



# The Top 6 Challenges of IPT Operations Support:

Do-It-Yourself vs. Selective Outsourcing.



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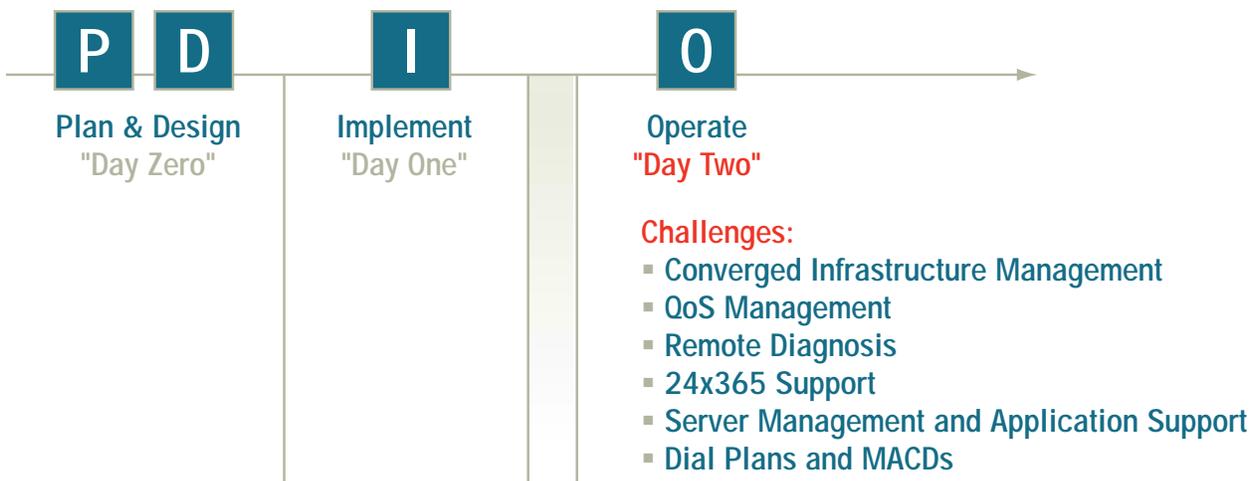
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## Introduction

After making the move to IP Telephony, the next big question is what to do after “flipping the switch.” Do you manage your converged network in-house? Or do you outsource the ongoing operations of your converged network?

More and more businesses are discovering the advantages of a third alternative: *selective outsourcing*. Unlike traditional outsourcing, where a third party takes control of equipment and staff, selective outsourcing allows IT organizations to contract out specific critical services needed to run their networks while maintaining overall control of their IT infrastructures — which in turn helps them take advantage of the benefits of their new technology, faster and more cost-effectively.

Before making a decision, it is important to understand the challenges associated with Day 2 Support — that is, the ongoing management of a converged network.



Day 2 support of a converged network presents a number of new challenges.

# The Challenges of Day 2 Support

## 1. Converged Infrastructure Management

Managing a converged network requires professionals who are comfortable and experienced with both voice and data.

Voice no longer has a “road” of its own. In a converged network, voice is packetized and sent over a crowded data network that is also carrying email, files and other data. Unlike the traditional data network, where dropped packets and delays are acceptable, any irregularities on a voice network can result in voice quality issues such as dropped packets, delay and jitter. Even the smallest issues can impact end-user satisfaction and direct the spotlight on the IT department to fix the problem immediately.

Does your staff have the skills required to manage a complex, converged infrastructure?

**“At first, our networking experts were concerned about losing their jobs. Now they can’t believe we ever lived without NetSolve.”**

[see Case Study, p6](#)

## 2. Quality of Service (QoS) Management

Quality of Service is not a CallManager issue. It is an infrastructure management issue that requires managing the traffic and health of your network across routers, switches and voice gateways, as well as associated bandwidth. Problems can occur from multiple sources, including device configurations, changes in traffic, non-optimized bandwidth, and more.

As the data traverses a series of routers and switches, there are many points along the way where packets may be dropped or stalled in queues, resulting in voice quality issues. Although QoS may be configured during the PDI (Plan, Design, Implement) phase of your rollout, once traffic is actually flowing across your network, tune-ups will be needed over time. QoS management is an ongoing process, not an event.

Does your organization have a management plan for QoS issues?

## 3. Remote Diagnosis

In the traditional PBX world, troubleshooting a telephony problem is easy and usually isolated to the site where the issue occurred. One of the advantages of IP Telephony is the ability to centralize call processing. But this can also lead to one of the biggest challenges of ongoing management – troubleshooting across a multi-site network with centralized call processing.

Because the call traverses a network, issues can occur at the site where the call originated, at the site where the call is terminated, at the site where the call is processed, or at any point in between. Being able to remotely troubleshoot and diagnose an issue is critical to resolving problems quickly and cost effectively — and fast problem resolution is one of the key requirements for achieving lower TCO (total cost of ownership) across your converged infrastructure. Remote troubleshooting and problem resolution can enable problems to be resolved before traditional PBX vendors could have dispatched a service truck.

