

Cisco Virtualization Experience Infrastructure Delivers Business Value, Savings

What You Will Learn

Many companies are using Virtual Desktop Infrastructure (VDI) to increase IT efficiency and business agility. VDI is a good start, but many companies are going beyond basic VDI to a solution that delivers broader business benefits and significant cost savings.

The Cisco® Virtualization Experience Infrastructure (VXI) Smart Solution, a key component of the Cisco Unified Workspace vision and strategy, takes you beyond VDI to deliver an exceptionally flexible workspace to any device. Moving to VXI has resulted in significant business benefits. These benefits include total cost of ownership (TCO) savings per user of up to 25 percent as well as substantial future savings in administrative, security, and operating costs - not to mention increased worker productivity and effectiveness. Two case studies demonstrate the substantial business benefits from cost savings to greater productivity to increased business agility.

The Benefits of Cisco VXI

Cisco VXI delivers an uncompromised desktop virtualization experience that is collaborative, mobile, and secure. VXI increases business efficiency, productivity, and agility by enabling an exceptionally flexible workspace on any device in any location. It combines Cisco's industry-leading data center, network, and collaboration technologies with those of key partners to provide a comprehensive, validated solution that simplifies deployment, reduces costs, and minimizes risk.

Customers are already demonstrating the very real benefits of Cisco VXI. The experiences of two companies show both the cost savings and the increased effectiveness that Cisco VXI confers on users:

- A large healthcare provider is reducing its 5-year TCO by \$3.6 million - and giving time back to doctors and nurses so they can give better care to patients. It has the potential to eliminate system barriers between employees and partners such as specialists, educators, and home healthcare workers.
- A service provider is reducing its 5-year TCO by \$8.5 million - and integrating outsourced and home workers into the enterprise for better customer care and faster rollout of new customer service applications.

How Are They Doing It?

You may be familiar with VDI or already employing it. This technology virtualizes desktop computing by moving the computing and the attendant data storage from the desktop to the data center, requiring only a device that provides a display such as a laptop or desktop PC, zero or thin client, tablet, or smartphone for the user to work with.

Desktop virtualization is becoming a common strategy. A Forrester Research, Inc., survey of senior-level IT decision makers conducted in April 2012 found that 70 percent have embarked on a virtualization or VDI program or plan to do so in order to provide users access to applications and content from company-owned devices. Sixty-one percent have VDI plans that will enable a mobility or multiple-device strategy, and 30 percent intend the strategy to enable new business processes. Only 1 percent said their companies had no virtualization plans.

The movement toward desktop virtualization is being accelerated by some important factors. Enterprises want the ability to create or change applications, services, and business processes without being constrained by endpoints, locations, or working models. They need to ensure security and regulatory compliance. They also need to give users choices about how and where to work.

VDI by itself can present challenges, however, such as the need to meld together a solution across a number of often isolated technology domains, the possibility of an uncertain ROI, and the imperative of maintaining a high-quality user experience including voice and video.

In addition, enterprises are experiencing a proliferation of endpoint device options and places from which to work, making the individual user's work environment more complex and difficult to use and secure. That proliferation of devices has also made traditional ways of managing desktops unworkable.

So enterprises need a new holistic solution that permits desktops to be deployed more broadly, more uniformly, more securely, and more easily. And employees need a better, consistently high-performing user experience integrated with pervasive access to enterprise-grade collaboration and communications.

Cisco VXI is that new solution. This end-to-end solution takes desktop virtualization to a new level and fulfills those goals. Cisco VXI:

- Brings together the best Cisco Data Center, Borderless Networks, Security, Mobility, and Unified Communications Solutions
- Mates those solutions with desktop virtualization technology to create a validated, fully supported offering
- Helps ensure a high-quality end-user experience across devices and applications
- Provides unmatched collaborative voice and video experiences
- Delivers predictable ROI that companies using Cisco VXI have demonstrated
- Makes security simpler to achieve and control

Cisco VXI: A Primer

Cisco is the leader in IP networking, security, software as a service (SaaS), and related technologies, and we have designed Cisco VXI to optimize delivery of services to any and all endpoints.

