

Cisco Instant Connect Release 4.10

The Cisco® Instant Connect solution simplifies radio dispatch operations and improves response to incidents, emergencies, and facility events. Cisco Instant Connect dissolves communication barriers between land-mobile-radio (LMR) systems and devices such as mobile phones, landline phones, IP phones, and PCs, supporting communications among users of all devices, wherever they are located.

When time is critical, Instant Connect delivers information into the right hands at the right time and in the right format. By providing flexible, scalable communication interoperability, Instant Connect enhances the value of existing and new radio, telephony, and IP communications networks.

Figures 1 and 2 show the Cisco Instant Connect system.

Figure 1. Cisco Instant Connect System

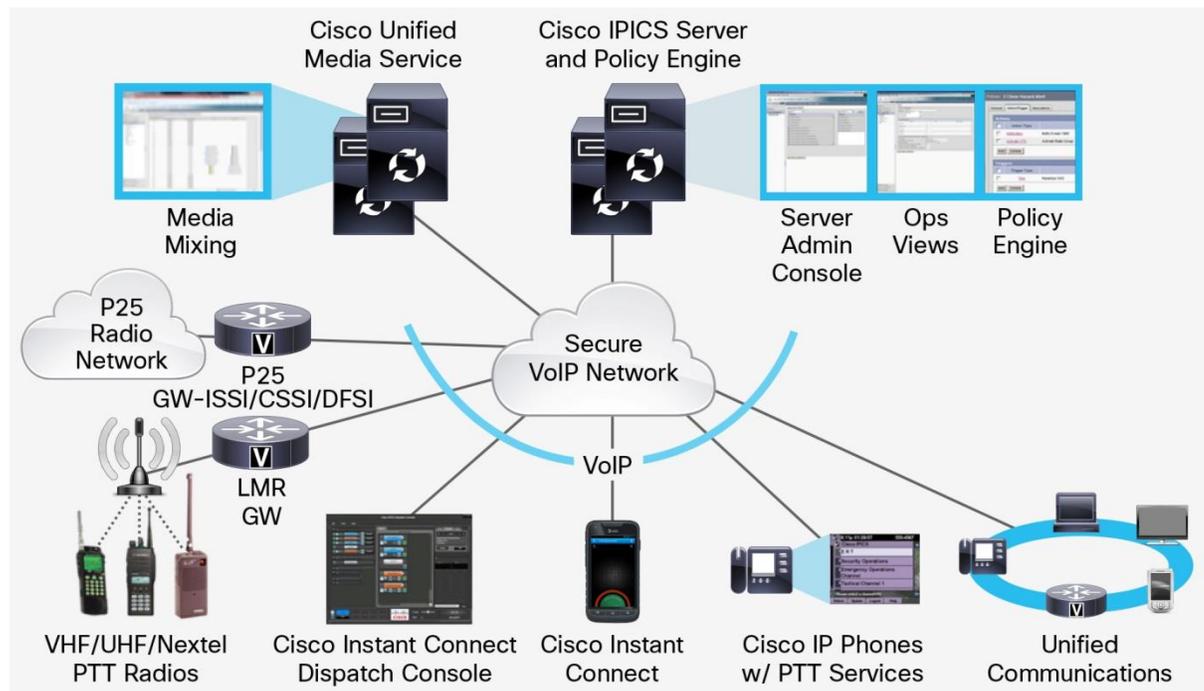
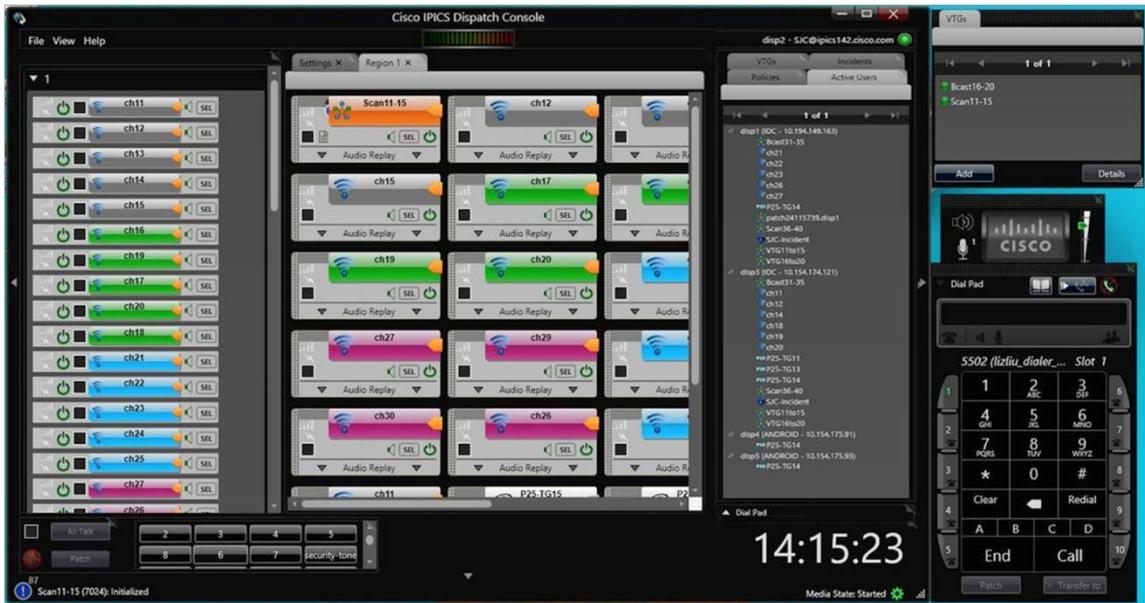


