Cisco Interactive Services Solution: Cisco Interactive Experience Client 4600 Series

Cisco® Interactive Services Solution uses the network as the platform to transform customer experiences with interactive digital media. The solution allows business and public agencies to deliver interactive content and information in real time, improving loyalty and revenues, while increasing efficiencies in business processes.

Cisco Interactive Services Solution brings together touchscreen interactive displays, web technologies, interactive multimedia, and collaboration into an integrated solution. The solution consists of digital media devices (Cisco Interactive Experience Clients), a management platform, collaboration applications, and a network infrastructure to deliver web-based applications and multimedia content through interactive displays and kiosks to end users in retail stores, bank branches, and transit points (train stations, bus transit centers, and airports). Figure 1 shows a basic solution configuration with a kiosk powered by a Cisco Interactive Experience Client 4600 Series (IEC 4600) device and managed by the Cisco Interactive Experience Manager (IEM) running on the Cisco Interactive Experience Platform Server (IEP Server).

Figure 1. Cisco Interactive Services Solution Components

Cisco Interactive Experience Client 4600 Series

The Cisco IEC 4600 Series are enterprise-grade configurable and manageable web clients designed to deliver interactive multimedia services for public venues, including high-definition digital displays and kiosks. This managed kiosk platform is both developer and IT friendly.

The Cisco IEC 4600 Series features a web browser, which is a comprehensive web-centric kiosk application development platform with integrated JavaScript API access to multimedia, peripheral, and system resources. The browser was developed for highly reliable, embedded kiosk and digital signage applications. Content developers are encouraged to use familiar design tools, such as HTML and JavaScript, to develop full-functioned interactive applications. To optimize client performance, an application should use the available native components. Native components are available in form of a Browser API and essentially move resource-intensive or asynchronously used components outside the browser processing space.

In addition to support for plug-ins such as Adobe Flash Player, the browser provides several proprietary widgets, which can be configured and controlled from JavaScript, to simplify the development effort. Examples of these widgets include a video player, which supports most video and audio formats and codecs, and a ticker widget.

The browser supports touchscreens and features kinetic scrolling, a virtual navigational panel, and a virtual keyboard. External keyboards and mice are supported for accessibility compliance and administration.

Content is integrated with the current service selection to provide highly effective targeted advertising. Applications are displayed in templates that also contain zones for Really Simple Syndication (RSS) feeds, web-based services, and advertising content. Built-in support for voice and video communications allows the rapid development and delivery of many collaboration applications. One such collaboration application lets users make video calls from the kiosks to a virtual concierge or remote expert who can then provide assistance to the user.

Figure 2. Cisco Interactive Experience Client 4600 Series

The Cisco IEC 4600 Series supports a comprehensive set of peripherals, including an high-definition camera for video collaboration applications, core networking infrastructure for LAN and WAN connectivity, and Cisco LCD screens with touchscreen overlays. The series also supports additional peripherals such as printers, scanners, USB memory sticks for file uploading, speakers, and headsets for the hearing impaired.

Cisco IEC 4600 Series devices are configured and managed remotely by the Cisco IEM, an advanced, web-based management portal with a menu-based GUI. The Cisco IEM allows an administrator to control multiple Cisco IEC 4600 Series devices through the use of policies and groups. The Cisco IEM provides for user and device management as well as real-time monitoring, live viewing of remote screen content, notification of events, and session management.

Product Features

The Cisco IEC 4600 Series is manageable, convenient, secure, and easy to deploy, upgrade, and use. It supports multiple zones of content, web clipping, web client automation, and support for customer applications. Content can be displayed with either a portrait or a landscape orientation. Other features include:

- Touchscreen compatibility
- Integration with peripherals
- Secure, managed, reliable computing
- Custom web-based application platform for touchscreen interactive applications
- Support for multiple virtualization technologies
- Management by a powerful remote management platform
- Single- and dual-core processor models
- Fanless design, providing for reliable and quiet operation
- Solid-state, space-saving design
- Interactive multimedia support with multiple video outputs
- Wi-Fi, Ethernet, and Bluetooth enabled

Table 1 contains guidelines for content formats and peripherals.