- Users have immediate access to the applications and data they need on the virtual desktop, including unified communications and collaboration applications such as high-quality video, presence, unified messaging, and others. When the right infrastructure is in place, these applications and features make collaboration happen within it.
- Virtual desktop endpoints from Cisco consist of a thin or zero client as well as a software appliance for repurposed Windows PCs. When Cisco VXI is deployed with Cisco Virtualization Experience Client 6215 (Cisco VXC 6215) for unified voice, video, and virtual desktop, employees have only one device to use for unified communications and virtual desktops, and IT staff members have only one device to procure and manage.
- Users can also employ other devices of their choice including mobile endpoints, so the "desktop" is wherever the user is. The endpoint becomes a portable workspace that enables people to work from anywhere, as is demonstrated in the healthcare case study.

- Cisco VXi employs a workspace-aware and optimized data center infrastructure built around a highly scalable, streamlined computing fabric that delivers consistently high, predictable performance to hundreds or hundreds of thousands of users.
- Integrated technologies from partners such as Citrix and VMware help to speed applications across the network and deliver them to any device.
- Cisco VXi also simplifies a changeover to a new operating system: Rather than requiring an onsite visit for each end user, the new infrastructure centralizes the migration.

The Business Benefits

Cisco VXi delivers business benefits such as increased productivity, greater agility, and cost savings.

For example, with Cisco VXi, employees can extend their collaboration with co-workers, partners, and customers from their virtual desktop environments, resulting in greater productivity and better decision making. In a virtual desktop environment, collaboration does not get lost. Rather, it thrives. Employees spend less time shifting modes as they move from one device to another. And they can work from where they are, using all of the applications and services they have at their desks.

In addition, collaboration becomes possible in more use cases. You can satisfy goals that have long been on people's wish lists. For example, remote meetings, whether calls to a contact center or consultations between physicians and specialists or home health workers, can now be held on video calls with all the benefits of seeing the other person - and with all the benefits of the virtual desktop.

Optimized integration of at-home, remote, and outsourced workers is another business benefit. You can bring these workers on board faster. You can set up workers who are not on campus centrally, so it takes a minimum of time. You can also deliver on shorter service-level agreement (SLA) times, because you fix them centrally rather than dispatching a technician to the device.

Security becomes both simpler and more effective. You manage it centrally for all endpoints, fixed and mobile. If a laptop or tablet is lost, you can easily replicate its contents on another machine and deny them to the lost one. Business continuity is another benefit: If a storm keeps employees from coming in to work, they can access all their files and documents from home on a mobile device.

Another benefit: accelerated integration of acquisitions. Getting everybody on board in the same enterprise network after an acquisition, using the same applications, typically takes a month or two less with Cisco VXi.

The Overall Savings

Cost savings are one of the primary benefits of Cisco VXi: It is one that many companies look for if they start their initial journey in virtualization with VDI. With Cisco VXi, however, you can realize greater cost savings still, in three critical areas:

