CIO Playbook:
Enterprise Telephony
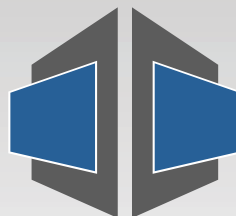
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Changes in a number of areas are transforming business telephony. These changes have varying causes: advances in IP communication technology, the explosion of mobile communication, the growth of cloud-based services, and the proliferation of video conferencing, to name a few. The changes have affected small companies in big ways. In particular, they have given SMBs access to communication capabilities formerly reserved for large companies. But they also have growing potential to affect enterprises. Thus the failure to keep on top of them can leave even the biggest companies at risk of falling behind.

There are two ways to look at these changes and their effect on your company. One is as a series of potential challenges to deal with. The other is as opportunities to improve your employees' ability to communicate. Realistically, most of the changes will represent combinations of challenge and opportunity. Following is a list of key drivers of change, along with some ideas about how to deal with and/or take advantage of them.

Bring Your Own Device (BYOD)

The "Bring Your Own Device" phenomenon, which sees employees increasingly using personal electronic equipment for business purposes, is ground central for the clash between control and flexibility. Companies understandably want to own or at least control the equipment their employees are using on the job. Indeed, a greater or lesser degree of control is always necessary for security purposes. But companies also want to give their employees as many ways as possible to do their jobs. Often this means giving them more leeway in the equipment they use, including their own devices. In any case, the trend towards BYOD is accelerating. And so is the potential for conflict between the priorities of security and convenience.

The conflict is particularly visible in business telephony, mainly because of the growing use of smart phones in business. One reason for this growth is the popularity of smart phones among consumers: Employees want the same features in phones they use for business that they have in their personal phones. Another reason is that phone system vendors are making business use of such devices more attractive. A key method in this effort is providing smart phone apps that give employees full access to the features of their corporate phone systems.

The problem is that smart phones are a lot more than just phones. When used in business, they

may inevitably end up having access to or storing a lot of corporate-related data and perhaps even applications, in addition to phone records, voice mail and the like. That can cause big problems if the device is stolen or the employee leaves the company. In such case, the company will want the ability to erase the phone's data remotely or lock it permanently. That can be tricky if the device belongs to the employee. As such, it represents a persuasive argument in favor of company-owned devices. This is particularly important because of the prevalence of the threat. In 2012, 55 percent of companies contacted in a survey reported some kind of security issues, mostly having to do with lost or stolen phones.

At the same time, allowing employees to use their own smart phones in business can make sense for several reasons. It means they don't have to carry two devices around. It lets them communicate more easily with business contacts as part of their everyday routine. Of course, it saves the company considerable money. And in general, it makes life somewhat simpler, at least when it comes to keeping track of equipment. Either way, the advantages BYOD as a whole appear to be convincing: According to the survey, some 81 percent of enterprises now allow employees' personal devices in the office, although not all of these necessarily involve personal smart phones.

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The BYOD trend introduces a number of other complications as well. For example, it increases the number of devices the IT department has to support. In the past, the choice was usually simple: when it came to smart phones for business, it was BlackBerry or nothing. But when employees rather than employers start making the selection, the possible choices also include, at a minimum, iOS and Android devices, including both phones and tablets, as well as Windows 8 mobile handsets.

Here are some questions to ask to help sort out your basic options:

- What type of company-owned mobile devices, if any, do you currently provide to your employees?

- What kind of non-telephony applications and services run on these current devices?

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- What smart phone platforms does your phone system vendor support?

- Does this list include the types of smart phones most of your employees own?

- How many of your current devices' non-telephony applications and services can run on the smart phone platforms that your phone system vendor supports?

In addition, the impact of going the BYOD route extends beyond the availability of applications. For example, it may shift financial responsibility for mobile equipment and services from the IT department to other departments, including individual business units or even the finance department. It may bring a sharp increase in mobile data costs, or at least make it hard to separate corporate data usage from employee data usage on a given device. And it may increase the need for in-house Wi-Fi capacity, as well as for access to commercial Wi-Fi services for employees who are out and about. All of these possibilities point the way to further questions to ask about the possible impact of choosing the BYOD approach, although the specific questions will depend on your particular situation.

Unified Communications (UC)

Business phone systems are no longer merely tools for voice communication. They're also IP applications, which can be integrated with other IP apps running on the corporate network. Accordingly, vendors are integrating a variety of other communication apps with their phone systems. The resulting combination goes by the name of unified communications, or UC. This integration vastly increases the number of ways employees can communicate through a single interface or set of interrelated interfaces.

The vendor of the business phone system you are using probably already describes its product as unified communications. But definitions of UC vary widely. Rather than accepting your vendor's assurances, you're better off analyzing which specific UC features it offers. Once you've done that, you can start analyzing how the presence or absence of various features will affect your company's ability to communicate. Then you can use this analysis to decide whether to stay with your existing system, or to start looking for some way to get more features you would like but don't have now.