Figure 2. Cisco Instant Connect Dispatch Console



The Cisco Instant Connect Dispatch Console integrates with virtually any analog or digital radio system, supporting dynamic, any-to-any push-to-talk (PTT) communications. It introduces rich interactive media support for Instant Connect incidents, giving dispatchers the power to consolidate information relating to an incident and instantly share that information among Instant Connect incident participants.

Incident dispatch supports sharing of multimedia data, including:

- Archived videos
- Photos
- Alarm monitoring
- Journal and live statuses
- Web links to resources, such as Federal Emergency Management Agency (FEMA) and hazardous material databases, standard operating procedures, and maps
- IPv4 IP compliance (Internet Assigned Numbers Authority [IANA])
- Updated Unified Media Engine
 - Call assurance: Automatically reconnects Cisco Instant Connect users to talk lines sessions when they lose data connectivity
 - Optimized multithreading media processing for better audio processing
 - Faster channel activation
 - Standards-based Real-Time Transport Control Protocol (RTCP) talker ID
 - Session refresh, which maximizes resources

Cisco Instant Connect 4.10 features:

- **Rich Media Incident:** The mobile clients are able to share video, pictures, group texting (journal) with the dispatchers as well add other users on the group.
- **Android local language:** The Cisco Instant Connect mobile client now comes in French, Spanish, Arabic, Chinese, Japanese, Mandarin, and Portuguese besides English.
- **Channel Scroll:** Users can press the quick launch button under the PTT button to change channels. This allows users to quickly scroll through a list of channels without having to touch the screen.
- **Direct Channel Connection:** Users can press the numeric channel button to join that channel. Administrators can put the high priority channels in numeric slots 1-9 for quick user access from the Sonim XP6 phones.
- **New added support:** Cisco Unified Communications Manager 11.0, Microsoft Internet Explorer 11.0, Cisco Wireless IP Phone 8821, Wired IP Phone 8851, and Cisco 4000 Series Integrated Services Routers (ISR).
- **Windows Instant Connect:** The Cisco Instant Connect mobile experience now works on Windows 7 and Windows 8, and Windows 10 devices allowing more users to join channels.
- **Added Capacity:** The Instant Connect system now has performance improvements to support 2500 active mobile users on the same system.
- **Higher User Capacity per talk group:** We now have the ability to support at least 1300 active users in a single talk group.
- **Improved Profiles:** We now allow dispatchers and users to be copied making it easier to administer user privileges on the system.
- **Jabber® Cross Launch:** Now Instant Connect users can just click on a person's phone number in the contacts list making a Jabber voice or video calls right from the Instant Connect user experience.
- **Instant Connect Express:** Now Instant Connect can be sold by any Cisco reseller, which allows for starter push to talk systems. Instant Connect Express allows up to 50 mobile clients to talk on the system. It does not include scan VTGs, broadcast VTGs, LMR connectivity, or Cisco Unified Communications connectivity.
- **Sonim XP6 and XP7:** Cisco Instant Connect is now bundled with hardened Android push to talk devices available in volume price purchase plans. The Sonim phones are IP68 and IP69 rated for extreme temperatures, include a 103 dB loud speaker, drop/shock resistant (IP68), and can survive a firehose (IP69).
- **Improved Instant Connect Operations:** Cisco Instant Connect mobile push to talk client now includes end tones and additional setting screens to personalize the push to talk experience for easier use.
- **Online/Offline Presence:** Cisco Instant Connect users can see who's on their channel. When they PTT they will see which users and dispatchers are listening to their audio.
