A Forrester Total Economic Impact™ Study

Commissioned By Microsoft

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February 2014

The Total Economic Impact™ Of Microsoft Lync 2013

Unified Communications Platform

FORRESTER®

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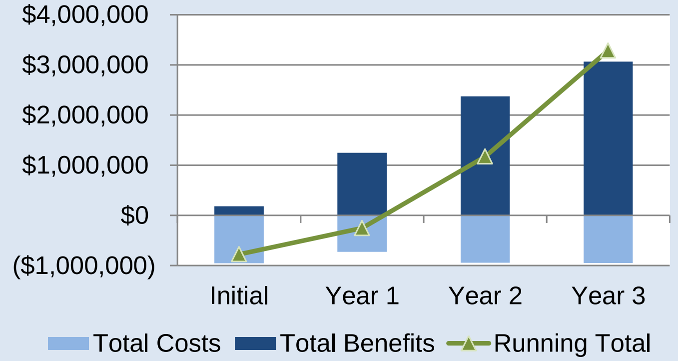
Executive Summary

In October 2013, Microsoft commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Microsoft Lync 2013 (Lync) on premises. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Lync unified communications platform on their organizations.

To better understand the benefits, costs, and risks associated with a Lync implementation, Forrester interviewed five customers and received survey responses from an additional seven organizations that have deployed Lync 2013. Lync is a unified communications platform that provides webconferencing, instant messaging, collaboration, VoIP, video, private branch exchange (PBX) replacements, and other services.

Figure 1

Three-Year Risk-Adjusted Results



Prior to Lync 2013, customers reported that they had various solutions in place, including previous versions of Lync, competing products, or no unified communications solution at all. The customers were looking for a solution to improve employee collaboration and efficiency as well as lower the total cost of ownership (TCO). With Lync, customers were able to achieve incremental benefits over their previous solutions, including the elimination of other technologies, increasing business and IT efficiency, and lower telephony costs. Said one IT director, "We achieved many additional benefits above and beyond what we realized with our previous unified communications tools. The service quality was also much better."

LYNC 2013 LOWERS TCO AND INCREMENTALLY IMPROVES TEAM COLLABORATION AND EFFICIENCY

Our interviews with five existing customers, survey responses from seven others, and subsequent financial analysis found that a composite organization (a mining company headquartered in Singapore) based on these companies experienced the risk-adjusted ROI[1], internal rate of return (IRR), benefits, and costs shown in Figure 1. This study only looks at incremental benefits associated with moving to an on-premises Lync 2013 implementation to include full voice integration from a previous version of Lync or competitor's solution. See Appendix A for a description of the composite organization.

The composite organization analysis points to three-year incremental benefits of nearly $6.86 million versus costs of $3.58 million, resulting in a net present value (NPV) of $2.46 million. This translates to benefits of $1,372 per user, total costs of $715 per user, and an NPV of $493 per user.

FIGURE 1

Financial Summary Showing Three-Year Risk-Adjusted Results

ROI/IRR: 79%/113%	NPV per user: $493	Payback: 14 months	Improved internal and external collaboration

Source: Forrester Research, Inc.

- **Benefits.** The composite organization experienced the following risk-adjusted, incremental benefits that represent those experienced by the interviewed and surveyed companies:

- **Eliminated $1.3 million of cost from previous PBX and webconferencing solutions.** The composite organization replaced nearly its entire previous PBX voice infrastructure with Lync. The savings include the cost of a needed upgrade of existing PBXs, adding PBXs to new offices, and annual maintenance. There was also savings from eliminating other webconferencing solutions.

- **Telephony costs reduced by $1.7 million.** The organization has operations in Asia, North America, and Europe. This resulted in a lot of international phone calls, conference call usage charges, and mobile phone international roaming charges. The benefit increased in years two and three as users became more comfortable using Lync instead of other telephony options.

- **Staffing optimization saved $3.9 million.** General, incremental productivity gains by all workers were not quantified for the study. Instead, some specific examples where the number of positions required could be reduced were identified. This can translate into hard savings by reducing contractor usage, reassigning resources to other positions, eliminating open or future positions, and reducing headcount. The number of PBX/communication solution system administrators was reduced as most previous systems were retired. Some general IT support desk positions were eliminated because of increased efficiency due to better use of communication tools. Some specialized resources no longer needed to be positioned at each location. Instead, an individual could remotely support a region from that area's headquarters. In total, 16 positions were eliminated by year three of the study.

> *"Using federation makes for faster and more efficient communication with customers. That gives us a business advantage over the competition.*
>
> ~Director, IT Operations

- **Costs.** The composite organization experienced the following risk-adjusted costs:

- **Internal labor was $1.5 million over three years.** The initial internal implementation labor cost was $222,000. Going forward, three internal FTEs supported Lync globally. These internal ongoing support resources are more than offset by the corresponding savings described in the benefits section of this study.

- **Approximately $550,000 in various types of professional services was used.** Professional services included implementation help during the initial rollout, training during the rollout and beyond, and an end-to-end support contract to help ensure the Lync systems and hardware were all working properly.

- **Slightly more than $360,000 was spent on hardware for an on-premises solution.** This consists of infrastructure hardware such as physical servers and PSTN gateways. Two-thirds of the hardware costs were for IP phones and softphone headsets for the 5,000 users.

- **Various software licenses and maintenance cost $678,000 over three years.** The largest category was for Lync 2013 Plus client access licenses (CAL). The organization already had the Enterprise CAL Suite and Office Professional Plus licenses, which include the Outlook and Lync clients. Various server licenses were also required.

