

Hosted IP PBX: VoIP Phone Solution for Businesses

White Paper from BNCVoice



The History of VOIP

Although VOIP has been around for years, it is only recently that the technology has matured to the point where it can carry high quality business communications. The earliest implementations of VOIP used PC-based solutions that were unreliable and poor quality. While users could get “free” calls across the Internet, the service was not robust enough to connect to the public switched telephone network, and certainly not reliable enough for business use.

Several key improvements have emerged during the past couple of years making VOIP technologies ready for prime time. The first of these improvements has been the proliferation of IP networks and broadband access throughout the world, and the reliability of Internet infrastructure. In addition, VOIP network infrastructure and sophisticated IP phones can now support Quality of Service (QOS) to ensure that data packets carrying voice calls are routed with high priority in the network so that a telephone call is delivered clearly, reliably and without distortion. Finally, VOIP-enabling protocols have also matured. The oldest and most basic packet voice protocol is H.323, which has been in use for almost a decade. Later improvements include a proprietary standard developed by Cisco Systems called Skinny Client Control Protocol (SCCP), and Media Gateway Control Protocol (MGCP), which have taken steps to improve the QOS signaling controls. Most recently, the VOIP industry is converging on Session Initiation Protocol (SIP), a simplified protocol that is more compatible with the Internet. With the majority of equipment providers moving to embrace SIP, at long last users need not concern themselves with protocol details, knowing instead that the world is moving toward a single VOIP protocol standard. Most importantly, however, the cost savings of VOIP have become so significant that many users can no longer ignore it.

Hosted PBX Overview

A PBX (Private Branch Exchange) is essentially an automatic switchboard for telephone systems. It provides the same basic functions for any business or enterprise that the ranks of telephone operators with handfuls of wiring plugs did in old movies. Those essential features are to provide switching and connection between any two (or more) telephone users.

Any system that does this automatically for telephone calls within an organization is a PBX. The reason businesses move to PBXs is to avoid requiring that every employee have a direct line to the public telephone system, each of which incurs a connection and line charge. Instead, a smaller number of lines get shared by all the users and managed by the PBX. This saves money and is more efficient. All IP PBX (Internet Protocol Private Branch Exchange) systems are basically exchange and extension managers for calls based on the Internet protocol – also known as VoIP and Internet telephony. The essential advantage they offer to small to medium-sized businesses is the ability to add features that have only been affordable or available to large businesses up to now. VoIP and Internet telephony are usually also more cost effective when looking at long-term operating costs due to lower monthly fees and much lower costs to connect and complete calls.

Hosted VoIP Solutions (Hosted PBX) - The Best of Both Worlds

Hosted IP voice services (also known as Hosted PBX or Hosted IP PBX) offer companies a way to combine the centralization and simplified management aspects of a virtual PBX, with the technical and cost-saving advantages of VOIP. Hosted PBX services move the business telephone system out of your office and onto a managed subset of the public Internet, while utilizing quality of service controls brought about by the latest VOIP technology improvements to maintain enterprise-class reliability.

Hosted PBX services can also dramatically reduce your company's communications costs. By eliminating the need to purchase PBX hardware, hosted PBX solutions minimize up-front and ongoing capital expenditures. Hosted PBX systems can also significantly reduce annual operating costs by linking numerous remote locations into a single centralized system with a simplified web-based interface to manage moves, adds, and changes. Because there is no system to buy and all hardware and software upgrades are managed by the service provider, there is also a reduced risk of technology obsolescence. Even the phones are upgradeable – by installing a new software image the phone can be updated from MGCP to SIP protocol, or even future SIP improvements that may include new features and services.

One of the most compelling reasons to move to a VOIP service is to take advantage of free local and on-net long distance calling. Since intra-company calling typically represents between 30 and 50% of a company's calls, a hosted PBX service with free on-net service can represent thousands in savings just from this feature. Furthermore, since the Internet is not limited by geographical boundaries, VOIP technology can dramatically cut your long distance bill no matter where in the world you are calling.

