



**breakfree**  
*with a software based PBX for Windows*



## **Whitepaper**

# **The top 10 advantages of a Windows based PBX**

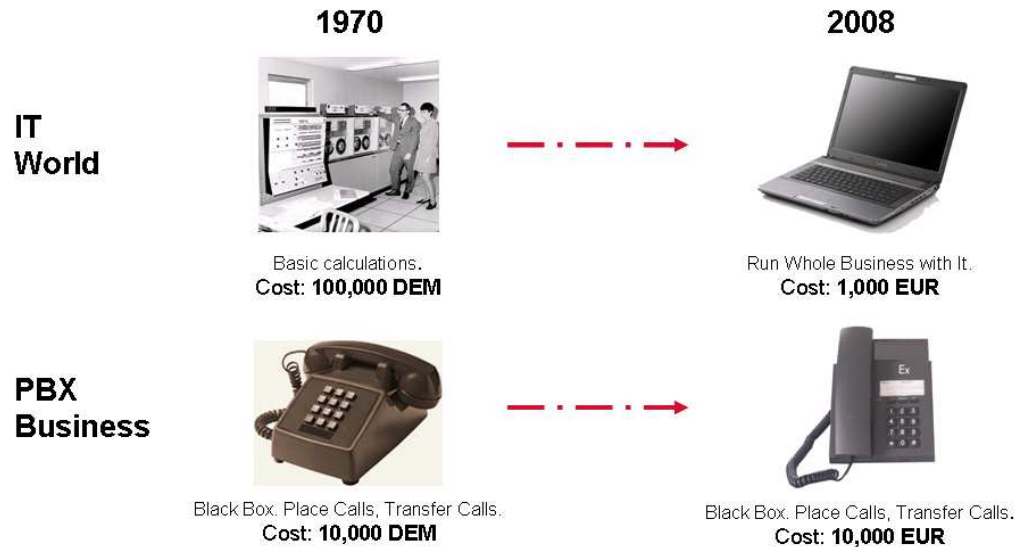
## **Why your next Phone System should be software based**

This whitepaper outlines the top 10 advantages of choosing a Windows based PBX as your next phone system. Why it makes sense to move away from proprietary solutions such as Nortel, Mitel, Avaya, Alcatel and Siemens, and go straight to a REAL software based solution. And why it should be running on Microsoft Windows!

## Introduction

### The PBX business is clearly fast asleep...

The 3CX VoIP phone is a small Windows application that allows you to make and receive calls via using a head set or via the microphone and speakers of your computer.



You don't need a time machine in the traditional PBX vendor world. The phone system of 1970 is the phone system of today. They look and do almost the same! This is very different from what has been happening in the IT business over the last 40 years, where we have seen lots of progress and a REDUCTION in cost!

Clearly the PBX business has a lot to catch up on. We need to see more innovation, and it is software that can make that happen.

#### **Pure software based PBX – not an appliance!**

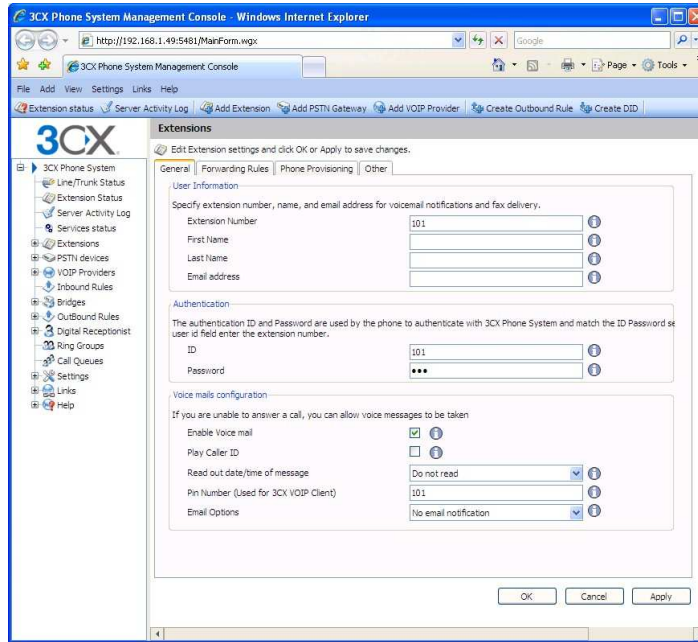
A key point is that a software PBX is PBX software running on a mainstream operating system that can easily be managed by the average administrator. So NOT yet another appliance running some custom, self made version of Linux! Administrators want to get away from black boxes, move it on to Windows, and take CONTROL!

