Unified Communications Improves Business Outcomes, Lowers Costs, and Enhances Environmental Sustainability

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Microsoft Information Technology (Microsoft IT) used a business value framework developed by Forrester Research to more precisely measure the overall business impact of unified communications (UC) at Microsoft. The analysis showed that the UC solution at Microsoft helped the company save more than $215 million US annually and improved the way that employees work. Based on the outcome of this analysis, Microsoft will continue to use this methodology to justify investments in UC technology.

Customer Profile
The vision of Microsoft Corporation, as the worldwide leader in software for business and personal computing, is to enable people and businesses throughout the world to realize their full potential. Microsoft employs 89,000 people and had revenues exceeding $62 billion for the year ending June 2010.

Situation
Microsoft IT used deployment goals and customer satisfaction results to measure the success of its unified communications deployment in 2010. However, to justify future upgrades, the organization required a methodology to measure the business value of the solution.

Solution
Microsoft IT used a business value framework from Forrester Research to estimate the value of the unified communications deployment to the organization.

Benefits
• Validation of the Forrester methodology
• Facilitation of communications between Microsoft IT and business groups
• Valuable benchmark data for future business cases

• IM and presence. Microsoft users send more than 97 million instant messages a month. Message counts have grown month over month, particularly because of the interoperability between the communication solution and Microsoft® Office 2010 and Microsoft SharePoint® Server 2010.
• Desktop sharing. Employees have quickly adopted applications and desktop sharing capabilities for impromptu collaboration and meetings. Employees participate in more than 300,000 sharing sessions per month.
• Conferencing. All Microsoft users are enabled for audio, video, and web conferencing by default. Users currently conduct about 3,000 meetings a month through the Microsoft Office Live Meeting hosted service and 134,000 web conferences per month through Microsoft Office Communications Server 2007 R2 and Microsoft Lync Server 2010. Microsoft IT also deployed more than 2,400 Polycom CX-5000 video-conferencing devices to offices around the world to support video conferencing.
• Voice. Microsoft has 80,000 employees globally who conduct more than 7.6 million calls a month by using the voice capabilities of the Microsoft UC solution.
• Unified messaging. Currently, 90,000 users in 80 offices worldwide use Microsoft Exchange Server 2010 Unified Messaging. These users receive messages in their Microsoft Office Outlook® Inbox and can access their email messages and calendar information by telephone.
Microsoft IT measured the success of this project through deployment and usage metrics and through customer satisfaction surveys. Though Microsoft IT felt that the project yielded significant economic benefits, the team wanted to find a methodology to measure and track these benefits. The team also analyzed the expected benefits from a future UC solution upgrade to support its deployment.

Solution

Microsoft IT decided to use the business value framework that Forrester Research developed. A business value framework identifies the most important benefit areas for a solution and provides equations to calculate these benefits. Business value frameworks typically result in a business case that contains the costs and benefits of the solutions and financial metrics derived from these cost and benefit numbers.

Forrester used its Total Economic Impact methodology to develop the framework. Forrester conducted an extensive analysis of Microsoft UC deployments at 15 companies to generate the cost, benefit, and risk assessments used in the framework. The costs section includes the entire investment necessary to deploy the solution. Benefits represent the value to the organization for both IT and business units. Forrester uses risk assessments to measure the uncertainty of the cost and benefit numbers. In this case, Microsoft IT was measuring costs and benefits that it had already achieved, so it did not need the risk assessments.


Cost Framework

The cost framework includes the categories of software, hardware, deployment and training, and administration and maintenance. Microsoft IT estimated these costs specifically for the Office Communications Server 2007 R2 and Exchange Server 2010 Unified Messaging deployment. To prepare a complete analysis, Microsoft IT used standard Microsoft pricing for Enterprise Agreements to estimate software costs and estimated deployment costs based on a single deployment after a product launch. Because this was a software upgrade rather than a new deployment, Microsoft did not include administration and maintenance costs.

The deployment of Office Communications Server 2007 R2 at Microsoft presently includes more than 1,200 servers and 60 gateways acquired at a cost of about $4 million. Users have received 50,000 IP phone devices and 2,400 Polycom CX-5000 video-conferencing devices at a cost of $16.6 million. Microsoft IT estimated migration and deployment costs at $1.1 million. The software-and-services costs of $42 million over three years are based on an Enterprise Agreement licensing program at enterprise retail pricing. Table 1 lists these costs in detail.

