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Two47 MCX™ Solutions Overview

L3Harris Technologies, Inc.

WHITE PAPER

TABLE OF CONTENTS

- Two47 MCX Solutions Overview 3
 - Summary 3
 - Two47 MCX Clients and Applications 5
 - Two47 MCX Radio Client..... 5
 - Two47 MCX Smartphone Client 5
 - Two47 MCX Dispatch Client..... 5
 - Two47 MCX User Management & Server 5
 - Interoperability..... 6
 - Operation and Management 6
 - Lawful Intercept Support 6
 - Media Recording..... 6
 - Usage Data..... 7
 - High Availability & Geo-Redundancy 7
 - Service Provider Benefits 7
 - In Conclusion 8

LIST OF FIGURES AND TABLES

- Figure 1: Two47 MCX Solution 4

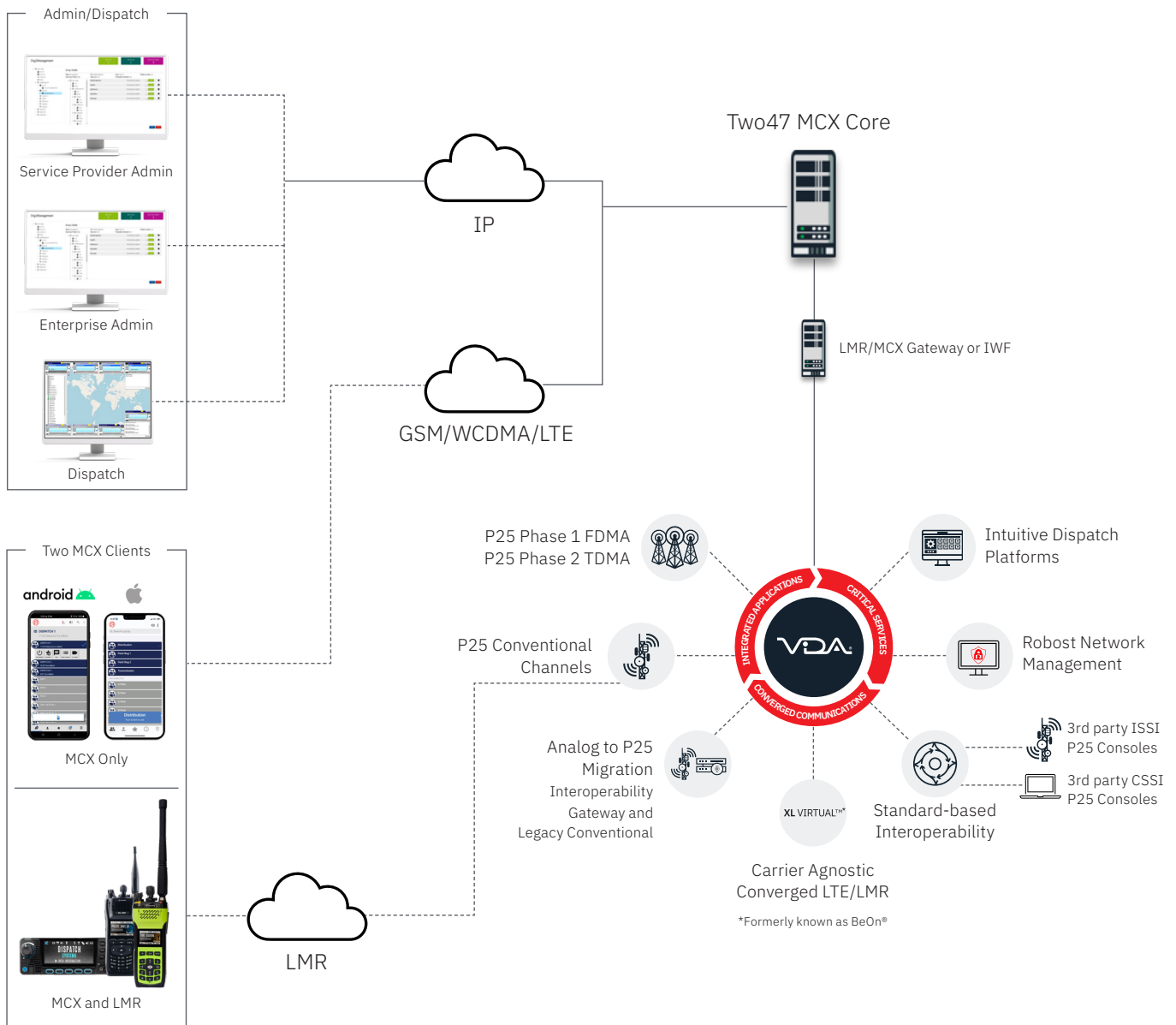
Two47 MCX Solutions Overview

SUMMARY

Agencies and enterprise organizations can revolutionize their mission-critical and business-essential communications by enhancing their existing LMR networks with modern digital solutions. **In 2023, L3Harris released the first converged MCPTT/P25 radio.** Today, L3Harris converged radios are used by Georgia State Patrol (GSP) statewide, providing converged MCPTT/Land Mobile Radio (LMR) communications. As resilience, security and the need for more information becomes increasingly important to the first responders, utility workers and transit authorities, L3Harris foresees using mobile applications like MCX in collaboration with purpose-built radios and smartphones becoming the standard for mission-critical operations, offering a future-proof solution for their needs.

Additionally, where customers have aging LMR networks and are looking to transition to a modern mission-critical solution, Two47 MCX offers a migration path to a converged MCX/LMR solution while retaining their operational capabilities for mission-critical group communication. Two47 MCX can be deployed on commercial or private LTE networks, ensuring its adaptability to your existing systems.

Figure 1: Two47 MCX Solutions



TWO47 MCX CLIENTS AND APPLICATIONS

