacity Management (STCM) is the means through which planning is performed for applying available assets to adjust system capacity to meet the demand. It involves the assessment of demand within an operational timeframe, and the allocation of available resources to provide sufficient capacity to meet that demand. It also predicts congestion where capacity cannot be increased sufficiently to meet demand. It works in coordination with Flow Contingency Management to resolve predicted congestion by adjusting airspace and route configurations to match the needs of specific flow initiatives. It also responds to request for airspace restrictions required to address airspace security events by reconfiguring airspace and routes to accommodate the restrictions.
Short Term Trajectory Projections	A short-term rapid-update trajectory projection used to support Separation Management.
SLA Compliance and Metrics Collection	Monitors services to determine if factors specified in Service Level Agreements (SLA) are out of the permitted range, including but not limited to resource utilization, fault behaviors, and performance metrics.
SOA Core Services	SOA Core Services layer primarily provides interfaces and interoperability to support the upper layers. The prime components are messaging services, collaboration services, security services and Enterprise Service Management.
SOA Governance Service Desk Support	Provides a single point of contact to meet the needs and satisfy objectives of both SOA implementers and SOA governance management.
SOA Support Platforms	Provides an execution environment for operating systems including a Virtual Machine, common language runtime API, and runtime class library for application and Web Services (Java, Microsoft .Net, etc.)
Strategic Governance	Services which align NAS strategy with service implementations, ensuring that the NAS stays on track to achieve strategies and goals while implementing appropriate performance measurement. Strategic Governance ensures appropriate stakeholder's interests are taken into account and that processes provide measurable results.
Strategic SOA Governance	Includes strategic planning, funding, budgeting, portfolio management, enterprise architecture, and business and technology alignment.

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Support Capacity Development Collaboration	Includes functions required for the establishment of a collaborative environment in support of the development of new airspace structures, routes, procedures, infrastructure improvements, and other changes to the NAS that are intended to result in improvements in system capacity, or the mitigation of the effects of airspace restrictions that address airspace security events.
Support Capacity Management Collaboration	Includes functions required for the establishment of a collaborative environment in support of the selecting and implementing airspace system configurations (airspace structures, routes, procedures, etc.) in order to maintain the balance between system capacity and demand, or to mitigate of the effects of airspace restrictions that address airspace security events.
Support Flow Management Collaboration	Includes functions required for the establishment of a collaborative environment in support of the selecting and implementing traffic flow management actions in order to maintain the balance between system capacity and demand, or to mitigate the effects of airspace restrictions that address airspace security events.
Support Maintenance Collaboration	Includes functions required for the establishment of a collaborative environment in support of the selecting and implementing actions designed to resolve system maintenance issues.
Support Safety Collaboration	Includes functions required for the establishment of a collaborative environment in support of the selecting and implementing actions designed to mitigate and identified safety risk.
Support Services	Data Logic supporting Mission Services. The logic exists at two levels: Data access to the persistent data required by the Mission Services and management of data flow to and between Mission Services. This logic is available to the mission applications as services and may be constructed with domain model semantics.
Support Trajectory Negotiation	Includes functions required for the establishment of a collaborative environment in support of the development, selection and implementation of 4-D trajectories in order to support trajectory-based operations, satisfy stakeholder business objectives, and respond to specific airspace security events.
Surface Fix Status	The operational condition of a designated fix on the runway or taxiway.
Surveillance Data Collection	Includes functions required for collecting and distributing raw surveillance information for both airborne aircraft and ground vehicles.
Surveillance Information Management	Surveillance Information Management (SIM) is the means for collecting and processing acquired surveillance information and transforming it into an integrated, comprehensive, and authoritative source for all consumers and service providers. The processing includes correlating surveillance information with flight data to provide