- **Automatic VPN:** Customers can now link VPN software like Cisco AnyConnect to the Instant Connect system. Once the smart phones are configured with the proper VPN credentials launching Instant Connect will automatically launch the VPN allowing users to always be securely connected to the push to talk system through carrier systems.
- **Talker Priority and audio preemption:** Cisco Instant Connect users can now be assigned a talker priority. Users of higher priority can override audio of lower priorities helping managers to always be heard on the talk line.

- **Scanning Virtual Talk Groups:** Scanning groups can now be created and users can be invited to join these scanning VTGs allowing many radio channels to be listened to at the same time. Cisco Instant Connect users can easily select which talk line/radio channel to transmit back on.
- **Broadcast Virtual Talk Group:** Now Instant Connect users with proper authorization can broadcast to all mobile client users on the system no matter what channel they are on. This allows for critical messages to go over the system to all personnel.
- **Contacts Directory:** Now Cisco Instant Connect users can see a directory of up to 50,000 users allowing companies to give employees instant access to the contacts database.
- **Contacts Presence:** Cisco Instant Connect users can see which contacts are logged into the system allowing them to track down active users on the system.
- **Private Push to talk call:** Cisco Instant Connect users can now make a private point to point push to talk calls. Calling users can pick a contact from the list and make a private call. The users phone will start to ring indicating an accept or reject of the Private PTT call. Once the called party accepts the call they leave the group call and join a new private PTT channel allowing personal communications without having everyone hear the PTT call.
- **Mapping:** Cisco Instant Connect users can now see where other people are by pressing the mapping icon. This will bring up a visual map showing where users are from the contact directory.
- **Instant Connect Administration:** Instant connect users with proper authority can now create Virtual Talk Groups (VTG)/Talk Lines, Scan VTGs and Broadcast VTGs. They can also add and delete users on these talk lines and resources from scan VTGs or broadcast VTGs.
- **Low bandwidth audio:** The Instant Connect mobile client now uses the Internet Low Bit Codec (ILBC) that encodes audio at 40 kB/sec reducing overall data costs.
- **Reporting:** Customers can buy an extra UMS server assigned to reports which includes talker IDs, time of day, private calls, and other useful statistics. The file can be exported into a standard reporting software package to generate call billing records and usage reports. The reports server can be dedicated per location so large systems can have multiple points to collect and process the data.

New Features in the Instant Connect 4.10 Dispatch Console Include:

- **Dispatch Priority:** We have added priority and preemption to the dispatch client software. Now a single stream can have priority floor control across other dispatchers and mobile clients making sure that critical communication gets through to the team.
- **Dispatch Private Calls:** Dispatchers can make private calls to other dispatchers and to Android clients. Mobile clients can also make private calls to dispatchers.
- **Active Users Tab with Presence:** The active user tab shows the channels and groups that other dispatcher's are assigned into the system. If someone is not assigned a critical channel, dispatchers can see this in the active user tab.
- **Improved Administration:** Ability to perform a bulk import or removal of channels or users from the Administration Console. Updates to the Installed License Files Tab in the Administration Console, including an option for deleting a license file from this tab. Options for configuring and including an image in a user profile.

