AVAYA

Maximizing Unified Communications for Your Business

Guidelines for Success in Deployment and Solution Optimization

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Section 1: Executive Summary

Although Unified Communications (UC) is a term that's frequently heard these days, finding clear – or even consistent – definitions can be a real challenge. Avaya has created a straightforward yet holistic definition: Unified Communications is the convergence of real-time and non-real-time business communication applications. These applications include voice and video telephony, conferencing, collaboration, voice and video mail, instant messaging, email, calendaring and contacts. Users will access these capabilities using multiple modalities including voice, data, and speech access; as well as through multiple devices – from mobile phones to PCs. Ultimately, these communications services will be embedded into a wide variety of core business processes.

While advanced technology is certainly a necessary underpinning for UC, the real significance of Unified Communications is its ability to enhance the quality of the interactive experiences across the entire enterprise. As the speed and efficiency of communications between employees, clients, partners and suppliers is enhanced, the benefits to the business show up in multiple ways -- improved customer experiences, increased productivity, more frequent collaboration, reduced costs, and ultimately, competitive advantage.

As businesses worldwide convert their traditional voice and data communications infrastructures to IP networks, they are eager to leverage the unique capabilities of this technology to improve their operational performance and market differentiation. Unified Communications represents an extremely powerful set of converged network applications that can directly enhance a company's market advantage.

For business leaders that are interested in taking advantage of these new applications to gain a competitive edge, this executive brief first discusses the hallmarks and business benefits of Unified Communications, then ends with a set of recommended approaches to help companies ensure smooth and successful UC deployments that optimize application performance according to each business' unique needs.

Section 2: Unified Communications from a Business Value Perspective

It will come as no surprise to any commercial, non-profit, or government enterprise that recent years have brought major changes in the area of business communications. After decades as the ubiquitous foundation technology behind voice communications, Time Division Multiplexing (TDM) has given way to Internet Protocol (IP), the new gold standard for communications that allows businesses to transmit – and harness – voice and data over a single converged network. The conversion to IP is well under way; by the end of 2006, over 70% of the new communication systems deployed in the U.S. were designed for IP Telephony (IPT).[1]

As we talk with enterprises about their decision to deploy converged voice and data infrastructures, the vast majority have been motivated by expectations of improved business performance. Among these companies, most expected that their investment in a foundation IP infrastructure would allow them to subsequently layer on IP-enabled end-user applications that would drive five specific business benefits:

• Reduced communications-related operational expense (OPEX)

• Improved employee productivity for office, mobile and remote workers

• Higher levels of customer care

• Enhanced business process efficiency

• Business continuity and disaster recovery

[1] IntelliCom Analytics: 2007 IntelliCom Market Performance Dashboard[SM]

Although most IP-enabled businesses have already reduced OPEX by using IP trunking to bypass toll charges, or by increasing IT productivity through streamlined IP network administration, the broadest enterprise-wide impacts of IP will be realized through new productivity- and efficiency-enhancing applications such as Unified Communications[2].

What Are the Hallmarks of Unified Communications?

Today's enterprise has multiple ways of communicating – whether by voice and video telephony, audio, web, or video conferencing, voicemail, instant messaging (IM), email, text messaging or fax – as well as multiple devices to communicate with; each with its own set of capabilities. Most end-users also have an assortment of "communication identities": email IDs, instant messaging handles, and a variety of different numbers for the office, mobile device, home office and fax line. Other business users have separate numbers when they are at a customer, partner, or supplier site. Some have special needs numbers such as for TTY/TDD.

Add it all together, and although we have never had so many ways of communicating with each other, we've also never had as much complexity. If left unresolved, this complexity makes it more difficult and time consuming to conduct effective business communications – a decided competitive disadvantage in an era when speed of information sharing and decision making can mean the difference between success and failure.

Unified Communications enhances the quality of business interactions by giving all end-users – whether information workers or senior executives – the means to simplify, integrate and control all aspects of their communications to create a highly efficient and integrated experience.

The First Hallmark of UC: Simplification

As mentioned in the introduction, Unified Communications is not a single capability or application, but a set of integrated capabilities that creates a seamless experience. An essential aspect of UC is the unified portal, which gives end-users the ability to access all of their different modes of communication – messaging, conferencing and a full range of telephony features – through an easy-to-use Web-based interface, and access to a consistent set of capabilities regardless of the particular device that's being used. In the past, users communicating in multiple modes would need to laboriously switch between applications, logging-off and -on as they went. No longer. With this capability, end-users can receive and launch all forms of communication – person-to-person calls, emails, multi-media Web and video conference calls, voicemails, instant messages or faxes – through devices such as an IP desk set, PC or laptop softphone, Personal Digital Assistant (PDA) or smart phone.

