

Cisco Unity Express

Cisco[®] Unified Communications Solutions unify voice, video, data, and mobile applications on fixed and mobile networks, delivering an easy-to-use, media-rich collaboration experience across business, government agency, and institutional workspaces. These applications use the network as the platform to enhance comparative advantage by accelerating decision time and reducing transaction time. The security, resilience, and scalability of the network enable users in any workspace to connect, anywhere, any time, and anyplace, using any media, device, or operating system. Cisco Unified Communications is part of a comprehensive solution that includes network infrastructure, security, wireless, management, lifecycle services, flexible deployment and outsourced management options, and third-party applications.

Organizations of all sizes share an ongoing goal of increasing employee productivity and reducing costs through technology. Businesses can cost-effectively meet their office communications needs by using Cisco integrated services router (ISR) platforms to deliver data, voice, security, wireless LAN, switching, and video services on a single converged network, customized to meet the needs of the business today and in the future.

One of the primary modules available on Cisco ISR platforms is Cisco Unity[®] Express, which natively offers industry-leading integrated messaging, voicemail, fax, automated attendant, optional interactive voice response (IVR), and a rich set of other messaging features that help businesses improve communications with their customers and business partners.

Cisco Unity Express provides these integrated services specifically designed for the small and medium-sized office environment. With Cisco Unity Express, users can easily and conveniently manage their voice messages and greetings with intuitive telephone prompts, an easy-to-use visual voicemail interface (VoiceView Express), and a straightforward GUI that allows simple administration and management.

Cisco Unity Express is an essential component of either a Cisco Unified Communications Manager or Cisco Unified Communications Manager Express solution. In a Cisco Unified Communications Manager environment, Cisco Unity Express provides local storage and processing of integrated messaging, voicemail, fax, automated attendant, and optional IVR for branch offices with limited WAN connectivity, thereby alleviating concerns about WAN bandwidth and quality of service (QoS). Additionally, Cisco Unified Communications Manager customers with Cisco Unity messaging solutions at their larger locations can use Cisco Unity Express at their branch or small-office locations and network the solutions so that employees can easily send messages between locations. In a Cisco Unified Communications Manager Express environment, customers deploy a single compact-form-factor Cisco ISR platform with Cisco Unity Express installed to meet their office telephony and messaging needs, as well as their other business communications needs.

Productivity and Competitive Edge

Cisco Unity Express elevates the level of professionalism, productivity, and customer service available to the small and medium-sized office customer through its IVR and existing built-in automated attendant, advanced voicemail, integrated messaging, and fax handling capabilities. The optional IVR provides local integration to a broad set of databases, an intuitive scripting environment, and extensive reporting capabilities, giving the small or medium-sized business or enterprise branch office a comprehensive self-service solution. The professional automated attendant allows all calls to be handled efficiently and reliably. Calls can be directed by the extension or by dial-by-name when the specific extension is not known. Having an automated attendant means that calls are answered 24 hours a day, 7 days a week, without the need of a dedicated operator. Voicemail extends the productivity of the organization by allowing employees to access messages at any time from any telephone. Both internal and external calls to a busy or unattended phone are forwarded to the user's voice mailbox and are greeted with a personalized greeting. Employees are immediately alerted to calls by the message-waiting indicator (MWI) on their Cisco Unified IP Phones or analog phones connected to a Cisco VG224 Voice Gateway.

New IP-based productivity-enhancing applications such as integrated messaging allow employees to effectively manage their voicemail messages and provide a common view of all their e-mail and voicemail messages through a single interface accessible remotely over the network using a desktop or laptop PC. Additionally, new applications such as VoiceView Express offer a faster and convenient alternative to the telephony user interface for the day-to-day management of voicemail messages. With VoiceView Express, users can use the display on their Cisco Unified IP Phones to visually navigate through their voice messages and manipulate their mailbox options much more intuitively. The introduction of Cisco Unified Express 3.1 added support for integration with the Cisco Unified Messaging Gateway. The Cisco Unified Messaging Gateway integration allows Cisco Unity Express systems across locations to be networked in an efficient manner. With the integration of Cisco Unity Express with the Cisco Unified Messaging Gateway, employees have the ability to create messages with spoken-name confirmation and send messages across the network using Voice Profile for Internet Mail (VPIM). The system also supports the concept of a systemwide distribution list, in which a voicemail can be sent to particular users in various locations by addressing the message to a single number or list name.

With services such as integrated messaging, voicemail, fax, automated attendant, and optional IVR, employees can quickly and easily benefit from productivity-enhancing tools, all incorporated into the Cisco ISR and delivered by Cisco Unity Express.

Ease of Operation

Cisco Unity Express provides methods to provision and manage voice mailboxes from a centralized location. The capability to dramatically simplify network management, particularly in small and medium-sized offices, which typically have less onsite technical expertise, is another important benefit of Cisco Unity Express. The flexibility to easily add new voice services as they become available makes the solution even more advantageous.

