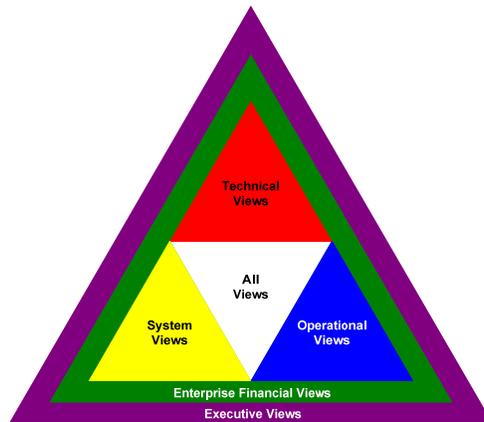




National Airspace System Enterprise Architecture (NAS EA)

Air Traffic Organization



**NextGen Far-Term (2025)
To-Be Enterprise-Level Architecture
Operational Node Connectivity Description (OV-2)
Version 1.0
January 29, 2010**

Purpose

The OV-2 provides a depiction of the operational nodes and associated information exchanges (expressed as needlines) that are required for NextGen 2025 operations. An operational node is an element of the operational architecture that produces, consumes, or processes information. Figure 1 depicts the highest set of operational nodes representing the Enterprise NextGen 2025 Context. The remaining figures 2 – 17 depict related sub-nodes that are associated with this highest level. Table 1 provides definitions for the depicted nodes.