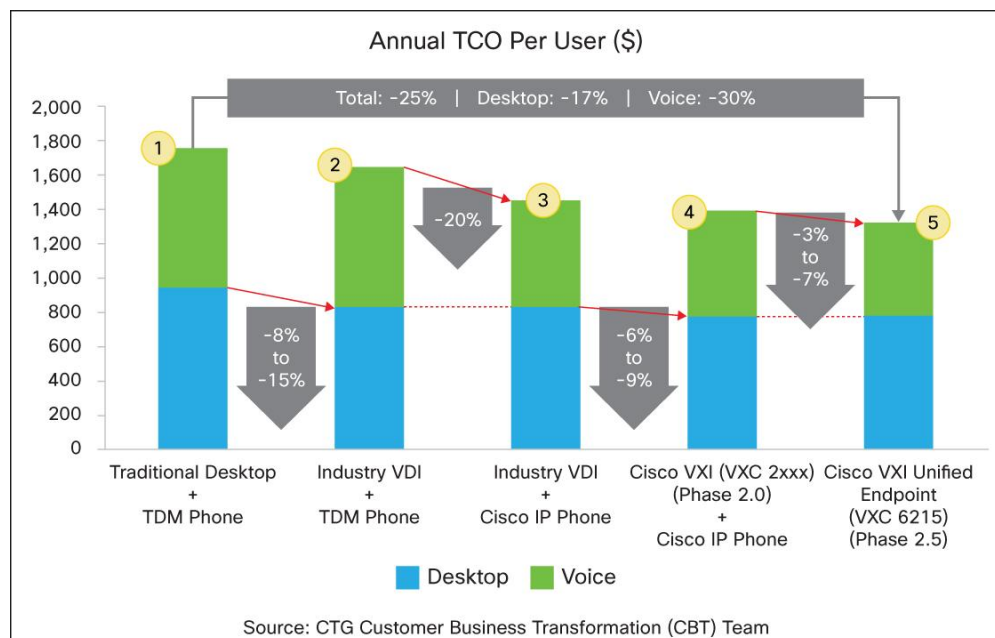
- Hardware and software: You can lengthen hardware refresh cycles and reduce hardware costs by reusing existing endpoints for virtual access or replacing more expensive thick clients.
- Reduced data center infrastructure investment: With the Cisco Unified Computing System™ (Cisco UCS®), you can support an unparalleled density of virtual desktops and cut server, power, space, networking, and other costs.
- IT operational savings: You will need fewer IT staff to administer Cisco VXi because setting up desktops and managing software upgrades and patches takes less time.

These savings divide into easily quantifiable reductions in TCO and equally important but less easily quantifiable savings in business operations.

Quantifiable TCO Savings

As Figure 1 shows, you can achieve specific savings in moving away from the traditional desktop to VDI, although going this route requires stitching together myriad technologies that include desktop virtualization software, servers, storage, and more. Further savings accrue if you also move from a time-division multiplexing (TDM) network and phones to an IP-based network and Cisco Unified IP Phones. The first move will save 8 to 15 percent of your per-user desktop TCO; the second, 20 percent of your per-user voice TCO.

Figure 1. Savings in Desktop and Voice TCO: Cisco VXI Can Help You Save 25 Percent in Overall Desktop and Voice Deployments



By moving to Cisco VXI to deliver unified voice, video, and virtual desktop, you can gain additional TCO savings. When our customers deploy Cisco VXC 2000 zero clients with Cisco IP Phones in their Cisco VXI deployments, they project savings of another six to nine percent of desktop costs. When they deploy Cisco VXI with Cisco VXC 6215, which unifies voice, video, and virtual desktop in one thin client, customers project an additional three- to seven-percent savings in voice TCO.

The savings per user from making the transition to Cisco VXI with Cisco VXC add up to about 17 percent of desktop TCO and 30 percent of voice TCO, for an average of about 25 percent. Note that a transition directly from a TDM environment to Cisco VXI is much simpler than passing through basic VDI first.

Where the Savings Come From

As we have seen, you can achieve substantial savings by adopting a unified endpoint that combines communications, collaboration, and computing in the thin or zero unified client-endpoint combination. Incidentally, zero clients run on Power over Ethernet (PoE), saving energy compared with a phone and a computer running on utility power.

By combining voice and virtual desktop infrastructures, you cut administration, management, security, and maintenance costs. Moreover, you need only one help desk.

You will realize significant savings in the data center as well, because of the integrated design of the Cisco UCS and the efficiency of the Cisco Unified Fabric. Server administration costs are lower because of the way they are virtualized: Desktops are nonresident, meaning that you do not need to allocate, say, 40 GB of storage on a specific server for each one. Rather, the amount of storage actually being used can be assigned to the servers that have room for it. Because servers are now fully used, you need fewer of them.

You will realize additional savings because fewer servers consume less energy and thin clients use less than full-scale PCs and phones. You can manage energy usage better.