Note: In the cost framework, estimates for migration and deployment costs assumed that the solution would be deployed after the software was officially released. Microsoft IT actually deploys software and runs pilot programs throughout the product development cycle.
Unified Communications Improves Business Outcomes, Lowers Costs, and Enhances Environmental Sustainability

Table 1. Deployment Costs of Office Communications Server

<table>
<thead>
<tr>
<th></th>
<th>Year one</th>
<th>Year two</th>
<th>Year three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure hardware (server and gateway)</td>
<td>3,000,000</td>
<td>500,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Phone devices</td>
<td>12,600,000</td>
<td>2,000,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Software and services</td>
<td>14,150,000</td>
<td>14,150,000</td>
<td>14,150,000</td>
</tr>
<tr>
<td>Migration and deployment</td>
<td>900,000</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td><strong>Total cost</strong></td>
<td>30,650,000</td>
<td>16,750,000</td>
<td>16,750,000</td>
</tr>
</tbody>
</table>

The deployment of Exchange Server 2010 Unified Messaging consists of 12 servers and 160 gateways acquired at a cost of $520,800. Microsoft IT estimated migration and deployment costs of $260,000 for this solution. Microsoft IT estimated software costs based on what a new Enterprise Agreement customer would pay for software licenses and software assurance. Licensing costs of $7.8 million over three years cover the costs for server licenses and Exchange Enterprise client access licenses (CALs) for the 90,000 users currently enabled. Table 2 lists these costs in detail.

Table 2. Deployment Costs of Exchange Server Unified Messaging

<table>
<thead>
<tr>
<th></th>
<th>Year one</th>
<th>Year two</th>
<th>Year three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server hardware</td>
<td>520,800</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Software and services</td>
<td>2,610,000</td>
<td>2,610,000</td>
<td>2,610,000</td>
</tr>
<tr>
<td>Migration and deployment</td>
<td>260,000</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Total cost</strong></td>
<td>3,390,800</td>
<td>2,610,000</td>
<td>2,610,000</td>
</tr>
</tbody>
</table>

Benefit Framework

The Forrester framework identifies many potential benefits from unified communications that can be quantified. Microsoft IT also modified the categories, where required, to reflect technology gains of the solution, and it added a category for environmental impact to reflect the importance of sustainability efforts on business decisions.

Microsoft IT did not quantify each of these benefit areas. In some cases, data was not available from the associated business group. When organizations apply a business value framework to their solutions, they need to identify which benefit areas are most applicable to their business and then work with the relevant departments to gather the required data. They also need to include additional measures specific to their industry or organization.

Table 3 lists the benefits that the methodology identified.
### Table 3. Summary of Benefits

<table>
<thead>
<tr>
<th>Benefit area</th>
<th>Estimated annual benefit</th>
<th>Metric</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Improved business outcomes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased end-user productivity (through improved communications)</td>
<td>$86,000,000</td>
<td>28 minutes per day per employee</td>
<td>Hours saved per day × workdays per year × cost per hour × percentage used for other activities</td>
</tr>
<tr>
<td>Increased end-user productivity (through avoided travel)</td>
<td>$17,000,000</td>
<td>Average of 45,600 trips avoided per year</td>
<td>Number of trips saved × average hours per trip × cost per hour × percentage used for other activities</td>
</tr>
<tr>
<td>Shortened sales cycles</td>
<td>$10,920,000</td>
<td>6.5% increase in proposals</td>
<td>Number of salespeople × revenue per proposal × increased number of proposals × profit margin</td>
</tr>
<tr>
<td>Faster project completion</td>
<td>Not quantified</td>
<td>Not applicable</td>
<td>Number of additional projects completed × revenue per project × profit margin</td>
</tr>
<tr>
<td>Ability to retain and attract employees</td>
<td>Not quantified</td>
<td>Not applicable</td>
<td>Number of employees × change in turnover rate × hiring cost per employee</td>
</tr>
<tr>
<td>Faster resolution of customer issues</td>
<td>Not quantified</td>
<td>Not applicable</td>
<td>Change in number of support calls × cost per call</td>
</tr>
<tr>
<td><strong>Reduced costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced travel costs</td>
<td>$92,000,000</td>
<td>Average of 45,600 trips avoided per year</td>
<td>Number of trips saved × average cost per trip</td>
</tr>
<tr>
<td>Reduced audio-conferencing costs</td>
<td>$8,000,000</td>
<td>95% reduction</td>
<td>Cost per minute × number of minutes used × percentage of reduction in minutes</td>
</tr>
<tr>
<td>Reduced IT infrastructure and administration costs</td>
<td>$1,050,000</td>
<td>$22 per office move</td>
<td>Reduction in cost per move × number of moves per year</td>
</tr>
<tr>
<td>Reduced real-estate and facility costs</td>
<td>$644,000 in one office</td>
<td>15% reduction in rent</td>
<td>Cost per square foot × square feet saved per person × number of people</td>
</tr>
<tr>
<td>Reduced voice-mail costs</td>
<td>Not quantified</td>
<td>$30,000 per new site</td>
<td>Cost to install or maintain per site × number of sites</td>
</tr>
<tr>
<td><strong>Environmental sustainability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced carbon dioxide (CO2) emissions</td>
<td>17,000 metric tons</td>
<td>100,000,000 miles in avoided airplane travel</td>
<td>Decreased airplane miles × CO2 per mile + decreased car miles × CO2 per mile</td>
</tr>
</tbody>
</table>
Improved Business Outcomes

