

WHITE  
PAPER

# Enabling Business Continuity with Hosted Communications



A tale of two PBXs

TPX



6 technology outages per year, which result in...



4,800 hours of lost productivity and...



\$75,000 gone from the bottom line.

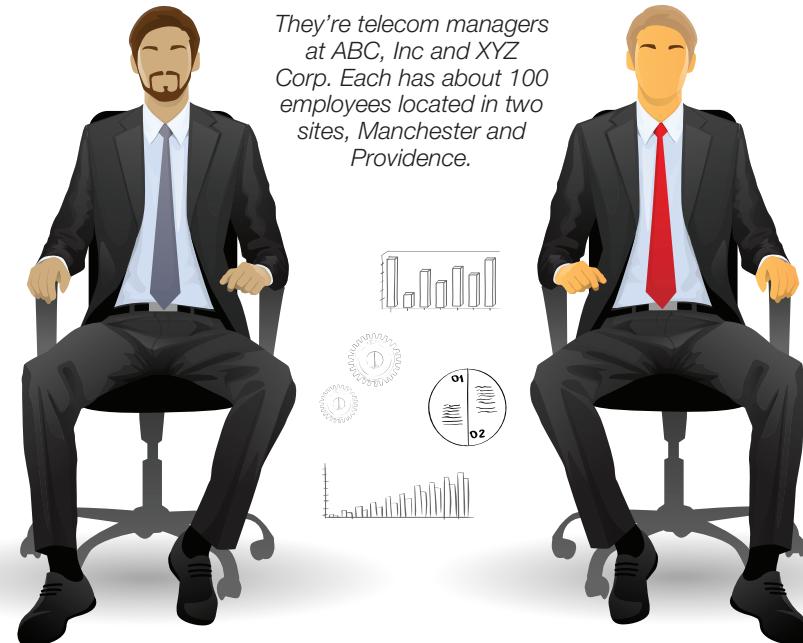
## INTRODUCTION

What's the difference? ABC Company uses a premises-based VoIP PBX, while XYZ Enterprises has a hosted communications system. What do they have in common? Unfortunately, both companies are about to experience a string of inopportune, potentially calamitous events. (But don't worry...it has a happy ending.)

Luckily, it's highly unlikely that so many disruptions would happen to one business all at the same time. But no business is completely immune to disruption. According to data from Symantec<sup>1</sup>, a company of 100 employees can expect to experience:

Clearly, not having a business continuity plan in place can be costly. Hosted communications services (also known as cloud-based PBX or hosted PBX) simplify some aspects of business continuity planning, since the service provider takes care of things like server redundancy, geographic diversity, and data backups. However, you still need to look at where disruptions

They're telecom managers at ABC, Inc and XYZ Corp. Each has about 100 employees located in two sites, Manchester and Providence.



54% OF U.S. COMPANIES EITHER USE CLOUD SERVICES TO AUGMENT THEIR BUSINESS CONTINUITY STRATEGIES OR ARE CONSIDERING DOING SO.<sup>2</sup>

can occur and take steps to address how you will configure your service to minimize the impact of those disruptions.

In this whitepaper, we tag along with Joe and John as they encounter disruptions of all kinds. Let's follow the tale of the two PBXs to see what happens when the unexpected happens.

## SITUATION A

A Nor'easter has struck in the middle of a work day. In Manchester, the snow is falling fast and furious, and it's so heavy that it's already knocked out the power lines. Employees are starting to leave for home so they won't get stuck at the office. Providence is not in the storm's path, so the office remains open.

Inevitably, there will be a time when an office location is inaccessible. With a hosted communications service, you can proactively prepare for "snow days" like this one.