By employing new industry standards like Session Initiation Protocol (SIP), Unified Communications allows unified portal users to make seamless "on the fly" transitions from one form of communication to another. An account executive can send important contract details to a colleague in an encrypted instant message from her laptop softphone, for example, while simultaneously launching a video conference call to another team member.

The Second Hallmark of UC: Integration

Unified Communications also gives end-users the flexibility to convert their communications into different forms of media. Using UC text-to-speech software, for instance, incoming emails can be listened to on a mobile phone, while incoming faxes are converted into viewable images accessed on the PC. Visual Voicemail is another key UC application that can significantly increase mobile user productivity. Here, a worker on the

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[2]According to recent Yankee Group research, businesses adopting UC have typically seen double-digit improvements in productivity

road can view a list of incoming voice-mail messages and then listen to them over their choice of devices. The list shows the sender, time and length of each message, and allows any or all of them to be listened to in any order. Visual Voicemail also automatically downloads voicemails to the device in the "background", so that users don't need to spend time dialing into, then logging on to the corporate voice mail system. A user can gain access to their voice messages in multiple ways – whether through their e-mail client, PC, mobile device or UC client.

UC also dramatically improves end-user accessibility in a number of ways. Individuals can transform their mobile devices into extensions of their office phones, and in doing so, "empower" the mobile device with the company's core IP Telephony functionality – giving them the ability to use advanced features such as multi-party conference calling, call transferring and abbreviated dialing.

The Third Hallmark of UC: Control

Another fundamental capability of Unified Communications is the ability of a user to specify their reachability – the when, how and who of communications. In some circumstances, an end-user may choose to receive a message in any format and at any hour, but only from their direct supervisor. When attending a dinner meeting or participating on a conference call with an important client, they may choose to only allow emails or instant messages to come through.

A key UC capability behind enhanced reachability is presence management. SIP plays a critical enabling role here, as well, in allowing a business to offer up-to-date availability information on end-users to the broader internal community (and potentially externally to business partners and clients). With presence, the choices users make about their current availability and contact information are displayed in rules-based on-line directories that can be accessed by associates or other authorized individuals. The result is an increase in the ability – and speed – to successfully connect with others.

The Impact of UC on Business Processes

In addition to improving the productivity of individual end-users and groups, Unified Communications can also have a major impact on key enterprise processes – a state of business evolution that Avaya refers to as Intelligent Communications. Consider, for example, how an everyday Customer Relationship Management situation is changed when a contact center agent is able to use UC to quickly and consistently connect with the right subject matter expert that can bring the end-customer's transaction to a speedy and effective conclusion.

UC will also increasingly play a role in the area of Communication Enabled Business Processes, in which human delay is eliminated from business workflows by inserting automated rules-based communication capabilities into processes that now require manual handling of information[3].

As we have briefly seen, the impacts of Unified Communications are significant and wide-ranging. The linkage for end-users is already clear – when business communications become more efficient and effective, users become more productive, collaboration becomes easier and more frequent, and responsiveness to colleagues, partners and end-customers increases. At the overall business level, UC translates to across-the-board potential for improvements in organizational agility and time to market, backed by accelerated innovation, problem-solving and decision-making. In a word, a business that is … advantaged.

[3]For additional insights on how Unified Communications can improve the performance of core business processes of a global market leader like Whirlpool Corporation, visit www.avaya.com/master-usa/en-us/resource/assets/casestudies/whirlpool_case_study.pdf

Section 3: Preparing Your Business for Unified Communications

With more than a decade of experience helping businesses implement advanced communication applications, our Unified Communications Practice teams within Avaya Global Services are focused exclusively on helping companies plan, deploy and seamlessly integrate every aspect of their UC initiatives.

As we work with companies that are interested in utilizing Unified Communications, we frequently come across two misconceptions that have made many businesses reluctant to move forward.

Misconception #1

"Unified Communications is just too big – or too expensive – for us to tackle…"

While it is true that fully deployed UC cuts across all aspects of business communications, the overwhelming majority of companies that we have worked with have approached the adoption of Unified Communications in a phased approach. In point of fact, the only technological prerequisite for beginning a migration to UC is an existing IP network infrastructure, which provides the necessary foundation for all the functionality that was discussed earlier in the executive brief. Since nearly every area of functionality – Unified Messaging, multi-media conferencing, corporate directories, instant messaging – can be implemented separately and provides genuine business value on its own, each enterprise can completely throttle the speed of their UC adoption in keeping with the company's specific budget and business objectives.