Increased End-User Productivity

In a survey that Microsoft IT conducted, Microsoft users reported an average productivity gain of 28 minutes a day from using UC technology, which is a significant improvement from the 12 minutes per day that users gained by using Microsoft Office Live Communications Server 2005. The improvement can be attributed to additional features (such as integrated conferencing and desktop sharing), improved interoperation with other Microsoft Office products, and increased adoption by employees. To be conservative, Microsoft IT estimated that users apply only 10 percent of the time gained to other productive activities. Based on this estimate, Microsoft avoids an additional $86 million in employee costs.

The Microsoft Travel group has worked closely with the UC team since early 2008 to reduce the frequency of air travel. Microsoft Travel calculates that employees have avoided an average of 45,000 trips annually since the company widely adopted UC technologies. With an average travel time of nine hours for a round trip in 2008, employees have saved an additional 405,000 hours in travel time. Assuming that half of this time was recaptured for work-related activities, this time is valued at $17 million.

Shortened Sales Cycles

To estimate the benefits to sales cycles, Microsoft IT looked to the sales department, which has 1,800 account managers. These salespeople work on large accounts with long sales cycles and continually collaborate with technical specialists, customers, and partners to provide excellent customer service. The Microsoft sales department estimates that these account managers have increased the number of proposals that they generate by six percent because of UC technology. After factoring in the improved sales cycles according to the average deal size and win rate, the sales department estimates that these additional proposals generate an additional profit of almost $11 million annually.

Faster Project Completion

Software development teams at Microsoft are often located around the world to make the best use of available resources and to ensure that development work continues 24 hours a day. These teams use UC technology to communicate across geographic boundaries and create bonds between team members who may have never met in person. Development managers reported that projects finish faster, but at this time, this benefit cannot be directly tied to an increase in revenue for Microsoft.

Ability to Retain and Attract Employees

With unified communications, employees can work anywhere; they do not need to be in the office to be effective. Many Microsoft employees take advantage of the technology to work remotely in formal programs such as teleworking. Employees can also work remotely when inclement weather prevents travel to the office. Microsoft does not have enough information to accurately model the effect of these programs on employee retention at this time.

Faster Resolution of Customer Issues

Microsoft uses its own UC tools—such as the Microsoft Easy Assist program, based on Office Live Meeting technology—to solve issues for external customers. Because Easy Assist provides access to a user’s computer, Helpdesk operators can resolve complicated issues quickly. Although operators resolve issues faster by using UC tools, Microsoft did not quantify the impact of this benefit.
Reduced Costs

Reduced Travel Costs
Microsoft encourages all its employees to use UC solutions, particularly Office Live Meeting and Polycom CX-5000, to enhance collaboration and reduce the need to travel. Even though Microsoft has been using web conferencing as an alternative to travel for the past seven years, it continues to see reductions in travel as more people adopt the solution. Since the end of fiscal year 2007, Microsoft employees have reduced their air travel in terms of both total miles flown and number of trips per employee. The total miles per employee has decreased by an average of 10 percent over the past three years. By avoiding more than 45,000 trips per year on average, with an average cost of $2,050, the company has saved a total of $92 million in travel costs annually.

Reduced Audio-Conferencing Costs
The deployment of Office Communications Server 2007 R2 enabled Microsoft IT to provide audio-conferencing bridges for employees without using an external service provider. Microsoft IT developed a rollout plan. Based on this plan, the team estimated the cost to deploy and the number of users receiving the service each year. After transferring users from the existing hosted audio-conferencing service to Office Communications Server audio conferencing, the team expected about a 50 percent reduction in minutes over three years. The actual reduction in minutes by the end of the second year was 95 percent, which saved Microsoft nearly $8 million per year in conferencing fees.