Table 1. Content Formats and Peripherals Guidelines

Content Format or Peripheral	Description
Audio, voice	AAC-LC/LD/HE, AC3, MP3, WMA, G.711, G.729ab, AMR
Video	H.264, H.263++, MPEG4, MPEG2, WMV1/2, MJPEG
Video containers	AVI, MOV, MP4, MPG, MPEG-2/TS, (extensions: .wmv, .avi, .mov, .mp4, .mpg, .ts, .mp3, .mp2)
Web formats	HTML5 (early support), HTML4/CSS3, Flash 11, JRE 1.6.0_24 (Version 6 update 24)
Widgets	Media player, camera, ticker, web clipping, virtual on-screen keyboard
Viewers	PDF, text, JPEG, PNG, GIF, SVG, BMP
Touchscreen monitors	HID-compliant touchscreens with dual monitor support
Webcams	HID-compliant webcams
Printers	Printer support: CUPS compliant; content: text, PDF, PNG, JPG

Solution Benefits

Cisco has identified a number of needs that businesses and public agencies are trying to address. Businesses and public agencies need to improve customer experiences by providing real-time relevant information and giving customers access to products and services to complete their journey or make their purchases. They need to provide effective self-service solutions that allow customers to interact and access the information anytime, anywhere. They need to find new sources of revenue generation through advertising or up-selling and cross-selling relevant products and services. Finally, they need to address the major challenges with interactive digital media deployments, such as costly content creation, inconsistent experience across different devices, and siloed, nonscalable solutions for different types of digital media, interaction, and collaboration.

When looking for a solution, organizations are finding that most solutions are standalone: one for interactive kiosks, one for noninteractive displays, one for collaboration, and so on. Furthermore, PC-based solutions are expensive and difficult to manage, especially in a large, distributed environment.

The Cisco Interactive Services Solution addresses these challenges by bringing together touchscreen interactive displays, web technologies, multimedia, and collaboration into a single integrated solution. The integration of video collaboration and interactive kiosks through the network-based Cisco Interactive Experience Client architecture is much more efficient to deploy, maintain, scale, and upgrade. The Cisco Interactive Services Solution uses open-standard web technologies and allows organizations to use much of their existing web content and application development. The solution also allows businesses and public agencies to combine applications built on web technologies for consumer, passenger, and citizen information; marketing; and branding promotions.

Figure 3. An Interactive Kiosk

Other benefits include the capability to:

- **Enable new interactive services** to improve customer experience
- **Increase customer retention** with consistent end-user experiences across multiple endpoints
- **Educate the customer** with relevant information in real time
- **Increase visibility** into products and services offered
- **Improve customer service** with virtual assistance
- **Increase revenues** by providing a venue for third-party advertising
- **Reduce costs** with increased operational efficiency in customer and business processes
- **Increase operational consistency** by enabling reuse of existing web content
- **Simplify deployment** with Cisco Interactive Experience Clients
- **Reduce use of management resources** with remote manageability
- **Reduce deployment and management timelines** using policies and groups
- **Improve management experience** with an integrated solution architecture (network, collaboration, video, interactive media, and noninteractive media)

Product Specifications

Two Cisco IEC 4600 Series models are currently offered: Cisco IEC 4610 and Cisco IEC 4632. Table 2 gives specifications for these models.

Table 2. Cisco IEC 4610 and Cisco IEC 4632 Specifications

Features	IEC 4610	IEC 4632
PCBA Form Factor		
Board size	6.0 in. x 6.0 in. (150 mm x 150 mm)	6.0 in. x 6.0 in. (150 mm x 150 mm)
Processor		
CPU	Intel Celeron M Processor	Intel Core 2 Duo Processor
Memory		
Type	DDR3-800/1066 memory (SO-DIMM Slot)	DDR3-800/1066 memory (SO-DIMM Slot)
System memory size	2 GB	4 GB
Storage		
Type	SATA socket Disk on Module (DOM)	SATA socket Disk on Module (DOM)
Storage Memory Size	8 GB	32 GB
BIOS Flash Memory		
Memory Size	32 Mbit	32 Mbit
Ethernet		
Count	1	1
Speeds	10/100/1000 Mbps	10/100/1000 Mbps
Connectors	1 Port RJ45 with transformer	1 Port RJ45 with transformer
Video		
Onboard	GS45 HDMI	GS45 HDMI
Connectors	1 HDMI port 1 VGA port	1 HDMI port 1 VGA port
USB		
Type	USB 2.0 controller	USB 2.0 controller
Connectors	2 Right USB A type 2 Back USB A type 1 Front USB A type	2 Right USB A type 2 Back USB A type 1 Front USB A type
WiFi+Bluetooth		
Count	1	1
Speed	802.11 b/g, Bluetooth V2.1+EDR	802.11 b/g, Bluetooth V2.1+EDR
Front I/O		
LED	1 Green LED 1 Red LED	1 Green LED 1 Red LED
IR receiver	1 Built-in IR receiver	1 Built-in IR receiver
USB	1 USB connector (for preinstall device)	USB connector (for preinstall device)
Back I/O		
DC jack	1 12V DC in connector	1 12V DC in connector
Video	1 VGA port 1 HDMI port	1 VGA port 1 HDMI port
Ethernet	1 RJ45 connector with dual LEDs	1 RJ45 connector with dual LEDs
USB	1 USB two-stack connector	1 USB two-stack connector