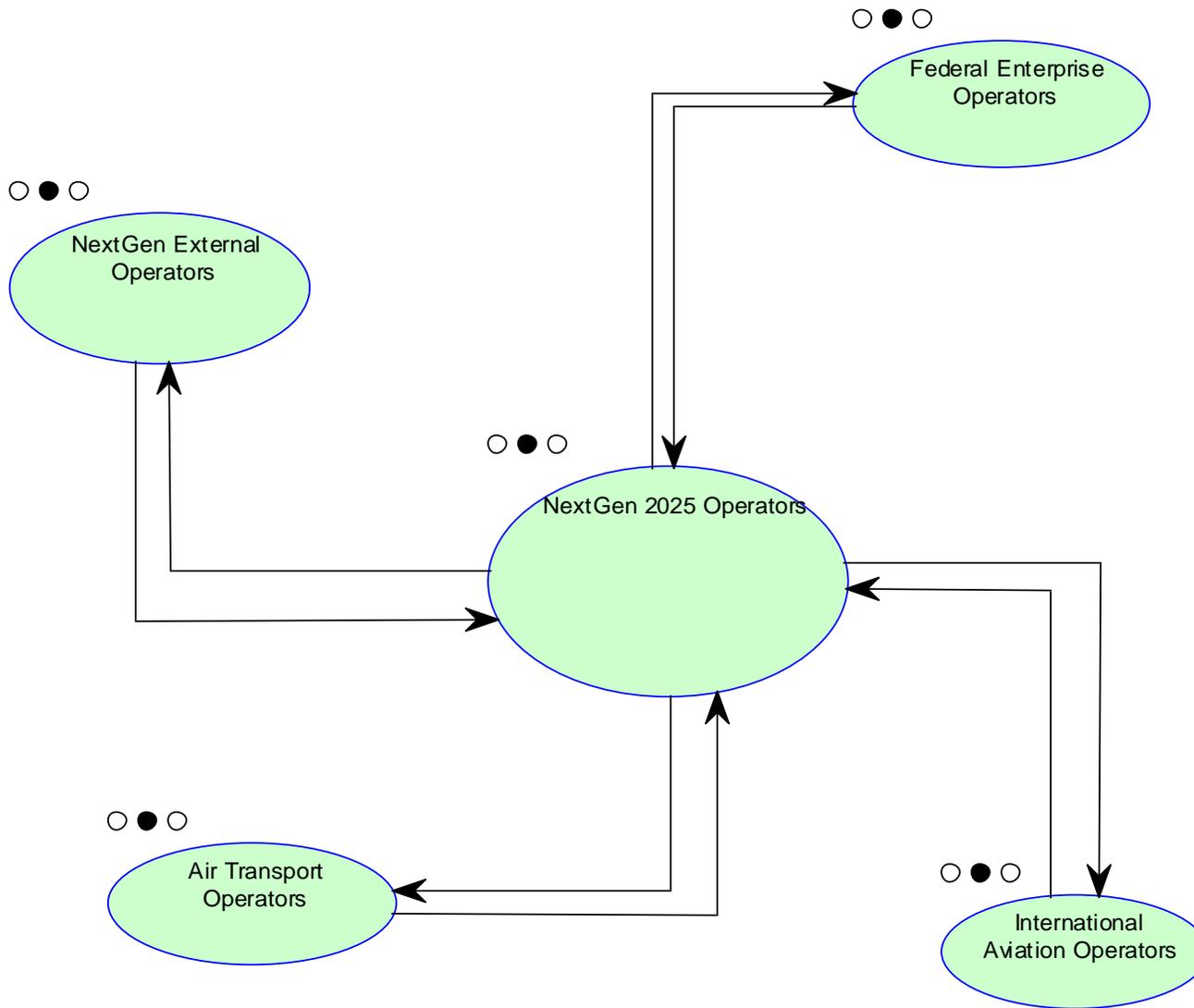


Figure 1. NextGen 2025 Operational Node Connectivity Diagram OV-2

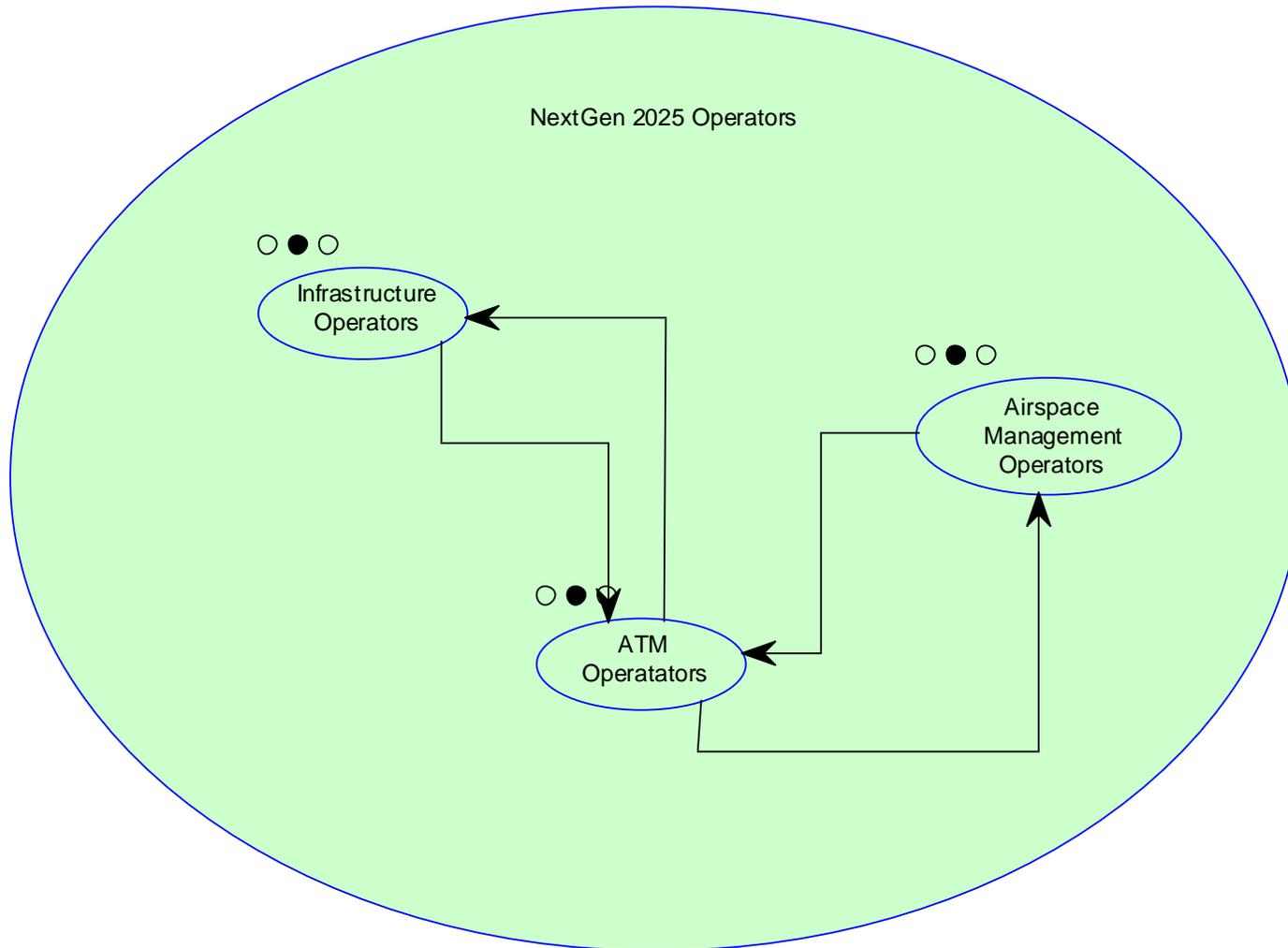


Figure 2. NextGen 2025 Operational Node Relationships – NextGen Operators

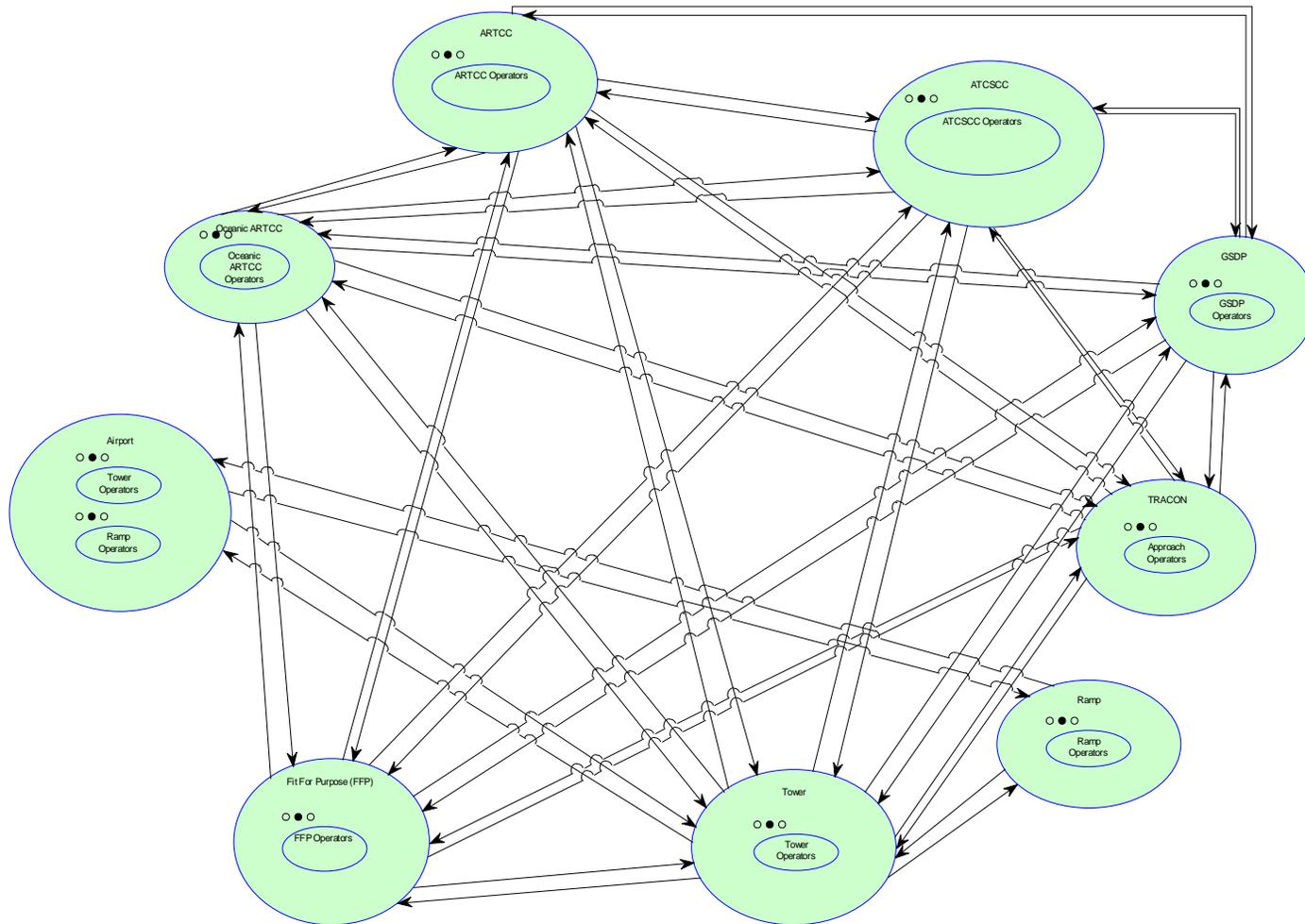


Figure 3. NextGen 2025 Operational Node Relationships – ATM Operators

