General Dynamics Information Technology has designed a survivable VoIP telephony architecture that unifies the legacy PBX environment within a hosted, centralized ‘service cloud’ across a national footprint for the Department of Transportation’s Federal Aviation Administration (FAA) Administrative Voice Enterprise Services (FAVES) program.

Prior to 2009, existing FAA administrative voice networks were characterized as an independent collection of approximately 900 telecommunications islands, with each site implementing a unique set of legacy TDM systems and infrastructure that delivered basic voice services, including group/PBX telephony and voicemail. The result of this structure was a maintenance intensive environment with the inability to roll out new services consistently, exceptionally high recurring costs in carrier services, operations, staff and support as well as highly varying service quality and resiliency. Recognizing the need for change, the FAA sought to implement a new FAA Administrative Voice Enterprise Services (FAVES) architecture.

Leveraging our proven expertise in voice systems and IP voice migration, along with product expertise from our industry partners Avaya, Juniper, Acme Packet, and Telcordia, General Dynamics Information Technology developed the FAVES...
Benefits

**New FAVES Enterprise Architecture:**

- Redundant cores with shared Applications (Voice mail, Conferencing, Call Center, etc.)
- Redundant Conference Bridges for continuity of operations in case of MPLS Network failure
- Drastic reductions of systems
- Centralized management, operations and maintenance
- Extended reliability and survivability
- Lower total cost of ownership

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**About General Dynamics Information Technology**

As a trusted systems integrator for more than 50 years, General Dynamics Information Technology provides information technology (IT), systems engineering, professional services and simulation and training to customers in the defense, intelligence, homeland security, health, federal civilian government, state and local government and commercial sectors. With approximately 17,000 professionals worldwide, the company manages large-scale, mission-critical IT programs delivering IT services and enterprise solutions.

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Survivable Core architecture. Our design identified three core locations within a SIP based “Services Delivery Environment” to support over 900 remote sites in a hosted telephony model.

Key components of the architecture include:

- Local IP gateways that deliver advanced traffic routing capability and management of off-site traffic based on destination and type
- Utilization of the WAN for site-to-site calling, LD off-net traffic and all local services reducing interconnect costs with local carrier services by 50% at each site
- ‘Survivable’ IP gateways capable of full independent operations based on the assessment of route availability, service quality and routing preference
- A standard platform for delivering a powerful array of network services leveraging a SIP ‘service cloud’ environment - allowing for the delivery of new and evolving services in a best-of-breed model while maintaining requirements for security, operations, policy management and service quality
- A General Dynamics Information Technology Enterprise Operations Control Center (EOCC) and Security Operations Center (SOC) that can monitor and manage the full capabilities of the complete end-to-end network, reducing on-site staff requirements, improving response times, ensuring proactive maintenance and creating operational efficiency that will fund expansion of the network and services

The FAVES Enterprise Core architecture meets the demanding needs of the FAA with a cutting edge, incremental and sustainable approach. Systems that have reached end-of-life can now deploy consistent replacement systems, and robust legacy systems will become integrated into the centralized environment to avoid stranded investment.

General Dynamics Information Technology’s solutions for the FAVES architecture are closely aligned with the U.S. Chief Information Officer’s “25 Point Implementation Plan to Reform Federal Information Technology Management,” representing the realization of technology to achieve performance, value and simplicity, without impact on existing operations and delivering the advanced services of the future as needed.

Sample future Enterprise Applications:

- Virtualized Call Center
- Unified Communications integrating messaging, video, and collaboration
- Wireless
- Mass Notification