- **Dispatcher Cross Mute:** Dispatchers can configure cross-mute groups for Dispatch Console users. Cross-mute allows dispatchers to mute audio traffic through an Dispatch Console and is useful when two or more dispatchers are in close physical proximity. This feature is available to Dispatch Console clients in multicast mode only. Remote Dispatch Consoles, IP phone services, MIDlet, dial in calls, Cisco Instant Connect for Android devices, and the Dispatch Console dialer do not support cross-muting.
- **Personalized Splash Screen:** Customers can now make custom splash screens to start up when users log into the IDC allowing personalization of the dispatch software.
- **Dispatcher User Presence:** Instant Connect dispatch console can see which Instant Connect users are online and which dispatchers are logged into the Instant Connect system.
- **Improved IDC event notification and email:** The Instant Connect dispatch console now has a system event notification window in the Administration Console Serviceability drawer allowing dispatcher to see all events on the system. The Administration Console can now configure system event email notifications.
- **Patch History Tab:** The Instant Connect dispatch console now has a tab that shows the patch history of channels or groups that are patched together.
- **Dialer History:** The Instant Connect dispatch console now includes a dialer history tab that shows the history of all the phone calls in the system.
- **Improved DTMF audio processing:** The Instant Connect dispatch console now sends RFC2833 packets to the LMR gateway to generate DTMF tones over the radio network.

IP Command Touch Screen Dispatch Consoles

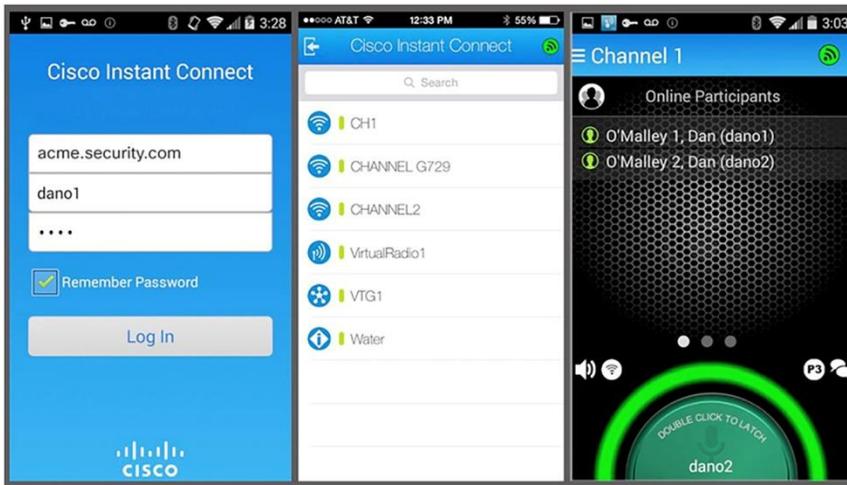
IP Command Touch Screen Dispatch Consoles is a new Instant Connect capability from IP Trade, a Cisco SolutionsPlus Partner (Figure 3). This new console supports advanced incident management and telephony features such as call queuing, call priority queuing, multiple line appearances, and hold and transfer capabilities. These capabilities are integrated with Cisco Unified Communications, allowing dispatchers to prioritize their work and achieve higher productivity.

IP Command Touch Screen Dispatch Console is a complete dispatch unit with integrated audio and customizable layouts to meet any dispatch environment. Dispatch teams have access to integrated, collaborative features for radio communications, unified communications, and telephony.