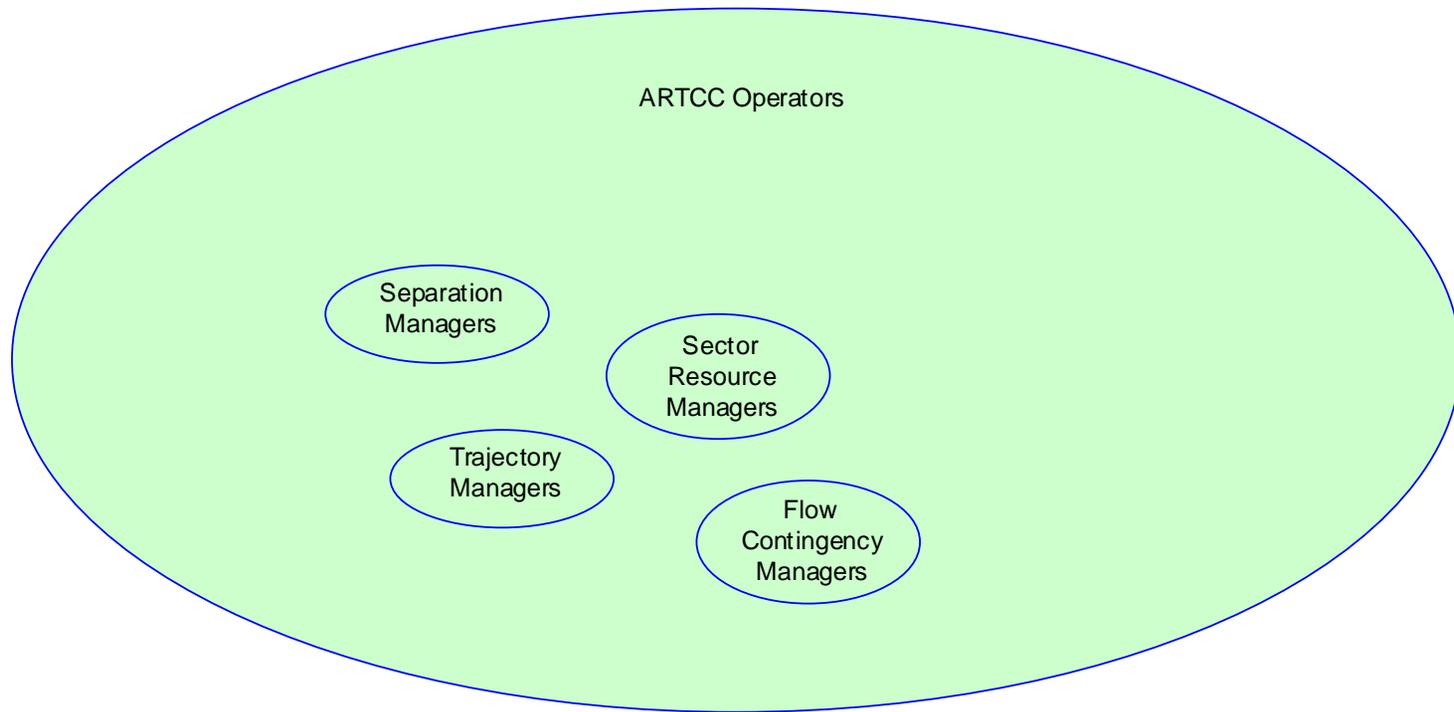


Figure 4. NextGen 2025 Operational Node Relationships – ARTCC Operators

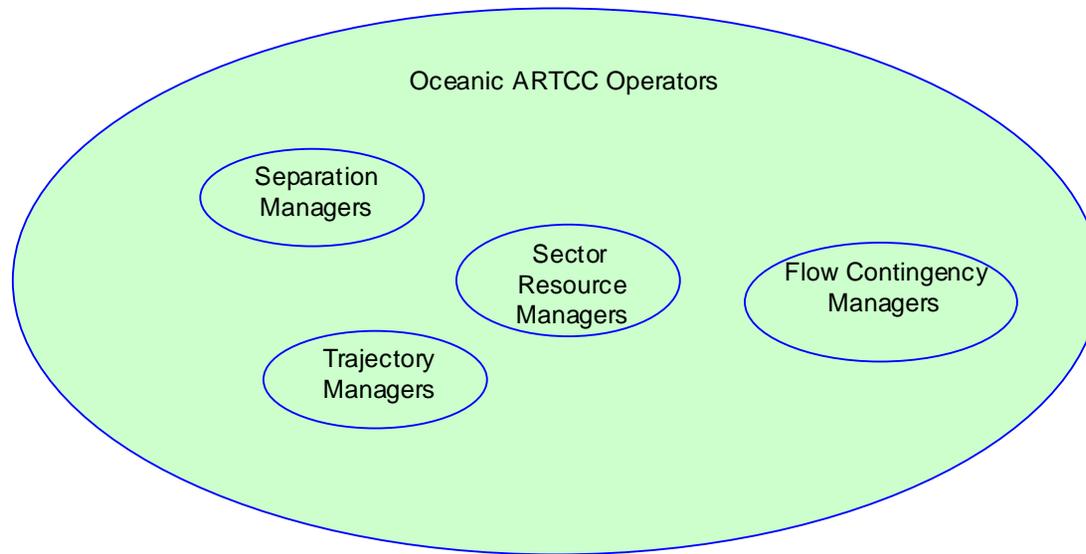


Figure 5. NextGen 2025 Operational Node Relationships – Oceanic ARTCC Operators

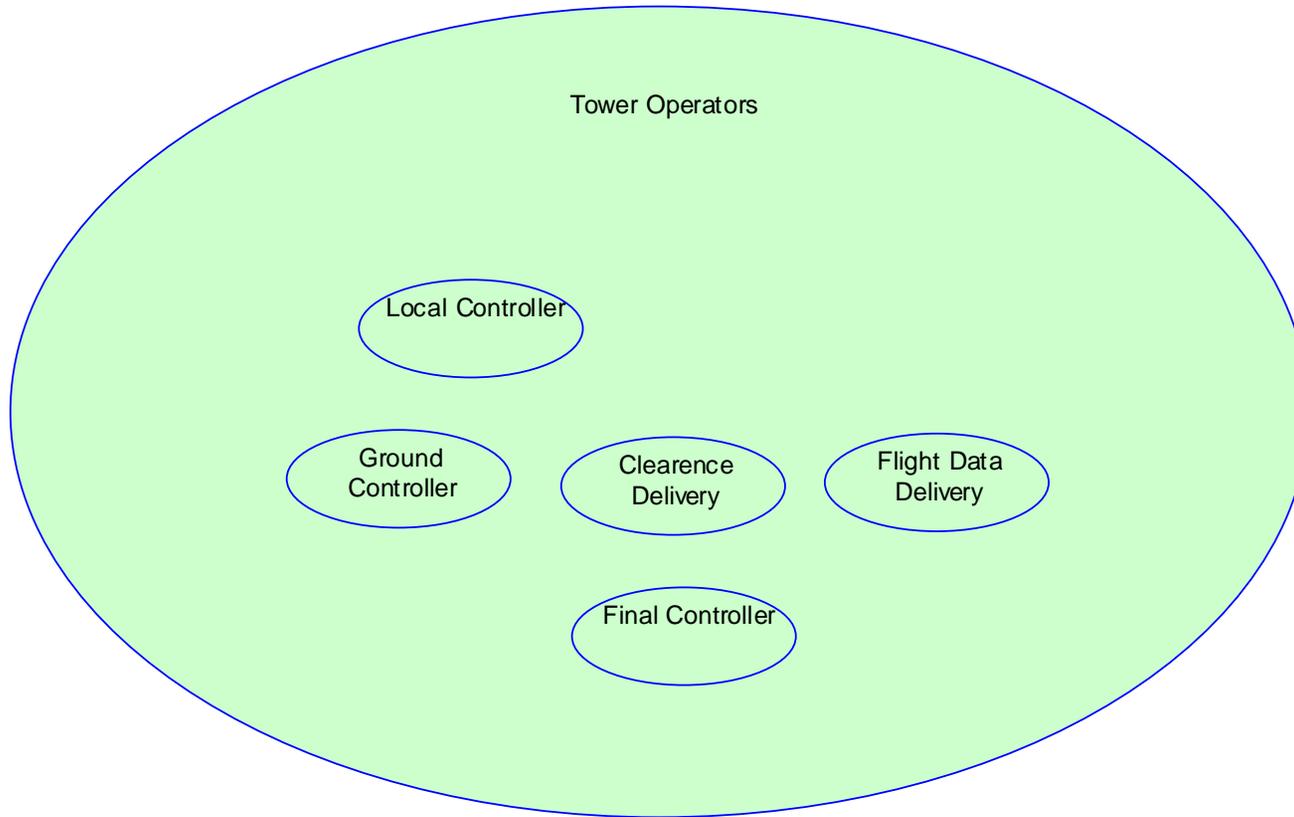


Figure 6. NextGen 2025 Operational Node Relationships – Tower Operators

