Cisco – Speakerbus "Command Post" Voice Solution

Introduction

Within every branch of military service in the Department of Defense (DoD), there is a "Command Post" (CP) structure on every Camp/Post/Station/Base (C/P/S/B). A CP is a secure facility that operates as a base's dispatch center, surveillance monitoring station, coordination office, and alarm monitoring hub (all in one). The CP needs to gather information and report functions that serve the leadership in responding to any incident, operations order, or emergency plan. CPs manage and perform activities as operations centers, rescue coordination centers, and command centers to provide command, control, communications, and information support to receive and relay Command and Control (C2) tasks. They are the "nerve center" for coordination as a "relay" to collect, maintain, and disseminate critical, timely information in a hierarchical reporting fashion.

Based on this mission, a CP requires unique telephony feature sets that are not defined in Defense Information Systems Agency's (DISA) Unified Capabilities Requirements (UCR) document. The UCR is more closely aligned with 'core telephony capabilities' as opposed to mission-specific capabilities. "Hoot and Holler" (H&H) as an example, is used frequently by CPs, yet it isn't defined in the UCR. The use of intelligent endpoints that can connect multiple ad-hoc conference calls together with one button and without the use of conference bridges is a necessary feature that is not defined. Another set of critical features is both the ability to use multiple microphone and headset combinations on the same endpoint, and/or to rapidly provision different endpoint "profiles" for controllers/operators at a moment's notice. There is also the requirement to monitor, bridge, and combine different Radio Frequencies (RF) with traditional communications mediums and to support them alongside as part of the overall communications solutions. All of these are critical functions that are needed by CPs to observe, respond, and report to leadership, when responding to any incident, operations order, and emergency plan, yet they are not included in the DISA UCR; and none of these capabilities require the use of Multi-Level Precedence and Preemption (MLPP), which is a core command and control telephony capability.

Description

A vendor's telephony solution must be DISA Joint Interoperability Test Center (JITC) certified in accordance with the UCR in order to attach to the Defense Information Systems Network (DISN). However, to meet the intent of the DISN policy, there needs to be a way to deliver an

H&H capability in a solution that meets both the CP's unique functional requirements while leveraging a JITC-certified IP Telephony (IPT) solution. Functional interoperability to do this can be delivered by combining a Cisco and Speakerbus solution that meets and exceeds a Command Post's mission specific, functional needs. The combination of Cisco's DISA JITC (C2) certified IPT and Speakerbus's product set provides a robust IP, SIP protocol-based "Hoot and Holler" technical solution. The total solution has intelligent endpoints, and mission-specific capabilities that capture the tasks and functions that the CP controllers and operators require.

This solution can be broken down into two parts. The first part uses Cisco IPT as the DISN-connected front end; a certified telephony interface control solution that complies with the DISN policy as it was written and intended. The second part on the back end is the Speakerbus H&H solution that connects to the Cisco IPT solution. The distinction between the two is the separation of functions. Cisco provides the required UCR core telephony and collaborative capabilities, while Speakerbus delivers the CP H&H mission-specific functional requirements to intelligent endpoints, and the connection to the multiple RF requirements.

Both Speakerbus and Cisco have and can provision such products as IPICS and Ear and Mouth (E&M) Gateways to an RF network. The key to using Speakerbus and/or Cisco components to connect these capabilities relies on the functional requirements of the CP. Since every C/P/S/B has unique and different requirements, the solution can be a mix of both or the use of just one company's solution. The solution depends on mission-specific requirements. This collaborative effort provides a robust capability with information assurance and functional capabilities.

In the future, when UCR 2008 change 1 is enforced, the requirement specifies mandatory encrypted signaling and media (voice) flows across the DISN. CPs require communication outside the DISN to localities such as public Search and Rescue, Fire, Police, Ambulance, Hospitals, and the FBI to name a few. Also, voice recordings are a mandatory requirement of the majority of CPs. The provisioning of Speakerbus allows the CP to leverage a certified DISN solution, while meeting the operational, mission-specific requirements for recording communications with all non-DOD entities.

Figure 1 depicts a basic combined topology view of an IP-based Cisco-Speakerbus CP local area network solution. It is a representation that can be used in other DoD architectures with similar requirements like Range Support or Joint Operation Centers (JOCs). The key to getting accreditation to attach to a Service's network to the DISN is to clearly explain and show separation of functional requirements and differences for IPT and Collaboration and the CP's H&H application.
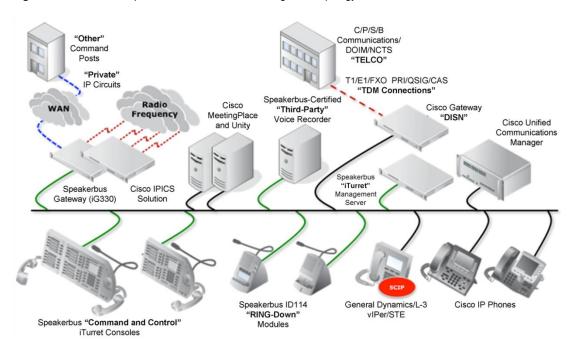
Figure 1. Combined Speakerbus-Cisco Solution Using LAN Topology

Figures 2 through 6 show intelligent endpoint options that could be used in CPs.
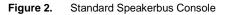
Figure 2. Standard Speakerbus Console

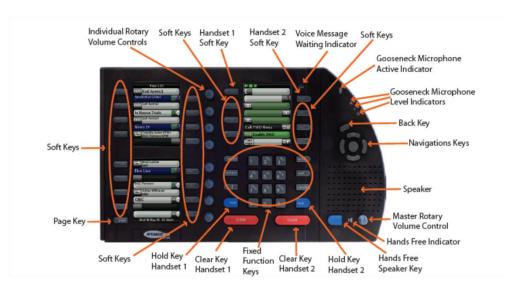**Figure 3.** Recessed Speakerbus Console

Figure 4. Button Speakerbus Console

Figure 5. Speaker Speakerbus Console

Figure 6. Functional Button on a Speakerbus Console

For additional architecture and/or product information regarding the Cisco Speakerbus solution, please contact:

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