## The Top 10 Advantages

1. Easily Manage extensions & phone lines yourself!
2. Software based cost less to buy and expand!
3. Easier to administer and control
4. Use existing hardware and save!
5. More features by leveraging Windows technologies
6. Hardware & Vendor independent – no vendor lock in!
7. Better fault tolerance through easy backup of your PBX
8. A Windows based PBX is more scalable
9. Better Integration with other business applications
10. Easily build voice applications that increase productivity

# The Advantages Explained

## 1. Easily Manage extensions & phone lines yourself!



**Screenshot 1 - Easy extension management**

With a software based system it is much easier to manage your extensions and phone lines. Its Windows based, so it has an easy to use, intuitive GUI interface, unlike that of a traditional PBX or Linux appliances. Add extensions with a few mouse clicks or set-up new phone numbers and call routes easily. No need to call up the phone-system people and pay exorbitant rates!

## 2. Software based cost less to buy and expand!

A great advantage of a software based VOIP system such as 3CX is that it is much less expensive than a traditional phone system.

The table below compares the cost between a Siemens PBX and a 3CX PBX (with similar feature sets). The Siemens is 4 times more expensive! And this is just the initial purchase cost. As you expand your business, you will find that expansion modules and maintenance on a traditional PBX are much more expensive. You will outgrow your PBX at some point and require a totally new system. A software based PBX is cheaper and gives you more features (inbuilt fax server, connect remote offices & extensions etc.)

Siemens	3CX
100 extensions	3CX Software: €1,150
30 lines	Patton Gateway: €1,800
CTI software	100 Linksys SIP phones: €4,500
Voice mail	Voice mail, Auto attendant
Auto attendant	Fax & Bridges & more: €0
Cost: €30,000	Cost: €7,450 – 25%!
Expansion cost: €∞	Expansion cost: Minimal

### 3. Easier to administer and control

A software based phone system is easier to administer and control because it's just another Windows server application. There is no need to learn how to update or troubleshoot yet another 'black box'. You can avoid problematic Linux updates. Instead you use familiar controls for services, logging etc. to check that your system is up and running. Upgrading to a new version is a simple process: download the latest version and re-install – the upgrade will be done in a matter of 5-10 minutes.

In addition, 3CX Phone System exposes critical administration information via well known Windows interfaces:

- Monitor status, processor and memory usage of 3CX services.
- Restart services automatically if needed.
- Monitor the number of calls, registered phones & ports via performance counters
- Check for critical system events such as failed registrations via the Windows event log.

So, it's easy to monitor your PBX using your existing network monitoring solution.

### 4. Use existing hardware and save!

Because modern servers have ample processing power, a software based PBX can run on an existing server with other applications, saving on hardware cost, energy consumption AND ADMINISTRATION costs!

The table below shows the processor and memory usage of a busy Small Business Server with 3CX handling 16 continuous calls: because of 3CX' low processor and memory usage it can be run safely on an existing Windows server (including Small Business Server) that is running other applications.

Machine specs	Intel Core 2 Duo CPU, E 4500 @ 2.20 GHz, 4 Gb of RAM, 50 Gb Hard disk SATA and a 100Mbps Network connection
Operating system	Small Business Server 2003 R2

Other applications installed	IIS, Exchange Server, DNS, DHCP and Active Directory
Simulated Exchange load (using Exchange Load Simulator)	25 users making heavy use of Exchange (Sending of mail, scheduling meetings, checking inbox etc)
Processor time used by Exchange Server	10-15%
3CX Phone System	V7.1.6591
3CX simulated call load	16 simultaneous calls continuously.
Call rate	0.5 calls/second equalling 2000 calls per hour.
Processor usage of all 3CX Services	Less then 15% CPU.
Total Memory usage of all 3CX services	300 megabytes (including Cassini)
Peak processor usage	30-40%

Alternatively you can run 3CX as a virtual instance using Hyper V, which is included in Windows 2008. HyperV is a great virtualization platform for 3CX, since it is a Hypervisor, which allows for better I/O performance of virtual machines. The improved IO makes virtualization possible even for larger environments (up to 250 extensions). In addition, Hyper V does not incur cost for an additional operating system license (you have up to 4 instances of Hyper V depending on Windows server version included in the cost of Windows).

