

Cisco Unified Communications Manager IM and Presence Service 9.0

Cisco® Unified Communications Solutions unify voice, video, data, and mobile applications on fixed and mobile networks, enabling easy collaboration every time from any workspace. Starting in Cisco Unified Communications 9.0, the Cisco Unified Presence technology is integrated within Cisco Unified Communications Manager. All the features and capabilities that were available within Cisco Unified Presence 8.0 and later are now part of the Cisco Unified Communications Manager Release 9.0, which is now referenced as Cisco Unified Communications Manager IM and Presence Service (IM and Presence Service).

Cisco Unified Communications Manager IM and Presence Service provides native standards-based dual-protocol enterprise instant messaging (IM) and network-based presence as part of Cisco Unified Communications. This secure, scalable, and easy-to-manage service within Cisco Unified Communications Manager offers users feature-rich communications capabilities both within and external to the enterprise.

IM and Presence Service is tightly integrated with Cisco and third-party compatible desktop and mobile presence and IM clients, including the [Cisco Jabber™](#) messaging integration platform, Cisco WebEx® Social, and Cisco Jabber SDK. It enables these clients to perform numerous functions such as instant messaging, presence, click-to-call, phone control, voice, video, visual voicemail, and web collaboration. IM and Presence Service offers customers and partners the flexibility of rich, open interfaces that allow enablement of IM and Cisco rich, network-based presence, and IM and presence federation for a wide variety of business applications.

Product Overview

Customers adopt Cisco Unified Communications Solutions to increase productivity, accelerate communication, and enable collaboration with either colleagues within the enterprise or external partners and suppliers.

IM and Presence Service delivers enhanced enterprise IM features, including group chat, persistent chat, and IM logging, along with a suite of business-to-business and business-to-consumer IM and presence open federations.

IM and Presence Service lays the foundation to deliver enterprise IM and Cisco rich, network-based presence-enabled collaboration capabilities. Customers deploying Cisco Unified Communications Manager can then view the presence status or availability of the people they want to communicate with, exchange instant messages with these individuals, and escalate to a voice and video call or rich collaborative session.

IM and Presence Service natively supports standards-based Extensible Messaging and Presence Protocol (XMPP) and SIP for Instant Messaging and Presence Leveraging Extensions (SIP/SIMPLE). With this dual-protocol capability, IM and Presence Service offers customers a choice of either rich-featured Cisco Jabber Unified Communications clients or any third-party XMPP-compliant IM and presence client.

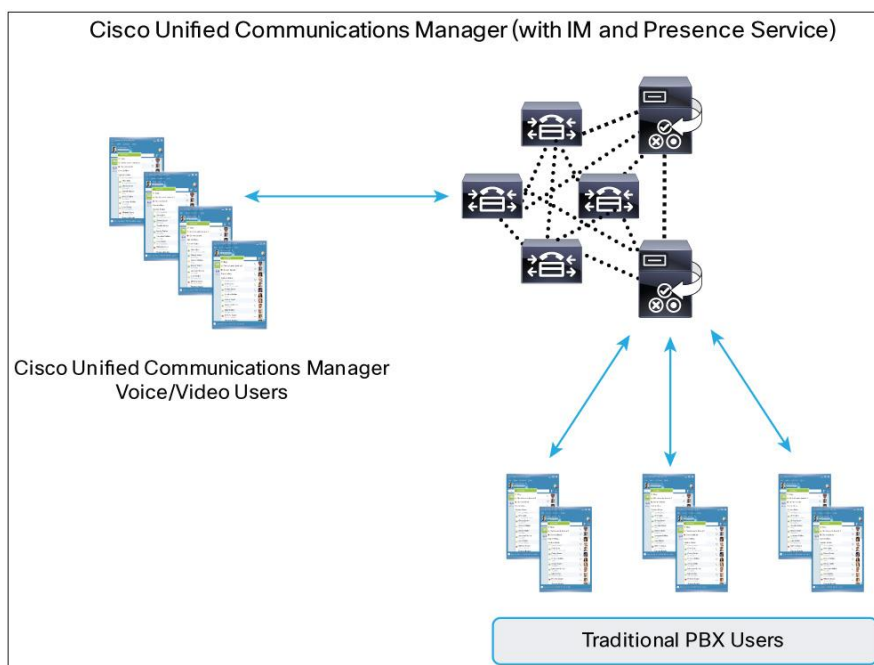
IM and Presence Service also supports a rich set of developer applications available through the [Cisco Developer Network](#), including the Cisco AJAX XMPP Libraries (Cisco AXL), which is a JavaScript presence and IM interface that allows customers and application developers to extend presence and IM to web-based applications. Also available are presence-oriented Simple Object Access Protocol (SOAP), Representational State Transfer (REST), Bidirectional Streams over Synchronous HTTP (BOSH), and standards-based SIP/SIMPLE and XMPP interfaces.

