Cisco Desktop Collaboration Experience DX600 Series

Cisco® Desktop Collaboration Experience DX600 Series is a next-generation, smart desk endpoint portfolio that delivers powerful high-quality communications and collaboration for a variety of office environments (Figure 1).

Figure 1.   Cisco Desktop Collaboration Experience DX650

Product Overview

The Cisco Desktop Collaboration Experience DX650 (Cisco DX650) is built to deliver integrated, always-on and secure, high-definition (HD) voice and video communications; conferencing with Cisco WebEx® meeting applications; presence and instant messaging with the Cisco Jabber™ messaging integration platform; and on-demand access to cloud services. It is intended to meet the demands of people who must collaborate effectively with experts even if separated by long distances.

Innovative collaboration capabilities are available right out of the box with the Cisco DX650. It provides native support for HD 1080p at 30 frames per second (fps); video calling interoperability to other H.264 and Advanced Video Coding (AVC) video endpoints, including Cisco Unified IP Phone 8900 and 9900 Series models; the Cisco Jabber platform on personal mobile devices; and Cisco TelePresence® System-compliant endpoints and room systems.

Integrated browsing provides instant access to cloud services. In addition, because it is Compatibility Test Suite (CTS)-compliant with the open Android platform, the Cisco DX650 offers access to the ecosystem of Cisco and commercial third-party applications developed for Android. Customers can also develop custom applications for Android and deploy them to both their DX650 and mobile users. The Cisco DX650 also takes advantage of the touch-directed ease of use of Android, and its ability to personalize experiences with customizable home screens, communications widgets, ringtones, and more.

As an Android device, the Cisco DX650 provides tighter integration with personal mobile devices, such as smartphones, via Bluetooth. The DX650 supports the ability to share contacts and call histories to enhance productivity, with a simple single button press, with the DX650 when at your desk.

The capability also exists to move an active call, in progress, from your smartphone to the Cisco DX650, for a superior audio experience and greater flexibility in how you choose to communicate

The Cisco DX650 is designed for information workers, workers in shared workspace settings, and midlevel and senior executives. Corporate, branch, and virtual offices along with home teleworking environments are just some examples of deployment scenarios.

The Cisco DX650 introduces a new era in employee productivity to advance your business results and meet your business needs for both today and tomorrow. Delivering new opportunities to collaboration-enable your business processes and workflows and transform your work desk into a smart desk.

The main attributes of the Cisco DX650 include:

- Integrated 7-inch capacitive touchscreen, with support for multitouch gestures
- HD video with H.264 and AVC video calling up to 1080p at 30 fps
- Enhanced wideband audio support (through G.722 or Internet Speech Audio Codec [iSAC] codecs) using the handset, headset, or speakerphone
- Choice of 802.11a/b/g/n desktop Wi-Fi connectivity or Gigabit Ethernet network connectivity with integrated switch port for a co-located PC
- Embedded Bluetooth radio and two standard type A high-speed Universal Serial Bus (USB 2.0) ports for optional accessories (for example, headsets for external camera, thumb drive or memory stick, keyboard, and mouse)
- Dual independent displays with an external monitor using High-Definition Multimedia Interface (HDMI) with resolution up to 1920 x 1200 (WUXGA)
- Android 4.0 operating system and Google Play Store access for third-party applications
- Integrated collaborative application suites: Cisco WebEx conferencing and Cisco Jabber Instant Messaging (IM), presence, email, calendar, contacts, visual voicemail, and voice and video through Cisco Unified Communications Manager (UCM)
- Support for Cisco Unified Communications features, devices, and applications management and security policies from Cisco UCM 7.1.5, 8.5.1, 8.6.2, and later

Product Features and Specifications

Tables 1 through 3 summarize specifications, features, and other information.