Cisco Unity Express also offers the option of using the industry-standard Cisco IOS[®] Software command-line interface (CLI) or a Web-based GUI for configuration and administration. In many instances, information about the phones, extensions, call reports, and system parameters necessary for Cisco Unity Express operation are derived directly from Cisco Unified Communications Manager or Cisco Unified Communications Manager Express, eliminating the need for replication of data entry, which maximizes efficiency and minimizes errors.

Cisco Unity Express supports Simple Network Management Protocol (SNMP) and allows industry-standard SNMP-based network management applications to proactively monitor, manage, and gather performance data and receive traps at a central site. Whether managing through a GUI interface or CLI, the ability to deploy, administer, and maintain devices centrally eases remote maintenance and troubleshooting.

Table 1 summarizes the main hardware features of Cisco Unity Express.

Table 1. Hardware Features

Feature	Customer Benefit
Delivered on a network module (Cisco Unity Express NM-CUE, NM-CUE-EC, or NME-CUE) or advanced integration module (Cisco Unity Express AIM-CUE), which directly integrates into the Cisco 2800 and 3800 Series Integrated Services Routers	Network modules and advanced integration modules are shared across a broad range of router platforms, so Cisco Unity Express can be deployed in a variety of office sizes, from the very small 12-user office up to those that need 250 mailboxes and 24 ports of concurrent voicemail and integrated messaging, automated attendant sessions, or optional IVR services.
Network module (Cisco Unity Express NM-CUE, NM-CUE-EC, or NME-CUE) includes a dedicated onboard microprocessor and integrated storage	The Cisco Unity Express network module is fully self-contained, with dedicated onboard processing, memory, and storage, allowing efficient message management, a range of concurrent sessions including optional IVR, simultaneous processing, and ample voicemail storage capacity for a wide range of typical office profiles. Release 3.0 added support for the newer network module with optional IVR (part number NME-CUE) hardware, allowing up to 24 ports for use by integrated messaging, voicemail, and automated attendant functions or optional IVR sessions. The Cisco Unity Express network module with enhanced capacity (part number NM-CUE-EC) supports up to 16 ports of concurrent voicemail, integrated messaging, and automated attendant or IVR sessions and up to 250 voice mailboxes. The standard Cisco Unity Express network module (part number NM-CUE) supports up to 8 sessions of voicemail and automated attendant or optional IVR and up to 100 voice mailboxes.
Advanced integration module (Cisco Unity Express AIM-CUE) has a dedicated onboard microprocessor	Like the network module, the Cisco Unity Express advanced integration module (part number AIM-CUE) is fully self-contained, with dedicated onboard processing, memory, and storage. Because the advanced integration module is internally installed on the router, it frees external interface slots for other services such as analog and digital voice, VPN acceleration, or integrated switching. The advanced integration module supports up to 50 voice mailboxes and up to six sessions of voicemail, automated attendant, or optional IVR.

Key Features and Benefits

Table 2 lists features introduced with Cisco Unity Express releases up to Version 3.2. Table 3 lists voicemail and integrated messaging features, Table 4 lists auto-attendant features, and Table 5 lists optional IVR features.

Table 2. Solution Features

Feature	Customer Benefit
Capability to operate in Cisco Unified Communications Manager or Cisco Unified Communications Manager Express IP telephony environment	Cisco Unity Express can be used within either a Cisco centralized (Cisco Unified Communications Manager) or distributed (Cisco Unified Communications Manager Express) call-control environment. This approach provides design flexibility and investment protection if you migrate from one Cisco call-control methodology to the other.
Ability to work with multiple Cisco Unified Communications Manager Express sites (Release 3.2)	Cisco Unity Express (on NME-CUE only) can integrate with up to 10 Cisco Unified Communications Manager Express remote sites. This solution allows voicemail and automated attendant features to be centralized for up to 10 sites when voicemail at each remote site is not essential and there are a small number of users at each site.
Accessible CLI	Cisco Unity Express provides familiar management features such as configuration, provisioning, and support through a CLI that is similar to the Cisco IOS Software CLI, reducing training time for network administrators and channel partners who are already familiar with Cisco IOS Software.