IM and Presence Service Modes of Operation

Cisco Unified Communications Manager IM and Presence has three modes of operation:

- **Cisco Unified Communications mode:** In this mode, IM and Presence Service integrates into a full Cisco Unified Communications environment to provide an enterprise-class IM and presence solution in conjunction with the full suite of unified communications services, including voice and video. In this mode, IM and Presence Service supports Cisco Unified Communications clients, such as Cisco Jabber, Cisco WebEx Social, and Cisco Jabber SDK, as well as third-party XMPP standard-based clients. When operating in Cisco Unified Communications mode, IM and Presence Service scales up to a maximum of 45,000 users in a multinode Cisco Unified Communications Manager cluster environment.
- **IM-only-user mode:** IM and Presence Service provides an enterprise-class IM and presence solution for the enterprise users who are not using Cisco Unified Communications Manager for call control. In IM-only-user mode, IM and Presence Service supports Cisco Unified Communications Clients such as Cisco Jabber, Cisco WebEx Social, and Cisco Jabber SDK for all enterprise-class IM and presence services. IM and Presence Service also supports the ability for third-party XMPP standard-based clients to interface with Cisco Unified Communications Manager for IM and presence services. When operating in Cisco IM-only-user mode, IM and Presence Service scales up to a maximum of 75,000 users in a multinode cluster environment (refer to Figure 1). Users deployed as part of the Jabber® for Everyone Offer without Voice and Video services operate in IM-only-user mode.

Figure 1. IM-Only-User Mode Supports IM and Presence for Users on Traditional PBXs



- Microsoft Office Communicator and Microsoft Lync interoperability mode (or Microsoft Remote Call Control): In this mode, IM and Presence Service allows Microsoft Office Communicator or Microsoft Lync users on a PC to interoperate with Cisco Unified IP Phones on Cisco Unified Communications Manager by providing click-to-dial and associated phone monitoring capabilities. Interoperability is made available by activating Microsoft Office Communicator interoperability mode in IM and Presence Service and configuring Microsoft Office Communicator or Microsoft Lync users. When operating in this mode, IM and Presence Service scales up to 40,000 Microsoft Office Communicator users per Cisco Unified Communications Manager cluster.

Table 1 has maximum capacities per cluster for each of the three modes discussed above.

Table 1. IM and Presence Service Maximum Capacities per Cluster

Mode of Operation	Maximum Number of Users Supported
Cisco Unified Communications mode	45,000 [*]
IM-only-user mode	75,000 [*]
Microsoft Office interoperability mode	40,000 ^{**}

^{*} In this mode there is no administrative limit. The number of users is based on validation of IM and Presence Service on an expected user profile.

^{**} In this mode capacities for Microsoft Office interoperability mode are based on computer-telephony-integration (CTI) limits defined for a Cisco Unified Communications Manager cluster.

Features and Benefits

The following sections discuss the features and benefits of Cisco Unified Communications Manager IM and Presence Service.

Enterprise Instant Messaging

Feature-rich enterprise IM is an important real-time communications medium for customers; it introduces another mode of communication among users, customers, and suppliers.

Instant messaging is an important communication option that lets you efficiently interact in today's multitasking business environment. IM and Presence Service provides personal chat, group chat, and persistent chat capabilities so you can quickly connect with individuals and groups and conduct ongoing conversations.