Table 1.   Product Specifications

Feature	Benefit
Hardware	
Ergonomic design	• Touch-based phone application provides intuitive arrangement of lines, features, and calls. End Call, Transfer, Conference, and Hold appear on dedicated hard keys.
Display	• The display measures 7.00 in. (17.78 cm) diagonally; 6.05 in. (15.36 cm) horizontally; and 3.43 in. (9.00 cm) vertically. • Capacitive touchscreen includes support for various multitouch gesture commands to interact with contacts, collaboration applications, voice and video calling, and third-party applications. • High-resolution Widescreen Super Video Graphics Array (WSVGA) has 1024 x 600 pixel effective resolution. It offers backlit Light-Emitting Diodes (LEDs), it is tilt-adjustable (up to 25-degree range), and it has a Thin-Film-Transistor (TFT) Liquid Crystal Display (LCD). • The display has 24-bit color depth (up to 16.7M colors using 6-bit + Hi-Frame Rate Control (FRC)). • The display supports localization requiring double-byte Unicode encoding for fonts. • The display tilts back 25 degrees and forward 5 degrees from the perpendicular position in the desktop configuration.

Feature	Benefit
Audio	• The DX600 supports enhanced wideband audio (using the G.722 or iSAC codecs) through the handset, headset, and speakerphone; it is TIA-920-compliant. • The speakerphone is capable of integrated full-duplex wideband audio. • The 0.14-in. (3.5-mm) stereo headset jack also supports optional headphones or external speakers.
Handset	• The handset is a standard wideband-capable audio handset (connects through an RJ-9 port). • The standard coiled cord has a custom end for concealed cable routing beneath the phone (cord length is approximately 21-in. [55-cm] coiled and up to 72-in. (183-cm) extended). • The handset is hearing aid-compatible (HAC) and meets Federal Communications Commission (FCC) loudness requirements for the Americans with Disabilities Act (ADA). Section 508 loudness requirements can be achieved using industry-standard inline handset amplifiers such as Walker Equipment W-10 or CE-100 amplifiers. The dial pad is also ADA-compliant.
Front camera	• The camera offers HD video communication with Cisco TelePresence System interoperability and other H.264 and AVC video endpoint interoperation for immersive video communication. • The integrated HD-capable front camera supports up to 1080p 30-fps video encoding and decoding. • With an integrated privacy screen slide switch, you can mechanically disable video transmission. • A dedicated LED indicator shows video status. • The field of view is 75.0 degrees diagonally and 67.4 degrees horizontally.
Operating system	Android OS 4.0.4 (Ice Cream Sandwich)
Processor	TI OMAP 4460 1.5-GHz dual-core ARM Cortex-A9 processor
Storage	8-GB eMMC NAND Flash memory (embedded multimedia card; nonvolatile)
Memory	1-GB RAM; Low Power Double Data Rate Synchronous Dynamic Random-Access Memory (LPDDR2 SDRAM)

Ports and slots	• High-Definition Multimedia Interface (HDMI) type A port
	• HDMI port Dual Independent Display: Permits content from a different application to be displayed on an optional, customer-supplied LCD monitor from that presented on the DX600 Series display; an alternative "mirrored mode" enables the DX600 Series display content to be pushed out to an adjacent LCD monitor
	• 3.5-mm stereo line in/out jack (for optional external headset, speakers, or headphones)
	• High-speed USB 2.0 ports:
	  ◦ Two standard type A ports (for keyboard, mouse, external camera, thumb drive and memory stick, and headset connectivity)
	  ◦ One Micro-B USB port (allows connection to another device [for example, PC] for file transfer)
	  ◦ Maximum of 500 mA power output at 5V or 2.5W (depending on power budget) total across all USB ports
	• Micro Secure Digital Standard Capacity (HDSC) slot for nonvolatile storage of applications or file expansion up to 32 GB (standard-definition [SD] card speed Class 4 or later recommended)
	• Auxiliary port (reserved for future use)