In addition to cost savings, hosted PBX services offer numerous new features and productivity improvements that even the latest IP-based PBX systems have trouble matching. Hosted PBX services offer all of the basic telephony and PBX features such as voice mail, auto-attendant, hunt groups and 4-digit dialing. In addition, hosted IP voice services offer features such as a personal communications manager (PCM) web portal that allows the user to manage all aspects of their phone. PCM features may include a detailed call log and contact list, Microsoft Outlook contact integration, and user-configurable find-me / follow-me service that can forward to any phone number such as your cell phone or home phone. A user can even define custom call treatments based on the incoming number, or time-of-day routing – all at the click of a mouse.

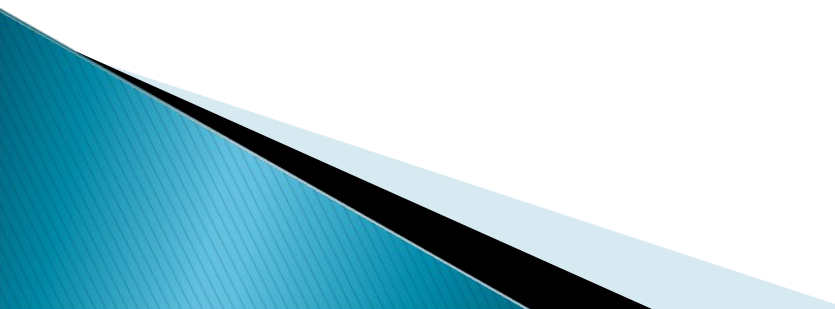
Hosted IP voice services may also offer unified messaging, which allows the user to receive voice- mail, faxes, and email through a single mailbox. Coupled with both web and phone conferencing capabilities, these services enable many of the productivity enhancements that cannot be matched by simple PBX implementation.

Finally, in a post-9/11 era when IT professionals are focused on disaster recovery planning, hosted PBX services offer an off-site, redundant platform that can easily be reconfigured in the event of catastrophic failure. Because the phone system is housed off-site and is accessible through any active Internet connection, destruction of a company's infrastructure will not impact its phone system. A hosted PBX system can be reconfigured within minutes to ensure that calls are re-routed to working telephones, such as mobile phones or telephones in other company locations.

System Features

Residential and very low-end VoIP providers often claim to offer business-class PBX services, but except for very small organizations, that just isn't the case. Even the most basic businesses now require a set of capabilities that would not have been possible even for the largest corporations 20 years ago.

In addition to the default PBX features like call switching, call completion, call connection, call termination and accounting, the following should also be found in any hosted IP PBX system:



Call Routing Features

Automated Attendant

An automatic system to answer phones with the ability to build phone menu systems, add call menus, transfer to voice mail and create flexible and programmable rules to handle all of these features.

Call Menus

Flexible call management menus with user selectable options – a more advanced version of the traditional phone tree/menu systems. A better-quality system will let you have multiple sets of menus and even change them based on time or on information gleaned from caller ID.

Managing Extensions

Features to help the phone system administrator, such as the ability to add new extensions, remove unneeded extensions, change extension locations and much more from a Web-based control panel.

Call Forwarding

Automatic, programmed or manual call forwarding to any number.

Call Transfer

The ability to transfer calls between extensions without going back to a central switchboard.

Call Parking

Essentially a group hold – put the caller on hold in a waiting area so that any other phone system user can pick the call up.

Messaging and Management Features

Voice Mail and Voice Mailboxes

A hosted PBX should allow an almost infinite number of mailboxes with far more flexibility than regular phone systems– more advanced features would include the ability to record all incoming and outgoing conversations automatically.

Call Hold

Placing callers properly on hold with no drop off in queues with user selectable hold music and programmable options about handling hold time length.



