

Buyer's Guide

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Introduction

When investing in a phone system for your business there are a number of critical factors that must be considered. It is important to recognize that if your business is without phone calls, your professional reputation and your ongoing ability to service existing customers and win new ones is greatly affected. Therefore, phone system uptime and fault rectification are critically important. These factors are directly related to the complexity of the deployment, the availability of a skilled pool of technicians, your foresight to pre-empt risks and your capacity to fund protection measures.

On-Premises v Delivered over the Internet

With an on-premises phone system the main switching and control apparatus is installed in your office environment. The main implications of this are:

- There is often a capital cost associated with purchasing this device ~ approximately \$5k to \$10k upfront.
- The device will take up space in your server room and the maintenance of the physical device including cooling, information security and physical security becomes your responsibility.
- Updates to the operating system, processing power of the device and any testing and maintenance of the physical device in the event of fault will often require an onsite visit from a technician. In turn the requirement for an onsite technician visit adds delay (a technician must come to site, the pool of skilled technicians available to service the equipment may be small and he/she may be booked out) and cost (the cost of traveling to your

office environment will be added to your maintenance bill by the technician).

With a phone system solution delivered over the internet such as 3CX, the switching and control apparatus is located in a remote data center. You might notice at this point that I have used the words “delivered over the internet” instead of “cloud”. This is because there are ways of delivering a phone system over the internet that is not technically cloud.

The principle remote delivery method that is not cloud is a virtualized phone system. Virtualized phone systems and cloud phone systems have important differences from a customer point of view.

Virtualized v Cloud Phone Systems

A virtualized phone system is one in which the switching and control apparatus is deployed in a virtual instance of a remote computer. That remote computer may simultaneously operate virtualized instances of the same or other phone systems (or even other applications). In other words, the computational power of that remote device is being shared across multiple phone systems or multiple (possibly competing) applications.

Additionally, the problems of an on-premises phone system discussed earlier may plague a virtualized phone system if it wasn't engineered to be a remote application from inception.

A cloud phone system such as 3CX is one in which the entire phone application was built to be multi-tenanted. In other words the phone application serving multiple customers is itself a discrete software application and in most cases will have dedicated compute and storage.

Additionally, it is often engineered to not require a technician to visit the premises in the event of fault. This happens in two ways:

- The data centre environment selected for the computational device is purpose built for cloud application deployment.
- The phone system application has been engineered to have redundancy and failover, which means that a mirror instance of the application is simultaneously deployed in another data center so that if the first one encounters problems, the second, third and fourth mirrors kick into gear.

Upfront and ongoing costs

With on-premises phone systems there is significant upfront costs including the phone system switching and control apparatus, the perpetual licensing of the device, the physical handsets and the cabling to connect handsets to the control apparatus. Often the upfront costs may also include the costs of deployment which could easily be 8 hours of technician time if

- extensive cabling needs to be deployed
- A server room or cabinet must be installed
- The IT environment into which the system is being deployed introduces its own complexities

On the flipside, the ongoing costs with on-premises systems can be limited to call carriage costs and a maintenance plan offering unlimited fault rectification.

Maintenance plans for on-premises phone systems rarely incorporate adds / moves / changes (AMC). In these instances, you will be paying for a technician to physically visit your site in addition to paying for the expertise and availability of the technician on-demand to implement the AMC.

With cloud phone systems such as 3CX, the upfront costs are limited to the handsets (~ \$100 per unit to \$500 per unit) and any cabling. If cloud / hosted handsets are wireless and you opt for powering the handsets with adaptors instead of a power over ethernet (PoE) switch, the upfront costs may be very low.

The size of the pool of skilled engineers available to service

When selecting a phone system solution, the pool of skilled technicians available to service the solution both within the service provider business you select and the broader industry is critical in lowering your total costs of ownership as well as fault rectification time and ultimately your reputation as a business.

It is important to recognize that if your business is without phone calls, your professional reputation and your ongoing ability to service existing customers and win new ones is greatly affected. Therefore, phone system uptime and fault rectification are critically important.

Many on-premises phone systems have an aging workforce of skilled engineers reflecting the industry shift to remote methods of phone system deployment.

As a result, the pool of such technicians is dwindling which could mean that the response time for fault rectification could be considerably longer.