IN ONE STUDY, 49% OF MANAGERS REPORTED THAT SEVERE WEATHER CONDITIONS CAUSED DISRUPTION TO THEIR ORGANIZATION IN THE LAST YEAR, MAKING IT THE LEADING CAUSE OF DISRUPTION.<sup>3</sup>



## PREMISES-BASED SYSTEM

Before Joe can leave, he has to:

- Call the service provider to forward Manchester's main line to Providence
- Remind employees to include their cell/home phone in their voicemail greetings, since the DIDs can't be forwarded
- Check the UPS on the PBX...and hope that the power outage won't last for more than a few hours

Providing your users with options that allow a cell phone to make and receive calls from the user's work number (such as softphones, UC clients, and mobile device integration) will allow them to work remotely from home. Also, through the hosted provider's web portal, auto attendant menus can be updated on-the-fly to play an "office closed" greeting and/or transfer to alternate locations. You could even ask someone at an alternate location to serve as a backup administrator — since a hosted PBX lives "in the cloud," that person will be able to manage it remotely.

## HOSTED VOIP SYSTEM

As John leaves, he uses his smartphone to:

- Log in to the web portal to forward Manchester's main line to Providence
- Remind employees to enable call forwarding on their DIDs

Now suppose the affected office location loses power. With a premise-based system, you'll need a generator or UPS to keep the PBX powered up and running, or else its features and functionality will fail completely. In comparison, to the outside world calling in to your company, a hosted system's features will either continue to work as programmed or automatically fail over to an alternate setting in this situation. For example, a feature called "call forwarding not reachable" ensures that calls are forwarded to backup phone lines, another location, or users' cell phones in the event that a location cannot connect to the hosted service.

## SITUATION B

Providence site has inexplicably lost its network connection



ALTHOUGH PANDEMICS, SECURITY BREACHES, AND ACTS OF WAR RECEIVE A LOT OF MEDIA ATTENTION, MORE MUNDANE EVENTS SUCH AS INFRASTRUCTURE AND NETWORK SYSTEM FAILURES ARE PERCEIVED AS MORE LIKELY BY IT AND BUSINESS EXECUTIVES.<sup>4</sup>

### PREMISES-BASED SYSTEM

Joe figures he'll have to:

- Check the PBX to ensure everything is connected and working properly
- Call the service provider and open a service ticket
- Contact the PBX vendor and open a service ticket
- Figure out how to re-route inbound calls so they don't get lost in a black hole

Whether you have premise-based or hosted VoIP, problems with the provider's network are rare. Both types of systems are working on robust infrastructure with several layers of redundancy built in. Usually, if there are any problems, they occur in the "last mile" of connectivity.

To prepare for the possibility of a network failure, you could implement a secondary connection with an alternate provider. This backup connection is only used as a failover if the primary connection is interrupted.

When a hosted communications system fails over to a backup connection, the IP connection switches to its backup and the phones re-register with the alternate ISP's IP addresses; all

### HOSTED VOIP SYSTEM

John figures that he'll have to:

- Contact the provider of the primary connection (either by calling or using their web portal) to open a service ticket

voice traffic is then routed through that ISP and across the Internet to the hosted provider. When the primary connection is back online, the phones re-register directly to the hosted provider and normal operation is restored.

With a hosted PBX you could also implement a SIP proxy server, which maintains basic call control functions (i.e., place and receive calls) through a traditional voice T1 or analog business lines if your links to the hosted provider and alternate ISP are both unavailable. Some of your phone numbers may need to be forwarded to the local numbers associated with the POTS/T1 interface in order to receive inbound calls.

Physical security is easy to overlook or take for granted.

## SITUATION C

Overnight, a disgruntled employee broke in to the Manchester office and destroyed everything he could get his hands on. He stomped over every phone in the building until they were each reduced to rubble. He also got into the telco closet and torched everything he could find inside. (And it looks like he took the fax machine outside and smashed that up with a baseball bat.)



