

# Cisco IP Command

## High-Performance, Real Time Communications Platform

### Introduction

Dispatch professionals in public safety, emergency services, and government and industrial command centers rely on a combination of specialized communications systems and tools to maximize situational awareness, improve collaboration, and minimize response times. Until now, no single system has been able to unify the various streams of communication and information to optimize the performance of command center operators.

With Cisco® IP Command, Cisco has introduced the industry's most advanced platform featuring high-capacity purpose-built applications and devices that enable dispatch professionals to communicate and collaborate easily with anyone on any device over any type of network. This software-based, high-availability VoIP-Radio-over-IP (RoIP) platform is designed for 24-hour mission-critical environments and, unlike Time-Division Multiplexing (TDM)-based turret systems or specialized dispatch and radio applications, offers an integrated, extensible solution for an entire organization.

### Solution Overview

IP Command is a high-performance, session-management platform that truly unifies communications and collaboration technologies across an organization, providing, in essence, a one company/one system solution.

The IP Command application is fully integrated with both the Cisco Unified Communications Manager, a scalable, distributable, and highly available enterprise IP telephony call-processing solution, and also with the Cisco IP Interoperability and Collaboration System (IPICS), a complete IP-based dispatch and incident response solution.

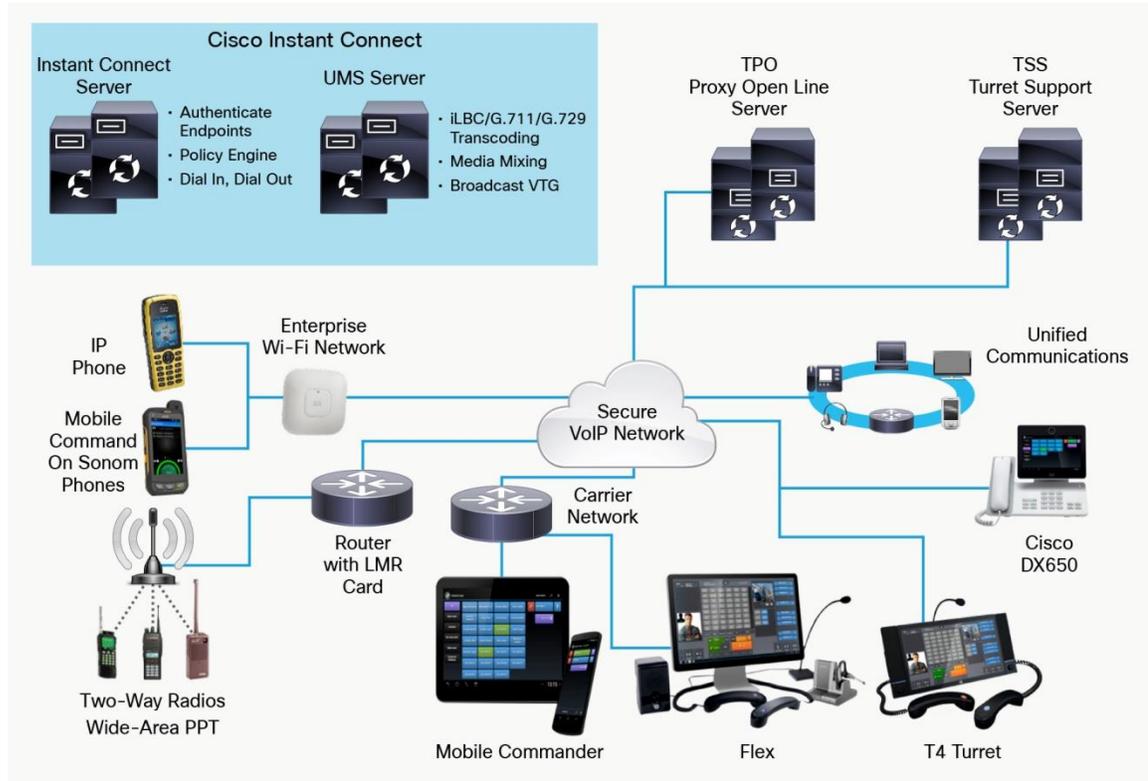
The IP Command solution has a software-oriented architecture based on open standards, such as Session Initiated Protocol (SIP) and is extensible to multiple communications technologies and information systems including voice, video, data, and radio systems.

### Mission and Business Critical Architecture

The heart of the platform comprises two scalable, high-availability software applications. They are deployed on the customer's unified computing infrastructure resilient software in virtualized IT environments. These applications are integrated with Cisco Unified Communications Manager and other unified communications and collaboration applications to form a single, unified communications and collaboration environment for all staff irrespective of location, role, or device.