Physical buttons	• 12-key dial pad • Conference • Transfer • Hold • End Call • Volume Up/Down bar • Audio mute (with LED status indicator) • Stop video (with LED status indicator) • Speakerphone (with LED status indicator) • Headset (with LED status indicator) • Power/Lock button (with LED status indicator)
Visual indicator	• Visual alert (LED) for incoming call and message-waiting indicator (MWI) on handset or cradle • Camera status LED indicator • Cisco EnergyWise™ Sleep Indicator on Lock button
Physical dimensions (H x W x D)	• Typical desktop configuration with handset and foot stand 8.46 x 10.35 x 8.19 in. (21.5 x 26.3 x 20.8 cm) • Wall-mount configuration with wall plate and handset (foot stand removed) 11.63 x 10.35 x 3.74 in. (29.5 x 26.3 x 9.5 cm)
Weight	3.81 lb (1.73 kg) (phone, foot stand, handset, and handset cord) 3.92 lb (1.78 kg) (phone, handset, wall-mount bracket, and handset cord)
Phone-casing composition	Acrylonitrile butadiene styrene (ABS) plastic in textured Cisco "Smoke" color with metallic foot stand.

Feature	Benefit
Power	• IEEE 802.3af (Class 3) or IEEE 802.3at (Class 4) Power over Ethernet (PoE) standards are supported. • The DX650 is compatible with both Cisco Discovery Protocol and Link Layer Discovery Protocol - Media Endpoint Discovery (LLDP-MED) PoE switch blades. • Power budget: 13.7W (CDP) or 15.1W (LLDP) for 802.3AF and low-power USB peripheral support; greater than 15.4W and 802.3AT required for high-power USB peripheral support.
Physical security	• Compatible with Kensington Security Slot (K-Slot) anti-theft system (can accommodate a lock up to 20 mm wide) • Optional wall-mount bracket (lockable)
Connectivity	
Ethernet	Internal 2-port Cisco Ethernet switch allows for a direct connection to a 10/100/1000BASE-T Ethernet network (IEEE 802.3i/802.3u/802.3ab) through an RJ-45 interface with single LAN connectivity for both the phone and a co-located PC. The system administrator can designate separate VLANs (IEEE 802.1Q) for the PC and phone, providing improved security and reliability of voice and data traffic.
Desktop Wi-Fi Ethernet	As an alternative to wired Ethernet, the DX650 supports a Wi-Fi radio with integrated antenna enabling connectivity to a Wi-Fi access-point infrastructure, thereby saving on the labor costs of pulling Ethernet cables to every work location.
Network features	• Cisco Discovery Protocol • Cisco Peer-to-Peer Distribution Protocol (PPDP) • LLDP-MED • Session Initiation Protocol (SIP) for signaling • Session Description Protocol (SDP) • User Datagram Protocol (UDP) (used only for Real-Time Transport Protocol [RTP] streams) • Dynamic Host Configuration Protocol (DHCP) client or static configuration • Transparent secure roaming • Gratuitous Address Resolution Protocol (GARP) • Switch auto-negotiation • Domain Name System (DNS) • Web proxy (configured manually or by auto-configuration Protected Access Credential [PAC] files) • NT LAN Manager (NTLM) and Kerberos authentication • Trivial File Transfer Protocol (TFTP) • Secure Hypertext Transfer Protocol (HTTPS) • Wi-Fi management • IPv4 configuration • Virtual Local Area Network (VLAN) • Real-Time Control Protocol (RTCP) (provides quality of service [QoS] data [such as jitter, latency, and round-trip delay] on RTP streams in order to provide a better video experience) • Secure Real-Time Transport Protocol (SRTP) • Software port speed (manual or auto-configuration, including disablement) • PC port speed (manual or auto-configuration, including disablement)

Bluetooth	• Bluetooth 3.0 Enhanced Data Rate (EDR) Class 2 technology (up to 30-ft [10m] range)
	  ◦ Human Interface Device (HID) keyboard and mouse support for adding additional input accessories
	  ◦ Hands-Free Profile (HFP) for untethered headset connections and voice communications
	  ◦ Phone Book Access Profile (PBAP), which enables the exchange of phone book objects between devices
	  ◦ Advanced Audio Distribution Profile (A2DP) for streaming audio
	  ◦ Object Push Profile (OPP) for generic file exchange

