COMMDEX

CASE STUDY

Metropolitan Atlanta Rapid Transit Authority (MARTA) Radio System Upgrade

Location:
Atlanta, Georgia

Business Needs:
To upgrade the existing console system and backup control center to improve reliability, safety and cut down on costs.

Customer Profile

The Metropolitan Atlanta Rapid Transit Authority (MARTA) is comprised of a fleet of heavy rail trains and buses that serve as a daily lifeline for over 400,000 citizens within the Atlanta-Metropolitan Area. With some stations located 10 stories underground an extensive communications system was needed in order to ensure the safety of the rider and MARTA employees.

Customer Challenge

To keep up with demand, MARTA needed a fully integrated system upgrade to their aging radio console network and equipment, most of which was no longer supported by vendors. Due to its vast reaching network of train and bus routes throughout Atlanta, MARTA needed constant, reliable communication between its dispatchers and the thousands of MARTA Police Officers, train and bus operators, and the operations and maintenance personnel that ensure each customer arrives safely and efficiently.

Commdex Solution

- Support Alstrom Signaling to upgrade communications systems

- Turnkey System design, integration, implementation,and testing:

  - New MCC7500 console dispatch consoles with logging recorder

  - Installed 17 dispatch positions at the Rail Services Command Center (RSCC)

  - New redundant system with six dispatch positions for the Backup Command Center
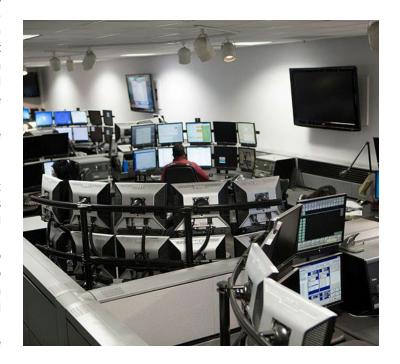
Commdex Roles

As a subcontractor to Alstom Signaling, Commdex is providing a turnkey solution for planning, designing, procuring, installing and testing a MCC7500 console dispatch system with logging recorders for the Metro Atlanta Rapid Transit Authority. The solution provided seventeen (17) dispatch positions at the Rail services Command Center (RSCC) and a redundant system with six (6) dispatch positions for the Backup Command Center (BCC) for police and train control system operators the entire rail network throughout the Metro Atlanta area.

At the Integrated Operations Center (IOC), Commdex conducted operational analysis with communications managers to understand their current operations and developed configurations of an IP-based
dispatch console systems, specifying dedicated radio resources. This included interfacing of the existing radio systems, organization of communications capabilities in like folders; enhancing dispatch operations and command and control functionalities at all levels of interoperability, and integration of an interoperable platform solution to the command and control dispatch environment.

System Design

Commdex engineers provided the design of MCC7500 dispatch console systems at the two command centers. The design of MCC7500 console subsystem consisted of the MCC7500 Dispatch Consoles (and associated peripheral hardware), the MCC7500 Archiving Interface Server and Radio Logging Recorder, NICE Telephony Logging Recorder, Conventional Channel Gateways (CCGWs), Conventional Site Controller, and the Aux I/O (Auxiliary Input/Output). The new MCC7500 consoles and logging recorders combined state-of the-art technology, functionality with flexibility, and reliability to meet radio dispatching needs. The SSC handles and prioritize critical service requests and engages Commdex personnel for field support when network issues arise. Scope of this contract also includes emergency response at all locations with a four (4) hour response time commitment. To provide this response we use authorized/certified and approved two-way radio communications service providers to provide prompt service and ensure quality. Commdex uses its Emergency response support process to ensure that proper team and equipment is dispatched to meet the requirements of the emergency. A monthly detailed report (both hard and soft copy) of all the work performed is submitted to the FPS Contracting Officer's Representative.

- Design that included a fall-back mode that would allow the radio dispatch consoles to function in conventional mode until the links are restored in the event the links between the MCC7500 console site and the Core Site were severed.

- Design, installation and configuration of NICE logging and archiving systems, allowing a user to identify and retrieve events/calls that occur on the radio system, choose desired call to review, and then play back the audio for that call through a logging replay client station.

As part of the documentation, Commdex created system installation manual including equipment layout drawings, interconnection documentation, and all programming information.

System Implementation

Commdex managed the installation, integration, and on-site testing support for the console system and back-up control center. This included:

- Installation of the MCC7500 console subsystem, consisting of the MCC7500 Dispatch Consoles (and associated peripheral hardware), the MCC 7500 Archiving Interface Server and Radio Logging Re-corder, Conventional Channel Gateways (CCGWs), Conventional Site Controller, and the Auxiliary I/O (Auxiliary Input/Output) interfaced to the Dispatch Consoles for remote control operations of specified devices.
- Cables were customized to their specified lengths and major components are configured and programmed based on the customer's specific engineering design and feature requirements.
- All cables were testing in accordance with MARTA requirements.
- Integration of the MCC7500 dispatch consoles with the existing ASTRO 25 Core Site and SmartX migration interface.

Testing/Training

Commdex developed the Acceptance Test Plan (ATP). Conduct a Functional Acceptance Test to verify the operational functionality and features of the individual subsystems. All issues that arise during the acceptance test will be fully documented and resolved before the subsystem is considered ready for integration into the system. Training: This course provides participants with the knowledge and skills to manage and utilize the MCC7500 console administrator functions. Through facilitation and hands-on activities, the participant learns how to customize the console screens to fit the needs of their users. We also provided various training courses to the users on the introduction to the dispatch console, its basic operation and tailored job aids for assistance in operation. Through facilitation and hands-on activities, the user learns how to perform common tasks associated with the console operation.

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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