Figure 3. IP Command Touch Screen Dispatch Consoles



Figure 4. Cisco Instant Connect Mobile Client



The Cisco Instant Connect solution provides an economical alternative to service provider solutions for mobile communications or expensive LMR portable radios. Cisco Instant Connect enables mobile personnel within your Wi-Fi coverage area to participate in PTT sessions using a Cisco Unified Wireless IP Phone or an Android device with a Wi-Fi connection. In addition, personnel who are out of the coverage area can use nearly any analog or digital radio or a smartphone or tablet with a 3G or 4G cellular data connection or satellite connection.

Figure 5. Cisco Instant Connect on Sonim XP 6 and XP 7 Phones



Major benefits of Cisco Instant Connect include:

- **Superior Radio Functionality:** Cisco Instant Connect includes the ability to scan multiple channels, set user priority, full and half duplex modes, see user presence on the radio channel, make point to point (private) push to talk calls.
- **Contact Directory:** Mobile users can now have access to the company directory up to 50,000 users with user presence. Users can see other active Cisco Instant Connect users on the system.

- **Mapping:** Finding people in the contact directory is as easy as clicking on a button. Users can click on active users in the contact list and pull up a live map view of where the users are in the system in relations to their current location.
- **Mobile Administration:** Managers can add new talk lines, add users to those talk lines, and delete users from talk lines right from their Cisco Instant Connect Client. Also scan groups and broadcast groups can easily be added from the Instant connect client.
- **Cisco Instant Connect Android, Apple, and Windows SDK:** With our software development kit (SDK) solution developers can embed PTT functions into Android, Apple, and Windows applications used in the workforce. Now PTT can be tailored to fit any application from retail environments, public safety, manufacturing, and virtually any operations scenario.
- **Call Assurance:** When the smartphone user roams outside of data coverage (Wi-Fi or carrier), the Instant Connect application will notify the user of the loss of connection through an audible beep and a visual indication. When the smart device roams back into coverage, Cisco Instant Connect will automatically reconnect the user to the talk group. Now users always know when they can communicate with their group.
- **Low costs:** Instead of paying monthly service provider fees for onsite personnel, you can deploy an on-premises Instant Connect solution. The savings from eliminating monthly fees quickly pays back the one-time capital investment. The Cisco solution is based on open standards, eliminating the need to purchase, support, and manage proprietary solutions.
- Cisco Instant Connect can be expanded for in-building coverage by adding Wi-Fi access points, integrating to carrier PTT service, bridging to LMR channels, and connecting to satellite data radios. With Cisco Instant Connect customers can save the cost of high-priced LMR infrastructure build-outs.
- **High quality of experience:** Cisco Instant Connect integrates with your existing Cisco Unified Communications and Cisco Collaboration services. quality of service (QoS) and advanced voice codecs help to provide clear voice quality, even when the network is busy. Cisco CleanAir[®] technology constantly identifies and works around sources of wireless interference that might otherwise affect the user experience.
- **Improved collaboration and situational awareness:** Mobile personnel can access PTT, voice, video, and instant messaging from multiple devices, including personal smartphones and tablets if your organization has a bring-your-own-device (BYOD) policy. Private and individual PTT, phone and video sessions are supported. Combining PTT with rich-media applications can improve decision making and situational awareness.
- **Scalability:** Cisco Instant Connect can support thousands of users. Managing a single system saves time and money compared to managing multiple service provider contracts.
- **Security:** Cisco Instant Connect encrypts all PTT communications between the wireless access point and the Cisco Unified Wireless IP Phone using the Advanced Encryption Standard 256 (AES-256) and Wi-Fi Protected Access 2 (WPA2) security standards. Users over carrier networks can use Cisco AnyConnect[®] technology to automatically establish a VPN session between the mobile device and the system.
- **High availability:** If PTT is mission-critical in your organization, take advantage of high-availability options for the wireless network, server, applications, and Cisco Unified IP Phones. For example, if the signaling connection to the server drops, the Cisco Unified IP Phone can automatically reconnect to a secondary server, avoiding service interruptions. In addition, mobile personnel can swap out the Cisco Unified Wireless IP Phone battery in the field, an option not available with many service providers' PTT alternatives.