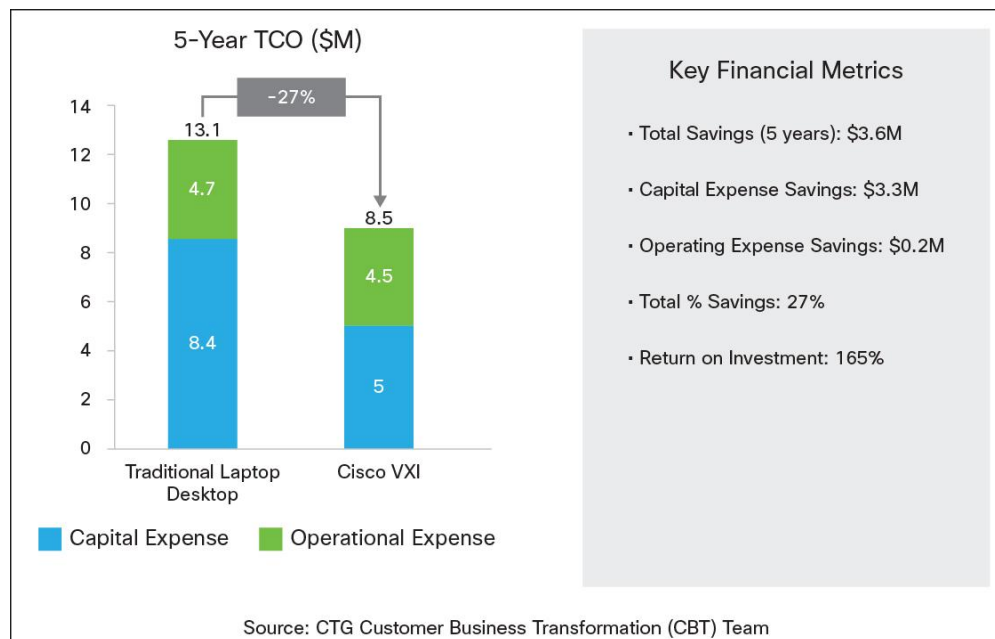
Cisco Validated Designs address a broad range of infrastructure and deployment architectures, so you can be sure the infrastructure will work.

Now we will see how the healthcare company and the service provider, along with a second healthcare provider, realize many of these benefits.

The Healthcare Company's Experience

The healthcare company initially implemented Cisco VXi for 3,500 users. It is continuing to deploy more virtual desktops, for a projected total of 10,000. The estimated savings from the initial rollout are detailed in Figure 2.

Figure 2. One Healthcare Company's Experience with Cisco VXi: Cisco VXi Estimated to Reduce 5-Year TCO by \$3.6M



Physicians are equipped with tablets, and physicians' areas with Cisco VXC 6215 clients. Nurses use Cisco Unified IP Phone 7925 mobile phones; nursing stations use Cisco VXC 2000 Series zero clients. In the future, when they are brought into the network, mobile therapists and home health workers may use Cisco VXC 4000 software appliances on their repurposed Windows PCs or one or more tablets.

Administrative and information workers use Cisco VXC 2000 Series zero clients, Cisco Unified IP Phones 8900 and 9900 Series phones, or Cisco VXC 6215 clients.

The most obvious clinical gains are in patient care. Previously, it took 2 or 3 minutes for a nurse or physician to log onto a computer, be authenticated, open the desired application, and access patient records. If the nurse or physician sees some 40 patients a day, the time can add up to 2 hours. The new infrastructure cuts that time at least in half - giving at least an hour a day back to physicians and nurses - time they can spend with patients. That extra time is a significant benefit.

The new infrastructure also promotes flexibility in how people work, enabling new use cases. For example, physicians can visit patient rooms taking their tablets with them, rather than logging onto a fixed computer in the room. Nurses can carry mobile phones to make and take calls, rather than having to return to the nursing station for that purpose. If it makes sense for nurses to use tablets, that is also an option.