Accessories	
Cisco SolutionsPlus external camera	External camera option with the Logitech Webcam C920-C for the Jabber® platform provides up to 1080p 30-fps video calls with an optional external display.
Firmware	
Call-platform support; provisioning and management	• Cisco UCM Version 8.6.2 or later • Backward compatibility with Cisco UCM Version 7.1.5 and 8.5.1 (no support for Android package [APK] provisioning in 7.1.5) • Cisco Hosted Collaboration Solution (HCS) Version 8.6.2 or later • Cisco Business Edition 6000 Version 9.1 or later

Feature	Benefit
Upgrading process	• Software upgrade of the device through Cisco UCM • Support for online firmware upgrades using TFTP • HTTP firmware management
Temperature range	
Operating temperature	32 to 104°F (0 to 40°C)
Relative humidity	10 to 95% (noncondensing)
Storage temperature	14 to 140°F (-10 to 60°C)

Table 2.   Software Features

Feature	Specifications
Android core features	• Fully customizable Cisco Launcher and App Tray "Home Screen" enables you to place your own application shortcuts, widgets, and folders • Home screen supports up to five separate screen views or pages with a 6 x 4 icon grid • Landscape-orientated applications are supported • On-screen keyboard is supported
Android bundled applications and widgets	• Calculator • Calendar • Camera • Clock • Contacts • Direct Dial • Email ◦ Internet Message Access Protocol (IMAP) ◦ Post Office Protocol 3 (POP3) ◦ Microsoft Exchange ActiveSync • Favorites • Gallery • Phone features (for example, Forward All, Privacy, Do Not Disturb, Mobility, and Self-View) • Wallpapers (including Live Wallpapers) • Web browser
Google bundled applications	• Google Play (enabled by administrator through Cisco UCM; includes country-approved Google mobile services applications) • Gmail • Google settings • Maps • Play Books • Play Magazines • Play Movies • Play Music • Search
Cisco bundled applications	• Cisco AnyConnect® Secure Mobility Client (VPN) Version 3.0 • Cisco Jabber IM (which offers chat and presence capabilities) • Cisco WebEx Version 2.5 • Quick Contact Badge (allows you to easily collaborate with your contacts to place a call, send an email message, send an instant message (IM), or start a WebEx® meeting) • Visual Voicemail
Intelligent proximity	• Contact synchronization with Bluetooth-paired, Android or iOS mobile device that supports PBAP • Call history synchronization to view placed or missed calls from mobile device on the DX650 • Audio path routing sends audio through the DX650 for a mobile device-connected call
Configuration modes	• Standard, fully-functional mode that enables all aspects of the phone including applications and accounts • Phone-only mode that hides applications, accounts and provides phone-only voice and video call capabilities