- **Increased integration using open standards:** Cisco Instant Connect is based on the Session Initiation Protocol (SIP) standard, avoiding the interoperability, integration, and performance problems associated with proprietary encoding schemes.

High Availability

The Cisco Instant Connect system has the option of adding a secondary hot-standby server for both the Cisco Universal Media Server (UMS) and IPICS server to provide high availability with no single point of failure. If a primary server fails, the secondary server automatically takes over service without communication interruption. The servers can be geographically separated or located together. Administrative functions and data logs are synchronized to avoid any loss of information.

Enhanced Instant Connect APIs

A web service API integrates Instant Connect with third-party applications such as command and control, physical security information management (PSIM), and computer-aided dispatch applications.

Table 1 lists the capabilities of Cisco Instant Connect.

Table 1. Instant Connect System Capabilities

System Capabilities	Specification
IPICS Users in Database	Up to 50,000
Active Users	Up to 2,500 with up to 1,300 active users per talk line
Active Dispatch Consoles	Up to 250
VTGs	Up to 150 active
Radio Channels	Up to 1500 active channels
Dial-In/Dial-Out Users	Up to 200 active dial users
Mobile Clients	Up to 2,500 active (included in Active Users earlier in the table)

Licensing Information

The Cisco IPICS server checks the license count for proper software and resource licenses. For example, one dispatch console license is required for each Instant Connect Dispatch Console client logged into the IPICS server, meaning that the Cisco Instant Connect Dispatch Console can be installed on as many PCs as needed, and the licensing is based only on the Cisco Instant Connect Dispatch Console sessions that are in use at any given time.

Table 2 provides licensing options.

Table 2. Instant Connect Licenses

Bundle	IPICS Server License	Virtual Talk Groups	Policy Engine	Radio Channel Ports	Silver Consoles	Platinum Consoles	Mobile Clients	IP Phone	UMS
IPICS4.X-BDL1-K9	1	1	1	2	1	0	1	1	0
IPICS4.X-BDL2-K9	1	10	0	8	0	4	0	0	0
IPICS4.X-BDL3-K9	1	50	1	10	10	4	10	10	0
IPICS4.X-BDL4-K9	1	1	1	2	0	0	20	20	1
IPICS-BDL5-SW-K9	1	4	N/A	N/A	N/A	N/A	4	N/A	1
IPICS-BDL5-XP6-K9	1	4	N/A	N/A	N/A	N/A	4	N/A	1
IPICS-BDL5-XP7-K9	1	4	N/A	N/A	N/A	N/A	4	N/A	1

Ordering Information

The Instant Connect solution is available only direct from Cisco Advanced Services or through select technology partners.

To place an order, visit the Cisco ordering homepage or contact your Cisco account manager and refer to Table 3.