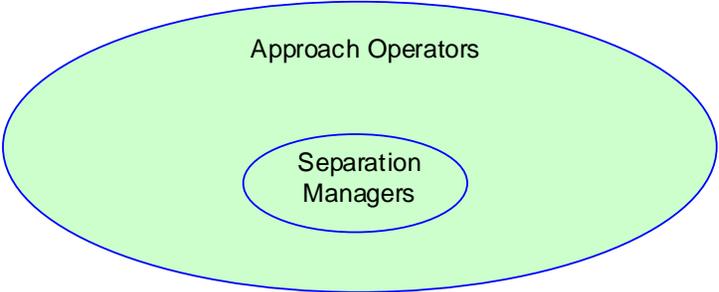


Figure 7. NextGen 2025 Operational Node Relationships – Approach Operators

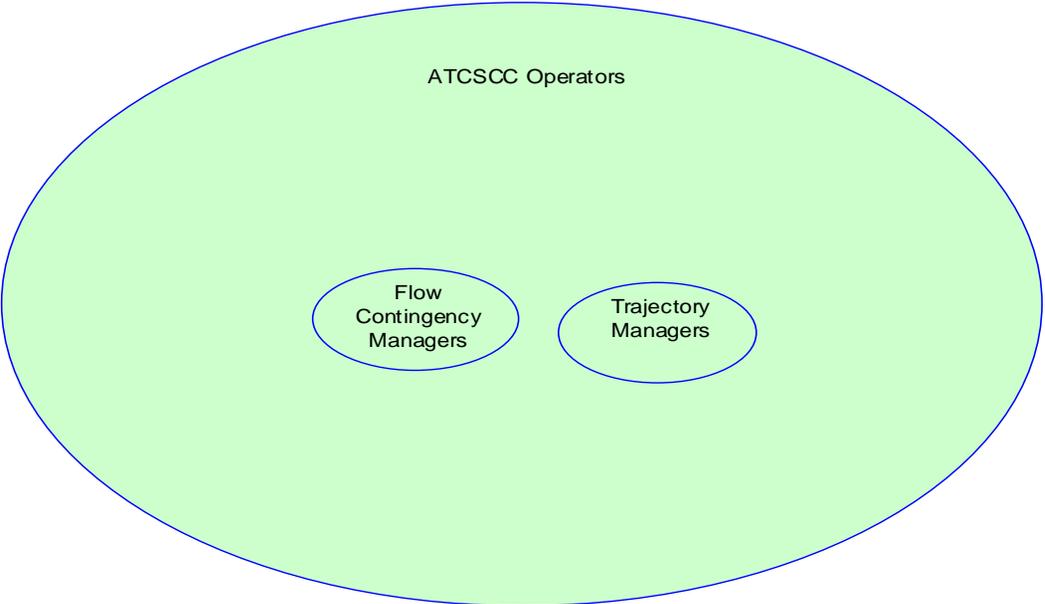


Figure 8. NextGen 2025 Operational Node Relationships – ATCSCC Operators

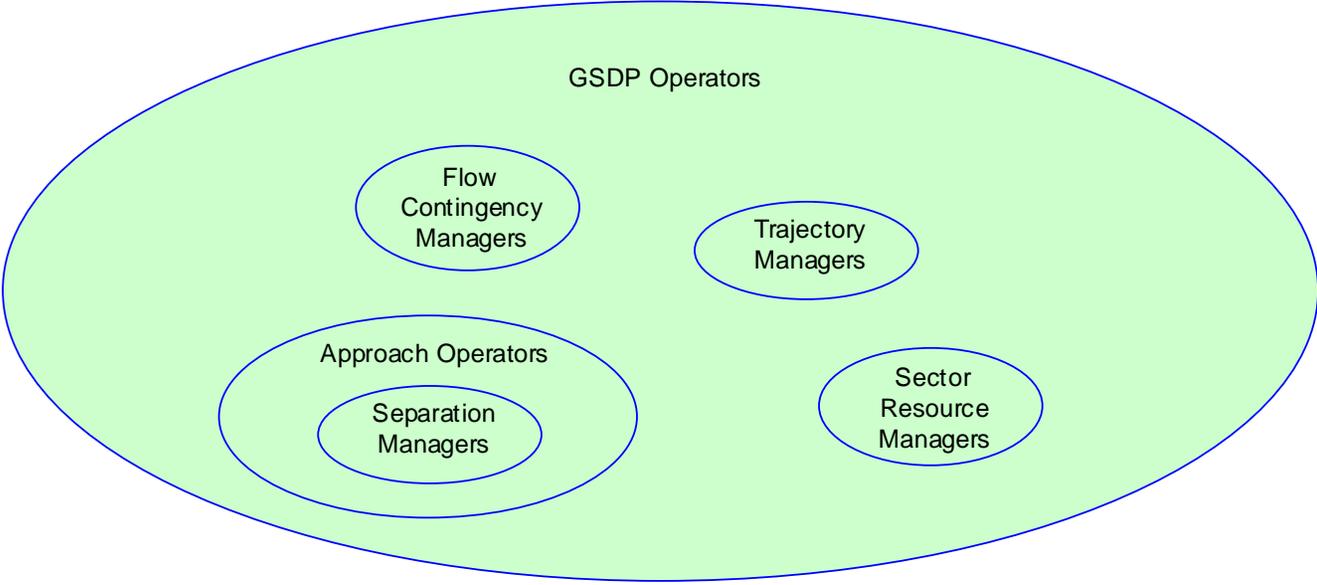


Figure 9. NextGen 2025 Operational Node Relationships – GSDP Operators