Feature	Customer Benefit
Capability to integrate with Cisco Unified Messaging Gateway (Release 3.1)	Cisco Unity Express can integrate with the Cisco Unified Messaging Gateway to provide an easy-to-network solution across multiple locations. This also provides the added benefit of automatic database synchronizations across the network so that all Cisco Unity Express systems in the Cisco Unified Messaging Gateway network can send messages with spoken-name confirmation.
CLI scripting capabilities	Cisco Unity Express provides an advanced method for efficient remote management, provisioning, and configuration of many units. This unique feature allows for rapid deployment of many similarly configured sites.
Embedded operating system	Cisco Unity Express employs an industry-standard OS ideally suited for embedded applications. It enables a disk subsystem not provided by native Cisco IOS Software. This approach translates into efficient operation while providing a robust, secure, and protected operating environment behind Cisco IOS Software.
Inherent security	<p>Cisco Unity Express is an embedded system, accessible only through the provided GUI and CLI. User passwords are inaccessible and are encrypted on the system using the 128-bit Secure Hash Algorithm (SHA). All packages within the Cisco Unity Express architecture are signed by Cisco to help ensure their integrity. Even then, if somehow untrusted code is installed on the system, a built-in chain-of-trust model will prevent the unauthorized code from operating.</p> <p>With Release 3.0, Secure HTTP or HTTP over Secure Sockets Layer (SSL) access to the GUI was added for secure connectivity to the system. Additional Release 3.0 (and later) security features include configurable system behavior when end users erroneously log in to telephone user interface (TUI) handling. This approach gives businesses the flexibility to apply their specific security policies.</p>
4 to 24 simultaneous calls to voicemail or automated attendant (dependent upon license level and hardware)	Support for 4 to 24 concurrent sessions or ports for voicemail, integrated messaging, automated attendant, or optional IVR services provides the right level of service for business needs and budgetary constraints. The number of ports available depends on the Cisco Unity Express module type and other services such as concurrent IVR sessions.
Languages	Cisco Unity Express supports an extensive set of languages and dialects across all supported applications that use system prompts, including voicemail, automated attendant, and optional IVR. Table 9 provides a detailed list of supported languages. Release 3.0 added concurrent language support, allowing the administrator to install up to two concurrent languages on Cisco Unity Express advanced integration module and up to five languages on Cisco Unity Express network modules.
Secure backup and restore (Release 3.0)	A secure FTP function has been added to authenticate an FTP server before backup. In addition, the payload of the IP transmission is encrypted between Cisco Unity Express and the FTP server to help ensure confidentiality.
Incremental upgrades and background downloads	Upgrading is simplified to enhance Cisco Unity Express operating efficiency. With incremental upgrades, in many cases just the relevant updates are added to the system, and a full image upgrade is not required.* New software packages can be downloaded in a background process during normal system operation and do not interrupt users' services.**
Multirelease upgrades and reduced upgrade files (Release 3.2)	With release 3.2, Cisco Unity Express supports upgrades from Releases 2.3, 3.0, and 3.1, making it easier for you to migrate from any of these prior releases. Release 3.2 is also structured such that a full install and an upgrade use the same file sets to minimize the number of files that need to be managed as part of a large deployment.
SNMP	The SNMP interface allows Cisco Unity Express to be monitored and maintained remotely by Cisco network management tools or other third-party management applications. The SNMP agent on Cisco Unity Express provides management and monitoring of the system through SNMP Group Encrypted Transport operations and can send SNMPv2c notifications for various events.
System administrator dashboard (Release 3.0)	A dashboard has been added for an administrator to view mailbox assignment, status, and use information for each user on the system, providing additional efficiency and management of the resources across the system.
Real-time and historical reporting (Release 3.0)	Release 3.0 introduced an extensive set of real-time and historical reports for Cisco Unity Express, giving users powerful information for network resource planning and assessment purposes. The reports cover Cisco Unity Express applications such as voicemail, automated attendant, fax, and optional IVR and overall system status such as active calls, incoming calls over time, and rejected calls, with user-defined thresholds for each.

* Incremental upgrades depend on the extent of changes introduced in the release.