Feature	Specifications
Application deployment options and management	• Cisco UCM App Client Configuration (when enabled, allows you to select the applications you want to install from a predefined list) • Allow applications from unknown sources - such as Android APK files that are received through email, through IM, or from a Secure Digital (SD) card (Enabled, Disabled, or User Controlled setting configured by administrator through Cisco UCM) • Company Photo Directory (ability to set up and link photo directory URL image location associated with respective user)
Built-in training and setup assistance	• Setup Assistant wizard (helps configure email, Jabber IM, WebEx, and Voice Mail account settings) • Preloaded end-user tutorials that provide helpful integrated multimedia sessions and review key phone operations and personal settings
Third-party application development	• Cisco Collaboration application programming interfaces (APIs) through a Software Developer Kit (SDK)
Language support	• Arabic, Egypt (ar_EG) • Bulgarian, Bulgaria (bg_BG) • Catalan, Spain (ca_ES) • Chinese, PRC (zh_CN) • Chinese, Taiwan (zh_TW) • Croatian, Croatia (hr_HR) • Czech, Czech Republic (cs_CZ) • Danish, Denmark (da_DK) • Dutch, Netherlands (nl_NL) • English, Britain (en_GB) • English, United States (en_US) • Finnish, Finland (fi_FI) • French, France (fr_FR) • German, Germany (de_DE) • Greek, Greece (el_GR) • Hebrew, Israel (he_IL) • Hungarian, Hungary (hu_HU) • Italian, Italy (it_IT) • Japanese (ja_JP) • Korean (ko_KR) • Latvian, Latvia (lv_LV) • Lithuanian, Lithuania (lt_LT) • Norwegian bokmål, Norway (nb_NO) • Polish (pl_PL) • Portuguese, Brazil (pt_BR) • Portuguese, Portugal (pt_PT) • Romanian, Romania (ro_RO) • Russian (ru_RU) • Serbian, Republic of Serbia (sr_RS) • Slovak, Slovakia (sk_SK) • Slovenian, Slovenia (sl_SI) • Spanish, Spain (es_ES) • Swedish, Sweden (sv_SE) • Thai, Thailand (th_TH) • Turkish, Turkey (tr_TR)

Feature	Specifications
Calling feature support	• + Dialing (ITU E.164) • Abbreviated dialing • Adjustable ringing and volume levels • Adjustable display brightness • Auto-answer • Auto-detection of headset • Barge (cBarge) • Callback • Call Chaperone • Call forward • Call forward notification • Call history lists • Call park (including Directed Call Park and Assisted Directed Call Park) • Call pickup • Call timer • Call waiting • Caller ID • Corporate directory • Conference (ad hoc) • Direct transfer • Divert (iDivert) • Do Not Disturb (DND) • Extension Mobility service • Fast-dial service • Forced access codes and client matter codes • Group call pickup • Hold (and Resume) • Intercom • International call logging • IP Phone Manager Assistant (IPMA) • Join (ad hoc) • Last-number redial (LNR) • Malicious-caller ID • Message-waiting indicator (MWI) • Meet-me conference • Mobility (Mobile Connect and Mobile Voice Access) • Music on hold (MoH) • Mute (audio and video) • Network profiles (automatic) • On- and off-network distinctive ringing • Personal directory • PickUp • Predialing before sending • Privacy • Private Line Automated Ringdown (PLAR) • Ring tone per line appearance • Self-View (video call) • Service URL • Shared line(s) • Time and date display • Transfer (ad hoc) • Visual Voicemail • Voicemail
Audio codec support	• Narrowband audio compression codecs: G.711a, G.711u, G.729a, G.729ab, and Internet Low Bitrate Codec (iLBC) • Wideband audio compression codecs: G.722, Internet Speech Audio Codec (iSAC), and iLBC audio compression codecs

Feature	Specifications
Emergency services	• Emergency Calling Service dialing
Accessibility features	HAC handset meets Federal Communications Commission (FCC) loudness requirements for the Americans with Disabilities Act (ADA). Section 508 loudness requirements can be achieved using industry-standard inline handset amplifiers such as Walker Equipment W-10 or CE-100 amplifiers. Dial pad is also ADA-compliant. Additional accessibility features for the vision impaired, the blind, and the hearing and mobility impaired include user-defined and customizable: • Display font size and screen brightness settings • Touchscreen customizable touch and hold delay • Talkback audio prompts and spoken password • Support for webscripts
Security Features	
Hardware	• Secure boot • Secure credential storage • Device authentication • File authentication and encryption • Image authentication and encryption • Signaling authentication • Random bit generation • Hardware cryptographic acceleration • Encrypted configuration files • Encrypted file system
Certificate management	• Certificate Authority Proxy Function (CAPF) support for additional security • Manufacturer-Installed Certificates (MIC) • Locally Significant Certificates (LSC) • X.509 Digital Certificates (DER encoded binary); both DER and Base-64 formats are acceptable for the client and server certificates; certificates with a key size of 1024, 2048, and 4096 are supported
Network	• Wired: 802.1x supplicant options for network authentication use: ◦ Extensible Authentication Protocol: Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST) ◦ Extensible Authentication Protocol: EAP Transport Layer Security (EAP-TLS) ◦ Extensible Authentication Protocol: EAP Message Digest Algorithm 5 (EAP-MD5) • Wireless: ◦ (refer to Table 4) • Wireless: Wi-Fi Protected Access 2 (WPA2) (EAP-FAST) • Wireless Equivalent Privacy (WEP) • EAP-TLS • Protected Extensible Authentication Protocol - Generic Token Card (PEAP-GTC)
Media and data signaling	• TLS • SRTP • HTTPS for clients
Enterprise access	• Cisco AnyConnect Secure Mobility Client • Web Proxy (manual configuration or auto-configuration of Protected Access Credential [PAC] files) • NTLM and Kerberos authentication
Device management	• Remote wipe • ActiveSync remote wipe (email, contacts, calendar, etc.) • Self-service wipe • Wipe after unsuccessful login attempts • Factory reset