Following is a list of common UC features, to help you determine how different vendors' offerings stack up. Along with each feature is a set of questions to ask to help you determine both what features you don't have but need, and how complicated it will be to get those features.

Unified Messaging (UM)

An early building block of UC, it lets users access voice mail, e-mail and fax messages through the same inbox and interface.

- **Questions to ask:** What does the specific UM solution offer in addition to the single inbox and interface? Does it transcribe voice mail messages into text? Does it let you dictate replies that it then converts into e-mail messages? Can it handle SMS messages as well? Can it handle video messages? Can you read messages on the screen of your desk phone? And if you need a new solution to get the kind of features you need, how does it integrate with whatever e-mail program you are using?

Presence

This familiar feature, also known as availability detection, lets users know when others are available to communicate by phone, instant messaging or other means.

- **Questions to ask:** How does the system detect presence? By a setting that users have to manually select every time they start or stop working? By detecting key strokes or other activity on the user's computer? By integration with online calendars that indicate times when the user is busy or available? By whether or not the user has opened a specific desktop or mobile app, such as a messaging or VoIP program? And if you add features such as Skype connectivity (below), how easy will it be to integrate the presence functions of the new addition? None of these factors is in itself likely to be the determining factor in your decision to move to (or keep) a specific system, but collectively they could at least help sway the decision.

Mobile Integration

This can take a variety of forms. It may involve simply providing the ability for users on mobile phones to receive and make calls through the office phone system, so that they need never put a separate mobile number on their business cards. More complex variations may involve the previously mentioned smart phone applications that allow users to access virtually all of the features of the office system via their smart phones' touch screens.

- **Questions to ask:** Does your existing system offer find me/follow me, ringing different phones in sequence according to the user's settings, or does it ring all of the users' registered phones at once? If it provides a smart phone app that lets users access the company PBX, what different devices does the app run on? Does the system allow or automatically route calls over Wi-Fi whenever possible? Does it allow outgoing calls from a mobile device to be routed through the corporate PBX? If so, does it allow different outgoing caller IDs for such calls than for personal calls? Most of all, if your existing system doesn't offer some of these capabilities, which of them are important enough to convince you to start shopping for a new system?

Integrated Video Conferencing

This feature is more difficult and expensive to implement and thus less common. It works through room-based conferencing setups, desktop video phones and/or software that allows video conferencing via Webcam-equipped PCs.

- **Questions to ask:** Does it provide only video conferencing, or offer one-to-one video calling as well? How wide a variety of user endpoints does it work with? Does it have a gateway to allow users on Skype (below) to participate in conferences? Does it allow audio-only participation by callers connecting both over the PSTN and via VoIP services? Can it connect to participants who are not on the corporate IP network? Given the increasing importance and ubiquity of video conferencing, the answers to these questions may have substantial impact on your decision to keep or move to a given system in the future. Or they may inspire you to start looking for a third-party video conferencing system, possibly cloud-based, that can meet your needs.

Collaboration Tools

These applications allow users to share desktop screens, documents or applications on their PCs with others, while communicating via voice, video conferencing or text chat.

- **Questions to ask:** Does the UC system you're using or considering offer only basic document and desktop sharing, or does it also offer more advanced features like annotation, white boarding and live streaming of audio? Alternatively, does it allow integration of its built-in audio conferencing function with Web-based online meeting services? Does it work with other vendors'

collaboration products such as IBM Lotus Sametime? In any case, it's worth noting here that while any integration of such capabilities with the phone system you have or are looking at is useful and convenient, there are also enough commercial online meeting services that you will probably be able to get what you need no matter what system you end up using.

Basing your comparisons on this list of features and questions means you can ignore the names vendors put on their products. Instead, you can focus on clarifying exactly what functions and capabilities they offer. More important, you can decide which features you need and which you can do without – and which are more trouble than they're worth. You may conclude that a system with relatively few fits your requirements, and that the lower price or comparative simplicity makes the tradeoff more than worthwhile. Or you may decide that you need most if not all of these features, and are willing to spend what it takes to get them.

Lync

As previously noted, voice is now just another application using your IP network. Of course, it's a special and crucially important app. Thus the tendency for enterprises to continue to treat it like they did before the days of IP telephony – that is, as a specialized service running on dedicated hardware – is unsurprising. But it's not inevitable. Lync in fact really does treat voice like any other app. In fact, it turns telephony into just one more Microsoft software package running on standard corporate servers. And Lync's use and influence will grow in coming years for a number of reasons.

> Lync's use and influence will grow in coming years because it is the natural route to UC.