Conference Calling

Handling multiparty conference calls, internally and externally.

Web-Based Management and Administration

To make it quick and easy to manage your phone system directly from a Web browser – this can include the ability to add configuration and management functions as well.

User Directory

Some form of user directory and address book that is part of the phone system and is centrally updated.

Advanced Features

Other IP PBX features can get extremely specific, and the precise mix of features can make a big difference to business operations. Most of these advanced features come under areas like helping with remote office and remote users, or programmability and flexibility of the system.

Management Scalability

The ability to rapidly grow or reduce the system under your control. Better systems can scale to handle hundreds of users.

Rights Management

Allowing different groups of employees different rights within the phone system for management, administration, usage and more.

Group Management

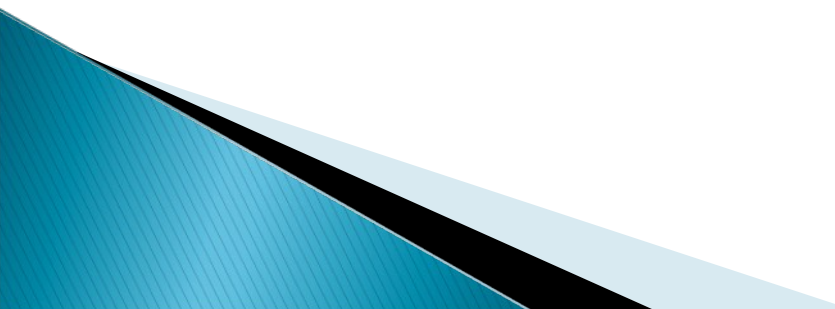
Managing groups of callers and call recipients.

Call Queue Management

Providing visibility into and the ability to manage incoming call queues. This can include specific call management as well as general system management of rules and varying loads, hold times and so on.

Programmable Routing and Scheduling Call Routing

Setting up programmed rules to route calls based on flexible criteria like caller ID or time, or even next available extension in the designated call management group.



Scheduled Call Routing

Handling incoming calls differently based on time received – and even setting up several systems of call management that are all different depending on time of day or day of the week.

Automatic Ring Back Features

Features to automatically return calls based on various programmable criteria.

Call Screening

The ability to routinely screen calls as they come in.

Call Monitoring

The ability to silently monitor calls as they progress for purposes like sales training and customer support.

Barge in

The ability to break in to a call between two other people, usually related to call monitoring.

Remote User Features

Branch Office Support

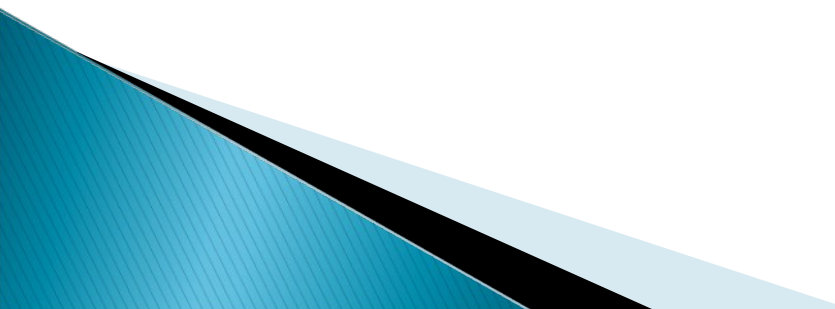
The ability to manage and remotely administer extensions at other offices just as easily as if they were local.

Features to Support Remote Users as if Local

One of the most powerful features of IP telephony is the ability to have remotely located employees work and appear to external and internal callers as if they are local.

Hoteling

Allowing users to make any physical phone in the system act as if it were any other number, so that any user can make any phone on the system act as if it were their own phone for any period of time. This feature is particularly useful for telecommuters.