Feature	Specifications
Policy management	• Password complexity • Disable USB • Disable Speakerphone • Disable Headset • Secure Digital I/O (SDIO) enable/disable • Bluetooth • Wi-Fi • Access to Android market • Screen Lock and Automatic Lock (PIN or password) device • Android Debug Bridge (ADB)
Energy policy management	• Power Save (basic power save functions including backlight time and day on and duration) • Cisco EnergyWise (Power Save Plus) mode provides additional intelligent energy management used to help maximize energy savings by placing the phone into a lower power status without interfering with end-user productivity, desktop maintenance, or upgrades
Diagnostics	• The integrated Cisco Collaboration Problem Report Tool can send information directly to your system administrator when you experience problems with your phone or application (requires a configured email account) • Log Server

Table 3.   Video Specifications

Specification	Description
Video standards	H.264 and AVC (H.264/MPEG-4 Part 10 Advanced Video Coding)
Frame rates	Up to 30 fps (maximum) using H.264 and AVC for videoconferencing
Frame or picture formats	CIF (352 x 288 pixels) VGA (640 x 480 pixels) 240p (432 x 240 pixels) 360p (640 x 360 pixels) 480p (848 x 480 pixels) WSVGA (1024 x 600 pixels) HD 720p (1280 x 720 pixels) HD1080p (1920 x 1080 pixels)
Supported HDMI resolutions	1920 x 1200 (WUXGA) 1920 x 1080 (HD 1080p) 1280 x 720 (HD 720p) 1680 x 1050 (WSXGA+)

Table 4.   Wi-Fi Features and Specifications

Specification	Description
Protocol	IEEE 802.11a, 802.11b, 802.11g, and 802.11n and the inclusion of Cisco Compatible Extensions
Frequency band and operating channels	2.4 and 5.0 GHz Channels: 20- and 40-MHz channel widths 2.4 GHz: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13; 5.0 GHz: 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, and 161
Support mode	IEEE 802.11a IEEE 802.11b/g IEEE 802.11n Autosensing, IEEE 802.11b/g preferred over IEEE 802.11a Received signal strength indicator (RSSI) (default)
Data rates	IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps IEEE 802.11b: 1, 2, 5.5, and 11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps IEEE 802.11n: MCS 0 - MCS 7 (20 MHz: 7, 14, 21, 29, 43, 58, 65, and 72 Mbps; 40 MHz: 15, 30, 45, 60, 90, 120, 135, and 150 Mbps)