## 5. More features by leveraging Windows technologies

*More features,  
better integration  
and thus more  
productivity*

The lack of progress and innovation in the PBX industry has been largely caused by the fact that the traditional PBXs run on a proprietary and limited operating system, which has only archaic development tools. Running on Windows, we can leverage the latest development technologies such as .NET and thus can achieve much faster development cycles. We can also re-use all those functions already in Windows – we don't need to re-develop them. This also means we can leverage many of the technologies we use everyday to manage our IT environment, such as network monitoring, backup and virtualization.

A good example of fast turnaround of versions and features is 3CX Phone System for Windows version 6. We added 10 significant features in the space of only 20 weeks: Call Conferencing, Paging, Intercom, Fax and more. We could develop, integrate, test and release all these in only 5 months!

And customers could upgrade to the new version in a matter of minutes. This is the power of software based PBX – and it will drive many new features and productivity enhancements for our clients' businesses.

## 6. Hardware & Vendor independent – no vendor lock in!

A software based PBX is standards-based and vendor independent. Because of the SIP standard, its future proof and you will not get tied up to a particular vendor. You choose what VOIP hardware and providers you want to use (and mix and match at will). You can even use Skype for inbound and outbound calls!

## 7. Better fault tolerance through easy backup of your PBX

Software based also means that you can easily back up your whole PBX. 3CX includes a backup function that backs up all system data with a few mouse clicks. In the event of a hardware failure, you can restore your phone system on to another windows machine in a matter of minutes.

If you are running your PBX virtually, you can use the Hyper V Backup function to save a complete copy of your PBX to disk. If it is small enough you can even burn a DVD of it!

If you are running a black box / Linux appliance style PBX, you will be without PBX until you can get a physical replacement which will require re-configuration!

## 8. A Windows based PBX is more scalable

*Scale easily - Add lines, phones & gateways without touching the box*

A software-based PBX can scale to almost unlimited capacity by leveraging modern server hardware. Appliances on the other hand are limited by the number of telephony ports they have and by their limited processing power and memory.

Your appliance will run out of steam as soon as you start adding more lines, phones, and making use of more processor intensive functions such as conferencing.

## 9. Better Integration with other business applications

*Automatically pop-up the customer record when receiving a call*

Another major advantage of a Windows based PBX is that it integrates with your Windows business applications. It's no longer a black box sitting in the corner refusing to talk to the rest of your network. And with this integration we can gain features and thus productivity.

3CX Phone System integrates OUT OF THE BOX with Microsoft Outlook, Salesforce.com and other CRM systems to deliver productivity gains for your sales force and customer service departments. In addition, you will improve customer service levels.

Optionally integrate with Exchange 2007. The 3CX CRM API makes it easy to integrate telephony into any business application.

## 10. Easily build voice applications that increase productivity

A windows based PBX runs on your windows network and can talk to your windows applications, so now its easy to take the next step: Build voice applications that automate every day business processes, and improve customer service and save costs.

For example, automate collection of customer numbers, survey responses and more. Using 3CX' visual VXML editor (available Q3 09), companies can build powerful voice applications with a few mouse clicks.

## Conclusion

In conclusion, a Windows based PBX offers:

- Easy installation,
- Easy management
- Better integration
- Lower cost.

And with application integration and voice applications we can finally start to see some innovation in the telephony area too. Its time to change!

Experience the advantages of a Windows based PBX – download your copy from <http://www.3cx.com>

## About 3CX

3CX is an international developer of telecommunications software, headquartered in Europe with offices in the UK, USA, Germany, Cyprus, Malta, Australia and Hong Kong. It is a Microsoft Gold Certified partner and is backed by an experienced management and development team. Its product, 3CX Phone System for Windows, has earned Windows Server 2003 Certification and has received numerous awards, including The Windowsnetworking.com Gold Award, the Communications Solutions 2007 Award, the Windows IT Pro magazine 2008 Editor's Best Award and a Best Buy Award by Computer Shopper Magazine, all in recognition to the company's commitment to innovation and quality.



*3CX is a registered trademark in the US, UK, Europe and other countries. Microsoft Windows is a registered trademark of Microsoft Corporation. This whitepaper is copyright of 3CX Ltd*