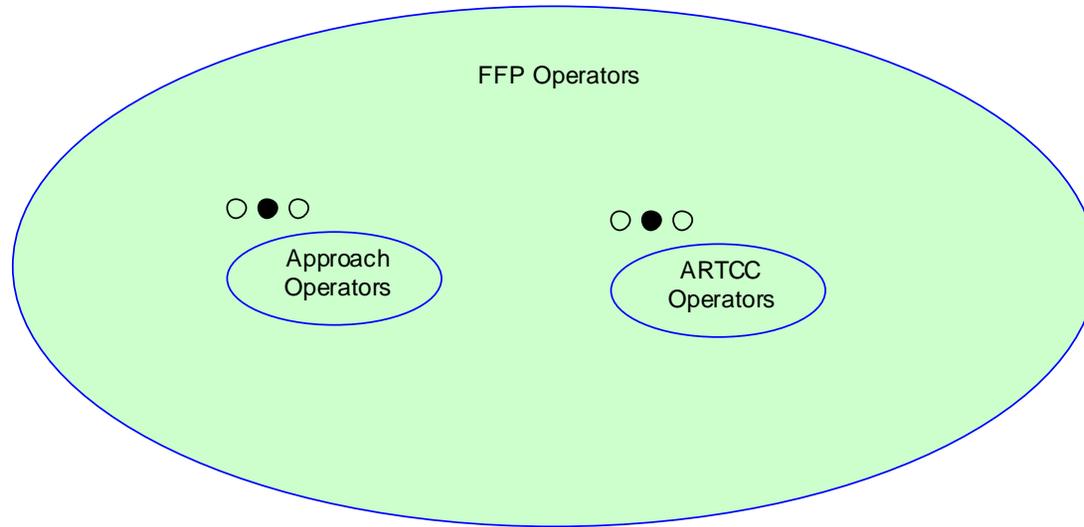


Figure 10. NextGen 2025 Operational Node Relationships – FFP Operators

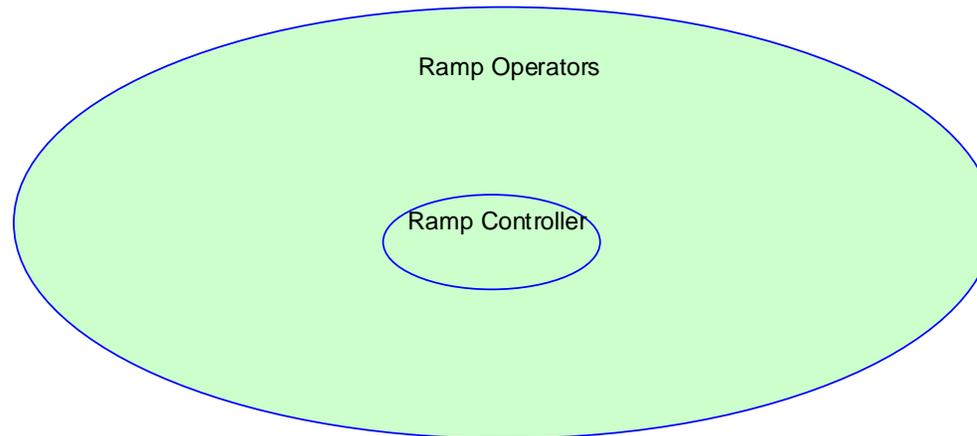


Figure 11. NextGen 2025 Operational Node Relationships – Ramp Operators

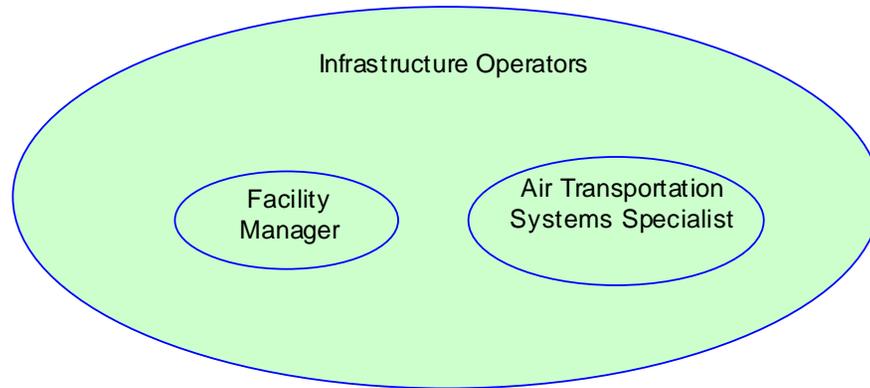


Figure 12. NextGen 2025 Operational Node Relationships – Infrastructure Operators

