ShoreTel®
Brilliantly simple™

WHITE PAPER

ASSESSING THE BUSINESS AND FINANCIAL IMPACT OF IP UNIFIED COMMUNICATIONS SYSTEMS

The ShoreTel TCO Tool as a comprehensive analytical guide to the decision-making process

Table of Contents

1. Introduction

Today's business environment is characterized by pervasive global competition, more intense business cycles, faster flow of information and communication, and increased business complexity. The business communications challenges that arise in this new environment invariably impact business flexibility, responsiveness, customer service, supplier relations, and the overall ability of each business to compete and succeed. Organizations are rapidly adopting and expanding unified communications (UC) as a strategic response to the need to productively manage communications in a multi-device, mobile and distributed environment; extend the workspace beyond the traditional desktop; speed information access; and dramatically improve collaboration and decision making processes.

As market shifts drive continued changes in business requirements, and as technological capabilities evolve even more rapidly, companies are turning to more robust business and financial analysis methods to validate the investment in these new communications capabilities. Total Cost of Ownership (TCO) has become an important metric for assessing and tracking the risks, costs and benefits of UC solutions under evaluation. TCO enables organizations to compare competing solutions on an equal footing—like for like—and align those solutions with business needs, while understanding the effects of future requirements and functionalities.

The focus of the ShoreTel TCO Tool is to capture and assess all of the costs incurred and savings delivered by a state-of-the-art UC solution, for organizations of all sizes. This information can be used:

- As an important technological and financial guide to the decision-making process
- To provide sound empirical evidence to support the best UC technology choice, including product functionality and future services needs
- To help organizations determine future costs and plan for increased efficiencies
- To capture the organizational impact of product and system management complexity, as it varies across UC vendors
- To provide an objective measure of the total business impact of the UC purchase decision
- As a way to effectively compare the advantages between leasing and purchasing a UC system
- To build faster and more robust organizational consensus around the UC purchase decision

The purpose of this white paper is to present and discuss the ShoreTel TCO Tool—an analytical method that informs and accelerates the technology evaluation process by calculating and comparing the TCO of available IP-based UC systems.

ShoreTel
Brilliantly simple™

2. Industry Focus on Total Cost of Ownership

As organizations grow in both complexity and global reach, attaining consensus on technology purchasing decisions from key stakeholders has become increasingly time consuming and difficult. Yet organizations that can respond quickly to changing marketplaces and rapidly adopt technologies that improve business operations and processes have a distinct competitive advantage.

While it is virtually impossible to predict the exact results of a business decision, effective TCO analysis can help organizations choose and deploy UC solutions effectively, increasing shareholder value and rapidly improving business agility.

In today's economic environment, three industry factors are driving the adoption of TCO as a key criteria for enterprises considering a UC system purchase:

i. Shift from "technology" to "economic" buyers with voice over IP (VoIP) market maturity. The UC industry has seen a recent shift from early-adopter and technology-innovator decision makers, to organizations that are much more concerned with the direct financial impact of their infrastructure purchase decision. This latter group of organizations make their purchasing decisions based on the impact to their business and operational economics (process efficiencies, staff efficiencies, profit contribution etc.), rather than the elegance or power of the underlying architecture and technology. This shift is consistent with the general mainstream adoption and recent maturing of the UC industry.

ii. Larger enterprises are beginning to adopt UC. ShoreTel has seen rapid recent growth in the number of large enterprises (>500 phones) adopting UC for the first time. Such buyers generally employ dedicated IP telephony professionals who are more likely to purchase a UC system based on its broader financial impact on their business.

iii. Macro-economic uncertainty. Existing legacy time-division multiplexing (TDM) solutions have come under increased scrutiny in recent years as their maintenance costs increase, and as they increasingly fail to deliver the productivity benefits that are now offered by modern IP-based UC solutions. Periods of economic uncertainty often force a greater level of focus on these existing costs, and lead to a renewed urgency and attention on technology to drive out these inefficiencies. These same factors are forcing organizations and vendors to develop a robust, credible, complete, multiyear cost analysis to justify these investments, and choose the platform that will deliver on such cost-reduction promises.

ShoreTel
Brilliantly simple™

3. Design Principles for an Effective TCO Tool

ShoreTel has developed the TCO tool as a proprietary analytical assessment, designed to help business partners and organizations calculate and compare the TCO of alternative UC systems over multiple years. This information is key to understanding the costs, risks and benefits associated with a UC system purchase, and serves as a valuable guide to the buyer's decision-making process.