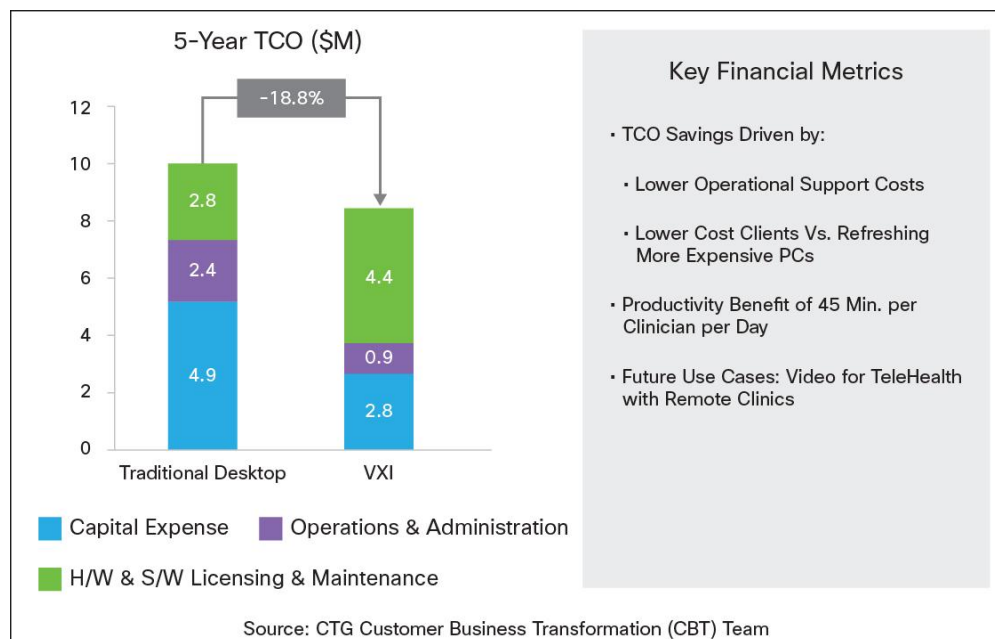
The infrastructure the company has installed can also enable doctors to use voice-recognition recording, streaming of training videos or lectures, and immediate bedside consultations with other physicians.

Savings are accruing to IT as well, from streamlined operations support to faster resolution of help desk calls due to the use of video. More and more complex calls are resolved at the first level of support, and customer satisfaction is higher. Administrative and information workers are also seeing the benefits of closer collaboration and increased productivity.

When the installation is fully operational, the healthcare company projects 5-year TCO savings of \$3.6 million: \$3.3 million in capital expenditures (CapEx) and \$0.2 million in operating expenses (OpEx). The total IT savings are projected to add up to 27 percent of the previous cost. The 5-year ROI is projected to be 165 percent. Early results from the initial installation are substantiating these projections.

A second healthcare company that has installed Cisco VXi to serve 3,000 end users projects 5-year TCO savings of \$1.6 million, as shown in Figure 3. The \$1.6 million is achieved by lower-cost clients, replacement of PCs with thin clients, and lower operation support costs. This company also has experienced productivity benefits, saving 45 minutes per clinician per day. Again, this time can be devoted to patient care. This company plans to use video for tele-health sessions with remote clinics in the future.

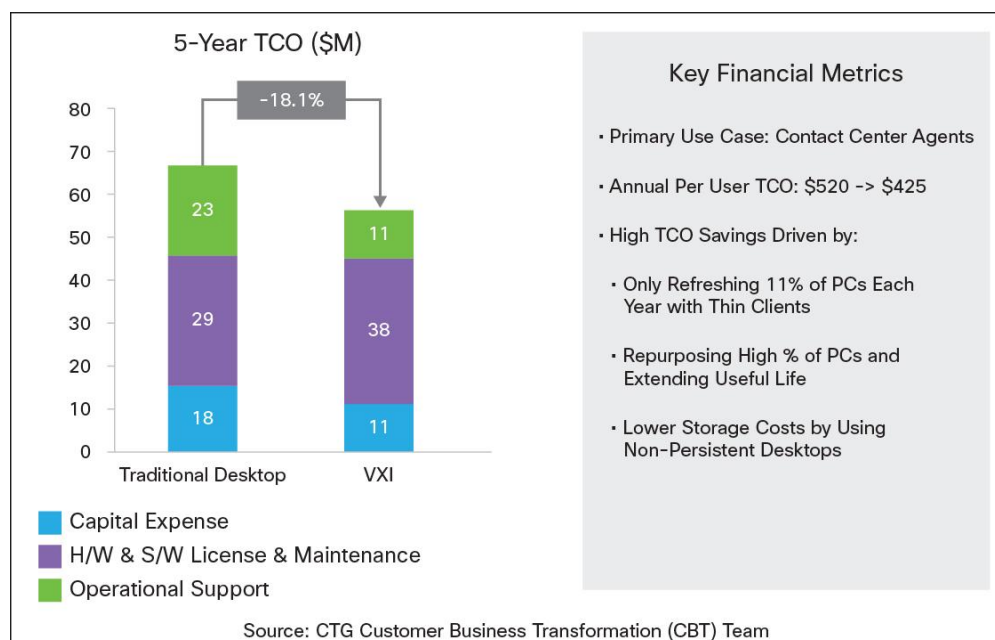
Figure 3. Another Healthcare Company's Experience with Cisco VXI: Five-Year TCO Savings of \$1.6M