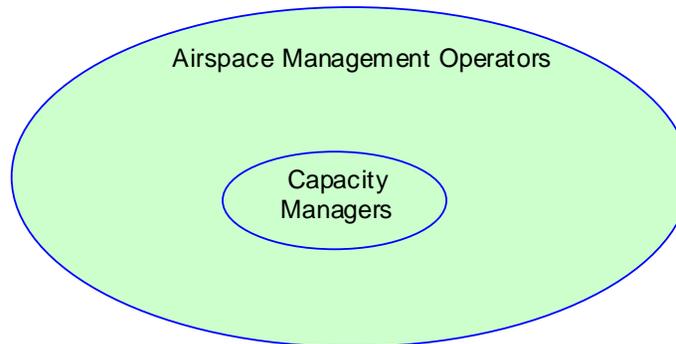


Figure 13. NextGen 2025 Operational Node Relationships – Airspace Management Operators

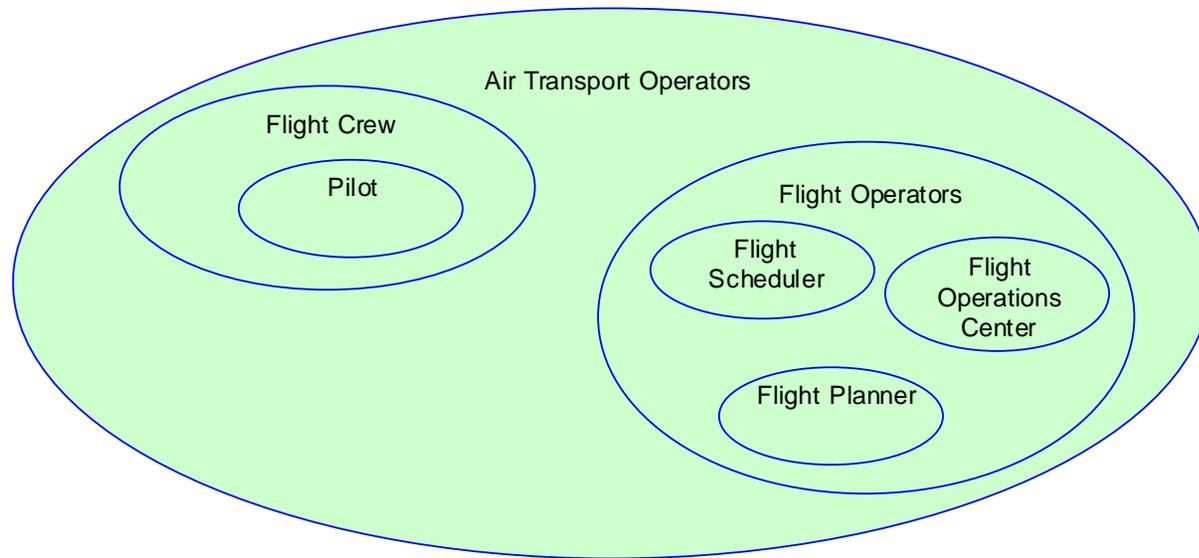


Figure 14. NextGen 2025 Operational Node Relationships – Air Transport Operators

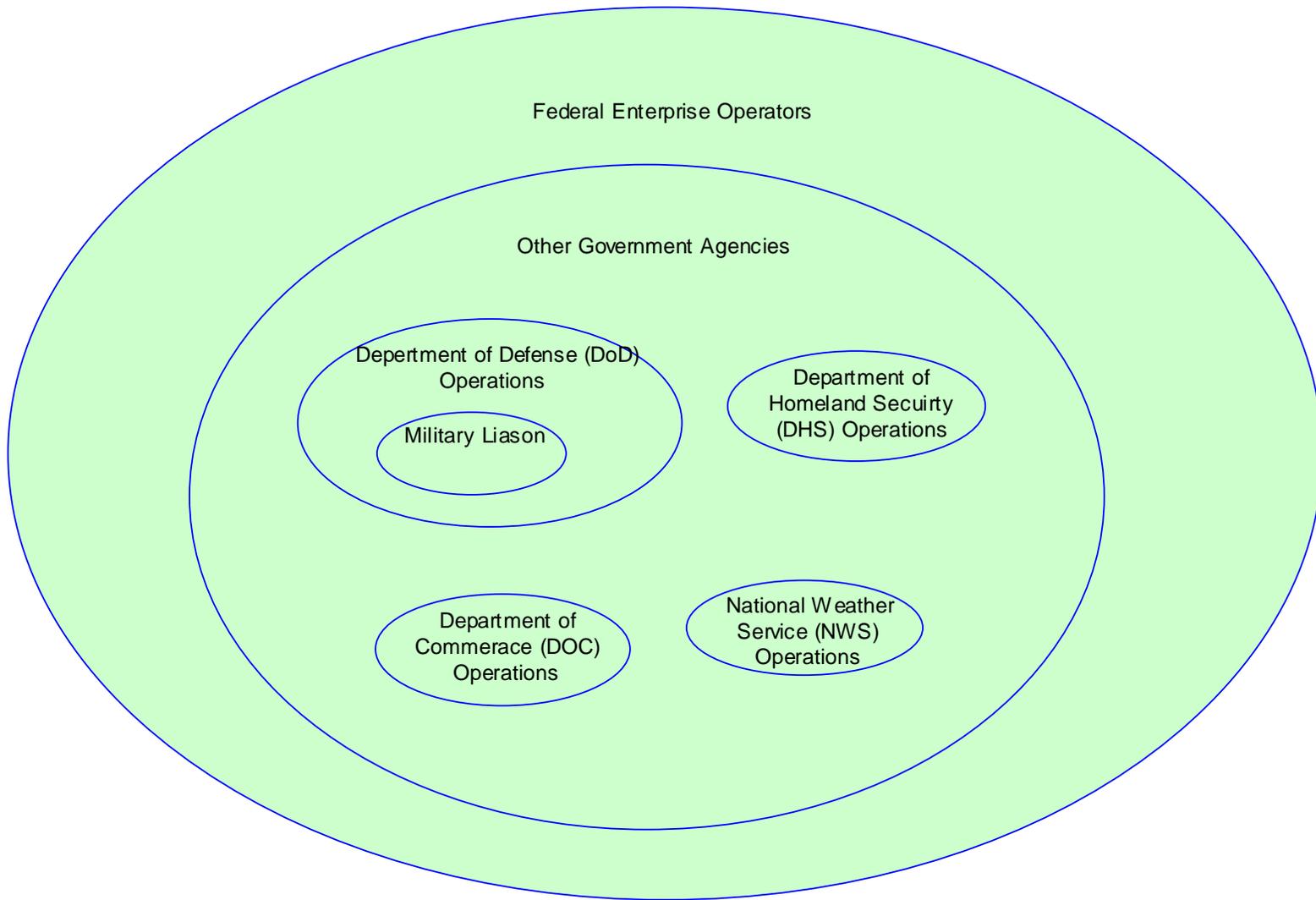


Figure 15. NextGen2025 Operational Node Relationships – Federal Enterprise Operators



Figure 16. NextGen 2025 Operational Node Relationships – International Aviation Operators

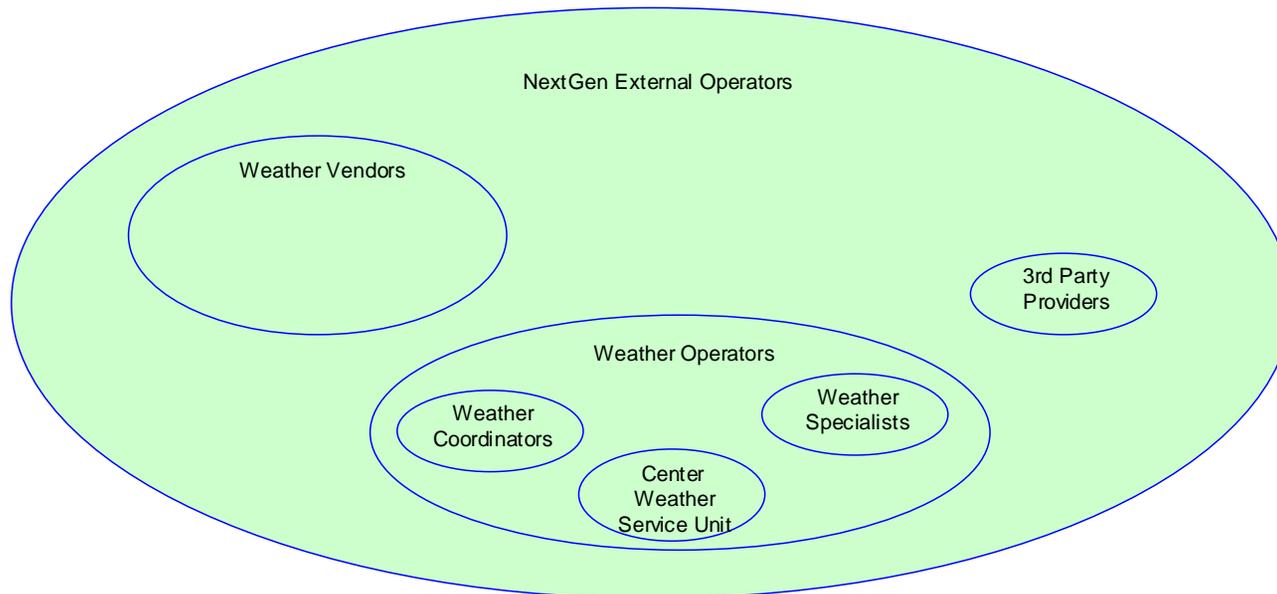


Figure 17. NextGen 2025 Operational Node Relationships – NextGen External Operators

Table 1. OV-2 Definitions

Operational Node Connectivity Diagram	Diagrams showing operational nodes and actors, node-to-node relationships, and information needlines.						
Operations Node	Node Definition	Subnodes	SubSubnodes	Sub-Sub-Sub Nodes	Definition	Actors	Actor Definitions
<u>NextGen 2025 Operators</u>	Handles end-to-end NAS operations						
		Infrastructure Operators			Operations involved with maintenance and configuration of infrastructure components	Facility Manager, Air Transportation Systems Specialist	Note – Actors carried over from 2018 and still being defined for 2025 Facility Manager - Coordinates and oversees the safe, secure, and environmentally sound operations and maintenance of these assets in a cost effective manner aimed at long-term preservation of the asset value. Facility managers also match staffing to traffic demand, so that management of NAS resources is dynamic and flexible to adjust for changes in the market as well as daily and seasonal traffic flow changes.