Common on-premises phone system models include Avaya, Mitel, Cisco, Samsung, LG-Ericsson, Unify (formerly Siemens). Panasonic and NEC

Many of these vendors have also introduced cloud or remotely delivered alternatives to their once flagship on-premises models with varying degree of success.

Native compatibility with IP telephony

Ubiquitous internet telephony (or voice over IP ~ VoIP) is a relatively modern occurrence. Many on-premises vendors built their reputations in an era when analogue telephony over public switched telephone networks (PSTN) predominated. The telecom carriers in this era also developed digital carriage networks such as ISDN to carry voice traffic. With the emergence of internet

telephony however, many on-premises vendors had to develop IP cards to retrofit on-premises phone systems for compatibility with IP voice transmission and receipt.

Many customers however opted instead for analogue to IP gateways to convert their analogue and digital on-premises phone systems to the era of VoIP.

This introduced the problem of two disparate devices working in unison to deliver the voice product resulting in two critical issues - feature sets of the main phone system unit becoming unworkable and increased delays in fault rectification due to the fact that the phone system technician may not have expertise in troubleshooting faults with the analogue to IP gateway device.

Cloud phone systems natively engineered to work with VoIP have pre-empted these issues and so don't require third party devices to work, greatly reducing the fault rectification time.

Ownership v Rental

On-premises phone systems offer the buyer the sense of ownership. While there may be tax incentives in favor of asset ownership including instant-asset write-offs and depreciation, the on-premises system itself is useless without external phone company carrier services and in many cases a maintenance plan from a phone hardware specialist. Additionally, licensing and security patches for the phone system may require periodic updating, which may render mute the appeal of ownership.

Alternative means of possessing a phone system include rental. There are two main methods here including rental from the phone system service provider company and rental finance introduced by the phone system provider company.

How to fund equipment purchases

Apart from paying cash for the phone system hardware and upfront deployment costs, the alternatives include provider rentals of hardware and the use of equipment finance.

When the provider rents you hardware, the provider buys the equipment and makes it available to you directly. All rental payments are between you and the phone provider. The phone provider bears the credit risk of renting a device to you and also the capital cost of procuring the device. The payback to the provider for providing you rental handsets is often many months and so the provider has two critical and possibly competing incentives here:

- Procure lower cost / quality handsets
- Serve you better over a longer period of time to earn a return on the upfront investment he has made in buying handsets

Many on-premises phone system vendors however incur substantial upfront costs in deploying on-premises hardware which may total thousands of dollars if not tens of thousands of dollars depending on the number of users.

To make the hardware more affordable they incorporate third party finance, which pays the phone system provider upfront for both the cost of the hardware and any profit margin / professional services they invest into the deployment, while spreading the cost of this as well as any interest charges over a term ranging from 36 months to 60 months.

The equipment rental option may actually work out to be cheaper for you in the long term because it provides the phone system provider the incentive to offer you the most reliable technology solution with the best features and benefits, provided you have selected a reliable phone system provider.

The costs of selecting the wrong provider with an equipment rental contract could be substantial, because if you terminate the relationship with the provider, the equipment finance company will still hold you to the equipment

rental contract. This is another reason why assessing the currency of the technology you are investing in along with the availability of alternative skilled engineers in the industry to service your product is critical in your decision making.

The technology environment required for the phone system and the implications of this on your business.

The technology environment into which you are deploying the phone system directly impacts both the cost and complexity of initially implementing the new phone solution as well as the ongoing upkeep of the system.

With internet-based phone systems, the internal network, broadband connection and external network all impact the quality and usability of the phone system.

Network congestion both within and external to the business premises can degrade the voice quality and concentrated network pathways expose your business to the simultaneous failure of computer and phone networks, which can be catastrophic for a business.

Regardless of the deployment option you select for your phone system (on-premises or remotely deployed), a dedicated internal LAN circuit to your firewall is essential as well as voice prioritization by way of VLAN and/or QoS tagging is critical to the voice application. Additionally for cloud applications, port forwarding and STUN setting modifications in the network firewall are critical.

The scalability of your solution both from a cost and ease of activation perspectives

Cloud and virtualized phone systems such as 3CX have been natively engineered to scale the number of users at a predetermined or predictable price and along a smooth pathway.