The Service Provider's Experience

The service provider's immediate and primary goal was to improve operations and cut costs in its contact center. The contact center uses a number of outsourced agents, and the company had no way of knowing who was actually working at any given time or how quickly calls were being handled. It also wanted to manage at-home agents more efficiently and to integrate outsourced and at-home workers more closely with workers on campus. The company has deployed Cisco VXI to 26,000 users. Its savings are detailed in Figure 4.

Figure 4. The Service Provider's Savings with Cisco VXI: Five-Year TCO Savings of \$8.5M



With the new infrastructure, the service provider can assess the occupancy rate of outsourced workers - how many are working at any given time - and who they are. Because of the better management thus made possible, the occupancy rate for outsourced workers and their average handling times have both improved by 10 percent.

The company has also been able to merge the off-campus workers with its on-campus contact center workforce and now manages them as a single organization. As a result of centralized communications and more integrated contact center agents, the company can deploy new applications for agents faster.

In addition, the company is saving on training costs for agents when it introduces new products. It is also saving on servicing computers and phones for off-campus workers: It can provide a 4-hour SLA because most problems can be resolved at the data center. Setup for home agents used to take 4 weeks; now it takes 1. Administration and maintenance for the outsourced and at-home workers used to require 25 percent of a full-time employee's time. Now that person is not needed.

The company is also saving administrative costs because it has merged voice and data networks and CapEx because it buys one device rather than two.

Savings from better management of outsourced agents alone total more than \$6 million annually. In addition, annual TCO costs per user have dropped about 20 percent. The high TCO savings are achieved in part by the company's repurposing a high percentage of the PCs being replaced by thin clients and the lower storage costs from nonpersistent desktops. The total TCO savings over 5 years are projected to be \$8.5 million.

The savings described do not comprise the whole of the amounts these companies are saving. They are also realizing savings that are more difficult to quantify: improved productivity, development of new use cases possible with rich unified communications and collaboration, and better security. The entire enterprise simply functions more efficiently.

How Do You Begin?

The place to start is thinking through what you want to accomplish for your workplace strategy, and then thinking about the ways in which Cisco VXi can help you achieve those goals. Factors to consider:

- Top priority use cases that will benefit from desktop virtualization: Cisco and our partners can help with Workplace Assessment services.
- Current and potential use cases where rich communications and collaboration can move work along faster, help people make better decisions, and improve time to market.
- The business case, including CapEx and OpEx savings: Your Cisco representative can help you build both initial and more detailed TCO savings studies.
- Identification of one or more relatively simple use cases that you can use as a pilot project: Cisco and our partners can help you accelerate your pilot deployment and results with our Cisco Desktop Virtualization Pilot Service.

Cisco VXi is the complete virtualization solution, from data center to desktop to mobile. Cisco Unified Computing, Unified Fabric, network technologies, and endpoints are all designed to interoperate, so your infrastructure works.

This unified solution not only works, it has been proven to save money and add impressive business value.

If you are interested in a business case analysis for your company, please contact your Cisco account team. For more information, please visit <http://www.cisco.com/go/vxi> or www.cisco.com/go/uw.



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