Table 3. Ordering Information

Part Number	Description
CIS-IPICS-VM	Virtualized IPICS Software. Order this for a virtualized version of the IPICS system. Structure all software as options to this part number for physical delivery of software licenses.
L-CIS-IPICS-VM=	Virtualized IPICS Software. Order this for a virtualized version of the IPICS system. Structure all software as options to this part number for e-delivery of software licenses.
IPICS4.X-BDL1-K9	IPICS basic bundle used for small deployments. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
IPICS4.X-BDL2-K9	IPICS medium bundle used for Cisco Unified Communications Manager integration. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
IPICS4.X-BDL3-K9	IPICS large bundle used for large deployments. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
IPICS4.X-BDL4-K9	Instant Connect bundle used for on-premises push to talk. The instant connect bundle does not include dispatch licenses but does include a UMS license. Order this as an options to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
IPICS-BDL5-SW-K9	Instant Connect Express bundle used for on-premises push to talk with 4 Instant Connect mobile client licenses. The instant connect express bundle. Order this as an options to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
IPICS-BDL5-XP6-K9	Instant Connect Express bundle used for on-premises push to talk with 4 Sonim XP6 Android phones. Order the instant connect express bundle options to the CIS-IPICS-VM for physical delivery, there is no e-delivery for this bundle.
IPICS-BDL5-XP7-K9	Instant Connect Express bundle used for -remises push to talk with 4 Sonim XP7 Android phones. Order the instant connect express bundle options to the CIS-IPICS-VM for physical delivery, there is no e-delivery for this bundle.
CIS-MC	Mobile Client IPICS License. Order one per each Android and iPhone mobile client needed in the system. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-IPICS4-HA-K9	High-availability secondary server bundle. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-IPPE4.0-K9	Policy engine server software, which provides the policy engine feature. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-CON4.X-SIL	Cisco Dispatch Console Silver License, used for primary dispatchers. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-CON4.X-PLA	Cisco Dispatch Console Platinum License, used for supervisors or dispatchers that need telephony features. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-MC-100	Mobile Client IPICS License, 100 units. This includes 100 mobile client licenses for Android or iPhone devices. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-PHN	IP Phone Client License. This is used for each Cisco IP phone that needs to access talk groups and channels. Order one per each Android and iPhone mobile client needed in the system. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-VIP-CHNL2	IPICS Channel/Radio Port License. Order one for each channel or radio needed on the IPICS system. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-VIP-DIAL	IPICS VIP dial-out ports. This is used for each dial-out port connected to a telephony system. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-VIP-VTG2	Virtual talk group (VTG). Order one for each desired VTG. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-OPSVIEW2	IPICS operational views. This feature allows administrators to segment dispatchers in the IPICS system. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-NATIVE-IDC	Native dispatch position for end-to-end P25 encryption. Order one for each desired dispatch position to have end-to-end encryption. Order this as an option to an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.

Part Number	Description
CIS-IPMC	Instant Connect Mobile or IP Phone client. Order one for each single Cisco Instant Connect mobile client. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-IPMC-10	Instant Connect Mobile or IP Phone client-10 Pack. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-IPMC-50	Instant Connect Mobile or IP Phone client: 50 Pack. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-IPMC-100	Instant Connect Mobile or IP Phone client: 100 Pack. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-IPMC-250	Instant Connect Mobile or IP Phone client: 250 Pack. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-IPMC-500	Instant Connect Mobile or IP Phone client: 500 Pack. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-IPMC-1000	Instant Connect Mobile or IP Phone client: 1000 Pack. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.
CIS-SONIM-XP6=	Sonim XP6 high-level part number for ordering. Select this part number first in the Cisco ordering tool to see all available options.
CIS-SONIM-XP7=	Sonim XP7 high-level part number for ordering. Select this part number first in the Cisco ordering tool to see all available options.
CIS-IS	Intrinsically Safe Option to the Sonim XP6 or XP7. Order this option to the CIS-SONIM-XP6= or CIS-SONIM-XP7= model for customers in oil and gas deployments that require Intrinsically Safe phones.
CIS-WIFI	Wi-Fi option to the Sonim XP6 or XP7. Order this option to the CIS-SONIM-XP6= or CIS-SONIM-XP7= model for customers that want Wi-Fi-only phones.
CIS-CDMA	Order the code division multiple access (CDMA) option for connecting with cellular systems based on CDMA technology. Note: The phone is not homologated to the carriers network. Check with local carriers for a list of compliant devices. CDMA technology is used mainly by Verizon in the United States.
CIS-GSM	GSM Option: Order this for connecting with cellular systems based on GSM technology. Note: This does not mean that the phone is homologated to the carriers network. Check with local carriers for a list of compliant devices. GSM technology is used throughout the world and by AT&T and T-Mobile in the United States.
CIS-DISTI	Distributor Option: Order this option for distributors with minimum volume purchase. Contact Cisco for more information. Does not include mobile client license.
CIS-NFR	Not For Resale (NFR): Order this option for partners and internal sales for demonstration devices or marketing samples. Does not include mobile client license.
CIS-ICE-SW2-UG	Upgrade from Cisco Instant Connect Express to full Cisco Instant Connect. Includes Scan and Broadcast calls. Order this as an option to the CIS-IPICS-VM for physical delivery, or as an option to the L-CIS-IPICS-VM= for e-delivery.

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