** Background downloads are not supported on AIM-CUE.

Table 3. Voicemail Features

Feature	Customer Benefit
Up to 300 hours of voicemail storage configurable on per-mailbox basis	<p>Because Cisco Unity Express is available in multiple form factors, you can choose the capacity, performance, and price point that meet the specific site requirements. In addition, the voicemail storage capacity of each Cisco Unity Express module can be customized on a per-user basis as defined by the system administrator. Following is a storage capacity summary for each module type:</p> <ul style="list-style-type: none"> • Cisco Unity Express advanced integration module (AIM-CUE): 14 hours • Cisco Unity Express network module (NM-CUE): 100 hours • Cisco Unity Express enhanced-capacity network module (NM-CUE-EC) and the Cisco Unity Express Network Model Enhanced (NME-CUE): 300 hours
New capacity enhancement with Release 3.0 (available on Cisco Unity Express NME-CUE)	<p>Release 3.0 added support for the newer Cisco Unity Express network module (NME-CUE), allowing up to 24 ports for use by integrated messaging, voicemail, and automated attendant functions or optional IVR sessions. Further enhancements in the new network module include support for up to 50 Internet Message Access Protocol (IMAP) sessions. The new hardware also supports graceful manual shutdown of the Cisco Unity Express application and offers an LED status display.</p>
General delivery mailboxes (GDMs)	<p>This feature provides storage for voicemail messages that any designated team member can retrieve to respond quickly to callers' requests, resulting in greater customer satisfaction. As a configuration option, any licensed number of these GDMs can be configured instead as individual mailboxes, expanding the capacity of each license level from 12, 25, 50, 100, 150, 200, and 250 up to 17, 35, 65, 120, 175, 225, and 275 individual mailboxes, respectively.</p>
End-user tutorial for self-service mailbox creation	<p>A complete yet concise telephony user interface tutorial takes the user step by step through the mailbox setup process, minimizing the need for administrator assistance, saving time and money.</p>
Intuitive Web-based GUI	<p>A Web-based GUI assists with configuring telephony information in conjunction with Cisco Unified Communications Manager or Cisco Unified Communications Manager Express, providing ubiquitous remote access for managing, configuring, and provisioning Cisco Unity Express. The GUI allows the import of information shared with Cisco Unified Communications Manager and Cisco Unified Communications Manager Express and eases management of end users and of group affiliations.</p>
Support for a full range of common voicemail features	<p>Commonly used voicemail features such as replying, forwarding, and saving messages; message tagging for privacy or urgency or future delivery; alternative greetings; pause, fast forward, rewind; and envelope information are provided for optimal management of messages.</p>
Voicemail PIN-less login (Release 3.2)	<p>Release 3.2 gives you the ability to configure Cisco Unity Express to allow for PIN-less login when you call in from any phone. This feature allows for access to voicemail in trusted environments, with the click of the messages button on a Cisco IP phone or a call into a mailbox, without the need for any more key presses.</p> <p>The built-in security features prevent misuse of this feature such that if an administrator sets PIN-less login and then disables it on a mailbox, a voicemail is automatically generated to let the user know of this change.</p>
Fax integration	<p>Inbound fax capability is provided using a combination of the native T.37 fax processing in the Cisco ISRs, combined with the message management of Cisco Unity Express. Faxes can be received using a single or a separate direct inward dialing (DID) number for each user, and messages can be stored in user mailboxes, sent to the user's e-mail client as a TIFF file attachment through the IMAP capability, or delivered in a GDM. Users can select a fax machine to print the fax that is stored in a GDM or in their personal mailbox.</p>
Live reply (Release 3.0)	<p>Live reply allows a user to select an option to automatically call back the sender of the voicemail message. When listening to a voicemail, the user will be prompted to select one of two options:</p> <ul style="list-style-type: none"> • Reply to the message (within the same Cisco Unity Express system or a networked location) • Return the person's call (internal or external) using the caller ID or extension captured in the message envelope
Live record (Release 3.0)	<p>Live record allows the user to select an option to record a call on a spontaneous basis. The recorded call is sent as a voicemail message in the user's mailbox and can also be forwarded to the user's e-mail client through the IMAP capability. Tones can be generated to indicate to the end user that a conversation is being recorded.</p>
Delivery to nonsubscriber (Release 3.0)	<p>Delivery of voicemail to nonsubscribers provides the capability to compose a voice message for delivery to internal or external numbers. When the number is entered, Cisco Unity Express will play back or display the target user's directory name by using the TUI or VoiceView Express.</p>