The TCO Tool was designed to be powerful, flexible and extremely easy to use, and was implemented with the following key design principles:

- Third Party Data. The tool makes exclusive use of independent, third-party data for driving each of the TCO cost computations. This approach maximizes the credibility and audit-ability of the underlying cost data, and increases the likelihood that organizations will take ownership of the TCO computations and results, and the investment decisions that flow from such analysis.
- Configurable. The tool can be rapidly configured for any organization's exact circumstance, including industry vertical, number of phones and sites, analog mix, mix of North American and international sites, trunk density, etc. This ensures that TCO computations, while based on industry data, are adapted and configured for each organization's specific telephony requirements and circumstances.
- Customizable. Organizations are able to update or override cost assumptions or results at each calculation step. They also have the ability to define the measurement period. This ensures each organization's experience and/or actual cost data is incorporated into the final TCO result.
- Accuracy. ShoreTel continues to work with industry analysts to increase survey coverage, improve survey methodology, and increase the granularity of the underlying cost data.
- Full Competitor Coverage. The ShoreTel TCO Tool is able to provide simultaneous and parallel cost calculations for TDM and a number of UC solution alternatives, including those from Cisco, Nortel, Avaya and Mitel.
- Designed for both IT and Finance Users. In addition to providing valuable IT insight, the ShoreTel TCO Tool provides automatic calculation of key financial ratios that enable financial decision makers to rapidly assess the financial viability and attractiveness of each UC alternative.
- Easy to Use. The tool provides easily understood and compelling graphical output, linked automatically to the TCO cost results.

ShoreTel
Brilliantly simple™

At the early evaluation stage of a UC project, an in-depth TCO analysis provides valuable insight into the human factors around technology adoption, as well as longer-term technology implications. With a full TCO analysis, executives and other staff members are more likely to buy into the project, further ensuring their participation and commitment to the project's success.

Table 1:
TCO Cost Components

COST COMPONENT	SOURCE DATA	METHODOLOGY
Capital costs		
Switches, phones, software	Cisco, Avaya, Nortel, Mitel	• List price estimates calculated via explicit and comparative system configurations calculations for Cisco and ShoreTel, and by price-per-endpoint regression analysis (for each site) for Avaya, Nortel and Mitel • Tool accommodates discount-to-list estimates, or actual vendor product quotes (if available)
Network upgrade	Nemertes (network upgrade cost per endpoint, by competitor)	• Network upgrade capital cost computed from cost-per-endpoint survey data multiplied by number of endpoints • Results can be modified based on existing network status and/or actual vendor network upgrade quotes (if available)
System management tools	Nemertes (cost per user for network management tools for all UC vendors)	• Cost per endpoint survey data applied to number of endpoints • Results can be modified, overridden, or zeroed out
Operational startup costs		
Implementation (planning, installation, system stabilization)	Nemertes (planning, installation and trouble-shooting hours per end-point data, by UC vendor)	• Total implementation cost computed from hours-per-endpoint survey data for planning, installation and troubleshooting; labor rate assumptions and number of endpoints can be entered • Results can be modified, overridden, or zeroed out
Training	Nemertes (training requirements and cost per student data, all UC vendors)	• Staff training cost computed from student training requirements (number) and training cost per student for VoIP • Vendor-specific training quotes can be entered (if available)
Ongoing telephony system costs		
Support (support, software upgrades)	ShoreTel Partner Survey (UC vendor maintenance policies)	• Maintenance cost estimated from product list price calculation and vendor-specific maintenance cost policies • Software upgrade and maintenance costs can be overridden with vendor quotes (if available)
Moves, adds and changes	Nemertes (MACs per employee survey data, by vertical industry)	• MAC cost computed from number of employees, MACs per employee and organization-input labor cost • MAC cost may be modified/overridden with actual outsourced or internal headcount cost (if known)
Telephony system management	Alinean Research (system management headcount and salary cost, VoIP versus TDM)	• System management costs for all UC vendors computed from UC headcount savings (moving from TDM to VoIP) • System management cost for each UC vendor can be computed by inputting specific salary and headcount assumptions
Ongoing network costs		
T1, analog and tie line circuit costs	ShoreTel Partner Survey	• T1 and analog trunk costs computed from system configuration requirements • Results can be modified, overridden, or zeroed out
IP WAN bandwidth	Alinean Research (WAN cost, TDM versus VoIP)	• Standard WAN cost uplift assumed for VoIP compared with TDM (based on Alinean Research survey data) • Results can be modified, overridden, or zeroed out
Long distance charges (impact of Office Anywhere*)	Alinean Research (domestic and international long distance charges, % inter-office call minutes)	• Domestic and international long distance savings computed from inter-office call minutes, and average long distance charges • Impact of ShoreTel Office Anywhere is based on the organization's assumptions regarding use, and average toll reduction achieved using Office Anywhere
Electricity/energy costs	Environmental Protection Agency (EPA)	• Power and cooling costs are based on organization-input configuration requirements calculated for each UC vendor based on specific phone, server and switch requirements • EPA electricity costs may be modified

* ShoreTel Office Anywhere enables users to assign their extension to any other telephone or mobile device.