Specification	Description			
Nonoverlapping channels	5 GHz: 23 channels 20 MHz: 23 channels 40 MHz: 11 channels			
Wireless modulation	IEEE 802.11a: OFDM IEEE 802.11b: Direct sequence spread spectrum (DSSS) IEEE 802.11g: OFDM and DSSS IEEE 802.11n: OFDM (QPSK, BPSK, and 16 and 64 QAM)			
Receiver sensitivity (typical)	IEEE 802.11a: 6 Mbps: -91 dBm 9 Mbps: -91 dBm 12 Mbps: -90 dBm 18 Mbps: -88 dBm 24 Mbps: -85 dBm 36 Mbps: -81 dBm 48 Mbps: -77 dBm 54 Mbps: -76 dBm	IEEE 802.11b: 1 Mbps: -95 dBm 2 Mbps: -93 dBm 5.5 Mbps: -90 dBm 11 Mbps: -86 dBm	IEEE 802.11g: 6 Mbps: -89 dBm 9 Mbps: -89 dBm 12 Mbps: -87 dBm 18 Mbps: -85 dBm 24 Mbps: -81 dBm 36 Mbps: -78 dBm 48 Mbps: -74 dBm 54 Mbps: -72 dBm	
	IEEE 802.11n - 2.4 GHz (20-MHz channels) 7 Mbps: -88 dBm 14 Mbps: -86 dBm 21 Mbps: -84 dBm 29 Mbps: -81 dBm 43 Mbps: -78 dBm 58 Mbps: -73 dBm 65 Mbps: -71 dBm 72 Mbps: -69 dBm	IEEE 802.11n - 2.4 GHz (40-MHz channels) 15 Mbps: -85 dBm 30 Mbps: -82 dBm 45 Mbps: -80 dBm 60 Mbps: -76 dBm 90 Mbps: -73 dBm 120 Mbps: -69 dBm 135 Mbps: -67 dBm 150 Mbps: -65 dBm	IEEE 802.11n - 5 GHz (20-MHz channels) 7 Mbps: -91 dBm 14 Mbps: -89 dBm 21 Mbps: -86 dBm 29 Mbps: -84 dBm 43 Mbps: -81 dBm 58 Mbps: -76 dBm 65 Mbps: -74 dBm 72 Mbps: -72 dBm	IEEE 802.11n - 5 GHz (40-MHz channels) 15 Mbps: -90 dBm 30 Mbps: -87 dBm 45 Mbps: -85 dBm 60 Mbps: -81 dBm 90 Mbps: -78 dBm 120 Mbps: -74 dBm 135 Mbps: -72 dBm 150 Mbps: -70 dBm
Transmitter output power	802.11b: 19 dBm 802.11g, a, and n: 17 dBm			
Access-point support	The Cisco Desktop Collaboration Experience DX650 is supported on both the Cisco Unified and Cisco Autonomous solutions. The following access points are supported by the DX650: ● Cisco Aironet 600 Series OfficeExtend Access Point ● Cisco Aironet 1600 Series ● Cisco Aironet 2600 Series ● Cisco Aironet 3600 Series Details about specific model support can be found here: http://www.cisco.com/en/US/docs/voice_ip_comm/cdce/dx600/deploy/dx600dply.pdf			

Wireless security	● Authentication: Cisco Wireless Security Suite IEEE 802.1X Extensible Authentication Protocol (EAP)
	  ◦ EAP-FAST
	  ◦ PEAP-GTC
	  ◦ Protected Extensible Authentication Protocol - Microsoft Challenge-Handshake Authentication Protocol Version 2 (PEAP-MSCHAPv2)
	  ◦ EAP-TLS
	  ◦ Wi-Fi Protected Access (WPA-PSK)
	  ◦ Wi-Fi Protected Access II (WPA2-PSK)
	● Encryption: Support for IEEE 802.11i security standard through implementation of:
	  ◦ Advanced Encryption Standard (AES)
	  ◦ Counter Mode CBC-MAC Protocol (CCMP)
	  ◦ WEP with Temporal Key Integrity Protocol (TKIP)
	  ◦ AES/Cipher-Based Message Authentication Code (CMAC)			

QoS	● IEEE 802.11e and Wi-Fi Multimedia (WMM) ● Traffic Specification (TSPEC) ● Enhanced Distributed Channel Access (EDCA) ● QoS Basic Service Set (QBSS)			

Specification	Description
Radar detection	Dynamic frequency selection (DFS) and transmit power control (TPC) according to IEEE 802.11h
Wi-Fi power management	• Unscheduled Auto Power Save Delivery (U-APSD) for power management (if WMM is enabled) • Power Save Poll (PS-POLL)

Regulatory and Safety Information

Find Regulatory Compliance and Safety Information for Cisco Desktop Collaboration Experience on Cisco.com.