- **Internet bandwidth was added with an annual price tag of $150,000.** Switching voice calls to the Internet and increasing the amount of videoconferencing increased the needed bandwidth at offices around the world. $90,000 in incremental bandwidth was used at the global headquarters, and the remainder was split between the different locations based on an average cost of $30 per user annually.

Disclosures

The reader should be aware of the following:

- The study is commissioned by Microsoft and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.
- Forrester makes no assumptions as to the potential return on investment that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the report to determine the appropriateness of an investment in Microsoft Lync 2013.
- Microsoft reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.
- The customer names for the interviews and survey were provided by Microsoft. Microsoft did not participate in customer interviews.

TEI Framework And Methodology

INTRODUCTION

From the information provided in the interviews, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing Microsoft Lync 2013. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision.

APPROACH AND METHODOLOGY

Forrester took a multistep approach to evaluate the impact that Microsoft Lync 2013 can have on an organization (see Figure 2). Specifically, we:

- Interviewed Microsoft marketing personnel, along with Forrester analysts, to gather data relative to Lync and the marketplace for unified communication platforms.
- Interviewed five organizations and surveyed seven organizations currently using Microsoft Lync 2013 to obtain data with respect to costs, benefits, and risks.
- Designed a composite organization based on characteristics of the interviewed organizations (see Appendix A).
- Constructed a financial model representative of the interviews using the TEI methodology. The financial model is populated with the cost and benefit data obtained from the interviews as applied to the composite organization.
- Risk adjustment is a key part of the TEI methodology. While interviewed organizations provided cost and benefit estimates, some categories included a broad range of responses or had a number of outside forces that might have impacted it higher or lower. For that reason, some cost and benefit totals have been risk-adjusted, and is detailed in each relevant section.

Forrester employed four fundamental elements of TEI in modeling the Microsoft Lync 2013 service: benefits, costs, flexibility, and risks.

Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix B for additional information on the TEI methodology.

FIGURE 2
TEI Approach

Source: Forrester Research, Inc.

Analysis

COMPOSITE ORGANIZATION

For this study, we conducted a total of five interviews with representatives from the following companies, which are Microsoft customers:

- **Global travel company.** The North American operations of a global travel company used Lync to replace its PBX. There were 1,500 users who were switched over. The company worked extensively with a Microsoft-certified solutions provider to make the transition go smoothly.
- **Translation services organization.** This company has a highly distributed workforce around the world that provides translation and interpretation services. The company has approximately 5,000 employees spread between 26 countries and 50 offices. All communications tools were replaced with Lync.
- **Special needs school.** This US school provides special learning environments for the visually impaired. It is expanding services to include purely web-based instruction around the country. Teachers and students use Lync as the primary tool for delivering instruction.
- **Energy exploration and generation company.** This company is headquartered in Asia with significant operations in the Middle East and North America. There are more than 3,000 employees using Lync, which was chosen as the global standard to replace all other communication solutions, including a PBX replacement. Federation services were very important for this organization.

"We now use Lync as the sole solution for everything — voice, desktop sharing, meetings, etc. Tying it all together makes it easier for the user and results in a better quality of service.

~Lync administrator

- **Architecture firm.** This firm has more than 1,200 Lync users at 24 locations around the world. Lync is used for all messaging, conference calls, and video calls. Lync is also used for all voice services at approximately half of the locations, and its rollout is continuing to the remaining offices. Federation with clients is very useful to increase collaboration and improve customer experiences.

We also conducted a survey that asked questions similar to the interviews. Seven companies using Lync 2013 responded, one from each of the following industries: electronics, manufacturing, telecommunication services, financial services, insurance, education/nonprofit, and sales & distribution. There was a mix of companies moving to Lync 2013 from competing solutions, a previous version of Lync, or no significant use of a prior collaboration solution.

Based on the interviews and surveys, Forrester constructed a TEI framework, a composite company, and an associated ROI analysis that illustrates the areas financially affected. The composite organization that Forrester synthesized from these results represents an organization with the following characteristics:

- Asian-headquartered mining company with operations throughout Asia, North America, and Europe. There were three primary offices which housed more than 4,000 of the 5,000 total users. The remaining locations consisted of mining facilities and smaller sales offices.
- At the beginning of the study there were 5,000 Lync users, mainly knowledge workers and mine managers. There are many more employees who do not use Lync, e.g., employees working in the mines.

- The company used a variety of communication and collaboration solutions prior to consolidating onto Lync. These included PBXs for voice calls at all offices of more than 50 employees, various teleconferencing and web/videoconferencing providers, and a lot of mobile phone usage.

INTERVIEW HIGHLIGHTS

The composite organization faced challenges and had results similar to the interviewed companies.

Situation

The composite organization had wound up with a wide range of communication solutions. It was decided to look for a single solution that could meet all of its needs and address the following problems:

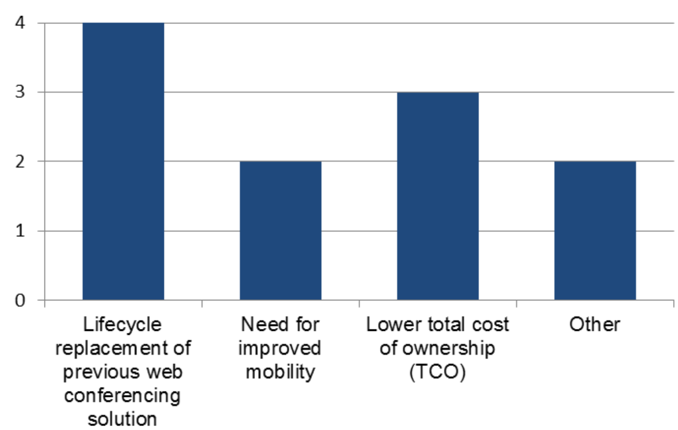
- The total cost of ownership for communication and collaboration solutions was too high.
- There was a greater need for collaboration, including with customers and other external parties. Many customers "insist on communicating only via Skype," so Skype integration would be very useful.
- The mix of solutions was confusing to users which reduced usage and hurt productivity. This was an especially acute problem for employees who traveled a lot.
- Several of the PBXs were due for a life-cycle replacement which would incur significant costs.