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	continuous identification and tracking of each flight. It also involves the derivation of information from the surveillance data, such as velocity and intent.
System & Services Analysis	System & Services Analysis (S&SA) includes both real-time and off-line analysis of information gathered throughout the system and from external entities. It is used to assess system performance and to support investigations of accidents, incidents, and criminal activity. It also includes the recording of operational information (including voice communications) for analysis and archival purposes.
System & Services Management	System & Services Management (S&SM) represents the enterprise-wide maintenance and system management function. It monitors the health of all system elements, identifies the impact of system issues on operational services, responds to failures and degradations of service, and provides logistics and preventative maintenance support to minimize system outages and degradation of services. It also monitors the health of external entities critical to the success of collaborative operations.
Technical Infrastructure Services	This layer provides the hardware and software infrastructure to support day to day operations for all NAS services which are on the upper layers. Some components are the run-time computing platforms, data storage systems, network infrastructure, and enclave boundary and transport-level protection elements. This layer also includes infrastructure-based functionality that enables the NAS to interact with external elements of the operational environment, including air-to-ground communications, surveillance, navigation services, and meteorological data collection.
Terrestrial Network Communication	The NAS IP network primarily used for data communication between NAS applications, web servers, computer platforms and Data Storage.
Track Airborne Aircraft	Provides the ability to track the position and velocity of airborne vehicles, and maintain this information. Maintenance of this information includes maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Track Ground Vehicles	Provides the ability to track the position and velocity of aircraft and other vehicles on the airport surface, and maintain this information. Maintenance of this information

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	includes maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Traffic Services	Traffic Services includes those mission services which provide support for command and control operations related to the control and management of air traffic.
Training Support	Supports training of NAS personnel to understand the characteristics and functionality of NAS application services.
Trajectory Management	Trajectory Management (TM) is the means through which 4-D trajectories are generated, assessed, and modified for use in trajectory-based operations. It supports the implementation of flow management strategies by managing changes to trajectories required by localized changes in capacity and demand. It also supports the detection of airspace security events and the implementation of flight-specific responses to such events. [NextGen ATS CONOPS]
Translate Weather Information	Weather Translation is comprised of one or more functions which ingest weather observations, analyses, and forecasts of meteorological parameters from the NextGen 4-D Weather Data Cube and automatically produce relevant, standardized threshold events or characterizations of weather-related NAS constraints. This is accomplished through a framework of aviation safety and operations filters such as Federal Aviation Regulations (FARs), flight standards, aircraft limitations and standard operating procedures (SOPs). The results of Weather Translation will be in the form of 4-D representations that are spatially and temporally relevant to the affected NAS element (e.g. airport, terminal area, region of en route airspace).
Trial Trajectories -	A set of trajectories for an aircraft proposed by a decision support tool such as the User Request Evaluation Tool (URET).
User Interaction Interface and Portals	User Interaction Interface and Portals provide Browser and Client to access services which may be hosted remotely on Application servers and Portals on the NAS network.
Visual Approach Guidance	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 final approach path for landing. [AIXM 5.1: Class – Approach Lighting System]
Visual Surface Guidance	One or more light sources located on the ground and that

Term	Definition
	provide visual assistance for air and ground navigation. [AIXM 5.1: Class – Ground Light System]
Weather Advisories	In aviation weather forecast practice, an expression of hazardous weather conditions not predicted in the area forecast, as they affect the operation of air traffic and as prepared by the NWS. [Pilot/Controller Glossary]
Weather Conditions	The Weather Conditions provide information on meteorological conditions for specific areas within the NAS.
Weather Data Collection	Includes functions required for collecting and maintaining raw weather information from ground-based and airborne sensors. Raw weather information includes measurements of atmospheric parameters that can be processed and analyzed to derive atmospheric conditions and forecasts. Maintenance of this information includes validating the information and the sources when generated by external stakeholders, maintaining the currency of the information (including purging expired information), producing products that result from filtering and combining different pieces of information, providing persistence of the information at various points of use, and distributing the information either on demand or according to business rules. The distribution of the information could include the provision of information in machine-readable format or in the form of a display to a human consumer of the information. All of these lower-level functions can leverage services outside of the mission service domain (Interaction Services, Support Services, SOA Core Services, etc.).
Weather Impact to Airspace	The operational consequences of current or forecast weather on the capacity of a designated airspace.
Weather Information Management	Weather Information Management (WIM) is the means for collecting and processing raw weather information and transforming it into an integrated, comprehensive, and authoritative source for all consumers and service providers. The processing includes interpolation between sources to provide complete lateral and vertical coverage, and probabilistic extrapolation from current conditions into the future so as to provide a 4-D representation of the weather situation that can be used for decision making related to the current traffic situation and for planning to accommodate projected demand. It also includes the derivation of products and data that can be applied to decision support tools, support trajectory-based operations, and provide advisories of hazardous weather to consumers.
Weather Notification	Provides web based user interface to subscribe real-time notification of significant weather condition changes.
Weather Vendor	A NextGen commercial partner that provides weather information to the NAS.
Web Application	An application that is accessed via browser or client over a network such as the NAS network. It is also a computer software application that is coded in a browser-supported language (such as HTML, Java Script, Java, etc.) and reliant