Feature	Customer Benefit
Support for VPIM, the industry standard for voicemail message communication	Cisco Unity Express supports VPIM Version 2.0, the industry standard that permits messaging systems to communicate with each other. Nondelivery and delayed delivery receipts provide users with complete information about the status of a message. This set of messaging features increases productivity across business locations, lowers long-distance costs, and ultimately protects investment in existing VPIM-compliant messaging systems.
Distribution lists	The public and private distribution list function provided by Cisco Unity Express allows a voicemail message to be simply and quickly addressed to a list of predefined recipients, saving time and minimizing keying errors. Cisco Unity Express includes an "all users" public distribution list and the capability for a privileged user to define up to 15 other public lists. Individual users can define up to 5 private lists of their own.
Nonsubscriber distribution lists (Release 3.2)	With Release 3.2, Cisco Unity Express administrators and end users can program distribution lists to include nonsubscriber numbers along with those of subscribers. When you send a message to this distribution list, Cisco Unity Express delivers the message directly to the mailboxes of subscribers and calls the nonsubscriber numbers and plays the message.
Broadcast messages	Like distribution lists, broadcast messages allow messages to be delivered to multiple recipients. Additionally, broadcast messages allow important communications to be given top priority in the recipient's voice-message queue. These special messages are played before any other messages and will remain in the user's mailbox until the messages are retrieved in full or expire, helping ensure that essential communications are heard.
Spoken name confirmation for remote users	Cisco Unity Express provides spoken name confirmation for all local and many remote recipients. Spoken name confirmation helps ensure that the correct recipient has been selected when a user addresses a voicemail message. The confirmation includes the remote location information if applicable, to help ensure that the message is sent to the correct user and location.
Undelete messages	If a message is inadvertently deleted during a Cisco Unity Express voicemail message session, the user can undelete the message and return it to the active state within the same session.
Calling line identification (CLID) as part of envelope information	Cisco Unity Express includes, as a configuration option, CLID information for all voicemail messages, whether they originate internally or from the public switched telephone network (PSTN).
Shared Cisco Unity TUI, menus, and commands	Because Cisco Unity Express shares the same TUI menus and prompts as Cisco Unity software, it reduces end-user training costs, provides familiarity for users as they migrate between different organizational environments (branch office and headquarters), and provides the foundation for any potential migration to Cisco Unity software.
Standard and alternative greetings	Users can choose between a standard or alternative greeting to communicate special messages such as an extended absence or vacation.
Alternative number options	The individual user or the system administrator can designate an alternative telephone number or local extension by which a caller can reach the called party or an assistant by simply pressing zero during the voicemail greeting.
Mandatory message expiry	Administrators can better manage and maintain the message store on the system by using mandatory message expiry. This option enforces a policy whereby subscribers must delete messages upon expiry.
Future message delivery	A message can be addressed to users on local or remote systems for delivery at a future time, up to 1 year in advance.
Integrated messaging	<p>Taking advantage of existing messaging infrastructure and IMAP e-mail clients, Cisco Unity Express desktop messaging access provides simple, native access to voicemail from Microsoft Outlook, Outlook Express, and Lotus Notes, providing continuous and global access to messages. Integrated messaging is supported only on Cisco Unity Express network module versions (NM-CUE, NM-CUE-EC and NME-CUE).</p> <p>Release 3.0 allows integrated messaging on the Cisco Unity Express advanced integration module (AIM-CUE). The maximum number of sessions includes up to 6 voice calls, 3 VoiceView Express sessions, or 20 IMAP sessions at any given time.</p> <p>With Release 3.2, Cisco Unity Express supports IMAP access on the Apple Mac family of products with Microsoft Entourage 2004.</p>
VoiceView Express	<p>VoiceView Express is a convenient and faster visual alternative to TUI and is used to access and manage messages and mailbox settings using the Cisco Unified IP Phone display and soft keys. VoiceView Express improves employee productivity by providing quick visibility into voice mailboxes, helping users better manage their day-to-day tasks. VoiceView Express is supported only on Cisco Unity Express network module versions (NM-CUE, NM-CUE-EC, and NME-CUE).</p> <p>Release 3.0 supports VoiceView Express on the Cisco Unity Express advanced integration module (AIM-CUE) for up to three sessions.</p>

Feature	Customer Benefit
Remote message notification	This system service notifies a user upon the arrival of all new or urgent messages. Each mailbox (individual and GDM) can be configured to have notifications sent to multiple destinations simultaneously: up to four numeric devices (such as phone numbers) and up to two text devices (such as text pagers or e-mail addresses). Users can configure destinations and manage their notification schedule for each destination using the TUI, GUI, or VoiceView Express.
Message notification cascading (Release 3.0)	Cascading message notification allows a user to set up a series of notifications to a widening circle of recipients. For example, to create a hierarchy of message notifications for a technical support department, set the first message notification to be sent immediately to the pager of the front-line technical support representative. The next notification can be sent after a delay of 15 minutes to the pager of the department manager. A third notification can be sent after a delay of 30 minutes to an employee in the problem resolution group. Notifications continue to cascade according to the options selected until the message has been saved or deleted by a recipient.
Cisco Unified Communications Manager Express password synchronization (Release 3.2)	With Release 3.2 of Cisco Unity Express, passwords are automatically synchronized across Cisco Unity Express and Cisco Unified Communications Manager Express.