Features	IEC 4610	IEC 4632
Left I/O		
COM	1 3.5 mm phone jack type	1 x 3.5 mm phone jack type
IR extension	1 1-IR extension cable	1 1-IR extension cable
Audio	1 Audio port (MIC-in) 1 Audio port (line-out)	1 Audio port (MIC-in) 1 Audio port (line-out)
USB	1 USB two-stack connector	1 USB two-stack connector
Right I/O		
Buttons	1 Power On/Off button (with soft/hard power option) 1 Reset button	1 x Power On/Off button (with soft/hard power option) 1 Reset button
Power		
Adapter	12V@4A (48W) Input 100V - 240V ~1A 50-60HZ Output 12V ~4A	12V@4A (48W) Input 100V - 240V ~1A 50-60HZ Output 12V ~4A
Power consumption	12V@48W maximum	12V@48W maximum
CPU VR	Intel Mobile Voltage Positioning (Intel MVP6) Structure	Intel Mobile Voltage Positioning (Intel MVP6) Structure

Figure 4. Rear Ports of the Cisco Interactive Experience Client 4600 Series

The differences between the Cisco IEC 4610 and IEC 4632 models are their processors (single-core or dual-core), memory (2 GB or 4 GB), and storage memory size (8 GB DOM or 32 GB DOM). The model chosen should depend on the types of applications and content that will be displayed on the interactive screens. If content and applications require less processing power or memory to run (such as websites and feeds), the Cisco IEC 4610 model will suffice. If content is primarily interactive multimedia (including video and animations and applications that require heavy processing power and memory), the Cisco IEC 4632 model may be appropriate.

Table 3 provides the environmental tolerance ranges of the Cisco IEC 4600 Series.

Table 3. Cisco IEC 4600 Series Environmental Tolerance Ranges

Temperature	Minimum	Maximum
Operating	0°C (32°F)	40°C (104°F)
Nonoperating	-20°C (-4°F)	70°C (158°F)
Relative Humidity		
Operating	10% Indoor use	85% Indoor use
Nonoperating	0% Indoor and outdoor	95% Indoor and outdoor
Altitude		
Operating and nonoperating	0m (0 feet)	2000m (6561 feet)

Ordering Information

Table 4 provides ordering information for the Cisco IEC 4600 Series.

Table 4. Cisco IEC 4600 Series Products

Product Number	Description
IEP-4610-HW-K9	Cisco IEC 4610: SC, 2 GB, 8 GB DOM, WIFI, BT
IEP-4632-HW-K9	Cisco IEC 4632: DC, 4 GB, 32 GB DOM, WIFI, BT
IEP-4600-SW-01-K9	IEC 4600 software + license
IEP-MGR-FL-10	10-pack IEM license bundle
IEP-MGR-FL-50	50-pack IEM license bundle
IEP-MGR-FL-100	100-pack IEM license bundle
IEP-MGR-FL-500	500-pack IEM license bundle
IEP-MGR-FL-1000	1000-pack IEM license bundle

An IEM license is required for each Cisco IEC 4600 Series device that is managed by the Cisco IEM. The license bundles support up to 10, 50, 100, 500, or 1,000 devices.

For More Information

For more information about the Cisco Interactive Services Solution visit http://www.cisco.com/go/dms or contact your local Cisco account representative.

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