Misconception #2

"We have a mixed environment of technologies and vendors that we will never get to interoperate…"

In our experience, multi-vendor and mixed technology environments are more the rule than the exception. As enterprises have migrated to IP, for instance, most businesses have replaced their TDM PBXs with IP Telephony systems under an incremental, multi-year adoption model, as opposed to replacing all of the old equipment in a single flash cut. Likewise, it is common for enterprises to have communication infrastructures and applications that span multiple vendors. Rather than replace these varied elements with a single-vendor solution, or wait until every last TDM PBX has been retired, our Unified Communication Practice engineers and consultants have found that it is far better to integrate these mixed technology/mixed vendor environments than delay the benefits that UC can bring the business.

Even when an enterprise has decided that Unified Communications is right for their business, the open questions and tasks that need to be performed can seem daunting. Although they see the value that UC can bring, many companies are stuck in the "value gap" -- uncertain how to ensure a successful deployment.

Getting there from here
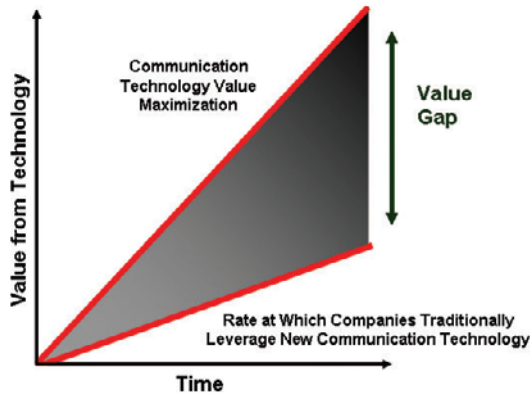
- **How** do I start?

- **How** do I know if it's possible in my environment?

- **Can** I minimize risk and disruption to my business?

- **Wha**t do I need to do to plan?

- **How** do I intefgrate new technologies into my busines to get the most value?

So, how do you close the Value Gap? Whether a business engages its own internal IT team to perform the critical tasks, brings in a trusted expert partner to handle them, or uses a combination of internal and external resources, there are several "must do's" that are critical for a successful UC initiative.

The Planning Essentials

Ensuring a successful introduction of Unified Communications is similar to achieving a smooth migration from TDM to IP in that both types of initiatives demand rigorous planning that includes a clear understanding of business needs and desired outcomes, as well as the necessary assessments of the existing in-place technology.

Establish and Empower an Experienced Project Manager

Plain and simple, if a UC initiative is to be successful, it needs a responsible individual to oversee all aspects of the effort, including:

- Creating and maintaining the project plan and milestone schedule

- Managing and coordinating all activities and personnel associated with the project

- Documenting and proactively communicating the status of those activities

- Ensuring tight change control

Conduct a Thorough Needs Assessment

A needs assessment determines and documents what the business wants to accomplish with UC, how those needs map to the company's overall business strategy, and the existing and desired end-user environment. The assessment provides an essential foundation for the design of a UC solution that's optimized to the individual enterprise, and includes:

- Determining the functional UC capabilities required by the overall business, individual departments and specific work groups, and worker types, to include degree of worker mobility, collaboration intensity and degree of end-customer interaction

- Specifying and prioritizing the critical timelines/phases for delivering those capabilities

Assess the Current State of Business Communications

Once the needs and expectations of the business are clearly understood, the appropriate technical resources are enlisted to conduct an objective site-by-site communications assessment and inventory that documents:

• Current end-user practices – in-office, mobile and remote worker

• All active communications-dependent business processes

• Network architectures

• Embedded infrastructural components, devices and applications by vendor, vintage and configuration

• Existing LAN / WAN connectivity, remote access mechanisms, power/cooling/ventilation capabilities and available equipment space

Determine the Optimum UC Approach

A comparison of the documented business requirements and strategy against the audit findings provides the team's UC specialists in solution architecture, engineering and integration with an essential blueprint or roadmap that can then be used to design the actual hardware and software solution. Critical activities in this "blueprinting" phase of the planning process include:

• Conducting an assessment of the existing IP network to verify appropriate capacity and quality of service performance necessary for the new UC solution

• Ensuring organizational engagement by identifying key stakeholder groups and functions and involving them in the requirements gathering and timetable development. From the company's internal IT groups, disciplines that will typically need to be tightly involved with the development of the UC solution include the network architects, as well as senior members of the security, network, directory, desktop computing, help desk and business application groups.