Table 4. Automated Attendant Features

Feature	Customer Benefit
Built-in automated attendant with dial-by-name, dial-by-extension, and return-to-operator	The standard automated attendant services provided with Cisco Unity Express simplify self-service for callers by allowing them to quickly reach the right person without the assistance of an operator 24 hours a day, 7 days per week, with the option to return to an operator at any time when greater assistance is needed. Two standard automated attendant options are provided with Cisco Unity Express: one that includes dial-by-name and dial-by-extension, and a second that allows single-digit dialing for up to nine users or groups.
Custom automated attendant with Cisco Unity Express Editor	The Cisco Unity Express Editor is a Microsoft Windows GUI-based visual scripting tool that gives administrators a simple way to create up to four separate, customized automated attendant flows, in addition to the system automated attendant.
Simple Web-based automated attendant editor (Release 3.0)	A simple interface to change parameters of the built-in automated attendant make managing and updating the call automated attendant easy enough for a nontechnical user. For more advanced functions where the automated attendant structure needs to be modified, the feature-rich Cisco Unity Express Editor can be used.
Multilevel automated attendant	Through the use of the Cisco Unity Express Editor, system administrators can create up to four multilevel automated attendant flows that provide a hierarchical dual tone multifrequency (DTMF)-based menu. The multilevel automated attendant allows callers to reach individuals, departments, or prerecorded information such as directions or business hours. It also provides customizable time-of-day or day-of-week call management.
AVT (formerly the greeting management system)	Custom automated attendant prompts can be easily recorded through the Cisco Unity Express AVT feature, through either the TUI or an offline WAV file recording tool. Prompts can be rerecorded using AVT, allowing automated-attendant administrators to modify prompts without needing GUI access to change file names. Additionally, alternative greetings can be used in a custom automated attendant as a subflow.
Holiday schedules	Cisco Unity Express allows holidays to be defined and a customized automated attendant prompt to be played during holidays. These prompts, which are easily updated through the AVT, can provide the caller with customized information about the operation of the business or special events.
Business hours	The business hours function allows up to four schedules to be defined, providing different automated attendant prompts to be played based on the time of day, without the need for manual intervention.
Alternative automated attendant greeting	The system administrator can record an alternative automated attendant greeting, which can be used in case of an emergency or another short-term event, such as a snow day. The alternative greeting works much like the alternative voicemail greeting by prompting the system administrator to simply toggle between either the active or inactive mode.
Automated attendant peg counts (Release 3.0)	Cisco Unity Express can generate peg counts for the automated attendant function. These peg counts report the flow of incoming automated attendant calls, helping organizations make sure that they have the right staffing during the appropriate hours of the day to meet traffic demands, maximizing revenue opportunities.

Table 5. Optional IVR (Introduced in Cisco Unity Express 3.0)

Feature	Customer Benefit
Optional IVR	Because an IVR provides caller self-service, it improves customer satisfaction and lowers operational costs. The Cisco Unity Express optional IVR allows a customer to update personal information and preferences, order products, track delivery, check payment status, and request product information, therefore alleviating the burden on the customer service representative or contact center agent.
Broad range of IVR sessions	Because the optional IVR is available on all the same integrated hardware modules supported for Cisco Unity Express, it provides a broad range of IVR sessions: from 2 to a maximum of 30, depending on the hardware platform chosen and the number of licensed voice mailboxes.
Tight integration with Cisco Unity Express voicemail and automated attendant	The Cisco Unity Express optional IVR is tightly integrated with the voicemail and automated attendant services available on the product. This tight integration provides the caller with more options to resolve transactions, including breaking out to an operator or leaving a voicemail message.
Cisco Unity Express Editor for scripting IVR	The Cisco Unity Express Editor is a Microsoft Windows GUI-based visual scripting tool that gives administrators a simple way to create customized IVR scripts in addition to those for the automated attendant. Steps within the drag-and-drop menu are represented graphically in the Cisco Unity Express Editor, making the operation straightforward and intuitive. Further simplifying the process, administrators can debug and validate IVR call flows using the Cisco Unity Express Editor.
Simple Web-based Cisco Unity Express Editor for IVR (Release 3.0)	Cisco Unity Express Release 3.0 introduced a simple interface to change parameters of the built-in automated attendant to make managing and updating the automated attendant easy enough for a nontechnical user. This function is also available for the Cisco Unity Express optional IVR.
VoiceXML 2.0 browser	As an alternative to the Cisco Unity Express Editor, the built-in VoiceXML 2.0-based browser can be used in conjunction with a general-purpose Web browser to customize the IVR. This feature allows IVR applications to make HTTP requests so customers can use the "Call Me" button on the business Webpage to call the IVR for self-service or to connect with an agent.
Broad range of supported databases	Cisco Unity Express optional IVR supports a variety of databases that handle the needs of both the enterprise branch and the small and medium-sized business: <ul style="list-style-type: none"> • Microsoft SQL 2000 • Microsoft SQL Desktop Edition (MSDE) 2000 • Sybase Adaptive Server Version 12 • Oracle 10g • IBM DB2 9
Outbound e-mail and fax	Administrators and script developers can further customize the customer experience by creating and sending e-mail and faxes with the Cisco Unity Express Editor for the IVR. E-mail messages can have up to five files attached.
AVT for prompt management	Administrators can use the intuitive AVT prompt management system available with Cisco Unity Express to record prompts for interaction with the caller, further customizing the user experience.
HTTP support	Support for HTTP requests provides developers and administrators with the capability to Web-enable the Cisco Unity Express optional IVR. Customers can also make an HTTP request from their IVR application and use the response from the request to play back information or send an e-mail or fax.
Real-time and historical reports	The Cisco Unity Express optional IVR introduces an extensive set of real-time and historical reports, giving administrators powerful information for understanding customer preferences, network resource planning, and general business assessment purposes. The reports cover all crucial IVR information, including system status such as traffic analysis, active calls, incoming calls over time, and rejected calls, with user-defined thresholds for each.