The IT organization, in coordination with the business leadership, decided that the way forward was to replace the myriad of communication and collaboration tools with a single solution to address these problems.

> *"When we learned about Lync, we decided to move our conferencing solutions back in-house and to standardize on it. The cost savings have been tremendous."*
>
> ~IT manager

FIGURE 3
Reasons Companies Were Looking For a solution

Survey Question: "What were the main reasons you looked for a new webconferencing/unified communications solution?" (select all that apply) *Number of responses.*



Source: Forrester Research, Inc.

Solution

The IT organization investigated various alternative solutions. One of the reasons Microsoft Lync 2013 was chosen, in addition to the quality of the offering, was because it was a single platform. "Microsoft was the only vendor with a single platform solution," said one interviewee. "It was better to go with this because making other point solutions work properly together would require a lot of integration and make ongoing support much harder and costly."

The on-premises Lync 2013 solution consisted of:

- Upgrade to Lync 2013 Plus CAL on top of the existing Lync and Outlook licenses already included in Enterprise CAL Suite and Office Professional Plus solutions deployed. This provided for the enterprise telephony features, including voicemail.
- Implementation of a high availability, on-premises solution with hardware on-site at the three largest offices. This included a PSTN gateway (with a high availability backup) and a server infrastructure at the global headquarters in Singapore and a survivable branch appliance (SBA) in the US and European headquarters.
- Of the 5,000 users, 70% use softphones with a headset, and 30% use IP desk phones.

Results

The interview and survey revealed that:

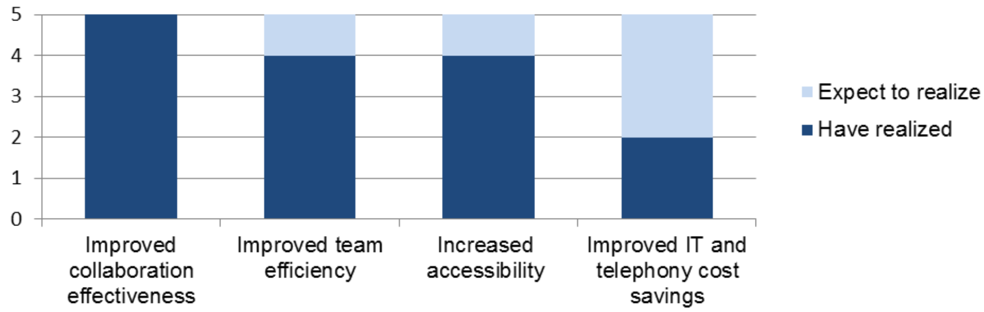
- **User productivity has improved significantly from better access to information and colleagues.** Lync has made it easier for users to reach out to colleagues for information, ideas, approvals, etc. This can now be accomplished more efficiently. One interviewee explained that "our workforce now works better together. People used to work much more in silos. Now it doesn't matter where someone works. We are trying to change the organization from physical teams to virtual teams consisting of the right individuals and information. This results in greater worker output."
- **Better support for mobile workers.** Home workers and others who travel a lot are now more fully integrated into the company. "For our road warriors, the ability to use Lync on their mobile phones is a huge benefit. Additionally, we have 1,500 employees who work from home. Now they don't need to drive into an office as often, which can be a huge waste of time."
- **Better system reliability and performance.** Having a single solution has resulted in better reliability and performance because there are fewer integration points and less risk of human error when performing system upgrades to webconferencing and collaboration solutions. "We definitely have better reliability, and I have more control over system performance."

> *"The benefits we have achieved with Lync 2013 have been incremental to the previous benefits realized with our earlier solutions.*
>
> ~IT manager

FIGURE 4

Benefits Surveyed Companies Are Seeing

Survey Question: “Which of the following benefit areas have you seen or expect to realize from your investment in Lync 2013?” (Select all that apply) Number of responses.



Source: Forrester Research, Inc.

BENEFITS

The composite organization experienced a number of quantified benefits in this case study:

- Eliminated PBX and webconferencing costs.
- Reduced telephony costs.
- Staff optimization.

Benefit No. 1. Eliminated PBX And Webconferencing Costs

The composite organization previously had a variety of communication solutions in place. Mainly, it had traditional voice telephone PBX solutions in place at all major offices. Some of the PBX infrastructure was due for a life-cycle upgrade which was expected to cost $200,000 during the initial period. PBX infrastructure at other locations would have been due for a life-cycle replacement in Year 2 and Year 3 of the study. These costs were eliminated along with annual maintenance of $50,000. When a new office is opened or relocated, a PBX would have to be installed at an average cost of $30,000. In a typical year, the composite organization was opening or relocating four new offices. The PBX solution still exists at a few of the offices. In most cases this is because of national regulations prohibiting the use of VoIP technologies. Where possible, these will also be retired in the future.

The organization also had a variety of webconferencing and audioconferencing solutions. These were replaced with Lync, which eliminated the annual license and usage costs. The savings on various webconferencing solutions was $100,000 in Year 1 and increased as users were weaned off of these other solutions. (Audioconferencing solutions are discussed in the next benefit category.)