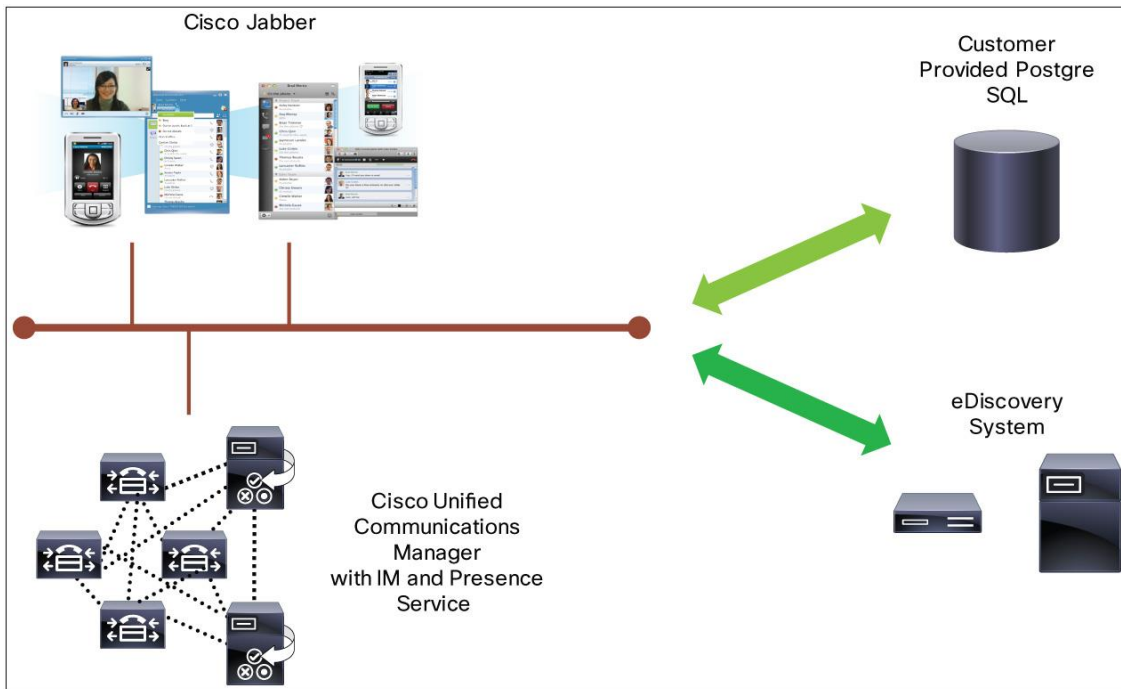
- Group chat allows you to create a temporary IM enterprise chat room and invite internal and external colleagues to the chat room to join an IM conference.
- Persistent chat is a permanent chat room that offers you ongoing access to a discussion thread. It is available even if no one is currently in the chat and remains available until explicitly removed from the system. It allows workers in different locations, countries, and time zones to participate with fellow team members, customers, partners, and suppliers to communicate, quickly gain context to ongoing conversations, and easily collaborate in real time.

Enterprise Instant Messaging Compliancy and Archiving

If IM compliancy and archiving is unmanaged, it is impossible to protect against outside threats or to ensure efficient and appropriate use of the capability. Sometimes it is necessary to store these IM records for future recovery and analysis by regulatory authorities and also to mitigate against the risks associated with information security breaches. IM and Presence Service provides the ability to meet these requirements in two ways (Figure 2):

- Provides for logging of IM records in a customer-managed and -provided PostgreSQL database
- Delivers an interface to third-party IM and compliancy engines that provide an interface to customer-provided eDiscovery solutions

Figure 2. IM and Presence Service Instant Messaging Compliancy



Presence and Instant Messaging Federation

IM and presence users want to be able to send an IM to anybody, regardless of whether or not the recipients are in their business or service environment. Presence and IM federation allows you to do just that - communicate with others who have a different IM service to solve business communication needs in real time.