IN A RECENT SURVEY,  
LESS THAN HALF (43%) OF  
EXECUTIVES SAID THEIR  
BUSINESS CONTINUITY AND  
IT SECURITY ACTIVITIES  
WERE COORDINATED WITH  
THEIR PHYSICAL SECURITY  
ACTIVITIES.<sup>6</sup>

### PREMISES-BASED SYSTEM

At a glance, Joe sees that he'll have to:

- Call the service provider to forward Manchester's main line to Providence
- Ask employees to use their cell/home phones until a new PBX can be installed
- Forward broken fax's line to another line until the new machine is installed
- Order, stage, and install new PBX
- Order new phones, fax machine
- File an insurance claim on the broken equipment
- Play phone tag with the insurance company waiting to be reimbursed

However, this type of disruption may be more common than you think. Consider that, in a recent survey of corporate cybercrime incidents<sup>5</sup>, 20% of those incidents involved a physical attack — usually, meaning that devices were either stolen or tampered with. Such an incident could set you back significantly if you're not adequately prepared.

With a hosted communications system, the responsibility of your phone system's security rests with your provider — and that's a responsibility they don't take lightly. Any hosted provider worth their while will protect their data center with multiple layers of surveillance and access control. Even if your entire facility were

### HOSTED VOIP SYSTEM

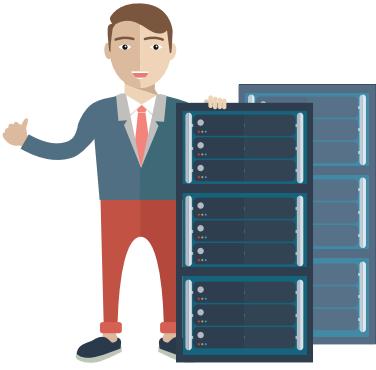
At a glance, John sees that he'll have to:

- Log in to the web portal to forward Manchester's main line to Providence
- Remind employees to enable call forwarding on their DIDs
- Order replacement phones and router from the hosted provider
- Order new outbound fax machine (hosted inbound faxes continue to be delivered via email)

lost, your hosted PBX will still survive (because it's not physically located at your facility) and could be brought back online quickly.

Unfortunately, regardless of whether you have a hosted or premise-based PBX, replacing damaged equipment can be a costly endeavor if the damage isn't covered under warranty. To avoid the possibility of having to pay out-of-pocket to replace damaged equipment, you could select a vendor that offers guaranteed replacement (where they will replace the equipment regardless of how the damage was caused), or you could opt to purchase insurance to cover non-warrantied repairs/replacements.

## SITUATION D



ACCORDING TO ONE SURVEY,  
54% OF MANAGERS THINK A  
LOSS OF PERSONNEL WOULD  
HAVE A SIGNIFICANT IMPACT  
ON THE COSTS AND REVENUE  
OF THEIR ORGANIZATION, AND  
34% HAVE EXPERIENCED THIS  
TYPE OF DISRUPTION IN THE  
LAST YEAR.<sup>3</sup>

The PowerBall jackpot is up to \$400 million, and two people hit all seven numbers exactly. In a bizarre coincidence, both of the winners are telecom managers who live in Manchester, New Hampshire.

### PREMISES-BASED SYSTEM

Joe's to-do list is suddenly revised to:

- Resign from ABC Company
- Pay off mortgage
- Purchase extravagant sports car

All the planning in the world does no good if the person responsible for implementing that plan leaves the company, becomes incapacitated, or is otherwise unable to perform their job.

If you have a premise-based system, you're responsible for maintaining all the hardware and keeping the software up-to-date. If you're not a very technical person, that means you'll need to find an alternate or replacement who's properly qualified and trained to manage the phone system. Any changes or maintenance would have to wait until that new person is in place — or you could pay big bucks to an outside vendor to make those changes for you in the meantime.

### HOSTED VOIP SYSTEM

John's to-do list is suddenly revised to:

- Have photo taken while holding a giant check for \$200 million
- Resign from XYZ Enterprises
- Hop on the first flight to Maui

On the other hand, a hosted PBX enables you to implement a "self-service" approach. Because the system's features are managed through a web-based portal, your users can make many changes to their accounts themselves, and even admin-level changes are easy for non-IT staff to manage. Beyond that, all upgrades, patching, and hardware refreshes are managed by your hosted provider as a standard part of their service. In other words, you'll have fewer things to worry about as you scramble to replace that guy who just drove off in his brand-new Ferrari.