For more information about the Cisco Unity Express optional IVR services, introduced in Cisco Unity Express 3.0, see the Cisco Unity Express Optional IVR data sheet.

Product Summary

Table 6 lists the Cisco routers that support Cisco Unity Express.

Table 6. Supporting Routers

Platform	Cisco Unified Communications Manager Express Support	Cisco Unity Express Support
Cisco 2801 Integrated Services Router	Yes	Yes (Cisco Unity Express AIM-CUE only)
Cisco IAD2400 Series Integrated Access Devices	Yes	No
Cisco 2800 Series Integrated Services Routers	Yes	Yes
Cisco 3700 Series Multiservice Access Routers	Yes	No
Cisco 3800 Series Integrated Services Routers	Yes	Yes

Software Support

The Cisco Unity Express network module (NM-CUE) is supported beginning with Cisco IOS Software Release 12.3(4)T. The network module with enhanced capacity (NM-CUE-EC) is supported beginning with Cisco IOS Software Releases 12.3(11)T6, 12.3(14)T2, and 12.4(1). These Cisco IOS Software releases correspond to Cisco Unified Communications Manager Express Releases 3.2 and 3.3, respectively. The enhanced-capacity network module (NM-CUE-EC) was introduced in Cisco Unity Express Release 2.1. See Table 7.

Table 7. Software Support

Cisco Unity Express Release	Cisco Unified Communications Manager Release	Cisco Unified Communications Manager Express Release	Cisco IOS Software Release
1.1	3.3	3.0 and 3.1	12.3(4)T, 12.3(7)T, 12.3(8)T, and 12.3(11)XL
2.0	3.3 and 4.0	3.0, 3.1, and 3.2	12.3(4)T, 12.3(7)T, 12.3(7)XL, 12.3(8)T, 12.3(11)T, and 12.3(11)XL
2.1 and 2.2	3.3, 4.0, and 4.1	3.0, 3.1 and 3.2	12.3(4)T, 12.3(7)T, 12.3(7)XL, 12.3(8)T, 12.3(11)T, and 12.3(14)T
2.3	4.1, 4.2, 5.0, and 5.1 (only with 2.3.4)	3.1, 3.2, 3.3, 3.4, 4.0, and 4.0(1)	12.3(7)T, 12.3(8)T, 12.3(11)T, 12.3(14)T, 12.4T, 12.4M, and 12.4(4)XC
3.0	4.1, 4.2, 5.0, 5.1, and 6.0	3.2, 3.3, 3.4, 4.0, 4.0(3), and 4.1	12.3(7)T, 12.3(8)T, 12.3(11)T, 12.3(14)T, 12.4T, 12.4M, and 12.4(4)XC
3.1	4.1, 4.2, 5.0, 5.1, and 6.0	3.2, 3.3, 3.4, 4.0, 4.0(3), and 4.1	12.3(7)T, 12.3(8)T, 12.3(11)T, 12.3(14)T, 12.4T, 12.4M, and 12.4(4)XC
3.2	4.2, 5.1, 6.0, 6.1, and 7.0	4.0, 4.1, 4.2, and 4.3	12.4(4)XC4, 12.4(11)T, 12.4(11)XJ, 12.4(15)T, 12.4(11)XW, 12.4(15)XY, and 12.4(15)XZ

Microsoft Internet Explorer Version 6.0 is required for Cisco Unity Express GUI support.

License Support

Cisco Unity Express user license levels are available on the network module with enhanced capacity (NM-CUE-EC), network module (NM-CUE), and advanced integration module (AIM-CUE), respectively (Table 8).

Table 8. License Support

License Level: Number of Mailboxes	Cisco Unity Express Network Modules (NM-CUE, NM-CUE-EC, and NME-CUE)			Cisco Unity Express Advanced Integration Module (AIM-CUE)		
	GDMs	Hours of Storage	Concurrent Voicemail and Automated Attendant Ports and Sessions	GDMs	Hours of Storage	Concurrent Voicemail and Automated Attendant Ports and Sessions
12 mailboxes	5 GDMs	100 hours	8 NM-CUE 16 NM-CUE-EC 24 NME-CUE	5 GDMs	14 hours	6 on all Cisco 2800 and 3800 Series ISR platforms
25 mailboxes	10 GDMs	100 hours	8 NM-CUE 16 NM-CUE-EC 24 NME-CUE	10 GDMs	14 hours	6 on all Cisco 2800 and 3800 Series ISR platforms
50 mailboxes	15 GDMs	100 hours	8 NM-CUE 16 NM-CUE-EC 24 NME-CUE	15 GDMs	14 hours	6 on all Cisco 2800 and 3800 Series ISR platforms
100 mailboxes	20 GDMs	100 hours	8 NM-CUE 16 NM-CUE-EC 24 NME-CUE	Not supported		
150 mailboxes	25 GDMs	300 hours	16 NM-CUE-EC 24 NME-CUE	Not supported		
200 mailboxes	25 GDMs	300 hours	16 NM-CUE-EC 24 NME-CUE	Not supported		
250 mailboxes	25 GDMs	300 hours	16 NM-CUE-EC 24 NME-CUE	Not supported		