The savings can vary depending on what previous technologies were in use, the number of locations, and the number of users/amount of usage. To compensate, this benefit was risk-adjusted and reduced by 10%. See the section on Risk for more detail.

TABLE 1
Eliminated PBX And Webconferencing Costs

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
A1	Avoided one-time PBX upgrade costs		$200,000		$200,000	$100,000
A2	Reduced annual PBX maintenance			$50,000	$50,000	$50,000
A3	Number of location openings			4	4	4
A4	Avoided PBX cost for added locations	$30,000*A3		$120,000	$120,000	$120,000
A5	Eliminated webconferencing solution			$100,000	$150,000	$200,000
Ato	Eliminated PBX and webconferencing costs	A1+A2+A4	$200,000	$270,000	$520,000	$470,000
	Risk adjustment			↓ 10%		
Atr	**Total (risk-adjusted)**		$180,000	$243,000	$468,000	$423,000

Source: Forrester Research, Inc.

Benefit No. 2. Reduced Telephony Costs

The composite organization moved most internal voice calls to Lync. In some countries this was prohibited for legal reasons. Two public switched telephone network (PSTN) gateways were installed in Singapore that connected Lync to the public telephone network. Additionally, the branch survivable appliances installed in the US and European headquarters also work as PSTN gateways. The cost of local calls and others not fully completed within Lync or Skype remained largely unchanged. However, nearly all long-distance and international calls within the organization were completed via Lync. This significantly reduced charges from the telephone companies. There was also a savings of per-minute usage charges that previous audioconferencing solutions levied. The benefit was smaller in year one as employees became more comfortable with using Lync and moved away from traditional phones and other audioconferencing solutions.

There was also a savings in international mobile phone roaming charges. As an international company, the composite organization has many salespeople and managers travelling internationally. By using Lync on the mobile phone via Wi-Fi connections, most of the international roaming phone calls could be completed with no public telephone company charges. These international travelers were also better connected to colleagues and family while on the road.

A 10% risk adjustment was applied since the volume of international, audioconferencing, and long-distance calls can vary based on size and type of organization.

TABLE 2
Reduced Telephony Costs

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	International mobile roaming		$75,000	$125,000	$150,000
B2	Long-distance and conference calls		$400,000	$500,000	$600,000
Bto	Reduced telephony costs	B1+B2	$475,000	$625,000	$750,000
	Risk adjustment		↓ 10%		
Btr	**Total (risk-adjusted)**		**$427,500**	**$562,500**	**$675,000**

Source: Forrester Research, Inc.

Benefit No. 3. Staff Optimization

As mentioned earlier and later in the study, general productivity gains were not included in the financial analysis. Instead, we identified specific examples where staffing requirements and structures could be optimized for the business and IT teams. This can translate into real savings by reducing contractor usage, reassigning resources that no longer have a full work load to other areas, eliminate open/future positions, and reduce current headcount. The savings below represent just a few of the examples shared by the interviewed companies. Readers should look at their own organization to identify areas where increased efficiency and collaboration can translate into hard costs savings from staffing optimization.

The first savings area identified was the number of system administrators required to manage the PBXs and other communication solutions. Previously, there were local administrators at each of the three main offices as well as others responsible for a region, e.g., offices in Western Europe. Many of the resources supporting the smaller offices were contractors. By consolidating onto Lync and removing most PBXs, system administration could be done in a much more centralized way. Also, the amount of effort was greatly reduced. Of the 10 FTE positions in the global team, two were reduced in year one and this increased to a reduction of four by year two of the study. Most of these savings were realized in contractor savings. The remaining team resources were able to take on other responsibilities with the freed up time.

The IT support desks that handled general IT trouble tickets were also able to be consolidated and reduced because of better communication and collaboration tools. It was no longer necessary to have an IT support representative in every major office. This meant that each support resource worked at closer to full capacity and also more efficiently. Four positions out of 25 were eliminated in year one of the study, and this increased to seven by year three of the study.

The third area is one example of how business users can operate more efficiently. The composite organization has several types of employees who have very specialized knowledge. One of these, slant drilling engineers, used to be needed on-site at every large mine operation. With improved collaboration, they can now work out of two centers of excellence around the world. This has made them more efficient and reduced the total numbers needed. This benefit was realized beginning in year two of the study once the new operating procedures were fully in place. The team was reduced by 10%, out of 30, in year two and an additional 13% in year three. These specialized resources were reassigned to other areas, avoiding additional hires.

A 10% risk adjustment was applied to be very conservative. In reality, there are most likely numerous additional examples where increased efficiency results in headcount savings. This would lead to an even larger benefit.

TABLE 3
Reduced Headcount

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
C1	PBX/communication solution system administrator positions removed/not added		2	4	4
C2	Annual fully burdened cost		$130,000	$130,000	$130,000
C3	IT support desk positions removed		4	6	7
C4	Annual fully burdened cost		$95,000	$95,000	$95,000
C5	Drilling specialist positions removed		0	2	5
C6	Annual fully burdened cost		$200,000	$200,000	$200,000
Cto	Reduced headcount	C1*C2+C3*C4+C5*C6	$640,000	$1,490,000	$2,185,000
	Risk adjustment		↓ 10%		
Ctr	**Total (risk-adjusted)**		**$576,000**	**$1,341,000**	**$1,966,500**

Source: Forrester Research, Inc.

Total Quantified Benefits

Table 4 shows the total of all benefits across the three areas listed above, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of $5.57 million, or approximately $1,115 per user.