On-premises phone systems on the other hand may require complicated and expensive onsite visits by technicians with adjustments not only to handsets but also to network topology, cabling, licensing and system programming.

If your organization will grow over time, an on-premises phone system will prove significantly more cumbersome and have a significant impact on your cash flow.

The length of any contract

The length of any contract only becomes a problem if you don't do your homework upfront. With expensive on-premises phone system solutions, if you are considering a rental option, you may be required to lock-in for between three and five years to ensure the amortized monthly costs suit your budget. With provider based rental programs and cloud-based systems, contract lengths may offer you more flexibility.

The feature set you would like in your phone system

As discussed earlier on-premises phone providers have the greatest financial incentives to both offer and deliver complex feature sets. While many cloud phone systems have feature rich online user interfaces, the cloud business model provides an incentive to providers to reduce upfront capital costs. As a result, they are incentivized to minimize the costs of providing technical support and prefer DIY interfaces for feature implementation. The greatest risks with cloud providers are the lack of dedicated, skilled and personalized support when things don't go to plan.

The forward compatibility of the phone system

Many on-premises phone system providers have not adapted well to the competition introduced by cloud telephony providers. The main reason is because the latter are predisposed to software development and integration

of diverse applications. In other words, forward compatibility of cloud software solutions is natively part of their business plans.

For on-premises phone providers, open-APIs for integration of diverse applications is an afterthought imposed by the external market and not native to their engineering methods or processes.

As a result on-premises phone system solutions are not forward compatible and are therefore poorly prepared to deliver businesses true automation and insight into the effectiveness of their broader organizations and component workflows.

The business model of the organization marketing the phone system

In the Australian telecommunications market, there are several types of participants each with their own business models and associated incentives.

- Communications carriers like Telstra, Optus, Vocus and TPG (Vodafone & AAPT are wholly owned brands)

These organizations are focused on building telecommunications networks. Though they have retail customer facing businesses, they don't have the expertise or incentives to be personalized. They think and act like corporates catering to mass interests instead of unique personal interests.

- Branded phone system dealership likes Telstra Business and Technology Centre, Optus Business Centre and Commander Business Centre.

These businesses tick most of the boxes but fail in one critical respect. They don't have an ongoing incentive to service you because they receive most of their money upfront. Also they don't have the technical capability to resolve carrier problems. They can only intervene to solve phone system problems.

- Branded dealers of Carriage Service Providers who traditionally sold carriage services but more recently expanded into phone systems

While such businesses like Vodafone Business Centre may have skilled phone system engineers, they suffer the same problems posed by Commander Business Centres, Telstra Technology and Business Centres and Optus Business Centres.

- Unbranded channel introducers of branded carriage services who may bundle phone systems such as Telstra Partners, Optus Partners and TPG Partners

They suffer the same if not worse problems than Vodafone Business Centre and Commander Business Centre because neither do they have the purchasing power of the branded centers nor do they have the technical capability to intervene across the whole solution.

- Carriage resellers who offer phone systems as an add-on such as Spintel and Exetel.

These companies tend to make their money from reselling carriage services. Their phone offerings are an after-thought and are poorly resourced.

- Bundled carriage resellers who focus on phone systems and carriage services such as VoIP Partners.

Of all the providers, these businesses represent the best value because they work with businesses only, they have tailored solutions, the highest degree of control, the incentive to serve you over the life of the contract and to varying degrees well-resourced teams of service personnel.

If you're in small business, you want a provider who is

- Well capitalized to serve your interests in all economic conditions
- Has the incentives and business model to provide great service and advice upfront as well as over the longer term

- Offers a solution that is forward compatible, integrates with other applications, is stable and has a deep pool of alternative engineers available to provide support in case your main provider fails.
- Employs their own technicians to deliver immediate fault resolutions
- Is completely in control over all elements of the technical solution
- Has the economic incentive to service you over the life of the agreement.

The security of your phone system

For many providers the security of your phone system is rarely thought about. Phone systems introduce an array of vulnerabilities because of their omnichannel nature and the myriad of interfaces and myriad of environments available to interact with them.

Any reputable provider should present you with a cybersecurity plan including password management, network threat management, user threat management and end-point security.



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