4. ShoreTel TCO Tool Components

Based on these principles and each organization's specific configuration data, the ShoreTel TCO tool computes and compiles the following system costs for each UC solution:

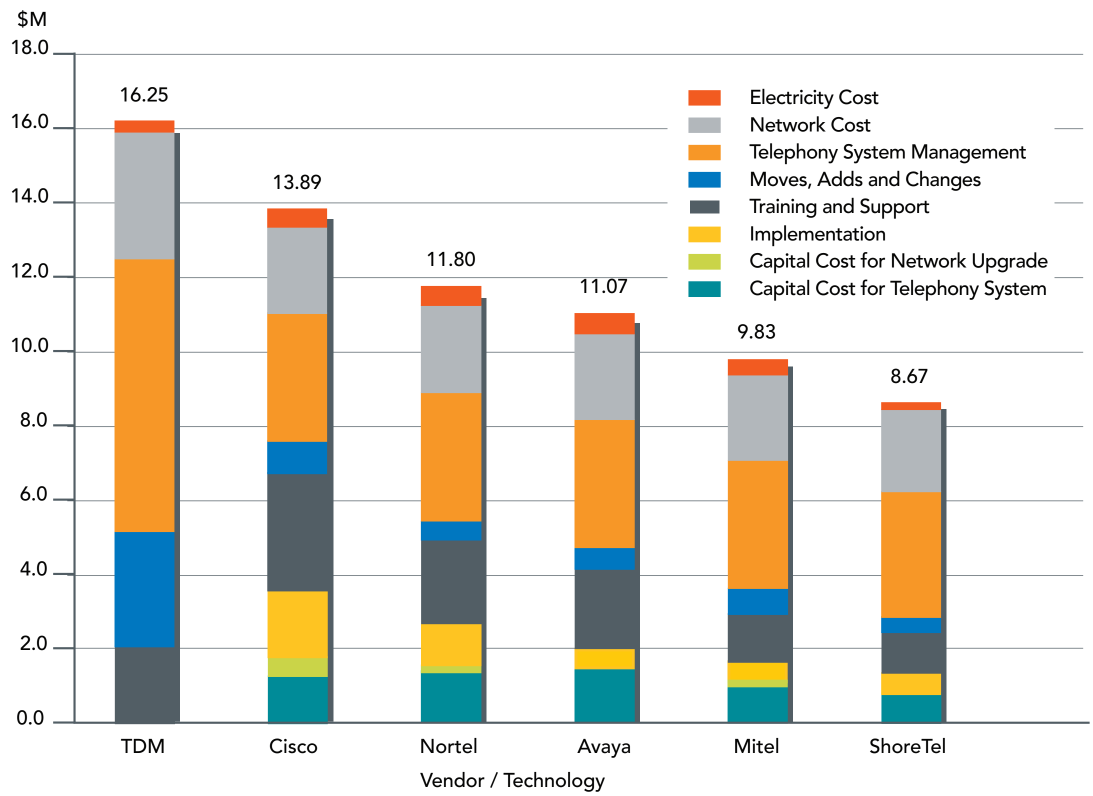
- UC system capital and replacement costs
- Network upgrade
- Operational start-up (including planning, installation, system stabilization and staff training)
- Ongoing support (including software upgrades)
- Moves, adds and changes (MAC)
- Telephony system management
- Costs associated with any system downtime
- Ongoing network costs
- Long distance charges
- Energy consumption and carbon footprint for UC solutions

ShoreTel
Brilliantly simple™

5. TCO Tool Results

To illustrate the value of the ShoreTel TCO Tool as an important guide in the purchasing decision-making process, the result of a 10-year TCO analysis for a large enterprise configuration (1,500 users across three sites) is detailed below. This is the VoiceCon standard "Large Enterprise" configuration, and assumes 1,250 users at a headquarters site, 200 users at a remote office, and 50 users at a satellite office. Site survivability was also an important requirement for all sites.