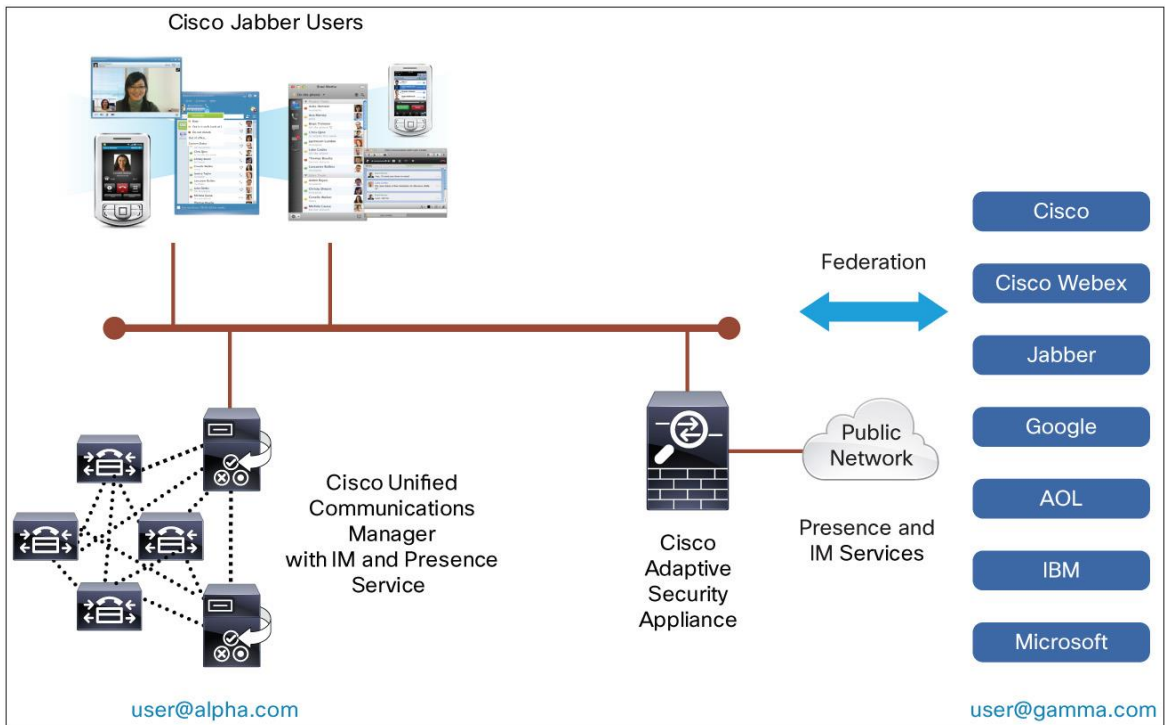
Interdomain federation is the secure, policy-controlled IM and presence communication between environments that have different domain names, such as user@gamma.com to user@delta.com (Figure 3).

Business-to-business and business-to-consumer federation creates the way for IM and presence users to communicate outside of their enterprises and still ensure secure, policy-controlled, transparent communication.

With IM and Presence Service, this capability is delivered between organizations when both are running IM and Presence Service, or when one organization is using IM and Presence Service and the other is using Cisco WebEx Connect[®], a Microsoft Server (Office Communications Server [OCS], Live Communications Server [LCS], or Lync), IBM Sametime, or any Jabber Extensible Communications platform.

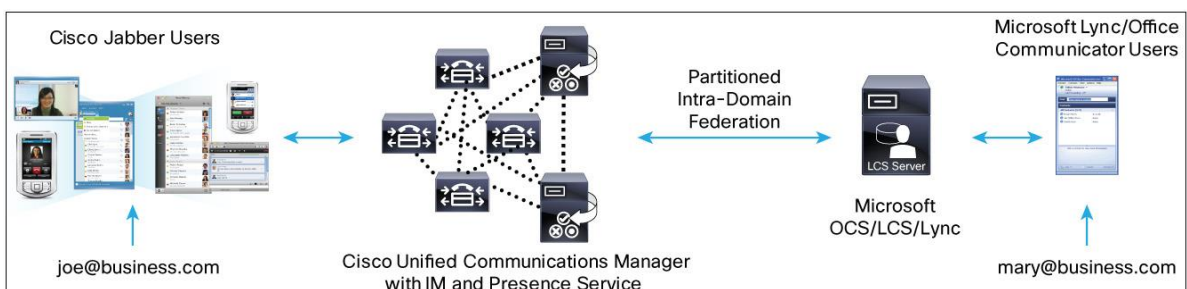
IM and Presence Service also offers direct business-to-consumer federation such as GoogleTalk and AOL. It allows the enterprise to connect to GoogleTalk users and XMPP cloud-based services to share presence and instant messages. Cisco Unified Presence is an XMPP standards-based platform and hence allows federation with any other standards-based XMPP IM and presence service or gateway. IM and Presence Service can federate to AOL, including federation with users in the AOL base communities (user@aol.com and user@aim.com) as well as users in AOL hosted communities and enterprises that use AOL as a clearinghouse for federation.