**Figure 1.** IP Command System Diagram

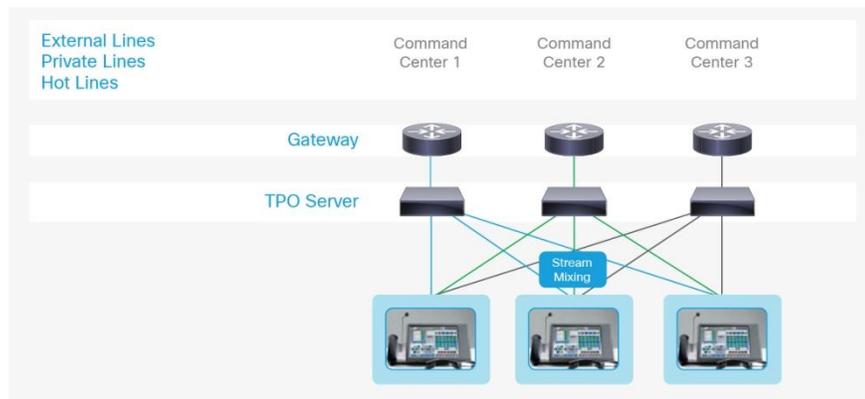
The diagram shows the IP Command architecture including integration with Cisco Unified Communications and Collaboration as well as Cisco Instant Connect.



### The Turret Proxy Open Line Dealing Server

The Turret Proxy Open Line Dealing Server, or TPO, is a feature controller with dynamic conferencing technology that provides critical workflow capabilities to all users. Key features include: multiple talk paths, shared one-touch connections and speed dial directories, unlimited barge-in and ad hoc conferencing, hoot-n-holler (also known as a squawk box), intercom, radio channel monitoring, and voice recorder and trunked radio integration.

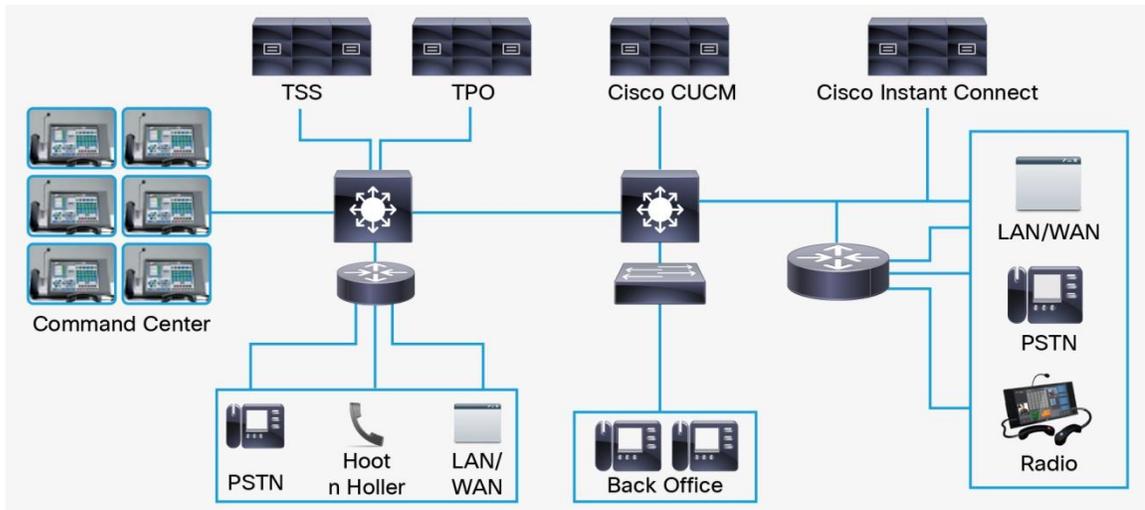
**Figure 2.** IP Command Resilient Architecture with Cluster Redundancy



## The Turret Support Server

The Turret Support Server (TSS) is a web-based management and database application that enables system configuration and management and acts as a central repository for user profiles, secure authentication, and system data. It also acts as a gateway to other enterprise information systems and applications that are integrated in the command center operations environment.

**Figure 3.** TSS Functional Diagram



## The IP Command Dispatch Console

The console offers command center operators a purpose-built high-capacity form factor with rich graphical touchscreen interface that unifies voice, video, data, and radio communications on fixed or mobile networks for users in a single, sturdy, easy-to-use, and customizable desktop device, which can be built in to a console or free standing.