The Two47 MCX solution suite delivers advanced communication tools tailored for diverse operational needs. It includes support for a range of devices—radios, smartphones and dispatch platforms—offering features such as Group and Private Calls, Messaging, File/Media Sharing, Location Reporting, Video Calls and robust End-to-End Encryption. The solution is complemented by a scalable server infrastructure with user management capabilities, ensuring seamless organization, interoperability and secure communication for deployments ranging from small teams to over 50,000 users.

Two47 MCX Radio Client

The Two47 MCX radio client are currently supported on the XL Converge™, XL Onboard™ and XL Extreme™ radios. The MCX client supports Group Calls, Private Calls, Full Duplex Private Calls, Ad-Hoc Calls and Emergency Calls through MCPTT. The MCX client supports Location reporting through MCDData.

The Two47 MCX radio clients for MCPTT and MCDData also support Auto-Join, Late Call Entry, Caller ID, Group Scanning, Presence, Device Call Logging and Recording and End-to-End Encryption.

Two47 MCX Smartphone Client

The Two47 MCX smartphone clients are available for Android, iOS and select Android Open-Source Project (AOSP) devices. The MCX client supports Group Calls, Private Calls, Emergency Calls and Group Scanning through MCPTT. Additionally, the client supports Messaging, File/Media Sharing and Location reporting through MCDData as well as Group and Private Video Calls through MCVideo.

The Two47 MCX smartphone clients for MCPTT, MCDData and MCVideo also support Auto-Join, Late-Call Entry, Caller ID, Group Scanning Supervisor Override, Presence, Device Call Logging and Recording, End-to-End Encryption and Wi-Fi calling.

Two47 MCX Dispatch Client

Supported on Windows®, the MCX Dispatch Client supports Group Calls, Private Calls, Emergency Calls, Full Duplex Private Calls and Ad-Hoc Calls through MCPTT. Support for Messaging, File/Media Sharing and Location reporting is provided through MCDData while support for video Group and Private Calls is provided through MCVideo.

The Two47 MCX Dispatch client for MCPTT, MCDData and MCVideo support Auto-Join, Late-Call Entry, Caller ID, Group Scanning, Supervisor Override, Presence, Device Call Logging and Recording, End-to-End Encryption, Wi-Fi IPV4/V6, Mapping, Group Patching and Parallel Listening.