TABLE 4
Total Quantified Benefits (Risk-Adjusted)

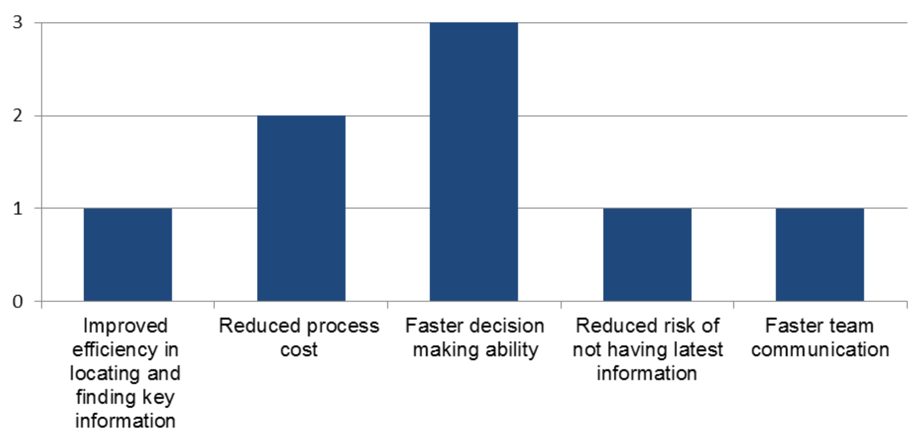
Benefit	Initial	Year 1	Year 2	Year 3	Total	Present value
Eliminated PBX and webconferencing costs	$180,000	$243,000	$468,000	$423,000	$1,314,000	$1,105,492
Reduced telephony costs		$427,500	$562,500	$675,000	$1,665,000	$1,360,650
Staff optimization		$576,000	$1,341,000	$1,966,500	$3,883,500	$3,109,361
Total benefits	**$180,000**	**$1,246,500**	**$2,371,500**	**$3,064,500**	**$6,862,500**	**$5,575,503**

Source: Forrester Research, Inc.

Another important benefit related to some of the quantified benefits is a general increase in user productivity and team efficiency. This was not included in the financial analysis because it is normally viewed as a soft benefit and because the amount of incremental gains realized by moving from another communication solution to Lync 2013 can vary greatly from one organization to the next. Readers are strongly encouraged to consider ways that increased productivity can result in tangible cost savings and incorporate that into their own evaluation of the ROI of Lync 2013. Figure 5 shows some of the ways survey respondents have realized increases in productivity and efficiency.

FIGURE 5
Areas Where Team Productivity/Efficiency Has Improved

Survey Question: “What specific areas have seen an increase in team efficiency and productivity?” (select all that apply) Number of responses.



Source: Forrester Research, Inc.

COSTS

The composite organization experienced a number of costs associated with the Microsoft Lync 2013 solution:

- Cost No. 1. Internal labor.
- Cost No. 2. Professional services.
- Cost No. 3. Hardware costs.
- Cost No. 4. Software licenses.
- Cost No. 5. Additional bandwidth.

These represent the mix of internal and external costs experienced by the composite organization for initial planning, implementation, and ongoing maintenance associated with the solution. There is no line item cost for the IT operations team's ongoing support of Lync since this is smaller than would be required for the previous communication solution and a lot of the effort is outsourced to a professional services firm.

Cost No. 1. Internal Labor

The implementation of Lync consisted of a proof of concept (POC), deployment and configuration of the technologies into production, and a geographic rollout to the 15 locations around the world. The deployment was very straightforward. Three internal resources worked on this in addition to a professional services firm (described later). The entire project, from POC through rollout, lasted a half year.

Ongoing internal support of Lync is completed by three FTEs. These costs are offset by the reduction in support headcount for the previous communication solutions as discussed in the Benefits section of this study.

The time to fully deploy Lync 2013 solution can vary depending on the total size of the deployment, e.g., number of users and locations, features being implemented, and if a previous version of Lync was already in use. A 10% risk adjustment was applied to this cost category to account for these possibilities.

TABLE 5
Internal Implementation Labor

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
D1	POC — number of weeks		3			
D2	Lync setup — number of weeks		8			
D3	Geographic rollout — number of weeks		16			
D4	Total number of weeks	D1+D2+D3	27			
D5	Number of FTEs		3.0			
D6	Weekly fully burdened cost	$130,000/52 weeks	$2,500	$2,500	$2,500	$2,500
D7	Total internal implementation labor costs	D4*D5*D6	$202,500			
D8	Ongoing Lync support FTEs			3.0	3.0	3.0
D9	Annual fully burdened cost			$130,000	$130,000	$130,000
D10	Total internal ongoing support costs	D8*D9		$390,000	$390,000	$390,000
Dto	Internal labor	D7+D10	$202,500	$390,000	$390,000	$390,000
	Risk adjustment		↑ 10%			
Dtr	**Total (risk-adjusted)**		**($222,750)**	**($429,000)**	**($429,000)**	**($429,000)**

Source: Forrester Research, Inc.

Cost No. 2. Professional Services

The organization used professional services from a Microsoft partner for implementation, training, and some ongoing support. A typical professional services contract for a deployment of the size described in this study is estimated to be $125,000. During the implementation and rollout, the consultants provided training to the system administrators and users. There is a small amount of additional training in subsequent years on new features and for new users. Lastly, the organization relies on the professional services firm to provide support beyond the internal resources. This consists of end-to-end support on the hardware/system integration as well as tier-two and tier-three user support.

This cost was risk-adjusted by 5%. It is unlikely that a similarly sized organization would experience considerably higher costs.