Graph 1: TCO Comparison of Major UC System Vendors (Pre-Tax)



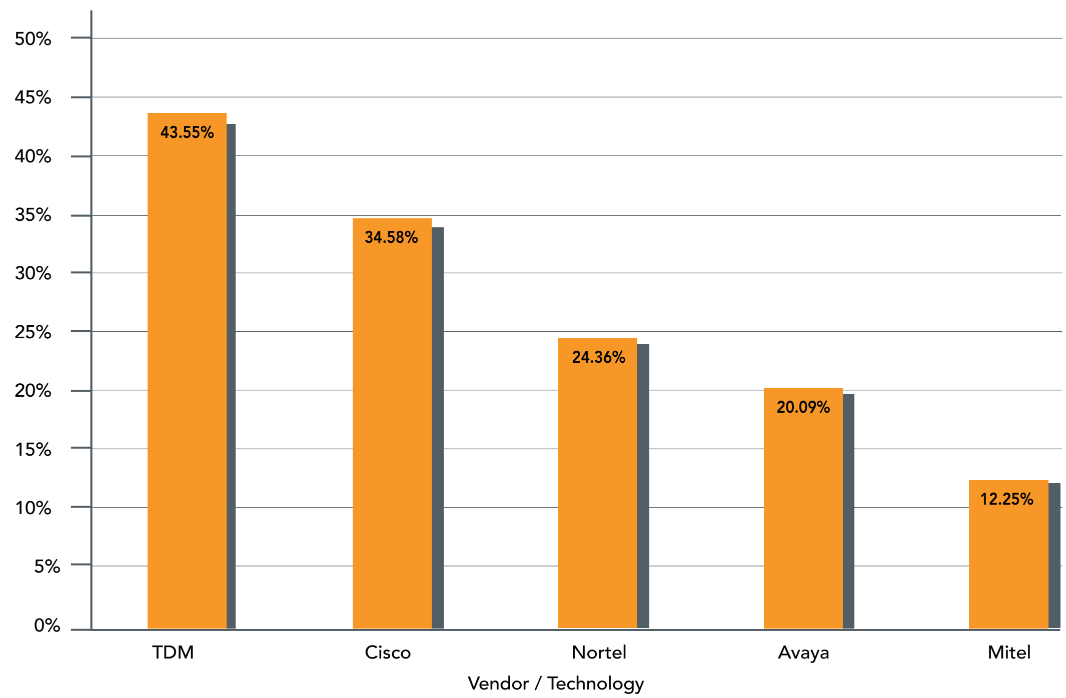
The TCO analysis combines all tangible up-front capital costs (including UC system, network upgrade, management tools and capitalized implementation charges); with annual recurring operating expenses (training and support; MAC and system management; system downtime; T1, analog, tie line circuit, IP WAN and long distance charges; and electricity costs).

The ShoreTel TCO Tool also enables direct cost comparisons between ShoreTel and selected UC alternatives. In the example noted, ShoreTel delivers a TCO equal to $8.67 million pre-tax/$5.64 million post-tax over 10 years, while the TCO for Cisco over the same period is $13.89 million pre-tax/$9.03 million post-tax—in other words, 60.2 percent greater than ShoreTel.

This analysis also demonstrates that initial system capital cost is only a minor component of the total cost impact that a UC platform can have on a business, and should therefore be of less importance in driving the final UC platform decision.

After accounting for all TCO components, ShoreTel delivers a TCO which is 12 percent less than Mitel, 20 percent less than Avaya, 24 percent less than Nortel, almost 35 percent less than Cisco and nearly 44 percent less than an existing TDM system. In other words, the calculated TCO for an existing TDM system over the same period is 87.4 percent more, and the TCO for Cisco over the same period is 60.2 percent more than the TCO of a ShoreTel UC system.