Licensing

Phone licensing depends on the call-control platform and its policies. For the Cisco Unified Communications Manager, the Cisco DX650 requires four Device License Units (DLUs) or a minimum-level Enhanced IP User Connect License (UCL) for Cisco UCM Version 7.1(5) and later. There are no special licenses plus phone bundles for tier 2 distributors. The DX650 is not supported on third-party call-control systems.

Warranty Information

Find warranty information on Cisco.com at the Product Warranties page.

Ordering Information

You can order the Cisco DX650 as a standalone product. If you plan to deploy the DX650 in an environment that does not use PoE, you should order the Power Cube 4 and use it to locally power the endpoint. To replace a broken handset or coil cord, you can order the respective spare for the DX650 separately.

To place an order, visit the Cisco Ordering Home Page and refer to Tables 5 through 8. To download software, visit the Cisco Software Center.

Table 5. Ordering Information

Product Name	Part Number
Cisco Desktop Collaboration Experience DX650	CP-DX650-K9
Cisco Desktop Collaboration Experience DX650 (spare)	CP-DX650-K9=
Quantity Shipped per Pallet (Standard 40.00" x 48.00" Pallet)	218 units

Table 6. Spare Parts

Product Name	Part Number
Spare Handset for Cisco Desktop Collaboration Experience DX650	CP-DX-HS=
Spare Coil Cord for Cisco Desktop Collaboration Experience DX650	CP-DX-CORD=

Table 7. Local Power Options: Cube and Regional Cords

(Note: The Cisco DX650 uses the same Power Cube 4 configuration that is available for the Cisco Unified IP Phone 8900 and 9900 Series endpoints. Power Cube 4 (IEC60950-compliant) supports up to 44W and meets international regulatory compliance using country-specific power supply cords and plugs (IEC60320-compliant).

Product Name	Part Number
Cisco Unified IP Endpoint Power Cube 4: 48V; 0.917A; 47-63Hz; 100-240V~0.8A	CP-PWR-CUBE-4=
Asia Pacific	CP-PWR-CORD-AP=
Argentina	CP-PWR-CORD-AR=
Australia	CP-PWR-CORD-AU=

Product Name	Part Number
European Community	CP-PWR-CORD-CE=
China	CP-PWR-CORD-CN=
Japan	CP-PWR-CORD-JP=
North America	CP-PWR-CORD-NA=
Switzerland	CP-PWR-CORD-SW=
United Kingdom	CP-PWR-CORD-UK=

Table 8.   Accessories

Product Name	Part Number
Locking Wallmount Kit for DX650 Series	CP-DX650-ADA-WMK=

Cisco Services

Using the Cisco Lifecycle Services approach, Cisco and our partners offer a broad portfolio of end-to-end services to support the Cisco Unified Communications System. These services are based on proven methodologies for deploying, operating, and optimizing IP communications solutions. Initial planning and design services, for example, can help you meet aggressive deployment schedules and reduce network disruption during implementation. Operate services reduce the risk of communications downtime with expert technical support, and optimize services enhance solution performance for operational excellence. Cisco and our partners offer a system-level service and support approach that can help you create and maintain a resilient, converged network that meets your business needs.

For More Information

For more information about the Cisco Desktop Collaboration Experience DX650, visit http://www.cisco.com/go/dce or contact your local Cisco account representative.

Information in this document is subject to change without notice. Cisco assumes no responsibility for any errors that may appear in this document.

Printed in USA

C78-726888-01   09/13