Is your organization prepared to troubleshoot across a multi-site network with centralized call processing?

#### 4. 24x365 Support

Customers, business partners and even a company's employees expect to have round-the-clock access to phones and voice mail.

With the importance of voice, it is imperative that the network infrastructure is monitored 24x365. This is a five-shift problem that intensifies for companies that operate during evenings and weekends. Some companies choose to staff all five shifts, while others designate a few engineers to carry cell phones and pagers.

Does your organization have a plan for providing 24x365 support that won't overburden your staff?

#### 5. Server Management and Application Support

For the Cisco® AVVID (Architecture for Voice, Video and Integrated Data) architecture, the PBX, voice mail system and other voice applications such as Personal Assistant, Cisco Conference Connection, and Call Centers all live on Windows® servers — which means it's critical that server health is constantly monitored.

Issues such as tracking CPU use, disk capacity, memory utilization, disk drive and fan status, operating system and application status are critical to ensure that the voice solution works. In addition to ongoing server health, monitoring the stream of Windows patches and tracking patches and upgrades from Cisco is also important to ensure the availability and performance of your converged network — and patch management can be tedious and time consuming.

Does your organization have a comprehensive server management program?

#### 6. Dial Plans and MACDs (Moves, Adds, Changes, Deletes)

One of the advantages of IP Telephony is that it allows companies to manage dial plans and MACDs through software, avoiding expensive truck rolls. The disadvantage is that managing dial plans and MACDs can also be time consuming and tedious.

Does your staff have the bandwidth to manage the ongoing load of MACDs and dial plan changes?

## Do-It-Yourself vs. Selective Outsourcing

Internally managing a converged infrastructure enables you to build expertise using existing resources — but you will need to purchase management tools, integrate these tools with existing tools, train your staff, develop expertise in QoS management, prepare to troubleshoot and diagnose issues onsite or remotely, and plan for patches and upgrades.

There's a better way. Selective outsourcing allows you to retain complete control over your equipment and staff while relying on experts to keep your converged network running at peak levels – 24 hours a day and 365 days a year.

According to The Gartner Group, selective outsourcing is the right choice when time, money or expertise in a specific technology is scarce — and IP Telephony is an excellent example of a technology that is ideal for selective outsourcing. Converged networks are extremely complex, and the

expertise required to manage them is difficult to find. As infrastructure complexity increases, so does operational spending to support that infrastructure.

By using a selective outsourcer, you can take advantage of the economies of scale and best practices gained while managing IT infrastructures for large numbers of companies. This, in turn, will help you start benefiting from your new technology from day one. Selective outsourcing also allows your network professionals to move from *doing* the work, to *managing* the work.

The following table breaks out the six tasks of Day 2 support and compares Doing-It-Yourself to Selective Outsourcing.

Day 2 Support	Do-It-Yourself	Selective Outsourcing
<b>Converged Infrastructure Management</b>	Once you invest in tools, you must implement, configure and integrate the tools to manage your infrastructure. Your network professionals must be trained to respond to the heavy stream of events associated with managing a converged network, including circuit, configuration, equipment and QoS issues. Voice professionals must understand data issues, and data professionals must understand voice issues.	<p>With a selective outsourcer, there is no investment in tools because the vendor hosts the tools needed to manage your infrastructure. Once the data has been gathered, you can be up and running within days.</p> <p>Your vendor can also help you transition to a new technology quickly. There is no learning curve because you are gaining from the knowledge base and learnings built from managing many different networks across many different industries. This enables you to have a rapid deployment with high end-user acceptance.</p> <p>The sooner your converged network is optimized, the sooner you'll achieve a lower TCO across your infrastructure.</p>
<b>QoS Management</b>	<p>Voice is a highly visible application that, when not working correctly, generates numerous end-user complaints. The key to managing a converged network is managing QoS.</p> <p>Managing QoS is as much an art as it is a science. Once network professionals receive alarms, they need to know how to isolate and repair the issue. Becoming proficient at QoS management requires expertise that can only be learned by resolving numerous issues. And because networks are dynamic, QoS management requires constant monitoring.</p>	Your vendor is responsible for monitoring and resolving QoS issues. You benefit from the experience they have gained from identifying and resolving QoS issues across multiple customers' networks.

## Day 2 Support

## Do-It-Yourself

## Selective Outsourcing

### 24x365

24x365 support is a 5-shift issue — three shifts per weekday, and two shifts per weekend. Some companies choose to staff each shift, while others put their network technicians on call 24x365, which can lead to burnout if not managed properly.

An added difficulty is maintaining equivalent levels of expertise during all hours of the day.

By using a selective outsourcer, you can take advantage of the vendor's economies of scale that come from sharing resources. Network experts watch your network 24x365, respond to issues the minute they occur and immediately begin the problem isolation process. You don't have to worry about your employees going on vacation, getting sick, needing training, or leaving your company. Your vendor is there for you at any hour to handle events and keep you informed. Look for a vendor that has multiple employees with the highest level of Cisco certifications ready to solve problems on your network.