Graph 2:
ShoreTel Cost Reduction Advantage

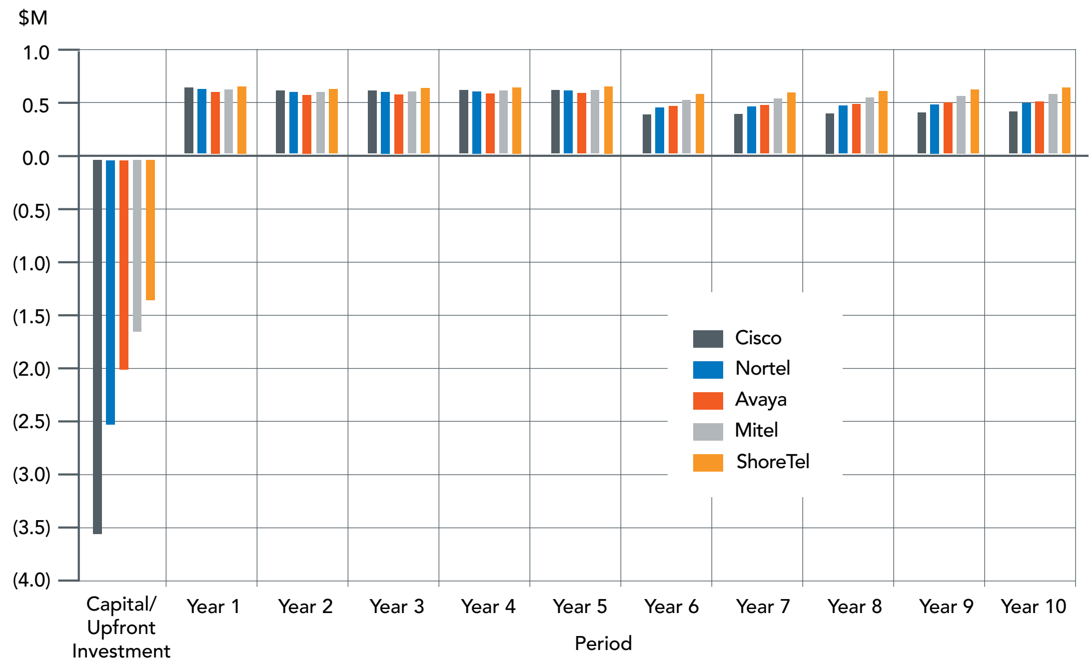


In Graph 3, explicit year-over-year incremental cash flows (incremental to existing TDM system operating costs) are presented for each UC vendor over a 10-year period. This illustrates how ShoreTel consistently requires the lowest up-front investment and drives the highest ongoing after-tax cost savings.

This analysis demonstrates ShoreTel has a TCO that is significantly less than the TCO delivered by existing TDM or competing UC solutions.

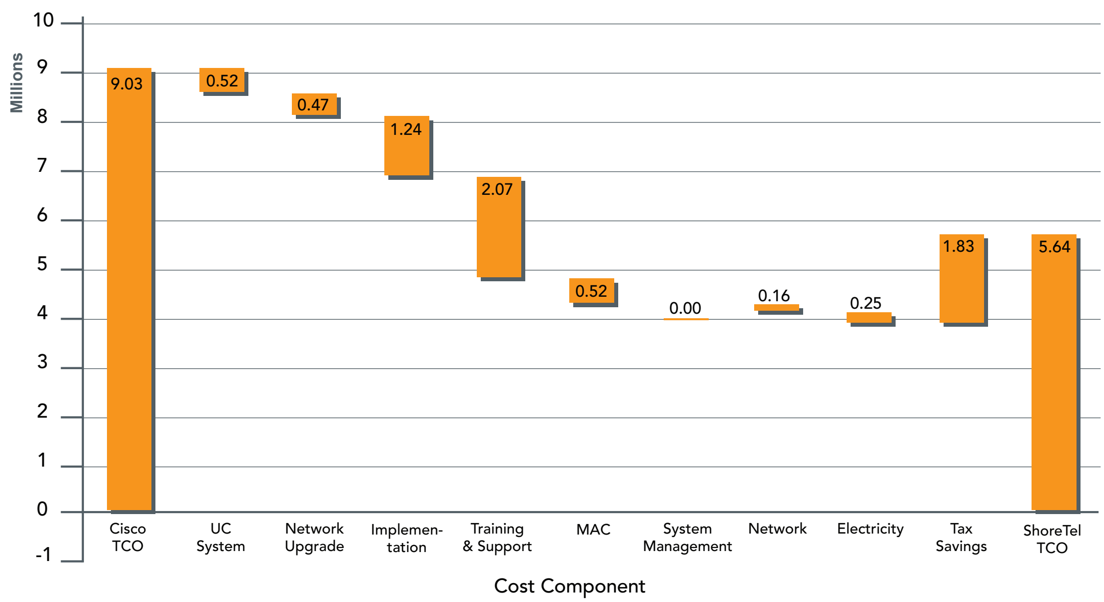
ShoreTel®
Brilliantly simple™

Graph 3:
Post-Tax Cash Flow by UC Vendor



In Graph 4, ShoreTel's direct TCO advantage over Cisco is disaggregated into its various source components: UC system capital cost, network upgrade, implementation, training, support, MAC, telephony system management, network cost, electricity charges and tax savings, providing important visibility into ShoreTel's advantage in individual cost categories.