Two47 MCX User Management & Server

The Two47 MCX server is designed for scalable deployments from 1 to 50,000+ users in Geo-redundant and High Availability configurations. The server utilizes 3GPP-based Unicast, Multicast, MCX Lawful Intercept and provides MCX CRDs. The server supports centralized recording, LMR interoperability as well as End-to-End encryption.

Two47 MCX User Management enables the organization of users through an organizational structure providing capabilities for user creation and modification, user profiles (MCPTT), group definitions (Priority, Participants, etc.) and Contact List administration (who can talk to who directly). Two47 MCX User Management provides web-based GUIs for all available functions. Additionally, Two47 User Management enables bulk uploads of users as well as APIs for selected features, enabling Northbound integration to e.g., legacy OSS/BSS environments.



Interoperability

When integrating an existing LMR Network with the Two47 MCX Solution, there will be a need to provide users the ability to talk across different networks, hence a need for interoperability.

Interoperability is offered based on scope, as there are always unique aspects regarding legacy LMR technologies (LMR vendor, existing versions, supported features, devices used etc.) which need to be considered in the solution.

L3Harris currently offers multiple approaches to interoperability with Two47 MCX. The XL Converge, XL Onboard and XL Extreme radios offer the ability to communicate on both broadband MCX and narrowband LMR systems. If the user needs to have the talk groups of the LMR and MCPTT tied together, L3Harris offers Catalyst Intellilink™ through the Mission Critical Alliance program. Intelilink offers the ability to tie MCPTT and LMR talkgroups together for one coherent experience.

L3Harris has a roadmap which includes a way to interwork directly from the Two47 MCX Solution to a P25 ISSI in 2026.

Operation and Management

Two47 MCX offers northbound interfaces for performance and fault management. Configuration management is handled via command line and scripts.

A list of alarms and performance data are provided.

Lawful Intercept Support

Two47 MCX provides Lawful Intercept support aligning in applicable parts with 3GPP standard X1, X2, X3 interfaces.

Lawful Intercept supports MCPTT, MCVideo, MCDData (Messaging) and MCDData (File/Media sharing).

Media Recording

Two47 MCX offers media recording functionality. Voice, messaging and media sharing is recorded and stored on persistent but temporary storage. After certain time duration the recorded media will be automatically removed. The service provider will have the ability to configure the duration of the media storage.

Interfaces to the storage are exposed and a 3rd party can retrieve the recorded information for further analysis/processing and presentation.

Media recording covers MCPTT, MCDData (Messaging) and MCDData (Media sharing). MCVideo recording is not currently supported by the 3GPP standard.

Usage Data

Two47 MCX generates call detail records (CDRs) which are stored on persistent but temporary storage.

Interfaces to the storage are exposed and a 3rd party can retrieve the recorded information for analysis/processing, bill generation and others as required.

High Availability and Geo-Redundancy

Two47 MCX supports High Availability and Geo-Redundancy of MCX servers.

High Availability is implemented using Active Standby and VIP (Virtual IP).

Geo-Redundancy provides Active Standby and is not dependent on Virtual IP or Proxy, to remove a single point of failure within the network or any single point of failure within the network.

IN CONCLUSION

L3Harris's Two47 Mission Critical Services (MCX) solution enables agencies and enterprises to advance beyond traditional LMR networks, offering enhanced connectivity, priority access and secured communications over broadband networks. With the release of the first converged MCPTT/P25 radio in 2023, L3Harris has set a new standard for mission-critical operations. The converged XL Series of radios ensures reliable MCPTT/LMR communication.

As the demand for resilience, security and data-driven tools grows among first responders, utilities and transit authorities, L3Harris anticipates that solutions like Two47 MCX will become essential. Furthermore, Two47 MCX™ provides a seamless migration path for organizations shifting to a modernized, converged MCX/LMR system while preserving critical operational capabilities.

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