**Figure 4.** IP Command Turret with Speakers, Mic, and Two Handsets.



## Mobile Commander

Mobile Commander untethers dispatchers from their desk by extending their lines, speeds dials, speakers, and intercom on standard Android devices such as a Cisco DX or CX series of products, Android tablets and mobile phones. Mobile Commander offers easy access to most functions through a touch-screen interface that can be configured to meet the users' needs and preferences. Key dispatching requirements such as open line dialing, multiple-call monitoring, group intercom, group call visibility, line-sharing and others are available. And because all communications are through the enterprise unified communications infrastructure, lines can be shared and calls can be recorded and archived just as if they occurred in the office. The mobile commander application enables up to 5 simultaneous streams of radio or telephone audio. Mobile Commander runs on the same IP Command application environment as the dispatch console, making it simple to deploy, integrate and maintain with all dispatcher voice and enterprise UC elements.

**Figure 5.** Mobile Commander on the Cisco DX650 Phone



## Features and Benefits

The IP Command Dispatch Console is a touchscreen device that dispatch professionals can use to quickly and easily visualize, prioritize, and process many simultaneous streams of communication.

The Unified Communicator user interface offers individual or group profiles and a range of peripherals, including multiple handsets, a gooseneck microphone, wired and wireless headsets, high-fidelity speakers, and a built-in video camera.

Each console can support up to 32 simultaneous media streams, 500 lines, and access to 10,000 contacts. (See Table 1 for other key features.)

**Table 1.** T4 Dispatch Console Features and Benefits

| Feature          | Description  |
|------------------|--|
| Dispatch Console | <ul style="list-style-type: none"><li>• 10- or 15-inch model</li><li>• Configurable touchscreen user interface</li><li>• Integrated audio, video, and radio user interface features</li></ul>  |
| Display          | <ul style="list-style-type: none"><li>• 10- or 15-inch display option</li><li>• Multicolor LCD</li><li>• Maximum 120 viewable line appearances; 30 speaker channels</li><li>• Unlimited virtual pages</li><li>• Configurable fixed function keys (hold, transfer, release, conference, direct page, floating answer)</li></ul> |

| Feature               | Description   |
|-----------------------|---|
| <b>Speakers</b>       | <ul style="list-style-type: none"> <li>• 1–30 speakers per turret</li> <li>• 1–4 separate high-fidelity speaker units</li> <li>• Master volume knob per speaker unit</li> <li>• Individual volume control; LED activity indicator per channel (turret user interface)</li> <li>• Multiple muting; broadcast options</li> </ul>  |
| <b>Media Channels</b> | <ul style="list-style-type: none"> <li>• 2 handsets (or handset and headset); audio-video streaming to maximum 30 channels</li> </ul>   |
| <b>Capacity</b>       | <ul style="list-style-type: none"> <li>• Max. 500 lines per turret console/10,000 virtual button appearances for lines, speed dials, intercom and features</li> </ul>   |
| <b>Call-Handling</b>  | <ul style="list-style-type: none"> <li>• Unlimited barge-in, shared lines, conferencing, and privacy-privacy release</li> <li>• Programmable color styles</li> <li>• Differentiated ringing profiles</li> <li>• Private and corporate contact directories</li> <li>• Private and group intercom directories</li> <li>• Line labeling up to 32 characters with auto font adjustment</li> <li>• Inbound caller ID matching and display</li> </ul> |
| <b>Recording</b>      | <ul style="list-style-type: none"> <li>• Compatible with most major recorders</li> <li>• Call Data Records (CDR) output</li> </ul>  |