TABLE 6
Professional Services

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
E1	Implementation services		$125,000			
E2	Solution support			$90,000	$90,000	$90,000
E3	Training		$75,000	$20,000	$20,000	$20,000
Eto	Professional services	E1+E2+E3	$200,000	$110,000	$110,000	$110,000
	Risk adjustment			↑ 5%		
Etr	**Total (risk-adjusted)**		**($210,000)**	**($115,500)**	**($115,500)**	**($115,500)**

Source: Forrester Research, Inc.

Cost No. 3. Hardware Costs

The Lync 2013 solution was deployed with high availability in mind since it is considered a mission-critical application. The core infrastructure consisted of four physical severs which were virtualized to handle Windows, Lync, and SQL virtualized servers. These servers were located at the Singapore global headquarters.

Two PSTN gateways were installed at the Singapore global headquarters. One survivable branch appliance was installed at both the US and European headquarters. These also act as a PSTN gateway, ensuring that both Lync and traditional telephone communications would remain running if the Singapore infrastructure went down.

Seventy percent of the 5,000 users were issued with headsets and used Lync softphones on their computers; 30% were given IP desk phones. This ratio is constant for users added in subsequent years.

This installation represents a fairly typical one for a company of this size and geographic dispersion. Some organizations may decide not to put in place the high availability, redundant infrastructure which can reduce costs. A 5% risk adjustment was made to account for any cost overruns or a greater mix of phones over headsets.

TABLE 7
Hardware Costs

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
F1	Physical servers	4*$12,000	$48,000			
F2	PSTN gateway	2*$7,000	$14,000			
F3	Survival branch appliance	2*$3,500	$7,000			
F4	Total infrastructure costs	F1+F2+F3	$69,000			
F5	Infrastructure maintenance	F4*15%		$9,660	$9,660	$9,660
F6	Number of users added		5,000	150	150	150
F7	Number of IP phones added	F6*30%	1,500	45	45	45
F8	IP phone cost	F7*$80	$120,000	$3,600	$3,600	$3,600
F9	Number of softphone headsets added	F6*70%	3,500	105	105	105
F10	Headset costs	F9*$30	$105,000	$3,150	$3,150	$3,150
Fto	Hardware costs	F4+F5+F8+F10	$294,000	$16,410	$16,410	$16,410
	Risk adjustment			↑ 5%		
Ftr	**Total (risk-adjusted)**		**($308,700)**	**($17,231)**	**($17,231)**	**($17,231)**

Source: Forrester Research, Inc.

Cost No. 4. Software Licenses

License requirement can vary greatly in terms of which are required and at what price. This study uses Microsoft standard pricing and is based on the following assumptions which are typical for a large enterprise:

- The composite organization already owns Enterprise CAL Suite along with Office Professional Plus, which includes the Office Outlook and Lync clients.
- The composite organization currently uses Microsoft Active Directory as its enterprise user directory and Exchange as its enterprise email platform.
- This estimate is based on standalone pricing under EAS. Software assurance (three years) is included in the total.

The Lync 2013 Plus CAL license costs $37 per user annually. 5,000 licenses were purchased in the initial period, and 150 additional licenses were added in each year of the study. In addition, there are server licenses required for each of the virtualized servers. They consist of:

- 11 Windows Server Enterprise licenses.
- Three Lync 2013 Server licenses.
- Three SQL Server (2 cores) licenses.

Similar to hardware costs, the server license costs would be lower if a high availability infrastructure is not desired. Readers are encouraged to work with their Microsoft account manager to understand their organization's specific license requirements.

Since Microsoft standard pricing was used in these calculations and they include the high availability component, no risk adjustment was made to this cost.

TABLE 8
Software Licenses

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
G1	Lync 2013 Plus CAL	$37*I6[total number of users]	$185,000	$5,550	$196,100	$201,650
G2	Windows Server Enterprise license	$1,304*11	$14,344		$14,344	$14,344
G3	Lync 2013 Server license	$1,093*3	$3,279		$3,279	$3,279
G4	SQL Server (2 core) licenses	$4,121*3	$12,363		$12,363	$12,363
Gto	Software licenses	G1+G2+G3+G4	$214,986	$5,550	$226,086	$231,636
	Risk adjustment			↑ 0%		
Gtr	**Total (risk-adjusted)**		**($214,986)**	**($5,550)**	**($226,086)**	**($231,636)**

Source: Forrester Research, Inc.

Cost No. 5. Additional Bandwidth

Moving most of the voice traffic over the Internet increased the amount of bandwidth required. Additionally, there was an increase in bandwidth required for video, desktop sharing, etc. Taken all together, the composite organization saw an increase in bandwidth costs of $150,000 per year. This averaged out to $30 per user per year, so increased bandwidth at the global headquarters in Singapore was $90,000 ($30 x 3,000 users).

The amount of bandwidth required will vary greatly based on the number of users and how Lync is being used, e.g., a lot of videoconferencing can substantially increase the required bandwidth. The cost of bandwidth varies from location to location, so the reader should take these factors into consideration when estimating the increased bandwidth requirements. A 5% risk adjustment was applied.

TABLE 9
Additional Bandwidth

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
H1	Additional bandwidth			$150,000	$150,000	$150,000
Hto	Additional bandwidth	=H1		$150,000	$150,000	$150,000
	Risk adjustment			↑ 5%		
Htr	**Total (risk-adjusted)**			**($157,500)**	**($157,500)**	**($157,500)**

Source: Forrester Research, Inc.

