



Seven Key Considerations for Deploying Unified Communications Successfully

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Seven Key Considerations for Deploying Unified Communications Successfully

Organisations are always looking to maximise the use of their investment in technology, while delivering more flexible and effective ways for their staff to communicate and collaborate. Integrating all forms of communication - from telephony to e-mail, web conferencing to instant messaging (IM) - helps to deliver a richer communications environment that ultimately results in cost savings and productivity increases.

Technologies Covered

Although many vendors offer collaboration technologies, this document uses those from Cisco and Microsoft as examples. These include:

- ▲ **Telephony (IP PBX or TDM PBX)** – Cisco CallManager
- ▲ **E-mail and Scheduling** – Microsoft Exchange
- ▲ **Unified Messaging** – Cisco Unity or Exchange 2007
- ▲ **Instant Messaging** – Microsoft Live Communication Server (LCS)
- ▲ **Presence** – Cisco Unified Presence Server (CUPS)
- ▲ **Video, Audio & Web Conferencing** – Cisco MeetingPlace, Microsoft LiveMeeting
- ▲ **Corporate Directories** – Microsoft Active Directory (AD)
- ▲ **Collaboration Servers** – Microsoft SharePoint
- ▲ **Desktop Applications** – Microsoft Office, Office Communicator (MOC), Cisco Unified Personal Communicator (CUPC)

However, there are very few, if any, vendors today that offer a complete suite of collaboration technologies. There are even fewer organisations that have standardised on a single vendor for all of their communication needs. This presents a need to integrate multiple vendor technologies across multiple platforms and architectures. Before embarking on such a journey there are a number of elements that require careful consideration.





1. Organisational Culture and Change Management

Before embarking on a unified communications or integrated collaboration project, it is critical that the company culture be receptive to the adoption of such technologies. Companies need to embrace the concepts of central document storage, multi-modal communications and the benefits that Presence brings. If Presence is viewed as “big brother” or a privacy intrusion, if communication is purely e-mail based, if all collaboration is held in-person, in real-time, a unified communications project will be doomed to failure without proper training and change management.

Similarly, the IT team managing this environment needs to be well integrated and share responsibility for the success of projects. Unified communications touches everything from the PBX, to the server environment to the user desktop, and security is a critical component throughout.

In some instances unified communications technologies may not offer the value and gains anticipated. It is best suited to knowledge-based workers, workers who form ad-hoc or virtual teams, or who are geographically dispersed. Consulting teams, remote/home office workers and mobile workforces are ideal candidates to benefit.

Target the key employees who will benefit the most, align the delivery team and ensure the corporate culture is suited to interactive collaboration. Combine this with a well-planned and articulated change management process and the stage is set for a successful deployment.

2. Environmental Considerations

After issues of corporate culture and IT responsibility have been addressed, the next phase is to assess and prepare the environment for the deployment of technology.

Unified communications solutions rely heavily on accurate and consistent contact information. This information is usually stored in one (often more than one) directory. A single authoritative directory needs to be selected and maintained as a source of contact details. This should include:

- ▲ Full name
- ▲ E-mail address
- ▲ Telephone numbers
 - ▲ Work
 - ▲ Fax
 - ▲ Mobile
 - ▲ Home
 - ▲ Conference bridge
 - ▲ Video
- ▲ SIP/Presence/IM address
- ▲ Location

a) **Prepare the directory:** Prepare the directory, e.g. Microsoft Active Directory, for scheme extensions to support corporate IM and ensure the directory is synchronised correctly. Ensure numbers are normalised into a standard format (E.164 is frequently used) and that users understand how to enter numbers in this format to their own personal contacts.

b) **Prepare PBX:** The PBX may need configuration to accept the new numbering scheme and interpret it correctly. Additionally, some form of computer telephony integration (CTI) interface is required to enable telephony Presence and call control. This may be a software license, a piece of hardware or may even require a platform upgrade, depending on the PBX. With Cisco CallManager, the CTI license is provided and only a presence (CUPS) license is required.

c) **Prepare desktops:** Client software (MOC/CUPC) will need to be deployed to desktops. Desktops will need to meet the minimum hardware and software requirements for these applications. Soundcards and headsets may be necessary depending on the solution selected.

d) **Prepare identities:** With all of these technologies coming together, a single user identity is important for accurate interaction between systems. For example, your e-mail identity may be *joe.soap@company.com*, your IM address *jsoap@hotmail.com*, your AD user name *jsoap*, and your telephony identity your extension: 5222. In order to ease integration and identification, these identities need to be rationalised or synchronised in some manner so that the disparate systems know they all refer to the same individual.

Ultimately, of course, we will have a single identity used for all communications (likely *joe.soap@company.com*) and a selection will be made (by Joe, the caller, or even the network) as to the best medium to use for communication. Planning a suitable and flexible identity is critical, as this is the detail that will be shared extensively and will be hard to change or alter at a later stage. Think of the effort involved in changing your mobile number or postal address for instance!