Term	Definition
	on a common web browser to render the application executable.
Web Application Hosting Capability	Provides hosting functions and platforms that can be used to deploy Interaction Services.
White Board	Allows session users to view common files and provide the ability for users to collectively draw, annotate and mark "on top" of the common files view.
Airport Operations Status	TBD
Airspace Security Analysis Results	TBD
Airspace Security Event Response	TBD
Airspace Structures Definition	TBD
Airspace Volume Status	TBD
Analysis Results	TBD
Authoritative Weather Data	TBD
Capacity Improvement Inputs	TBD
Congestion Advisories	TBD
Consumer Needs	TBD
Electronic Approach Guidance	TBD
Electronic Route Guidance	TBD
Electronic Surface Guidance	TBD
External System Status	TBD
Flight Information	TBD
Flight Objectives	TBD
Flight Operator Information	TBD
Flow Management Plan Inputs	TBD
Flow Management Plans	TBD
Flow Management Schedules	TBD
Maintenance Commands	TBD
Maintenance Situation Information	TBD
NAS Service Status	TBD
Operational Performance Metrics	TBD
Planned System Outages	TBD
Projected Winds	TBD
Proposed System Changes	TBD
Recorded Information	TBD
Recorded Operational Data	TBD
Response to Trajectory Alternative	TBD
SAA Schedule Request	TBD
Safety Analysis Results	TBD
Safety Information	TBD
Safety Issues	TBD
Surveillance Data	TBD

Term	Definition
Surveillance Data - ADS	TBD
Surveillance Data - Transponder	TBD
Surveillance Information - Airborne	TBD
Surveillance Information - Integrated	TBD
Surveillance Information - Surface	TBD
Trajectory Assessment	TBD
Trajectory Impact Analysis	TBD
Utilization Forecast	TBD
Weather Condition Projections	TBD
Weather Conditions	TBD
Weather Data	TBD
Weather Data (Airborne)	TBD
Weather Data (Radar)	TBD
Weather Data (Surface)	TBD
Weather Impact and Advisories	TBD
Weather Information	TBD
Weather Parameters	TBD
Weather Products (Area)	TBD
Weather Products (Graphical) - NWS	TBD
Weather Products (Trajectory-based)	TBD
Cyber Security	The process of protecting information by preventing, detecting, and responding to attacks.
NAS Critical Infrastructure	Systems and assets which provide NAS Safety-Critical, Efficiency-Critical, and Essential NAS services.
NAS Cyber Security Alert	An alert is an indication provided by a Cyber security monitoring capability or other method to include a NAS system imbedded M&C capability that an unauthorized physical device, system, software platform, application, information system or device has been detected. An alert is also an audit log cyber security related entry which indicates an unauthorized or suspicious transaction, or unauthorized or suspicious network traffic.
NAS Cyber Security Alarm	An alarm is a Cyber security alert that has been

Term	Definition
	determined by NAS subject matter experts to be an indication that a Cyber security incident may be occurring or that a cyber-security alert has exceeded a threshold per defined unit of time.
NAS Cyber Security Event	An event is NAS Cyber security Alarm occurrence which provides an indication that an incident is occurring or at least raise the suspicion that an incident may be occurring which may have an impact on NAS operations and services.
NAS Cyber Security Incident	An incident is a NAS Cyber security Alarm occurrence which results on the loss of a NAS Safety- Critical, Efficiency-Critical, Essential or Routine service.