## PLANNING AHEAD

As the scenarios in this whitepaper demonstrate, there are many different components to your phone system that must be accounted for to ensure that normal operations can continue in the event of a disruption. Here is a checklist you can use to proactively prepare for these situations.

## POTENTIAL PROBLEM CHECKLIST

	PREMISES-BASED VOIP PBX	HOSTED VOIP PBX
Disruptions affecting a particular business location (severe weather, disaster, security breach, etc.)	<p>Ensure that you have spares on hand for all devices</p> <p>Pre-configure failover routing on your main line and (if possible) DIDs; take note of the procedure for enabling this feature when it is needed</p> <p>Establish contingency plans for continuing operations in the event that the PBX is destroyed or offline for a significant period of time</p> <p>Determine who is qualified to maintain the PBX if the primary manager is lost or incapacitated</p>	<p><i>For rental equipment:</i> Confirm that your service provider can provide a replacement in the event that a device fails <i>and/or</i></p> <p><i>For purchased equipment:</i> Ensure that you have spares on hand for all devices</p> <p>Configure all users with options and features that will allow them to work remotely if needed</p> <p>Enable and pre-configure features that will allow local operations to continue or be redirected to an alternate location (such as auto-attendants and receptionists covering multiple sites)</p> <p>Ensure at least two people are set up with admin-level access to the system's web portal</p>
Power outage or disruption to network connectivity	<p>Make sure you have a backup power source, such as a UPS or a generator, available for your PBX switch and all connected equipment</p> <p>Install at least one redundant connection, which can be used as a failover if the primary connection is interrupted</p>	<p>Make sure you have a backup power source, such as a UPS or a generator, available for your firewall, routers, and switches</p> <p>Install at least one redundant connection, which can be used as a failover if the primary connection is interrupted</p> <p>Enable features that will allow operations to continue if the phone system is not available (such as auto-attendants, call forwarding not available, and hosted voicemail)</p>
Disruptions to the service provider's network	<p>Enable Direct Trunk Overflow (DTO) on PRI or SIP trunk</p> <p>Configure call forwarding to redirect calls to an alternate location</p>	<p>Enable features that will allow operations to continue if the phone system is not available (such as auto-attendants, call forwarding not available, and hosted voicemail)</p>

## CONCLUSION

Straight “out of the box,” a hosted communications system naturally addresses the major challenges of business continuity. It helps your business to continue operating until normal functionality is restored — and, in some cases, it can even prevent interruptions from happening in the first place. However, like any other system in your organization, it is not completely immune to damage or disruption.

By proactively developing and implementing plans to manage potential interruptions wherever they may occur, you’ll further ensure that this essential asset continues to function when your business needs it most.

With any luck, you’ll never have to use those plans...and we sincerely hope you’ll never encounter an unending string of disasters like Joe and John have. (But at least now they have the means to stop and relax for a while!)

## REFERENCES

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- 2 AT&T, *2011 AT&T Business Continuity Study: U.S. National Results*, February-March 2011
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- 4 Palmer Research, *Effective Communications in Business Continuity Planning*, May 2011
- 5 Verizon, *2012 Data Breach Investigations Report*, March 2012
- 6 Continuity Central, *Preparedness in the Private Sector – 2011*, November 2011 ([view here](#))



## ABOUT TPX

TPx is the premier managed services carrier that delivers comprehensive communications solutions to 75,000 business locations nationwide. Businesses nationwide trust TPx to manage their mission-critical network services. TPx's award-winning, enterprise-grade unified communications, managed IT, and network connectivity services empower companies to unleash productivity by streamlining processes, proactively monitoring systems, and staying current with rapidly-changing technology. TPx backs its services with a zealous commitment to Customer Care, including a network uptime guarantee and 24/7/365 live-answer technical support.

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