Total Costs

Table 10 shows the total of all costs as well as associated present values, discounted at 10%. Over three years, the composite organization expects total costs to have a present value of a little more than $3.1 million

TABLE 10
Total Costs (Risk-Adjusted)

Benefit	Initial	Year 1	Year 2	Year 3	Total	Present value
Internal implementation labor	($222,750)	($429,000)	($429,000)	($429,000)	($1,509,750)	($1,289,610)
Professional services	($210,000)	($115,500)	($115,500)	($115,500)	($556,500)	($497,231)
Hardware costs	($308,700)	($17,231)	($17,231)	($17,231)	($360,392)	($351,550)
Software licenses	($214,986)	($5,550)	($226,086)	($231,636)	($678,258)	($580,911)
Additional bandwidth	$0	($157,500)	($157,500)	($157,500)	($472,500)	($391,679)
Total costs	**($956,436)**	**($724,781)**	**($945,317)**	**($950,867)**	**($3,577,400)**	**($3,110,981)**

Source: Forrester Research, Inc.

FLEXIBILITY

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for some future additional investment. This provides an organization with the "right" or the ability to engage in future initiatives, but not the obligation to do so. There are multiple scenarios in which a customer might choose to implement Lync 2013 and later realize additional uses and business opportunities. Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix B).

Using Lync 2013 makes organizations inherently more flexible through increased collaboration and the ability to initiate real-time interactions as needed. Users can also more easily work remotely from home, customer sites, or anyplace else with an Internet connection. Interviewees said:

- "Lync gives us more flexibility. We can change meetings on the fly."
- "Flexible working is the biggest benefit we've realized."

The interviewed companies were also looking at future uses of Lync that could deliver additional benefits. These included doing better least-cost international call routing, using Lync for telepresence rooms, tighter Skype integration, and better integration with SharePoint. None of these flexibility opportunities were included in the ROI analysis.

RISKS

Forrester defines two types of risk associated with this analysis: "implementation risk" and "impact risk." "Implementation risk" is the risk that a proposed investment in Lync 2013 may deviate from the original or expected requirements, resulting in higher costs than anticipated. "Impact risk" refers to the risk that the business or technology needs of the organization may not be met by the investment in Lync 2013, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for cost and benefit estimates.

Table 11 shows the values used to adjust for risk and uncertainty in the cost and benefit estimates. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

TABLE 11
Benefit And Cost Risk Adjustments

Benefits	Adjustment
Eliminated PBX and webconferencing costs	↓ 10%
Reduced telephony costs	↓ 10%
Reduced headcount	↓ 10%

Costs	Adjustment
Internal implementation labor	↑ 10%
Professional services	↑ 5%
Hardware costs	↑ 5%
Software licenses	↑ 0%
Additional bandwidth	↑ 5%

Source: Forrester Research, Inc.

The biggest risk mentioned by interviewees was transitioning from traditional PBX voice services to Lync voice over IP. The concern was for both user adoption and reliability. To mitigate the risk, the PBX was kept up and running for a couple of weeks after Lync went live in an office. This provided the time necessary to do full testing and to get users comfortable with the new solution. At that point, the PBX was retired.

Quantitatively capturing investment risk and impact risk by directly adjusting the financial estimates results provides more meaningful and accurate estimates as well as a more accurate projection of the ROI. In general, risks affect costs by raising the original estimates, and they affect benefits by reducing the original estimates. The risk-adjusted numbers should be taken as “realistic” expectations since they represent the expected values considering risk.

Financial Summary

The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, IRR, NPV, and payback period for the organization's investment in Lync 2013.

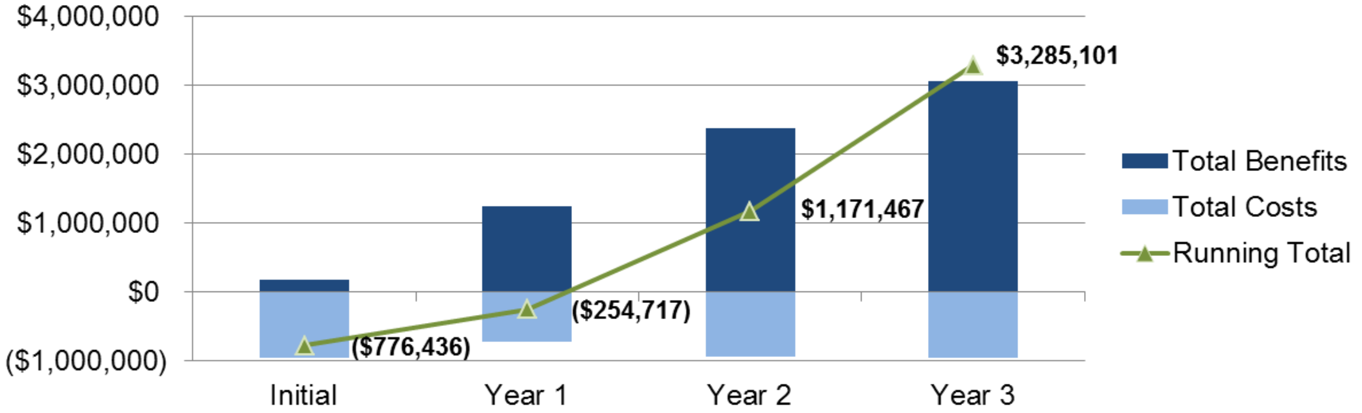
Table 12 below shows the risk-adjusted ROI, IRR, NPV, and payback period values. These values are determined by applying the risk-adjustment values from Table 12 in the Risk section to the un-adjusted results in each relevant cost and benefit section.

TABLE 12
Cash Flow: Risk-Adjusted

	Initial	Year 1	Year 2	Year 3	Total	Present value
Costs	($956,436)	($724,781)	($945,317)	($950,867)	($3,577,400)	($3,110,981)
Benefits	$180,000	$1,246,500	$2,371,500	$3,064,500	$6,862,500	$5,575,503
Net benefits	($776,436)	$521,720	$1,426,184	$2,113,634	$3,285,101	$2,464,523
ROI	79%					
IRR	113%					
Payback period	14 months					

Source: Forrester Research, Inc.

