



DHS Federal Protective Service MegaCenter Systems Upgrade & Maintenance



Location:

Michigan, Colorado,
Pennsylvania, Maryland



Business Needs:

Ensure the MegaCenters are able to provide 24/7 backup and support in case of a natural emergency or crisis.

Customer Profile

The Federal Protective Service protects over 9,000 Federal Facilities, their occupants, and visitors by providing superior law enforcement and protective security services. FPS has four MegaCenters that monitor multiple types of alarm systems, closed circuit television, and wireless dispatch communications within federal facilities throughout the nation. These centers—located in Michigan, Colorado, Pennsylvania, and Maryland—are equipped with state-of-the-art communication systems and are in operation 24 hours a day, 7 days a week. These MegaCenters provide responses to over 534,000 calls for service annually.

Customer Challenge

FPS had a need for the upgrade and maintenance of a new networked telephone and voice recording systems to replace the legacy systems located at its four MegaCenters. The FPS MegaCenters are in operation 24 hours a day, 7 days a week and require 99.999% reliability. The MegaCenters monitor closed circuit televisions (CCTVs), answer emergency and non-emergency calls, and dispatch appropriate resources to federal facilities nationwide. As the FPS migrates to P25 digital equipment a trusted systems integrator was needed to oversee the multi-year transition.

Commdex Solution

- Upgrade of existing voice communication systems
- System design, integration, maintenance and training:
 - Over 300 operator positions
 - Security Plan/Architecture
 - Fully redundant WAN connectivity between MegaCenters
 - Replace VoIP and logging systems
 - Integration with administrative phone system & 3rd party workstations



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CommDEX Roles

CommDEX lead a team of 30+ personnel and subcontractors including Motorola Solutions and Dice Communications to survey, design, upgrade and manage voice communications systems at FPS MegaCenters across the country and provide a direct interface to FPS's LMR system, as they migrate to Project 25 digital equipment. Our design ties these systems into a unified network giving them capability to access voice recordings from all sources (LMR and phone) and locations throughout the network. Upon approval of the design we continued with system orders, staging and acceptance, shipment, delivery, warehousing, asset management and field deployment, optimization, and commissioning. The scope of this five-year contract also includes on-site support, preventative maintenance, installation of software updates, and repair of any components that fail during operation of the system.



Planning

CommDEX centralized staff led by our Project Manager in Philadelphia, co-located with FPS, has been central to the operations since project initiation in 2014. Our team works alongside the FPS project team and technical staff on a daily basis to ensure everyone is on the same page. Our centralized team receives all requests for project planning and design, coordinating directly with the users/requestors accordingly, gathering requirements to begin the design phase. The centralized team manages the subcontractors for the deployment of the systems across the nation. As sites are deployed, they are maintained and supported by the team to provide high system availability for the user. Our team also provides installation of critical system updates and software refreshes to keep the system releases current. Our centralized Project Manager oversees all aspects of this program and weekly meetings are held with the customer to provide system updates and system status reports. The Engineering team provides technical input during briefings to the customer about status of system issues, upgrades, refresh/replacement, infrastructure enhancements, etc. Trained and certified technical staff on this program to provide technical assistance to the System Support Center

Design

CommDEX developed the new system design through a complete assessment of the current systems, network and technologies, and the evaluation of the existing system capabilities for future operability and interoperability with the P25 radio network. Site Surveys: CommDEX Technicians and Engineers conducted site surveys to determine the locations for the new voice systems, digital and analog ports, and demarcation points to connect to the CENTRACOM Gold Elite system and planned P25 system. These surveys were used to finalize detailed equipment list, demarcation points for voice and recording systems, cable routing, signal and power requirements, equipment racking, and product placement details, as well as any special instructions for installers.

Engineering Design

CommDEX Engineers reviewed the existing legacy systems and analyzed the information gathered during the site surveys to produce new overall system design, base implementation plan, and deliverables. CommDEX engineers developed a new engineering design that incorporated all IP network that would connect the all MegaCenters together into a single unified voice system architecture, unifying these facilities on a common voice network. This is a fully integrated solution that provides a seamless interface to the user for accessing recordings from all sources and locations throughout the network. Moreover, as FPS continues to migrate to Project 25 digital equipment, our design can directly interface to an ASTRO 25 system. Our design features redundant and distributed systems so that while all sites are connected to share information, any failures at a single site will not disable the operational capability of FPS.

Commdex Roles

Implementation: Installation & Programming

Commdex managed installation of equipment provided as part of the new system based upon the approved installation plans with FPS. All equipment, racks and associated cabling was installed in a neat and professional manner, employing a standard of workmanship consistent with Motorola's R56 installation standards and in compliance with applicable National Electrical Code (NEC), EIA, and FCC standards and regulations. Acceptance Testing: At each site, Commdex conducted functionality testing to verify the operational functionality and features of the individual systems with FPS as witness. Commdex documented all of the results of the acceptance testing for review and approval by FPS. Training: As installation is completed at each location, training for staff personnel is coordinated and scheduled with the FPS COR in the areas of system operation and administration. This provides the opportunity to train all staff on the operation of the new system and ensure a smooth transition.



Operate and Maintain

As the final phase of the project, engineering oversight of the commissioning and operational testing of the system was included to bring all new systems online and manage the transition from the existing facility. This process was engineered to minimize downtime and operational impact to the users. As part of this five-year maintenance contract, Commdex also oversees operations preventative maintenance, installation of software updates, and repair of any components that fail during operation of the system. Electronic records are maintained of all equipment that has been decommissioned, replaced, or added to the system, including serial numbers, existing or new location, and final disposition. Commdex also tracks manufacturers' warranties on new equipment added during the term of the contract. Commdex also provides a comprehensive maintenance report every month to FPS detailing all maintenance activities including corrective and preventative maintenance, any equipment replacement actions, current repair statuses of any spares, repair time metrics, and overall system availability.



About Commdex:

Commdex provides network solutions to telecommunications service providers and manufacturers for the deployment of telecom networks, facilities and supporting systems. Commdex specializes in designing and implementing mission critical voice and data networks over Wi-Fi, microwave, land mobile radio and other technologies. Commdex offers a broad, rich portfolio of proven telecom solutions. Its solutions, services and methodologies have been tested and proven in hundreds of customer environments. Its customer base ranges from state, local and federal customers, to large enterprises and equipment manufacturers.

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