		Airspace Management Operators				Capacity Managers	Note: Actors derived from JPDO Conops Capacity Managers in Collaboration with Airspace Users and Flight Operators Design and strategically allocate airspace. Dynamically adjust the assignment of airspace to tactical separation providers. Structure routings (air and ground) where required, and flexibly allocate airspace for other purposes, including the operation of state (government) aircraft.

		ATM Operators					
			ARTCC Operators			Sector Resource Managers, Separation Managers, Trajectory Managers Flow Contingency Managers	<p>Note: Actors derived from JPDO Conops</p> <p>Sector Resource Managers - The en route ATC planner who manages staffing and configuration within an Area of Specialization (AOS), or Area, and informs Center Traffic Management Coordinators of any condition in the Area that could negatively impact the facility's ability to implement TFM-assigned flight specific changes</p> <p>Separation Managers (May Be Flight Crew Depending on the Airspace and the Operation) Eliminate residual conflicts left by the three strategic functions of TBO. Automation detects the conflicts and provides the resolution.</p> <p>Trajectory Managers in Collaboration with Flight Operators Predict individual flight contention within a flow for resources, identify complex future conflicts (i.e., strategic SM), and coordinate individual trajectory resolutions. This is focused on near-tactical management of individual trajectories within a flow.</p>
			Oceanic ARTCC Operators			Sector Resource Managers, Separation Managers, Trajectory Managers Flow Contingency Managers	<p>Note: Actors derived from JPDO Conops</p> <p>See "ARTCC Operators" description on page 16.</p>