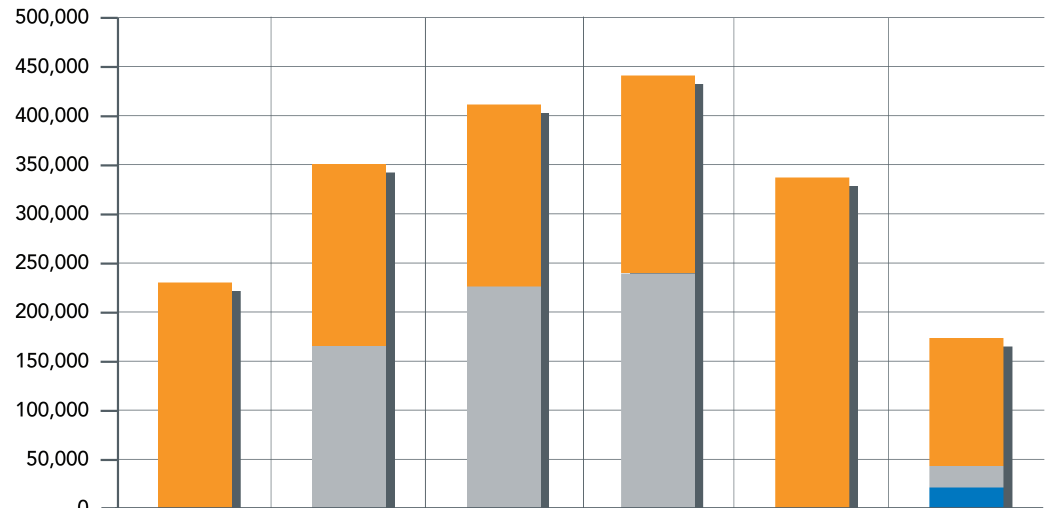
Graph 4:
TCO Comparison and Cost Saving Advantage of ShoreTel (Post-Tax)



6. Green Performance

Electricity consumption and cost also are calculated for TDM systems and each UC vendor platform. ShoreTel's electricity consumption and carbon footprint is consistently lower than other vendors, as illustrated in Graph 5.

Graph 5:
Energy Cost Comparison of Major Vendors



	TDM	Cisco	Nortel	Avaya	Mitel	ShoreTel
Phones ($)	232,183	188,847	188,847	204,938	338,815	132,432
Servers ($)	–	163,791	224,512	237,737	–	23,156
Switches ($)	–	–	–	–	–	19,606
Total Electricity Cost ($) (10 Years)	232,183	352,638	413,359	442,675	338,815	175,194

Vendor / Technology

Studies show that there is a strong correlation between TCO and green performance, and ShoreTel's TCO advantage confirms this research. In a recent power consumption study of IP telephony deployments conducted by an independent testing firm, The Tolly Group, the ShoreTel UC system required between 27 percent and 62 percent less energy than the Cisco Unified Communications Manager.

Testing and analysis for The Tolly Group study were conducted across small, midsize and large enterprise-class scenarios. The Tolly Group study validates the positive anecdotal feedback from ShoreTel customers and distribution partners regarding energy savings with the ShoreTel UC system. In addition to helping lower TCO, reduced energy consumption also helps us advance company commitments to being environmentally friendly.

7. Financial Ratio Analysis

The ShoreTel TCO Tool automates the following financial ratio calculations:

- ShoreTel TCO Advantage. This represents the percent reduction in TCO delivered by ShoreTel compared with each alternative UC solution.
- Payback Period. This represents the number of months required to pay back the initial up-front investment with ongoing operating cost savings. Ongoing operating cost savings are measured against cash flows from the existing TDM system.
- Return on Investment (ROI). ROI is the annual return (incremental cost savings) measured as a percentage of up-front incremental investment. This is measured using the first year's incremental cash flow (compared with TDM) in all cases.
- Internal Rate of Return (IRR). IRR is defined as the discount rate (%) that generates a zero Net Present Value (NPV) for future incremental cash flows. Future cash flows are measured against the existing TDM system in all cases. IRR provides a simple project financial 'hurdle rate;' the project should be avoided if a company's Weighted Average Cost of Capital (WACC)[1] exceeds this rate.
- Net Present Value (NPV). NPV is the present value of an investment's future net cash flows discounted back to the present at the company's Weighted Average Cost of Capital[1], less the value of the initial investment. NPV is the most important financial metric for judging the financial attractiveness of a project, and for determining the optimal UC system selection. Projects with higher NPV values should be prioritized over projects with lower NPV values, and projects with negative NPV values should always be avoided.