• As a follow-on to the earlier needs assessment, perform a detailed segmentation of your user communities. It is vital to end-user acceptance of the solution to ensure that the individual requirements and preferences of different work groups are incorporated in the solution to ensure optimum utilization and productivity gains.

• Identifying the in-place infrastructural elements, devices and applications that can be re-utilized in the new UC solution

• Determining the means to properly integrate those components into the proposed architecture

• Specifying the new components that will be required

• Addressing the needed reliability, security, scalability, business continuity and regulatory compliance requirements

• Specifying the approach for handling lifecycle maintenance and management of the solution

• Reviewing the roadmap, required phases, proposed timeline and estimated budget with leadership as well as affected organizations and workgroups

Feasibility studies are another aspect of the capabilities assessment phase that can deliver great value. Here, the implications and impact of implementing different applications are examined before committing to a final solution. Feasibility studies allow the business to assess end-user communication "what-if" scenarios in a risk-free way.

Design the Actual UC Solution and Deployment Plan

Once any needed modifications have been incorporated and leadership approval has been given, the final step in the planning phase typically involves:

• Developing the detailed, implementable solution that meets the functional and strategic needs of the business, conforms to required budgets and milestones, maximizes appropriate re-use of existing investments, and addresses the needed level of disaster preparedness and business continuity

• Optimizing the solution design and configuration for maximum performance, interoperability and business impact at each stage of implementation

• Specifying the deployment sequence by site and capability, including the exact mechanisms. and schedules for transitioning existing communication capabilities and configurations to the new design, and addressing the needs for "coexistence" during the time when some end-users have been cut over to the new solution, and others have not

• Detailing contingency plans for each phase of deployment should unexpected challenges arise

One last consideration when formulating UC deployment timelines… In those enterprise initiatives where our UC engineers and consultants have been asked to validate internally-developed implementation plans, we frequently find that the proposed timelines are too aggressive. Given the importance in UC solutions of ensuring transparent interoperability of hardware, software and applications, allow for this added complexity by establishing commitments to leadership and stakeholders that are realistic and attainable.

Section 4: Moving On to Deployment – and Beyond

As was mentioned earlier in the executive brief, the majority of enterprise IP implementations have been undertaken in incremental steps rather than in single enterprise-wide cutovers. The experience of our Unified Communications Practice teams suggests a very similar approach is fast becoming the norm in UC deployments as well.

Similar to IP migrations, most UC initiatives are divided into phases that correspond to the cutover of individual enterprise locations, or to the cutover of specific workgroups within a location. When an enterprise elects to have its own internal resources play a central role in the deployments, it is common for the new UC capabilities to first be trialed within the IT organization prior to a broader rollout. With this approach, IT management and technical staff can learn about UC in a hands-on, learn-as-you-go model.

Regardless of whether a business handles the deployment themselves or utilizes an external UC expert, we have seen that a phased deployment is the approach typically best matched to most enterprise budgets and technology adoption "comfort zones."

A Critical Deployment Checklist

A best practices approach plays an equally critical role in solution deployment as in the planning phase. Having developed a well-engineered solution that will meet the needs, budget and time requirements of the business, the implementation phase moves that blueprint into reality. The UC Project Manager must now focus on several essential activities that will collectively determine the perceived success of the initiative.

Validate Readiness

Before proceeding with the physical installation of the solution in any particular phase, the Project Manager must assess "go/no go" readiness on a site-by-site, including:

• The ordering, receipt, configuration and testing of all new hardware, software, firmware, inside wiring and LAN / WAN connectivity components

• The development and testing of all required interoperability and networking attributes of the solution – whether generally-available or completely custom elements

• The committed availability of required specialized engineering personnel or Service Provider technicians

• Organizational readiness: are technology and user stakeholders informed and ready for the initiative? Do they know what is expected of them? Do they know how they will be impacted? Does everyone know what their dependencies are?

• Examine the directories that exist and the required coordination and collapsing of directory data bases

• Map out the user identities and how that maps to their strategic direction and company growth plans

• Environment readiness: are key technical dependencies such as release levels of component applications and operating systems in place? Is the network ready?