### Remote Diagnosis

In order to realize the lower TCO promised by converged networks, you need the tools and network professionals necessary to constantly monitor and isolate issues remotely. Once problems are isolated, remote problem resolution is also imperative for keeping costs down; truck rolls are time consuming and expensive.

Selective outsourcers are experts at remote monitoring, isolation and problem resolution. Your selective outsourcer should have a strong history of troubleshooting and resolving problems remotely — not by dispatching service trucks. This translates into faster problem resolution.

### Server Management and Application Management

Patch management is critical for managing a converged network. Network professionals must track patches from both Microsoft® and Cisco, as well as roll patches out in a timely manner.

Application management is also critical; access to new applications is one of the key drivers for moving to a converged solution. Every time a new application is released, such as Personal Assistant or Cisco Conference Connection, your network professionals must learn how to troubleshoot and manage that new application.

You gain from your vendor's economies of scale with patch management — because they are actively managing multiple customers' networks, they are tracking patch activity across all systems. Your vendor is responsible for patch management.

Your vendor will also have experience with new applications that they can apply to your infrastructure when you are ready for a new rollout.

### Dial Plan and MACDs

Changes in dial plans and MACDs are time consuming and tedious.

Selective outsourcers are responsible for managing dial plans and MACDs.

## Case Study: *Cohenfinancial*®

### Is selective outsourcing a viable alternative?

Over a two-year period, investment banking firm Cohen Financial had doubled in size — and was anticipating double-figure growth again in the near future. The company needed a communication system that would facilitate growth, support small offices affordably, improve employee productivity and offer consistent communication between offices.

Cohen decided to adopt an IP communication platform to enhance employee productivity and gain a competitive edge. Prior to rollout, they were concerned that if a problem occurred no one would know how to fix it. They considered hiring a full-time employee to support the IP Telephony network, but were concerned that “one person couldn’t know everything.”

Cohen chose a selective outsourcer, NetSolve, to support their IP Telephony solution. They went with NetSolve, because the company had completed specialized requirements to provide remote network operations for Cisco IP Telephony solutions (ATP-IPT/RNO), had a demonstrated track record of actual experience with the Cisco solution, provided breadth and depth of experience based on knowledge gained by serving multiple IP Telephony customers, and were financially stable with a solid customer base.

As a result of choosing to selectively outsource the management of their converged infrastructure, Cohen is pleased with their IP Telephony solution. The following quotes appear in a Cisco case study showing the benefit and value of using a selective outsourcer for Day 2 Support:

“At first, our networking experts were concerned about losing their jobs. Now they can’t believe we ever lived without NetSolve. In the past if we had an outage or another problem, we would have to call various consultants to try and resolve the problem. Now we don’t have to go through that ordeal because we know that NetSolve is doing what needs to be done.”

“I wouldn’t have implemented a Cisco IP communications without NetSolve. Our new Cisco IP communications system has made life easier for a lot of people, especially those who take advantage of all the new features. The technology is stable and this is really the first roll-out that I’ve ever done where more people compliment than complain.”

## NetSolve Manages IPT Complexity

NetSolve has been managing customer deployments of Cisco IP Telephony equipment, since 2000, for Fortune 100 companies and much smaller enterprises across many different industries. The company was the first certified Cisco Advanced Technology Provider (ATP- IPT/RNO) partner to deliver remote network operations support for IP Telephony — and NetSolve's IP Telephony customers have given the company an average 4.7 out of 5.0 satisfaction rating for the past two years (using Cisco's PAL ratings).

NetSolve's experience in remote IP Telephony management includes learned best practices that allow businesses to immediately start realizing the benefits that come from a converged network infrastructure. And because the company can anticipate and resolve problems remotely rather than with truck dispatches, NetSolve's remote IP Telephony management represents significant savings and business value.

NetSolve's suite of service offerings includes:

- 24x365 monitoring and proactive management of applications and infrastructure hardware, including routers, switches, voice gateways, CallManager servers and Unity voice mail servers
- Proactive management of QoS
- Management of dialing plans and MACDs (Move, Add, Change, Deletes)
- Fault notification, isolation and resolution with an "own the problem" attitude

NetSolve also allows you to maintain complete visibility and control of your network through ProWatch® Exchange, a secure, customer Web portal that provides a real-time and historical view of your network status.

At NetSolve, we absorb the complexity of your converged network, enabling you to benefit from your technology faster and more cost effectively.

### ABOUT THE AUTHOR

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Renaye Thornborrow manages the direction of NetSolve's IP Telephony and Server Management service offerings. Previously, she held positions at Motorola as a Product Marketing Manager and at IBM as a Systems Engineer.

Renaye earned a BS in Computer Science at Texas A&M University and an MBA from the University of Texas at Austin.

<sup>1</sup>To view the complete Cisco case study, visit Cisco's website at [http://www.cisco.com/warp/partner/synchronicd/cc/serv/mkt/sup/svsptl/iptlsv/netsv\\_cp.htm](http://www.cisco.com/warp/partner/synchronicd/cc/serv/mkt/sup/svsptl/iptlsv/netsv_cp.htm)

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