Table 2
Financial Ratio Comparison by Vendor

UC FINANCIAL RATIOS	TDM	CISCO	NORTEL	AVAYA	MITEL	SHORETEL
ShoreTel TCO Reduction Advantage (Post-tax)	46.63%	37.58%	26.51%	21.68%	11.82%	
Payback Period (# Months)		74 Months	50 Months	41 Months	32 Months	25 Months
Return on Investment (ROI) (%)		18.0%	24.9%	30.1%	37.9%	48.8%
Internal Rate of Return (IRR) (%)		10.5%	25.9%	37.5%	57.3%	91.6%
Net Present Value (NPV) ($M)		$1.413M	$2.887M	$3.404M	$4.272M	$5.075M

ShoreTel consistently requires the lowest up-front investment and drives the highest ongoing after-tax cost savings. As highlighted in Table 2, this attractive and unique combination delivers the fastest investment payback, and highest ROI and NPV performance.

[1] Weighted Average Cost of Capital (WACC) is the calculation of a company's cost of capital in which each category of capital (common stock, preferred stock, bonds and any other long-term debt) is proportionally weighted

8. ShoreTel Financial Solutions

An important feature of the ShoreTel TCO tool is its ability to calculate and compare the costs of leasing compared with buying the necessary equipment. Leasing is an option that often increases in popularity during challenging economic times because it allows organizations to implement a cutting-edge UC solution while still conserving capital. The potential cost savings of leasing over purchasing can add up quickly, leaving cash free for other, more strategic uses.

ShoreTel offers a number of leasing programs in North America through its ShoreTel Financial Solutions program, including an innovative new program designed specifically for today's converged technologies called ShoreTel FlexGuard™.

The benefits of ShoreTel's FlexGuard program include:

- Risk Management against Disruptive Technologies. Technological innovation is inevitable. FlexGuard is a unique fee-for-use program that provides protection from unforeseen growth and/or changes in technology. Its unique System Replacement Guarantee enables organizations to migrate to a new ShoreTel UC system at any time—without financial penalty and with no hidden costs—should business needs change, for instance moving to a new office. In the case of a migration to a new ShoreTel UC system, the old agreement is forgiven and a new one issued. This ensures your business always has access to the best technology available.
- Preservation of Capital and Lowest Bottom-Line Cost. Paying cash is not always the best way to acquire new equipment as it uses after-tax capital to pay for an asset that may lose a significant portion of its value immediately following installation. FlexGuard provides a convenient pre-tax monthly fee-for-use for the ShoreTel UC system, thus enabling organizations to invest in other revenue-producing and/or appreciating assets.
- Flexible End-of-Term Options. Unlike the restrictive nature of traditional leases, the FlexGuard program allows organizations to adopt new technology on their timeline, rather than to lease equipment based on expiration dates. Flexibility includes the ability to take advantage of the System Replacement Guarantee. At the end of the term, FlexGuard customers can renew at a reduced monthly rate, purchase, or return the equipment. FlexGuard allows organizations to make these decisions as needs change or develop.
- Support. ShoreTel multiyear support can be locked in at today's rates for the entire term of the FlexGuard agreement. FlexGuard support includes discounts for multiyear included in the same payment as the equipment, so there's just one check to write each month.

9. ShoreTel Switch Configurator

The ShoreTel TCO Tool computes exact ShoreGear® Voice Switch requirements for each site based on:

- IP and analog extensions
- IP phone mix
- DID, T1 and analog trunks
- Make-me conference port requirements
- Site survivability (N+1) requirements

The discreet output from the ShoreTel Switch Configurator may be extracted from the "ShoreTel Parts List" sheet. Future versions will link the ShoreTel® Quote Tool directly to this output.

10. General Benefits of TCO

The ShoreTel TCO Tool clarifies the differences between initial purchase costs and other ongoing costs. It also identifies future costs and opportunities for increased efficiency that may also contribute to reduced operational expenses.

The key benefits demonstrated to date include:

- TCO provides an objective measure of the total business impact of the UC purchase decision. TCO properly combines up-front (current year) and ongoing/recurring expenses, and provides a framework for computing all business costs associated with existing and future UC solutions. The ShoreTel TCO Tool provides insight into all relevant costs for each purchasing option available, and focuses the buying decision on the broader economic impact of each competitive alternative.
- TCO captures the organizational impact of UC product and system management complexity. UC vendor solutions vary greatly according to their product and system management complexity. The ShoreTel TCO Tool ensures that the impact of this complexity on implementation, maintenance, reliability and system management is properly valued and captured.
- TCO measurement improves financial planning and accountability. The ShoreTel TCO Tool provides a valuable tool for long-term budgetary/financial planning. The transparency provided by this TCO measurement can help organizations budget for future projects and evaluate the potential for increased efficiencies through additional features and functionality. The business case framework provided by the ShoreTel TCO Tool further increases accountability through the tracking, audit and comparison of planned cost savings post-implementation.