Reduced IT Infrastructure and Administration Costs
Microsoft IT has seen administrative cost savings totaling $1.05 million annually from the voice deployments of Office Communications Server. Maintaining voice infrastructure in offices around the world is costly, and Office Communications Server helps reduce these costs. To reflect this cost savings, the internal charge to move an employee has decreased from $30 to $8, to obtain a savings of $22 per move. Microsoft has avoided completing an average of 48,000 moves per year since deploying enterprise voice capabilities.

Reduced Real Estate and Facility Costs
The switch to software-powered voice over IP (VoIP) has had a dramatic impact on the facilities team at Microsoft. Historically, the facilities team planned office space based on revenue projections—any forecast in revenue growth led to a forecast of an increase in required office space. Now, the facilities team tries to optimize existing office space rather than add new space.

With unified communications, employers can implement flexible office arrangements. For example, the Microsoft office in the Netherlands needed to address a shortage of office space. At the time, the leased floor area per person was 16.4 square meters (176 square feet) per person, and only 25 percent of employees shared desks. Rather than simply move everyone to a larger office location, the project team developed an office plan to accommodate more employees by using less space. The new building, which opened in April 2008, has no assigned desks and requires only 8.82 square meters (95 square feet) per person. Each employee can work anywhere in the office by using a laptop, headset, webcam, or smartphone and connecting to the network wirelessly or by plugging in at a desk. Meeting rooms contain Polycom CX-5000 devices for video conferencing. Microsoft has saved more than $640,000 per year at this one location.
The facilities team has since deployed flexible workspaces at more than 50 locations with an additional 30 locations in progress. At these locations, the facilities team has experienced an average 15 percent decrease in rent.

Reduced Voice-Mail Costs
With Exchange Server 2010 Unified Messaging, Microsoft has reduced the cost of providing voice mail at new office locations. For the previous unified messaging system, Microsoft had to install two voice cards at each office location, which resulted in a cost of approximately $30,000 per location. With Exchange Unified Messaging, the servers are centralized at data centers, and each server can handle many offices. For new offices, the only cost is for local gateways; each gateway costs approximately $7,000.

Environmental Sustainability
By implementing unified communications, Microsoft has enabled employees to reduce their environmental impact. Employees can telework more frequently and reduce how often they drive. Employees also frequently use web conferencing instead of traveling to meetings. Microsoft uses both the Office Live Meeting hosted service and Office Communications Server web conferencing to hold approximately 100,000 conferences every month. Microsoft Travel estimates that employees have avoided flying more than 100 million miles annually when compared with travel in 2007, saving 17,000 metric tons of CO2 annually.

Conclusion
Based on the Forrester methodology, Microsoft IT believes that the investment in UC technology has paid huge dividends for Microsoft over the years through improved business practices and reduced costs. By calculating the benefits received both within Microsoft IT and across the company, Microsoft IT learned that the investments made in UC technology were well spent.

Microsoft IT successfully measured the current financial benefits of the internal deployment of unified communications. With this project, Microsoft IT:

- Selected a methodology for justifying further UC investments.
- Improved communications between itself and business groups.
- Provided valuable benchmark data for future business cases.

Based on the business-case results, Microsoft IT is confidently moving forward with the deployment of Lync Server 2010. As of November 2010, more than 23,000 employees have tested a pre-release version of the software. These users benefit from the unified Lync client that simplifies the way they move between communication modes.

With the new deployment, Microsoft expects to see improved user productivity in addition to cost savings in several areas, including:

- **Administration.** With the unified client, Microsoft IT can use the standard installer rather than a customized script. The standard installer also installs the Outlook plug-in for Lync conferencing.
- **Hardware.** Lync does not require a separate mediation server for each gateway to a public switched telephone network (PSTN) connection.
- **Phone endpoints.** Lync has a wider selection of phones and headsets, which will lead to a lower average cost for endpoints.

“When we make the decision to relocate office space, we always think how we can provide a more efficient office. First, we look at how we are using the office today and is this the office we need in the future. Second, we look at how to make sure we are taking advantage of our products to increase our efficiency.”

Ed Folge
Area Portfolio Manager
Microsoft Corporation
• **Online meetings.** With a robust feature set and integration with Outlook, Online Meeting is a solid replacement for the hosted Live Meeting service.

• **Private branch exchange (PBX) replacement.** Lync incorporates additional telephony capabilities like call admission control, call park, and support for common-area phones. These capabilities make it easier for Microsoft IT to continue to use Lync as a replacement for PBX equipment at new locations and eventually retire its existing PBX systems.

Microsoft IT will track these cost savings and conduct user surveys to determine productivity gains from the Lync deployment as it continues. It will use this data in future business cases to determine the value of the Lync Server deployment.

**For More Information**

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