**Table 2.** T4 Dispatch Console Specifications

| Feature                            | Description   |
|------------------------------------|---|
| <b>Physical Dimensions (HxWxD)</b> | <ul style="list-style-type: none"> <li>• 15" (without speaker): 230mm x 375mm x 60mm</li> <li>• 15" (with one speaker): 230mm x 430mm x 60mm</li> <li>• 10" (without speaker): 180mm x 260mm x 40mm</li> <li>• 10" (with one speaker and stand): 235mm x 315mm x 40mm</li> </ul>  |
| <b>Weight</b>                      | <ul style="list-style-type: none"> <li>• 4 Kg (with stand)</li> <li>• 3,3 Kg (without stand)</li> </ul>   |
| <b>Tilting Angle</b>               | <ul style="list-style-type: none"> <li>• From 30° to 80°</li> </ul>   |
| <b>Power Requirements</b>          | <ul style="list-style-type: none"> <li>• 45W</li> </ul>   |
| <b>Call Control Software</b>       | <ul style="list-style-type: none"> <li>• Cisco Unified Communications Manager 8.5, or later</li> </ul>  |
| <b>Signaling Protocols</b>         | <ul style="list-style-type: none"> <li>• Session Initiation Protocol (SIP) (standard and extended)</li> </ul>   |
| <b>Codec</b>                       | <ul style="list-style-type: none"> <li>• G.711μ, G.711a, iLBC (Internet Low Bitrate Codec), G.722, L16</li> </ul>   |
| <b>Networking</b>                  | <ul style="list-style-type: none"> <li>• 3 switched 10/100/1000 Ethernet ports</li> <li>• Ethernet redundancy</li> <li>• Subsecond convergence</li> <li>• IEEE.802.1x</li> <li>• IEEE.802.1p/q VLAN tagging and trunking</li> <li>• Rapid spanning tree 802.1w</li> <li>• Dynamic Host Configuration Protocol (DHCP)</li> <li>• Diffserv per device (QoS)</li> <li>• IP multicast video</li> <li>• SNMP monitoring</li> </ul> |
| <b>Security</b>                    | <ul style="list-style-type: none"> <li>• Windows® Embedded 7 OS (closed system)</li> <li>• Supervision mode password protected</li> <li>• Disablement of USB storage devices</li> <li>• Microsoft® certified anti-virus software (exclusions apply)</li> <li>• Zone-only administration</li> </ul>  |
| <b>VoIP Networks</b>               | <ul style="list-style-type: none"> <li>• SIP (standard and extended)</li> <li>• Supported Codec types on WAN: G.711μ, G.711a, iLBC (Internet Low Bitrate Codec), G.722, L16</li> <li>• Diffserv per device (QoS)</li> <li>• ToS per device</li> <li>• IEEE.802.1p/q VLAN tagging and trunking</li> </ul>  |

| Feature          | Description  |
|------------------|--|
| <b>Recording</b> | <ul style="list-style-type: none"> <li>• Active</li> <li>• Separated mode</li> <li>• Up to 32 IP recording streams</li> <li>• Mixed mode</li> <li>• 1 to 10 configurable IP recording streams</li> <li>• Dual-stream recording redundancy</li> </ul> |

**Table 3.** Temperature Ratings

| Variable               | Description                   |
|------------------------|-------------------------------|
| <b>Operating Temp.</b> | 0°C - 60°C (32 °F – 140 °F)   |
| <b>Storage Temp.</b>   | -20°C - 85°C (-4 °F – 185 °F) |

**Table 4.** Ordering Information: Turrets and Licenses

| Part Number               | Description  | Ordering Source  |
|---------------------------|--|------------------|
| <b>L-IPT-TUC03-SW-P=</b>  | TUC (Trader Unified Communicator) application software - 3 speaker channel support, the TUC Application Feature Bundle (incl. VSR, CDI, CTD, PDI)                  | Cisco price list |
| <b>L-IPT-TUC10-SW-P=</b>  | TUC (Trader Unified Communicator) application software - 10 speaker channel support, the TUC Application Feature Bundle (incl. VSR, CDI, CTD, PDI, CRM, SMS, VR)   | Cisco price list |
| <b>L-IPT-TUC30-SW-P=</b>  | TUC (Trader Unified Communicator) application software - 30 speaker channel support, the TUC Application Feature Bundle (incl. VSR, CDI, CTD, PDI, CRM, SMS, VR)   | Cisco price list |
| <b>IPT4-HW-P=</b>         | T4 touchscreen turret - including one (1) external amplified speaker, one (1) microphone, two (2) RJ11 handsets and one (1) power supply (Int'l power supply pack) | Cisco price list |
| <b>IPT4-TUC03-HWBN-P=</b> | Bundle T4 touchscreen turret with 3 speaker channels - Includes one (1) power supply (Int'l power supply pack) - two (2) RJ11 PTT or PTM handsets                  | Cisco price list |
| <b>IPT4-TUC10-HWBN-P=</b> | Bundle T4 touchscreen turret with 10 speaker channels bundle - Includes one (1) power supply (Int'l power supply pack) - two (2) RJ11 PTT or PTM handsets          | Cisco price list |
| <b>IPT4-TUC30-HWBN-P=</b> | Bundle T4 touchscreen turret with 30 speaker channels bundle - Includes one (1) power supply (Int'l power supply pack) - two (2) RJ11 PTT or PTM handsets          | Cisco price list |
| <b>L-IPT-TPO400-SW-P=</b> | TPO server application software - 400 concurrent channels  | Cisco price list |
| <b>L-IPT-PROSRV-SW-P=</b> | TSS server application software  | Cisco price list |
| <b>L-IPT-START-BLD-P=</b> | Starter Bundle for TSS/TPO (100 channels)  | Cisco price list |
| <b>L-IPT-CUST-DEV-P=</b>  | Custom Development   | Cisco price list |
| <b>L-IPT-TFLX-P=</b>      | IP Command Flex Soft Console - 3 speaker channel and 2 handsets support  | Cisco price list |
| <b>L-IPT-BNDUPG-P=</b>    | Upgrade from Starter Kit   | Cisco price list |
| <b>L-IPT-MCMD-P=</b>      | Mobile Command   | Cisco price list |
| <b>L-IPT-MCMD10-P=</b>    | Mobile Command 10-Pack   | Cisco price list |
| <b>L-IPT-MCMD100-P=</b>   | Mobile Command 100-Pack  | Cisco price list |
| <b>L-IPT-MCMD1000-P=</b>  | Mobile Command 1000-Pack   | Cisco price list |