FIGURE 6
Cash Flow Chart (Risk-Adjusted)



Source: Forrester Research, Inc.

Microsoft Lync 2013: Overview

The following information is provided by Microsoft. Forrester has not validated any claims and does not endorse Microsoft or its offerings.

Microsoft Lync 2013 is an enterprise-ready unified communications platform. Lync connects people everywhere, on Windows 8 and other devices, as part of their everyday productivity experience. Lync provides a consistent, single client experience for presence, instant messaging, voice, and video. Lync 2013 supports multiparty HD videoconferencing, modern “touch first” capabilities for fast and natural communications, and work anywhere scenarios that do not require a VPN for encryption.

Lync federation scenarios bridge business networks, increasing the potential for companies of all sizes to communicate with each other, with partners and customers in new ways and in real-time. Lync 2013 users can connect to anyone on Skype, enabling rich communication with hundreds of millions of people around the world.

Appendix A: Composite Organization Description

For this TEI study, Forrester has created a composite organization to illustrate the quantifiable benefits and costs of implementing Lync 2013. The composite company is intended to represent a global mining company headquartered in Singapore and is based on characteristics of the interviewed customers.

The composite company has 5,000 users out of a much larger workforce of miners. The global headquarters are in Singapore (3,000 users) with a North American headquarters in Denver (750 users) and a European headquarters in London (500 users). In total, there are 15 locations, with the balance of the users working at mining sites or smaller sales offices. The company is growing, adding 150 new users and adding or moving four locations each year.

Prior to implementing Lync 2013, the company used a variety of communication and collaboration solutions. These included PBXs for voice calls, various teleconferencing and web/ videoconferencing providers, and a lot of use of mobile phones. All phone, teleconferencing, and videoconferencing solutions are being replaced by Lync. The one exception is in countries where VoIP voice traffic is prohibited by law.

In deploying Lync 2013, the composite company has the following objectives:

- Reduce the TCO for collaboration and communication solutions.
- Increase user productivity through greater collaboration and timely access to information. This included greater user adoption of technologies through simplification.
- Improve quality of service and solution uptime.

Appendix B: Total Economic Impact™ Overview

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

The TEI methodology consists of four components to evaluate investment value: benefits, costs, flexibility, and risks.

BENEFITS

Benefits represent the value delivered to the user organization — IT and/or business units — by the proposed product or project. Often, product or project justification exercises focus just on IT cost and cost reduction, leaving little room to analyze the effect of the technology on the entire organization. The TEI methodology and the resulting financial model place equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization. Calculation of benefit estimates involves a clear dialogue with the user organization to understand the specific value that is created. In addition, Forrester also requires that there be a clear line of accountability established between the measurement and justification of benefit estimates after the project has been completed. This ensures that benefit estimates tie back directly to the bottom line.

COSTS

Costs represent the investment necessary to capture the value, or benefits, of the proposed project. IT or the business units may incur costs in the form of fully burdened labor, subcontractors, or materials. Costs consider all the investments and expenses necessary to deliver the proposed value. In addition, the cost category within TEI captures any incremental costs over the existing environment for ongoing costs associated with the solution. All costs must be tied to the benefits that are created.

FLEXIBILITY

Within the TEI methodology, direct benefits represent one part of the investment value. While direct benefits can typically be the primary way to justify a project, Forrester believes that organizations should be able to measure the strategic value of an investment. Flexibility represents the value that can be obtained for some future additional investment building on top of the initial investment already made. For instance, an investment in an enterprisewide upgrade of an office productivity suite can potentially increase standardization (to increase efficiency) and reduce licensing costs. However, an embedded collaboration feature may translate to greater worker productivity if activated. The collaboration can only be used with additional investment in training at some future point. However, having the ability to capture that benefit has a PV that can be estimated. The flexibility component of TEI captures that value.

RISKS

Risks measure the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: 1) the likelihood that the cost and benefit estimates will meet the original projections, and 2) the likelihood that the estimates will be measured and tracked over time. TEI applies a probability density function known as "triangular distribution" to the values entered. At a minimum, three values are calculated to estimate the underlying range around each cost and benefit.

Appendix C: Glossary

Discount rate: The interest rate used in cash flow analysis to take into account the time value of money. Companies set their own a discount rate based on their business and investment environment. Forrester assumes a yearly discount rate of 10% for this analysis. Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult their respective organizations to determine the most appropriate discount rate to use in their own environment.

Internal rate of return (IRR) is the interest rate that will bring a series of cash flows (positive and negative) to a NPV of zero.

Net present value (NPV): The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.

Present value (PV): The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

Payback period: The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

Return on investment (ROI): A measure of a project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits minus costs) by costs.

A NOTE ON CASH FLOW TABLES

The following is a note on the cash flow tables used in this study (see the example table below). The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1. Those costs are not discounted. All other cash flows in years 1 through 3 are discounted using the discount rate (shown in Framework Assumptions section) at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations are not calculated until the summary tables are the sum of the initial investment and the discounted cash flows in each year.

TABLE [EXAMPLE]
Example Table

Ref.	Metric	Calculation	Year 1	Year 2	Year 3

Source: Forrester Research, Inc.

Appendix D: Supplemental Material

Related Forrester Research

"Build A Better Business Case For UC," Forrester Research, Inc., July 25, 2012

Appendix E: Endnotes

[1] Forrester risk-adjusts the summary financial metrics to take into account the potential uncertainty of the cost and benefit estimates. For more information see the section on Risk.