Figure 3. Cisco Unified Presence Interdomain Federation



In addition to business-to-business and business-to-consumer federations, intradomain federation or intrabusiness federation is supported between IM and Presence Service and Microsoft OCS, Microsoft LCS, or Microsoft Lync Server. Intradomain federation provides for transparent IM and presence among all users in the same company. You can mix and match Cisco Jabber and Microsoft clients for different communities of users, as shown in Figure 4.

Figure 4. Cisco Unified Presence Intradomain Federation with Microsoft OCS, LCS, or Lync for IM and Partitioned intradomain Federation



Cisco Unified Presence High Availability

IM and Presence Service offers you the ability to deploy in a fully redundant, high-availability mode. The IM and Presence Service Recovery Manager monitors all critical processing within IM and Presence Service (such as the message routing, presence engine updates, and database access) and performs a graceful failover of all subtending users to the partner node within a sub-cluster if a process failure occurs. Upon reestablishment of the failed node, IM and Presence Service supports a manual fallback to the original primary node for all users who migrated to the partner node during the failover.

IM and Presence Service Client Experiences

IM and Presence Service supports a wide range of Cisco and third-party desktop and mobile standards-based XMPP-compatible presence and IM clients, including all Cisco Jabber clients, Cisco WebEx Social, and Cisco Jabber SDK. Thus you can mix and match multiple clients to meet your individual solution requirements, critical for all customers to enable bring-your-own-device (BYOD) strategies in the workplace going forward. Mobile workers increasingly need to be connected to the enterprise. They can use Cisco Jabber embedded in a smart mobile device to connect and then get and set presence to IM and Presence Service, breaking the boundary of the enterprise and remaining connected while part of the process is mobile.

The Cisco Jabber platform provides rich desktop unified communications experiences, supporting IM, presence, video, desktop phone control, and soft phones with rich collaborative integrations into Cisco Unity[®] and Cisco Unity Connection applications. It also allows for escalation to collaborative desktop sharing into Cisco WebEx and Cisco Unified MeetingPlace[®] applications. The actual client feature set offered to users may vary slightly, based on the unique characteristics of the different Jabber integrations. Please reference the Jabber client documentation for a complete list of features within each integration.

Customers who require a secure, policy-controlled, rich IM and presence solution as part of their enterprises but do not require a full unified communications experience can also deploy IM and Presence Service in IM-only-user mode (refer to the section “IM and Presence Service Modes of Operation” and the Cisco Jabber for Everyone Offer for details).

Standards-Based Application Programming Interfaces

IM and Presence Service provides standards-based connectivity to any XMPP- or SIP/SIMPLE-capable application or network. In effect, you can request user status that is maintained in the IM and Presence Service by using the IETF standards for IM, status, and presence sharing. The XMPP and SIP/SIMPLE standards define the accepted messaging to initiate and maintain a status request as well as to provide appropriate messaging communications. IM and Presence Service collects and distributes network-based rich presence information, as defined by the needs of the applications deployed.

IM and Presence Service also supports web-centric application programming interfaces (APIs) available through the [Cisco Developer Network](#), including the Cisco AXL, which is a JavaScript presence and IM interface that allows customers and application developers to extend presence and IM to web-based applications. Also available are presence-oriented SOAP, REST, and Bidirectional Streams over Synchronous HTTP (BOSH). These APIs give IT departments and system integrators the simple but powerful ability to IM- and presence-enable their business applications; for example, exposing expert or user availability and IM on a corporate web directory, point-of-sale application, customer-relationship-management (CRM) system, or external customer portals.

Microsoft Outlook Calendar Integration

IM and Presence Service can incorporate Microsoft Outlook Calendar free and busy data when publishing a user's availability. This feature helps you automatically maintain your availability and status information, and because it is based on a server-to-server integration, it is available to other users whether or not the originating user is logged in. The Microsoft Outlook Calendar feature requires the establishment of a gateway connection to the Microsoft Exchange Server and is compatible with Microsoft Exchange Servers 2003, 2007, and 2010.