It starts with the fact that Lync is a natural route to unified communications. As a Microsoft product, it offers built-in integration with industry-standard Microsoft e-mail and other apps. Users can click to make calls from within messages or other application windows. They can also make all their calls from headset-equipped PCs. In short, Lync represents a big step towards making traditional phone systems, or even IP phone systems designed to resemble traditional ones, unnecessary. It's

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particularly useful for companies whose employees spend all their time at their desktop PCs.

But most companies aren't ready to give up their existing phone systems, which represent huge investments. Thus it's important that Lync lets you start slowly. Because it integrates with major business phone systems, there's no need to get rid of the one you have. Rather, you can use Lync only in situations where it makes sense, such as when you're opening a new site or adding employees and don't want to spend the money to buy new phone equipment. Skype integration (below) will make Lync even more useful.

You also may consider starting even more slowly by using Lync Online. This is a hosted service, rather than a software package you run on a server in your premises. It offers the usual advantages of cloud-based solutions, especially low price. It starts at $2.00 per month per user, rising to $5.50 for a plan with more capabilities. The higher-priced plan offers a number of features the lower-priced one doesn't, including collaboration tools, multiparty conferencing/meeting capabilities, and multiparty video conferencing. If your current business telephony system is generally satisfactory but basic, lacking some of the fancier features described in this document, Lync Online may be a good compromise.

Questions to ask:

- How often and how rapidly do your telephony needs change? If they are in constant flux, Lync may prove a useful solution.

- How many UC and other features that you need does your current vendor offer? If it's not enough, you may find Lync or Lync Online can help fill some of the gaps.

- How many of your employees spend their entire work days at their desks in front of their PCs? Those who do may have little or no need for conventional desk phones. Lync may be a good fit for them.

Skype

Skype has been trying for years to become a serious business tool. Now that it belongs to Microsoft, it has its first real chance of doing so. Integration with Lync (above) will be a key element in making that happen, by making it easy for enterprise users to make Skype calls.

Microsoft's seriousness about Skype became clear in October 2012 when it made Lync part of its Skype business unit. The next month, the software giant announced it would migrate Live Messenger users to Skype. Soon after, it put out a Lync mobile app that gives smart phone users access to Skype. Of course, Skype users around the world can already use the generic Skype mobile app that lets them make and receive calls cheaply or for free. As a result, Lync enterprise users can make and receive Skype calls to and from mobile phones anywhere – all from within their corporate phone systems.

The combination of Lync and Skype won't replace traditional phone systems or calling plans. But it will increase enterprises' opportunities for savings and convenience. It will also expand their ability to take advantage of presence and instant messaging capabilities. This kind of benefits will be hard to ignore, even for large enterprises. Thus the ability to access Skype through Lync may play a significant role in any decision you eventually make, if you do, to start using Lync.

Questions to ask:

- How many of your employees make a lot of calls from their mobile phones to mobile phones overseas? Under traditional calling plans, these are the most expensive type of calls. Skype combined with Lync can make them no more expensive than local cellular calls.

- More generally, how much do you spend on overseas calls? Making at least some of those calls, even those to landlines, via Skype rather than traditional circuits could still save you considerable money.

Cloud Communication

Most enterprises are unlikely to move to all-cloud telephony any time soon. For one thing, they have a lot of money sunk in their existing premises solutions. These solutions have significant advantages in terms of control, quality and reliability. But the advantages of hosted or cloud communications are also becoming more attractive, even as the disadvantages become less daunting. And again, you don't need to move to cloud telephony all at once: You can adopt it only where it makes sense.

The main advantages of hosted services are cost and flexibility. You don't have to buy new infrastructure

equipment up front, which may save you considerable cash if you're expanding. You also don't have to operate and maintain such equipment. That can cut your spending on things like tech staff, service contracts and upgrades. Additionally, you only pay for what you use – there's no worry about buying equipment with more capacity than you currently need. You can even cut capacity as necessary – you're never stuck with equipment you bought but no longer need.

Questions to ask:

- Again, how rapidly do your telephony needs change? If it's a lot, cloud-based telephony may provide the flexibility you need.

- How much are you spending on purchasing, operating and maintaining your premises phone system? Comparing total cost of ownership with the ongoing monthly fees for hosted telephony services will help you decide whether it makes better sense to continue as is or move to the cloud.

The diminishing disadvantages of hosted solutions mainly involve quality, control and reliability. In particular, you no longer need rely on the public Internet to carry your calls. Increasingly, providers are bundling sophisticated PBX features with privately managed IP connections. That lets them control quality from end to end. And it lets you have the best of both worlds: the savings and convenience of hosted service, and the quality and control of premises solutions. Thus the bottom line here is clear: if you've been avoiding even considering hosted solutions because of concerns about quality and reliability, it's time to take a second look.