Language Support

Cisco Unity Express currently supports the languages listed in Table 9.

Table 9. Supported Languages

Language	Variation	Cisco Unity Express Release: Voicemail and Auto-Attendant	Cisco Unity Express Release: IVR
Arabic		Release 3.2	Release 3.2
Chinese	Mandarin	Release 2.3	Release 3.1
Danish		Release 2.1.3	Release 3.0
Dutch		Release 3.1	Release 3.1
English	British	Release 2.1.3	Release 3.0
English	US	Release 1.0	Release 3.0
French	Canadian	Release 2.3	Release 3.0
French	European	Release 2.0	Release 3.0
German		Release 2.0	Release 3.0
Italian		Release 2.1.3	Release 3.0
Japanese		Release 2.3	Release 3.1
Korean		Release 2.3	Release 3.1
Portuguese	Brazilian	Release 2.1.3	Release 3.0
Russian		Release 3.2	Release 3.2
Spanish	European	Release 2.0	Release 3.0
Spanish	Latin American	Release 2.1.3	Release 3.0
Spanish	Mexican	Release 2.3	Release 3.0
Swedish		Release 3.1	Release 3.1
Turkish		Release 3.2	Release 3.2

Additional languages are planned for subsequent releases. With Cisco Unity Express 3.0 and later, AIM-CUE can support 2 concurrent languages (this reduces the total amount of voicemail storage to 8 hours from 14 hours), and NM-CUE can support 5 concurrent languages.

Physical Specifications

Table 10 lists the hardware specifications for the Cisco Unity Express network modules.

Table 10. Hardware Specifications

Feature	Cisco Unity Express Network Modules (NM-CUE, NM-CUE-EC, and NME-CUE)	Cisco Unity Express Advanced Integration Module (AIM-CUE)
Network size	Small and medium-sized offices or branches	Small office or branch
Hardware		
Processor	<ul style="list-style-type: none"> 500-MHz Intel Mobile Pentium III NME-CUE: 1-GHz Celeron M processor 	300-MHz Intel Celeron
Default memory (SDRAM)	<ul style="list-style-type: none"> 256 MB on NM-CUE 512 MB on NM-CUE-EC and NME-CUE 	256 MB
Maximum SDRAM	512 MB	256 MB
Internal disk storage	40 GB IDE, 4200 rpm	1 GB compact flash memory*
Network interfaces	None	None
Physical Specifications		
Dimensions (H x W x D)	1.55 x 7.10 x 7.2 in	5.25 x 3.35 x 0.75 in
Weight	1.5 lb (0.7 kg) maximum	0.20 lb (0.09 kg) maximum
Operating humidity	5 to 95% noncondensing	5 to 90% noncondensing
Operating temperature	32 to 104°F (0 to 40°C)	23 to 122°F (-5 to 50°C)
Nonoperating temperature	-40 to 185°F (-40 to 85°C)	-40 to 158°F (-40 to 70°C)
Operating altitude	0 to 10,000 ft (0 to 3000m)	0 to 13,000 ft (0 to 3963m)
Safety	UL 1950; CSA-C22.2 No.950, EN 60950, and IEC 60950	UL 60950, IEC 950, and EN60950
EMC	FCC Part 15 Class A; EN55022 Class B; AS/NZS 3548 Class A; CISPR22 Class B; VCCI Class B; EN55024; EN61000-3-2; and EN61000-3-3	FCC Part 15 Class A; EN55022 Class A; AS/NZS 3548 Class A; CISPR22 Class A; VCCI Class A; EN55024; EN61000-3-2; and EN61000-3-3

*The storage capacity of the Cisco Unity Express advanced integration module (AIM-CUE) is increased from 512 MB to 1 GB of compact flash memory beginning with Cisco Unity Express Release 2.0, allowing 14 hours of voicemail storage on the 1-GB compact flash drive. The 512-MB AIM-CUE will continue to provide 5 hours of voicemail storage. If historical reporting and two concurrent languages are activated on the AIM-CUE, the storage capacity will be limited to 8 hours.

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