Critical
l i n k s

WHITE PAPER

Ten steps to *dramatically* reduce the TCO of Small Business Communications

Small and Medium Businesses (SMBs)[1] have an unprecedented opportunity to leverage the latest communication (telephony and data) technologies. With these technologies, they can now compete effectively against larger, better funded companies worldwide. A big challenge, however, has been the cost of deploying such capabilities.

But by watching out for the 10 most commonly made mistakes identified in this paper, even the smallest SMB can afford these capabilities. In fact, it is entirely possible for an SMB to reduce its Total Cost of Ownership (TCO) to roughly a third (i.e. a 66% reduction); on-going savings are estimated to average $ 10,000 annually for a typical small business.

Reducing the TCO so dramatically but still being able to have sophisticated communication capabilities provides SMBs with a competitive edge.

---

[1] This scenario also applies to Remote Branch Offices of larger enterprises; in essence each of the remote offices often resembles a SMB and is faced with similar issues.

INTRODUCTION

New communication technologies – such as telephony, email, the web, wireless etc have revolutionized business. These technologies came with a considerable cost, however, and were limited to be used by only the larger enterprises which could support the relatively high cost of deployment and subsequent support. These very technologies can of course be employed by SMBs to level the competitive field but for the fact that the associated TCO is still out of reach for most of them. This paper very briefly notes some considerations an SMB should take while setting up its communication and networking infrastructure. By following these guidelines – specifically what to avoid, the TCO can be brought down significantly, enabling the SMBs to realistically afford – and leverage game changing capabilities.

Typical communication capabilities that would be required in a SMB these days include a full-fledged telephony system with a fair amount of sophisticated features beyond voicemail, email, web and print servers, wireless access, security of its data, storage of important files, sharing information between employees, supporting remote/mobile employees etc. To leverage most of this functionality effectively, the SMB would also require external connectivity to the telephone carrier (or alternate provider) network and/or the Internet. Internally, all these capabilities reside in different products (usually servers) and are connected using a Local Area Network (LAN). For both internal and external connectivity, the SMB would require routing and switching capability.

The broad range of capabilities usually means a high investment and higher on-going costs. Here are the top 10 considerations which can reduce this dramatically, and make them affordable to a SMB. Specifically, here is a list of what is to be avoided (in no particular order).

1.   Separation of Voice and Data Networking

There is no need to have separate voice (telephony) and data networks. Advances in data technology allow for just a single (data) network to be used for *all* communication needs. Thus, having a single data network translates in to saving on physical wiring and the testing required associated with a voice network. Even when a SMB is moving in to a building which is already wired, there is still a non-trivial cost to test the wiring. The cost associated with data network can also be minimized by employing standard wireless fidelity (WiFi) technology; it avoids the need for any wiring in the building, and enables a quick set-up as well.

2.   Not using Voice over IP (VoIP) for Voice/Telephony

Voice over IP (VoIP) is a data-based technology which can provide a reliable and robust telephone solution at a fraction of a cost of what it would cost using traditional (analog) phone service. Firstly, using VoIP for voice will enable using only a single (data) network for both voice and data, as recommended in 1. Further more, and more importantly, VoIP will also enable significant on-going cost with voice communications – often the biggest component of a SMB's communication expense.
This cost saving is especially pronounced when SMBs make the usual toll (long distance, whether between states or countries) calls since the toll is often negligible (or none) because VoIP calls use the global Internet for making calls (at literally no cost).

3.   Limited access bandwidth

The communications experience at an SMB can be significantly affected by the amount of access bandwidth available. This bandwidth refers to the physical connectivity to the telephone (or cable) company that would have to be purchased for the voice and data services required. If both voice and data

services are deployed as a single network (as suggested above), then care must be taken to ensure that there is adequate bandwidth to support the (latency sensitive) voice services. A simple rule of thumb is to figure out the maximum number of simultaneous phone calls that needs to be supported and multiply this number by 64 Kbps to come up with a rough number for bandwidth (note: of course the telephone company may not give you the exact amount of bandwidth but get the closest available amount).

An important consideration while deciding on the SMB's physical location is to check the availability of broadband access at that building location.