In addition to these technology-oriented activities, internal knowledge transfer is a vital aspect of deployment readiness. All affected personnel – from IT administrators to end-users – must receive the appropriate training to ensure familiarity and comfortability with the new solution. Effective approaches range from "train the trainer" programs within the user communities that will be cut over, to demo days staffed by knowledgeable personnel in the lobby or office cafeteria. Once deployment has begun, all help desk tickets should be carefully reviewed to determine areas where additional training might be needed. Bottom line, the "human factor" in technology rollouts remains one of the largest variables that determine whether or not a new solution is rapidly adopted and used by the intended stakeholders.

Additional Deployment Phase Requirements

Once technical and stakeholder preparedness has been assured, the physical installation process takes place; utilizing its own set of specialized best practices around use of appropriate tools, performance diagnostics and acceptance testing. In addition to the actual turn-up, there are several other essential dynamics that need to be addressed in the deployment and post-deployment phases:

• Ensure a help desk capability is in place. Prepare for the inevitable end-user questions and trouble tickets that naturally accompany any new technology introduction. While help desk activity is typically the most intense in the days following the cut-over, expect that you will need to have UC experts assigned or available to the help desk on a going-forward basis. To minimize the drain on your help desk, ensure that power users and key employees have received specialized training. This training can assume different forms and approaches. For executives it's important to completely train their administrative assistants to understand the key applications and user instructions. For remote workers, on-line collaborative group sessions and web training can be very effective.

- Given the central role that Unified Communications will play in the workflow of your business, have a well-thought-through plan for maintaining and managing all of the hardware and software components of the UC solution. In addition to the core monitoring and trouble resolution capabilities, be sure to internally or externally establish the needed competencies to perform the other critical lifecycle functions, including software/firmware upgrades, performance optimization, configuration management and continuous attainment of internal stakeholder service level commitments.

- Lastly, since the capabilities associated with Unified Communications will continue to evolve, ensure that the use of UC applications is periodically revisited and included as a recurring element in the regular business planning process. Since UC will transform the business and user behavior, audits should be conducted subsequent to deployment to assess impact and degree of adoption. Leverage the successes; identify and address root cause issues impacting adoption; identify requirements for subsequent phases

Considerations on Assembling the Optimum Team

While there are certainly businesses with the in-house skills required to successfully plan, deploy, maintain and manage a total Unified Communications solution, recent research from industry analyst firm IntelliCom Analytics suggests that totally self-sufficient enterprises are decidedly in the minority.

In their findings, IntelliCom recommended that every enterprise considering Unified Communications first conduct a self-assessment to determine those aspects of the full UC lifecycle that can be handled internally, and those that will require additional expertise. When an enterprise determines that an external partner is needed, the IntelliCom research underscored five key considerations for choosing the optimum partner, and found Avaya Global Services to be in the highest tier of providers that deliver complete Unified Communications solutions using best practices methodology and tools[4].

1	**Given that most enterprise infrastructures are multi-vendor – ensure that your prospective UC partner can show evidence that they are highly experienced in working with core interoperability standards like SIP, and can also point to concrete working relationships and development initiatives with other industry providers.**
2	**Although many of the components that go into UC solutions are "off-the-shelf", high performance UC solutions typically involve some degree of custom development – ask prospective partners to show evidence of their application development skills.**
3	**With the increasing integration of systems, applications and devices that come with UC, network security takes on even greater importance – insist that prospective partners provide you with enterprise references that demonstrate their skills in security assessment, solution development and implementation.**
4	**While separate vendors can be chosen to provide specific components of the UC solution, most enterprises find that choosing a single services or integration support vendor delivers higher levels of accountability – if a vendor indicates that they intend to sub-contract certain activities to a 3rd party, ensure that they can do so in a way that's completely transparent, and with a high degree of overall resource continuity.**
5	**Although there is a time and a place for technology generalists, Unified Communications is not one of them – ensure that you're your prospective partner has specialized UC expertise and experience.**

[4]IntelliCom Analytics: IntelliCom Enterprise Intelligence Program, April 2007

About Avaya

Avaya delivers Intelligent Communications solutions that help companies transform their businesses to achieve marketplace advantage. More than 1 million businesses worldwide, including more than 90 percent of the FORTUNE 500®, use Avaya solutions for IP Telephony, Unified Communications, Contact Centers and Communications Enabled Business Processes. Avaya Global Services provides comprehensive service and support for companies, small to large. For more information visit the Avaya Web site: **http://www.avaya.com.**

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