Cisco Phone Status

IM and Presence Service supports telephony **on-a-call** status for any device connect to Cisco Unified Communications Manager, including any Cisco IP Phone, Cisco client soft phone, Cisco Analog Telephone Adaptor, or third-party connected device. The telephony status is aggregated into the overall user status and as rich, network-based presence, is always available regardless of what devices or clients the end user is using.

Cisco Unified Computing System Support

IM and Presence Service is supported as part of the Cisco Unified Computing System™ (Cisco UCS®) platform. This application can help you reduce your total cost of ownership (TCO) by enabling you to consolidate the total number of physical servers required to support Cisco Unified Communications. VMware ESX and Storage Area Networking, both of which are tightly integrated with the Cisco UCS, are used to deliver greater application-to-server density than possible with traditional media-convergence-server (MCS) platforms.

Cisco Hosted Collaboration Solution

Cisco Unified Communications Manager IM and Presence Service is a core component of the Cisco Hosted Collaboration Solution (HCS). As part of Cisco HCS, service providers can offer all the services within Cisco Unified Communications Manager, including IM and Presence Service, to their customers and end users. IM and Presence Service is aligned with all the applications within Cisco HCS to provide the most efficient and effective deployment models for service providers.

Platform Management, Security, and Support

Cisco Unified Communications Manager IM and Presence Service uses the core platform infrastructure within Cisco Unified Communications Manager, following its appliance model principles including a common administration GUI and initial setup and installation through a command-line interface (CLI) in alignment with the core Cisco Unified Communications Manager.

Security

The security infrastructure of Cisco Unified Communications Manager IM and Presence Service addresses internal environment security as well as external security by supporting:

- Distribution of engine and proxy trust certificates to other nodes of a IM and Presence Service cluster through replication
- Adding trusted peers in Session Initiation Protocol (SIP) proxy Transport Layer Security (TLS)
- Automatic distribution of SIP proxy self-signed certificate or certificate authority root certificates

Serviceability

IM and Presence Service as part of Cisco Communications Manager provides a consistent view of serviceability features. In addition, IM and Presence Service has unique service capabilities in the areas of alarms, performance counters, debug and trace utilities, service activation, monitoring, and CLI.

Administration and Provisioning Interfaces

The following administration functions are supported:

- System administrator GUI for provisioning of system data and default end-user data
- Bulk Administration Tool (BAT) for ease of movement of end users in a multinode cluster environment
- End-user GUI for provisioning end-user service data

Product Specifications

You can deploy Cisco Unified Communications Manager IM and Presence Service in various configurations, depending on the number of users and data center requirements, through an appliance model or through the Cisco UCS virtual model offering deployment choice and scaling flexibility.

Table 2 lists Cisco Unified Communications Manager IM and Presence Service platform models and the maximum number of supported users per IM and Presence Service node or server in Cisco Unified Communications mode and IM-only-user mode.

Table 2. Cisco Unified Presence Platform Models and Maximum Number of Supported Users per Cisco Unified Presence Node or Server in Cisco Unified Communications Mode and IM-Only-User Mode

Platform Models	Maximum Users in Unified Communications Mode	Maximum Users in IM-Only-User Mode
Cisco Unified Presence application software with Cisco MCS 7816 Media Convergence Server	1,000	2,500
Cisco Unified Presence application software with Cisco MCS 7825 Media Convergence Server	2,000	5,000
Cisco Unified Presence application software with Cisco MCS 7835 Media Convergence Server or Cisco UCS B- or C-Series equivalent	5,000	12,500
Cisco Unified Presence application software with Cisco MCS 7845 Media Convergence Server or Cisco UCS B- or C-Series equivalent	15,000	25,000

Note: Cisco Unified Communications Manager IM and Presence Service 9.0 supports VMware deployments on qualified IBM and HP servers. Please refer to the Hardware [Ordering Guide](#) for details.

Business-to-business interdomain federation requires Cisco ASA 5500 Series Adaptive Security Appliances Software for presence and IM between Cisco Jabber and Microsoft Server users.

Ordering Information

For information about quoting Cisco Unified Communications Manager, please refer to the Cisco Unified Communications ordering guide at http://www.cisco.com/web/partners/sell/technology/ipc/uc_tech_readiness.html.

Cisco Unified Communications Manager is a part of Cisco Unified Communications Licensing. Please visit <http://www.cisco.com/en/US/products/ps9156/index.html> for more information.

For More Information

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