Appendix B - Acronyms

Acronym	Meaning
4-D	Four Dimensional
A	
A/C	Aircraft
A/G	Air-to-Ground
ACS	Aeronautical Common Service
ADF	Automatic Direction Finder
AIM	Aeronautical Information Management
AIXM	Aeronautical Information Exchange Model
AMS	Acquisition Management System
ANSP	Air Navigation Service Provider
AOC	Airline Operational Control
API	Application Programming Interface
ARTCC	Air Route Traffic Control Center
ATC	Air Traffic Control
ATCRBS	Air Traffic Control Radar Beacon System
ATCT	Air Traffic Control Tower
ATM	Air Traffic Management
ATOP	Advanced Technologies and Oceanic Procedures
AV	All View (NAS EA product)
B	
C	
CAASD	Center for Advanced Aviation System Development
CATM	Collaborative Air Traffic Management
COI	Community of Interest
CSS-Wx	Common Support Service - Weather
D	
DHS	Department of Homeland Security
DOD	Department of Defense
E	
EA	Enterprise Architecture
ERAM	En Route Automation Modernization
ETA	Estimated Time of Arrival
F	
F&SDM	Flight & State Data Management
FAA	Federal Aviation Administration
FCM	Flow Contingency Management
FDIO	Flight Data Input/Output
FIPS	Federal Information Processing Standards

Acronym	Meaning
FO	Flight Operations
FOC	Flight Operations Center
G	
G/G	Ground-to-Ground
H	
HTML	Hyper-Text Markup Language
I	
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
INFOSEC	Information Security
IP	Internet Protocol
ISSO	Information Systems Security Officer
J	
K	
L	
LOFF	LORAN C Offshore Flight Following
LTCM	Long Term Capacity Management
M	
MDA	Minimum Descent Altitude
MTBF	Mean Time Between Failure
MTTR	Mean Time to Restore
N	
NAS	National Airspace System
NASA	National Aeronautical and Space Administration
NAS EA	NAS Enterprise Architecture
NAVAID	Navigational Aid
NEMS	NextGen Enterprise Messaging Service
NextGen	Next Generation Air Transportation System
NIST	National Institute of Standards and Technology
NM	Nautical Mile
NOTAM	Notice to Airmen
NSIP	NextGen Segmented Implementation Plan
NWP	NextGen Weather Processor
NWS	National Weather Service
O	
OI	Operational Improvement (NSIP)
OMB	Office of Management and Budget
P	
PIREPS	Pilot Reports
Q	

Acronym	Meaning
QoS	Quality of Service
R	
R&D	Research and Development
RD	(NAS) Requirements Document
RMA	Reliability, Maintainability, and Availability
S	
S&SA	System & Service Analysis
S&SM	System & Service Management
SAA	Special Activity Airspace
SAR	Search and Rescue
SEM	Systems Engineering Manual
SIM	Surveillance Information Management
SLA	Service Level Agreement
SM	Separation Management
SMS	Safety Management System
SOA	Service Oriented Architecture
SOP	Standard Operating Procedures
SRM	Safety Risk Management
STARS	Standard Terminal Automation Replacement System
STCM	Short Term Capacity Management
SV	System View (NAS EA product)
SWIM	System Wide Information Management
T	
TACAN	Tactical Air Navigation System
TAMR	Terminal Automation Modernization and Replacement
TBFM	Time-Based Flow Management
TFDM	Tower Flight Data Manager
TFMS	Traffic Flow Management System
TM	Trajectory Management
TMC	Traffic Management Coordinator
TMI	Traffic Management Initiative
TRACON	Terminal Radar Control Facility
TV	Technical View (NAS EA product)
U	
URET	User Request Evaluation Tool
V	
VFR	Visual Flight Rules
VOR	VHF Omni-directional Radio Range

Acronym	Meaning
W	
WIM	Weather Information Management
X	
Y	
Z	