			Tower Operators			<p>Local Controller, Ground Controller, Clearance Delivery, Flight Data Delivery, Final Controller</p> <p>The local controller has primary responsibility for operations conducted on the active runway and must control the use of those runways. This includes positive coordination with Ground Controller, monitor and control of vehicles using/crossing runways.</p> <p>The ground controller is responsible for separating aircraft and vehicles operating on taxiways and other airport surface areas (no including active runways). This position is responsible for issuing pushback clearance and taxi instructions.</p> <p>Clearance delivery is responsible for</p> <ul style="list-style-type: none"> -Operating communications equipment, -Processing and forwarding flight plan information. -Issuing clearances and ensuring accuracy of pilot read back. -Assisting tower cab in meeting situation objectives. -Operating tower equipment. -Utilizing alphanumerics. <p>Flight Data Delivery is responsible for</p> <ul style="list-style-type: none"> -Operate interphones. -Process and forward flight plan information. -Compile statistical data. -Assist tower cab in meeting situation objectives. -Observe and report weather information. -Utilize alphanumerics <p>Final Controller - Provides information and final approach guidance during PAR and ASR approaches utilizing radar equipment.</p>
--	--	--	-----------------	--	--	--

			Approach Operators			Separation Managers	<p>Note: Actors derived from JPDO Conops</p> <p>Separation Managers (May Be Flight Crew Depending on the Airspace and the Operation) Eliminate residual conflicts left by the three strategic functions of TBO. Automation detects the conflicts and provides the resolution.</p>
			ATCSCC Operators			Flow Contingency Managers, Trajectory Managers	<p>Note: Actors derived from JPDO Conops</p> <p>Flow Contingency Providers in Collaboration with Flight Operators Identify potential flow problems, such as large-demand capacity imbalances, congestion, high degrees of complexity, and blocked or constrained airspace (e.g., for special use, weather), and collaborate to develop flow strategies (i.e., aggregate trajectory solutions).</p> <p>Trajectory Managers in Collaboration with Flight Operators Predict individual flight contention within a flow for resources, identify complex future conflicts (i.e., strategic SM), and coordinate individual trajectory resolutions. This is focused on near-tactical management of individual trajectories within a flow.</p>
			GSDP Operators		(General Service Delivery Points (GSDP))	Sector Resource Managers, Trajectory Managers, Flow Contingency Managers	<p>Note: Actors derived from JPDO Conops</p> <p>Sector Resource Managers - The en route ATC planner who manages staffing and configuration within an Area of Specialization (AOS), or Area, and informs Center Traffic Management Coordinators of any condition in the Area that could negatively impact the facility's ability to implement TFM-assigned flight specific changes</p> <p>Trajectory Managers in Collaboration with Flight Operators Predict individual flight contention within a flow for resources, identify complex future conflicts (i.e., strategic SM), and coordinate individual trajectory resolutions. This is focused on near-tactical management of individual trajectories</p>

							within a flow.
				Approach Operators		Separation Managers	Separation Managers (May Be Flight Crew Depending on the Airspace and the Operation) Eliminate residual conflicts left by the three strategic functions of TBO. Automation detects the conflicts and provides the resolution.
			FFP Operators		Fit For Purpose (FFP)		
				ARTCC Operators		Sector Resource Managers, Separation Managers, Trajectory Managers Flow Contingency Managers	Note: Actors derived from JPDO Conops Sector Resource Managers - The en route ATC planner who manages staffing and configuration within an Area of Specialization (AOS), or Area, and informs Center Traffic Management Coordinators of any condition in the Area that could negatively impact the facility's ability to implement TFM-assigned flight specific changes Separation Managers (May Be Flight Crew Depending on the Airspace and the Operation) Eliminate residual conflicts left by the three strategic functions of TBO. Automation detects the conflicts and provides the resolution. Trajectory Managers in Collaboration with Flight Operators Predict individual flight contention within a flow for resources, identify complex future conflicts (i.e., strategic SM), and coordinate individual trajectory resolutions. This is focused on near-tactical management of individual trajectories within a flow.

				Approach Operators		Separation Managers	Separation Managers (May Be Flight Crew Depending on the Airspace and the Operation) Eliminate residual conflicts left by the three strategic functions of TBO. Automation detects the conflicts and provides the resolution.
			Ramp Operators			Ramp Controller	Ramp Controller - Responsible for non-movement areas of Aerodrome
<u>Air Transport Operators</u>	Operational activities related to organizations providing Air Transport services						
		Flight Crew				Pilot	The individual or group of individuals responsible for the control of an individual aircraft while it is moving on the surface or while airborne.
		Flight Operators			Flight operations of the general aviation community and private business consumers	Flight Scheduler, Flight Planner, Flight Operations Center	Flight Planner - Responsible for making tactical decisions about what flights to operate and when and where they operate. May be the same as flight crew. Is the interface with the ANSP C-ATM function to develop collaborative capacity and traffic flow management decisions and in trajectory negotiation. Operators with multiple aircraft involved in the initiative have the flexibility to adjust individual aircraft schedules and trajectories within those allocations to accommodate their own internal business concerns, both preflight and in flight.

<u>Federal Enterprise Operators</u>	Other Operational organizations within the Federal Enterprise						
		Other Government Agencies			Other Government Agencies include any agency that interacts with the National Airspace System (NAS), such as, Department of Defense (DoD), the Department of Homeland Security (DHS), and the NWS provides and receives raw weather data		
			Department of Defense (DOD) Operations		Related DOD operations requiring interaction with the FAA	Military Liaison	The military flight operator that negotiate with the ANSP to reserve airspace for a set of operations.

			Department of Homeland Security (DHS) Operations		Related DHS operations requiring interaction with the FAA		
			Department of Commerce (DOC) Operations		Related DOC operations requiring interaction with the FAA		
			National Weather Service (NWS) Operations		Related DOC operations requiring interaction with the FAA		
<u>International Aviation Operators</u>	Operational Air Navigation Service Providers from the international community					International Air Navigation Service Provider (ANSP)	The international organization, personnel, and automation that provide separation assurance, traffic management, infrastructure management, aviation information, navigation, landing, airspace management, or aviation assistance services for airspace users
<u>NextGen External Operators</u>						Weather Vendors, Third Party Providers	Weather Vendors - The Vendors box represents entities that provide weather information to NextGen Third Party Providers provide a commercial outlet for NextGen information
		Weather Operators			Operations involved with delivering and interpreting weather for	Weather Coordinators, Weather Specialists	The weather unit at the command center consists of weather specialists who monitor national weather on a continuous basis. Wx Coordinator position is within the Traffic Management Unit (TMU) and gets their weather information from the CWSU.

					operational use in aviation		
--	--	--	--	--	-----------------------------------	--	--