In deciding upon the bandwidth needed to ensure superior user experience, an SMB should also validate that the bandwidth subscribed is indeed what it will get; too frequently this is not the case. It is easy to check with other tenants in the building to ascertain this, or employ one of the numerous tools freely available on the Internet.

The cost of access bandwidth is dropping by the day, and it is advisable to get adequate bandwidth, because it will not significantly impact TCO but will certainly improve performance.

4.   Needless sophistication

It is important to have a realistic awareness of the types of services that may be necessary by the SMB in the foreseeable future. It is often the case that over 90% of the functionality in any particular area – such as Telephony, Security etc are never used by most SMBs and only adds to the complexity and cost. Even an entry level IP PBX, for instance, provides more than sufficient features for most SMBs. Using an optimal set of feature capabilities will invariably have a marked impact on the TCO; a '*pay-for-what-you-need*' strategy is therefore a good rule of thumb to employ.

On a practical level, it may be prudent to look at similar sized/type of businesses to understand the specific usage to get a better sense. Talking to VARs serving similar customers is another useful option.

5.   A multi-product Solution

Since a variety of distinct functionality is usually required, one option is to look at several products, each addressing a specific functional area, e.g. a product for IP-PBX, another for Security, a third for routing, and so on.

This approach is fraught with numerous disadvantages. It obviously adds to the complexity of the infrastructure and consequently the investment and on-going costs. Some of the key challenges pertain to ensuring inter-operability between the multiple products (i.e. they can work together to deliver a service) as well as the costs of maintaining (multiple software upgrades, developing expertise in each of the products etc) these products. Almost always, having a multi-product solution will require a SMB to hire expensive IT support.

A solution that unifies all the communication and networking (Unified Communications) would make best sense.

6.   Dealing with several vendors

This follows from having a multi-product solution; invariably, in that case an SMB would have to deal with multiple vendors, which translates in to having a complex vendor selection process, abiding by multiple contracts and multiple operational relationships (for support, updates etc). This can turn in to a huge burden for most SMBs.

Even if a SMB is dealing with a VAR who takes care of the multiple vendors and hence, avoid the direct contact, realistically the SMB will still have to pay a premium to the VAR for taking on this overhead.

7.   Cost of space and power

Having a multi-product solution also entails a non-trivial cost for SMB in terms of the necessary space and power that would be required. Having several product appliances (i.e. each on its own hardware platform) will require some sort of structural support (e.g. a telephony rack etc would have to be installed) to prevent a messy situation (rat's nest). In addition, power supplies (and an Uninterrupted Power Supply) and HVAC would also be necessary.

Of course, in addition to this initial investment, on going costs - rent premium for the extra space, and electricity costs, can be expensive.

8.   Cost of user licenses

This is an important and often overlooked cost that can significantly add to the overall initial and on-going costs. Most of the product vendors typically charge a user license fee, in addition to the initial cost of the product. This fee is dependent on the number of users who would use the product within the SMB. It is important to get a good understanding whether the initially quoted price by the vendors includes a specific number of user licenses. Far too often, vendors quote an artificially low price initially for the product, only to pile up additional costs later. It is important therefore the SMB explicitly asks this cost before making any decision.

The marginal cost of software licenses (i.e. the cost to produce an additional one) is very low, and can be negotiated down significantly.

9.   Expert support for minor changes

In most SMB environments, the requirements for the telecom and IT services are fairly dynamic. For instance, whenever there is an employee leaving/joining (exacerbated with the practice of hiring temporary employees) or some minor changes (e.g. increase the discount) on an on-line/web campaign are to be made quickly, then it is essential to keep the cost of making the appropriate changes in the underlying infrastructure to the minimum.

So it is important for an SMB to have some understanding of what would it take to make such common changes? If a multi product solution is employed, typically this would entail changes across multiple products (to add/delete an employee for example), which is fairly complex and would most probably require outside - and expensive IT support.

It is important, therefore, to choose an infrastructure solution which is designed to allow even relatively unsophisticated users to make such changes without expert assistance. Ensure that the support help desk (or on-line) capabilities of the product vendors would suffice at most.