HOW TO USE THE SHORETEL TCO TOOL

The ShoreTel TCO Tool is a proprietary analytical assessment available to customers through our vast partner network. Our partners are fully trained to help collect and input all relevant data.

The ShoreTel TCO Tool is based on third party benchmarks, unlike many competitors' tools, and industry analysts Nemertes Research and Alinean Research are currently working to expand customer samples, and ensure data is continuously updated.

Organizations interested in using the ShoreTel TCO Tool should contact a local ShoreTel Partner or call the ShoreTel sales team at 1-877-807-4673 for information on how to schedule a dedicated meeting to step through the details.

- TCO improves organizational decision making, efficiency and alignment. The ShoreTel TCO Tool can be used to build faster and more accurate consensus around the UC purchase decision (i.e. making the right purchase decision for the right reasons). Presenting well-structured, concise and accurate information to executive staff helps IT departments accelerate the purchasing decision and achieve consensus among key stakeholders. For instance, TCO demonstrates that the total cost of "doing nothing" (i.e. continued operation and management of older communications technologies) can be significantly greater than the best available modern UC alternative. Projects with widespread support are more likely to proceed smoothly and quickly, so that organizations can see a fast return on investment.
- TCO is powerful, regardless of deployment size. The benefits of the ShoreTel TCO Tool have proven to be just as applicable for small customers as for large ones. Small and midsize ShoreTel customers are reporting similar success using the ShoreTel TCO Tool as large, multisite and multinational customers.
- TCO maximizes long term Shareholder Value. The ShoreTel TCO Tool provides valuable insight into the long term cash flows resulting from each vendor solution and configuration. Planning for, and then delivering these cash flow benefits ultimately ensures shareholder value is maximized at all times.

11. The ShoreTel TCO Advantage

ShoreTel has a deep, competitive and sustainable TCO advantage. The ShoreTel TCO Tool has now been deployed and demonstrated in hundreds of case examples, and in each case, ShoreTel has been able to consistently demonstrate TCO between 20 percent and 45 percent lower—and an energy footprint up to 62 percent less—than alternative UC solutions from Cisco, Nortel, Avaya and Mitel.

This advantage is driven by ShoreTel's unique single-image, distributed software and embedded switch-based call routing architecture. This distributed architecture results in structurally lower product capital cost, network upgrade cost, implementation and training cost, maintenance, MAC, system management, long distance charges and energy consumption.

Comprehensive TCO assessment also provides valuable insight into the long term financial viability of each UC vendor. Unnecessarily complex ecosystems lead to higher total costs of ownership, lower levels of customer satisfaction, and result in lower margins throughout the value chain. In recent times, such complexity has led to and exposed critical weakness in the financial sustainability and viability of certain "older technology" UC vendors.

Given ShoreTel's commitment to the use of independent third-party data within the TCO tool, and the availability of much of this data for IP-based UC systems compared with TDM systems generally (rather than between individual UC vendors), these TCO results are conservative.

Key areas where ShoreTel's actual TCO results are likely to improve over that described by independent third-party data and by the ShoreTel TCO Tool are training and telephony system management.

12. Conclusion

With the development of the ShoreTel TCO Tool, ShoreTel has been able to prove a significant and sustainable competitive TCO advantage over its competitors, raising the "burden of proof" required for these solutions, and offering organizations a clear business case for the adoption of a UC system. As the industry increasingly focuses on the broader economic impact and benefits of UC solutions, ShoreTel is ideally positioned to help organizations take advantage of the latest technology innovations.

By applying the ShoreTel TCO Tool, organizations can achieve a comprehensive assessment from the beginning of the project that highlights risk, and includes the real solution costs downstream. This information can then be used in the RFP process to determine vendor selection, and enable organizations to leverage maximum value from their investment.

WORLD HEADQUARTERS 960 Stewart Drive, Sunnyvale, CA 94085 USA. www.shoretel.com

+1 (800) 425-9385 Toll Free. +1 (408) 331-3300 Tel. +1 (408) 331-3333 Fax.

EMEA +1 800 408 33133 Freephone. +44 (1628) 826300 Tel.

ASIA PACIFIC +61 (0)2 9959 8000 Tel.

ShoreTel®