**Table 5.** Ordering Information: Accessories and Maintenance from Tech Data

| Part Number               | Description  |
|---------------------------|--|
| <b>IPT-PLA-D1</b>         | Private line gateway 1T1/E1 port - delivered with IP trade PLAD                              |
| <b>IPT-PRO-HDS-SER3</b>   | Profile series headset: Hi-Fi audio; Push-to-talk or Push-to-mute switchable                 |
| <b>IPT-PRO-MIC-EXT-50</b> | Profile series external microphone 50 cm length  |
| <b>IPT-PRO-SPK-AMP</b>    | External IP Trade amplified speaker; includes one (1) speaker and one (1) power supply cable |
| <b>IPT-PRO-FTPDL</b>      | External USB PTT foot pedal  |

| Part Number              | Description                              |
|--------------------------|--|
| <b>IPT-PRO-MAINT-EXT</b> | Extended maintenance: 12 months per unit |
| <b>IPT-PRO-INST-SERV</b> | Standard installation package: 4 days    |

## Cisco Solution Support Services

Cisco now supports IP Command software and hardware through the solution support technical assistance center. Customers now have one stop solution support for all their Cisco hardware, software, and IP command products. Cisco's comprehensive approach to support ensures uptime and service excellence for mission and business critical installations. 24/7 support and maintenance contracts are available through IP Trade, contact your IP Trade representative for more information.

**Table 6.** Cisco Solution Support Services

| Part Number                | Description                                   |
|----------------------------|---|
| <b>CON-SSCSS-IPT3FLX</b>   | Solution Support for TFlex Console            |
| <b>CON-SSCSS-IPBNDUP</b>   | Solution Support for IPC Starter Kit Upgrade  |
| <b>CON-SSCSS-IPTMCMD</b>   | Solution Support for Mobile Command           |
| <b>CON-SSCSS-MCMD10</b>    | Solution Support for Mobile Command 10-Pack   |
| <b>CON-SSCSS-MCMD100</b>   | Solution Support for Mobile Command 100-Pack  |
| <b>CON-SSCSS- MCMD1000</b> | Solution Support for Mobile Command 1000-Pack |
| <b>CON-SSCSS-IPT3203</b>   | Solution Support for 3 channel Turret         |
| <b>CON-SSCSS-IPT3210</b>   | Solution Support for 10 channel Turret        |
| <b>CON-SSCSS-IPT3230</b>   | Solution Support for 30 channel Turret        |
| <b>CON-SSCSS-PROSRV</b>    | Solution Support for TSS Server               |
| <b>CON-SSCSS-TPO400</b>    | Solution Support for TPO Server               |
| <b>CON-SSCSS-STRBLD</b>    | Solution Support for IPT Starter Bundle       |

## Summary

As part of the Cisco Developer Network and SolutionsPlus Program, IP Command is certified as part of a comprehensive solution available from a single source that includes network infrastructure, security, wireless, management applications, lifecycle services, flexible deployment, and outsourced management options.

By deploying the IP Command application on the network, organizations are able to use the security, resilience, and scalability of their networks so that users can connect anywhere, anytime, and anyplace, using any media or device.

For more information, visit <http://www.ipcommand-networks.com> or email [info@iptrade-networks.com](mailto:info@iptrade-networks.com).

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