10.   Playing it too safe with technology!!!

Increasingly, the quality of technology that is used in telecommunication and IT products is very reliable, irrespective of the vendor (since most of them are using the same open-source technologies at the core). Several of these technologies, especially ones like Voice over IP (VoIP) offer substantial cost benefits without any significant exposure, and not only get the job done but offer several advantages. Technology

is the great equalizer and new technologies especially are pushing the pricing envelop down while augmenting with new features continually.

It is important that SMBs learn the benefits of these technologies and make an informed decision. Usually the risks of using new technologies/products are much lesser – and costs much less than using older, more established technologies and products.

SUMMARY

A SMB looking for guidance with realistically leveraging the latest Telecom and IT infrastructure would have to squarely address the Total Cost of Ownership (TCO) associated with it (i.e. both the initial investment and ongoing costs). This paper noted some of the important actions an SMB can take (avoid) to keep this TCO low. Notably, avoiding the deployment of multiple products can lead to several benefits which run through the entire life cycle.

New integrated solutions – where in all the required telecom/IT functionality is available as a single product, on a single box (the so called 'Office in a Box' solutions) are now available in the marketplace, and precludes the need for several products in the SMB, either from a single vendor (and reduce premium, low quality etc) or from several vendors (and reduce complexity and cost). These unified communication[2] platforms leads to a dramatic simplification – and correspondingly significant reduction in the TCO, enabling the SMBs to finally – and realistically leverage the benefits of the latest technologies. *And gain a competitive edge[3].*

The award winning edgeBOX from Critical Links offers SMBs and Branch Offices the broadest voice, data and IT feature set at less than a third of the price of comparable multi-product solutions. More information can be had from info@critical-links.com or at the website www.critical-links.com . Over 100,000 users worldwide are leveraging these capabilities without the traditional cost and complexity.

 A sample TCO snapshot of a pretty typical SMB over 5 years is shown in the figure; it vividly shows the substantial savings by using the edgeBOX. Critical Links has developed a TCO Calculator which can assist you in gauging the cost savings in your specific situation. Please contact us at sales@critical-links.com to get a copy of this tool and discover the good news yourself!

---
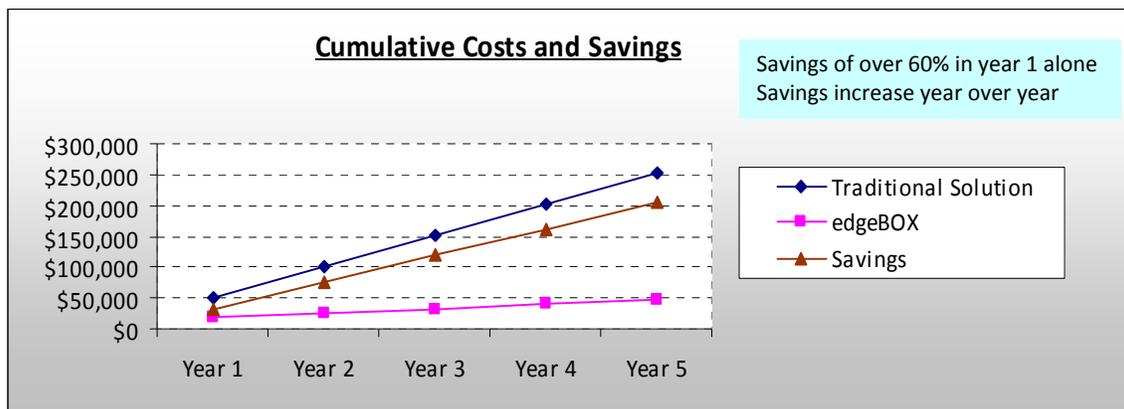
[2] Unified Communications is a term which is the subject of much confusion in the telecom industry. Here we suggest that it unifies and integrates all the communication capabilities so that a unified/single platform supports all the communication needs independent of the media (e.g. telephone, email, web, fax etc)
[3] Over 70% of SMBs' management assert that communications/IT infrastructure gives them a competitive advantage – IDC 2008