3. Architecture

Now it is time to select a suitable architecture for your organisation. Will you decide on a distributed or centralised architecture? There are a large number of influencing factors affecting this decision, including:

- ▲ **Support** – are you equipped to support a distributed architecture from a staffing and systems perspective?
- ▲ **Security** – Which offers the most appropriate security and compliance architecture to meet policy requirements?
- ▲ **Underlying network infrastructure** – Will the underlying IP network support the bandwidth requirements for your choice of architecture?

Assessing the impact on the underlying infrastructure is key to a successful deployment. Many collaboration technologies rely on real-time protocols that put demands on IP networks to minimise latency and jitter. Therefore, quality-of-service policies must be in place and adequate bandwidth provisioned for.

Determine upfront what path communications will follow, assess the current network and predict impact and network changes necessary to accommodate these new applications.

Some vendors' applications may impose design constraints, so vendor selection also plays an important role when making architectural decisions. An implementation partner with experience in similar projects and thus some of the undocumented pitfalls associated with multiple vendor integration, will help ensure a sound architecture.

4. Security

Integrating multiple communication systems, many of which are mission critical to business operations, brings about many security considerations. After all, who can survive today without a telephone or e-mail system?

To secure unified communications, you should take advantage of capabilities that exist within network equipment (routers and switches) and encryption designed into the unified communications devices themselves. Security for these systems should be viewed as a natural extension of your existing security technologies like firewalls and intrusion detection. Keep in mind that security for unified communications should involve the infrastructure, call management, endpoints and application levels.

One of the main motivators for the deployment of enterprise instant messaging (IM) systems is the additional security it offers through better control, conformity to corporate policy and archiving capabilities. In order to take advantage of these security and compliance benefits, consider the following:

- ▲ **Archiving** – Will communication sessions, especially IM, be archived and stored? Will this occur centrally or at distributed locations? What impact will this have on data storage systems (NAS, SANs, etc). Microsoft LCS archives IM sessions in a SQL database. Ensure this database is secured and that adequate capacity has been provided for future growth of this archive - why intercept IM traffic when it can be stolen from an unsecured SQL database?
- ▲ **Federation** – Many organisations will wish to federate their LCS system with other companies or public IM servers. This requires careful planning of certificates, server names and Internet DNS entries. Plan what external connectivity will be required at the architectural stage and design accordingly.
- ▲ **Policies** – The implementation of suitable policies will determine the features enabled (file transfer, call control, etc).
- ▲ **System security** – By implementing integrated collaboration tools, many systems throughout the organisation will be exposed to one another. PBXs will be exposed to the IP network via CTI interfaces, messaging and Presence systems will be exposed to the public Internet to enable remote connectivity and federation. Close attention needs to be paid to securing these previously isolated systems.

5. Ongoing Support

The success of the deployment depends on the organisation's ability to retain support staff who have the depth of skill to focus on all of the disciplines required (networking, voice, Presence, messaging), can operate and conduct administration and troubleshooting of an integrated environment, and who can maintain the stability of the environment on a daily basis. An option is to outsource the maintenance and monitoring of the environment to a partner in order to reduce or eliminate the need for in-house support skills and administration personnel, and to reduce the risk of downtime that may result in revenue loss.

6. Enterprise Integration

Once a solution has been deployed and users have become familiar with its use and features, there are opportunities to extend the system to deliver deeper integration and increased value.

- ▲ **Application integration** – Consider integrating presence and call-control into line-of-business applications such as ERP or CRM systems, allowing the applications to initiate calls, and show the presence status of users directly within the application.
- ▲ **Conferencing** – Integrate the call control and presence tools into collaboration systems such as Cisco MeetingPlace. This allows users to seamlessly escalate a call to an audio or video conference and share desktop applications such as spreadsheets and presentations.
- ▲ **Customisation** – Customise the information displayed in the Office Communicator client or on the screen of the IP phone to suit your needs. Display order information on the phone when a client calls or a list of shared documents in MOC when a colleague sends an instant message.

7. Project Management

A partner's sound project methodology coupled with their experience in deploying small and large scale projects, ensures better client experience and greater client satisfaction. As a result, it is important that the implementation partner bases their deployment on a structured project management methodology that consists of a set of processes, tools, templates and guidelines based on industry best practices.

A sound project management methodology simplifies and standardises the way that the project will be delivered and also improves manageability through standardisation and tools.

In addition, ensure that the partner of choice documents the deployment. A documentation handover reduces the future risks of disaster and downtime and assists the organisation with change management and training.

In Conclusion

The world of corporate communications is experiencing a revolution. Communication media are going to be tightly integrated with users selecting appropriate communication methods based on context, availability, situation and location. Many existing systems won't need to be completely replaced and can be incorporated today.

A successful deployment comes from selecting appropriate end-users, careful planning and an architecture that takes security and ongoing support into consideration.

Most of all, partner with an integrator that has the skills and experience to integrate multi-vendor technologies, follows a transparent and strict project management discipline and can offer ongoing support and maintenance throughout the solution's lifecycle.



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