Unifying/Integrating Office Systems

Full Outlook/Email Integration

Incoming calls can be matched with contact management records and outgoing calls can be initiated from within Outlook so users can click on contact management systems records and dial from within Outlook or other applications.

Voice mail to Email

Sending all voice mail from a mailbox to an email account where messages can be opened and listened to on a PC, Blackberry or other PDA's – as well as stored and managed.

Data Network Integration

Some form of integration into your basic data network so that 'click-to-call' functionality, integration with office document, email systems, or even full blown CRM systems can be added.

Comparing Total Cost of Ownership

The best indicator for measuring the overall economics of any business investment, such as a new business telephone system, is to look at the total cost of ownership (TCO). TCO measures both the upfront capital expenditures (CapEx) and the ongoing operating expenses (OpEx) required to maintain the equipment throughout its lifetime. Unfortunately these OpEx figures often get over looked. More often than not, however, it is the OpEx that determines whether or not an investment has made a positive or negative return. When analyzing any new technology, a company's TCO analysis should also factor in productivity improvements delivered by the enabling technology. And most importantly, because TCO measures costs over the full lifespan of the technology, TCO analysis should use a discounted cash flow methodology to factor in the time value of money.

By considering all three components of TCO when evaluating alternative phone solutions, you can ensure an "apples to apples" comparison. In all cases, a robust CapEx analysis should include both initial capital expenditures as well as upgrade costs during the later years. Typical CapEx items in a VoIP Phone System analysis include:

- Initial system hardware, cabling and installation costs.
- Cabling (when necessary)
- Installation costs

(BNCVoice addresses these costs with a Zero CapEx Option)

Costs that are eliminated in a Hosted VoIP environment:

- System Hardware
- Equipment chassis
- Racking and connectivity hardware such as termination and cross-connects
- Power and HVAC systems required for a premise based phone system
- Software licensing or right-to-use charges
- Hardware upgrades such as expansion modules and additional telephones

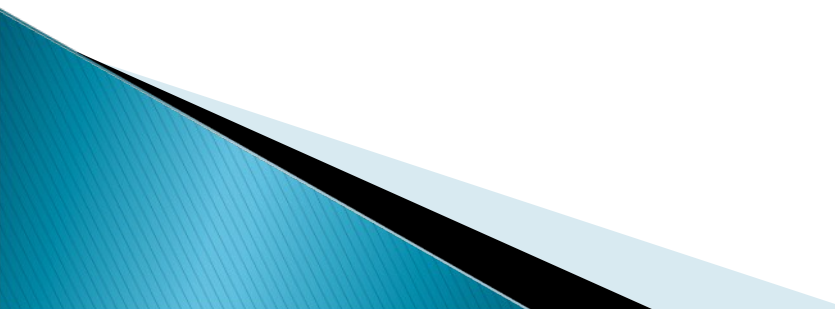
When considering a full analysis of OpEx, it is important to include the following expenses:

- Monthly charges
- Usage charges (only when an Unlimited Plan is not appropriate for your needs)

Costs that are eliminated in a Hosted VoIP environment:

- Long Distance Charges
- Monthly leased lines between sites
- Annual Maintenance Contracts
- System upgrade charges for moves, adds and changes
- Labor rate for telecom maintenance staff
- Power, HVAC and space charges
- Ancillary services such as conference calling, web conferencing, etc.

In addition to CapEx and OpEx, a robust TCO analysis should assess increased employee productivity brought about by the new phone solution. Most economists acknowledge that productivity improvements are the single biggest factor for technology-related economic expansion. Have these improvements enabled your employees to focus on revenue generating or cost-saving activities leading to a positive impact on your company's bottom line? An improved phone system may include the following features that could help your company improve productivity:

- Remote environment, to support initiatives such as telecommuting and office hoteling
 - Unified messaging which provides single access to voice mails, faxes, and emails
 - Find me/Follow me feature which enable single number access for individual users
 - Web-based integration with contact manager software
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Conclusion

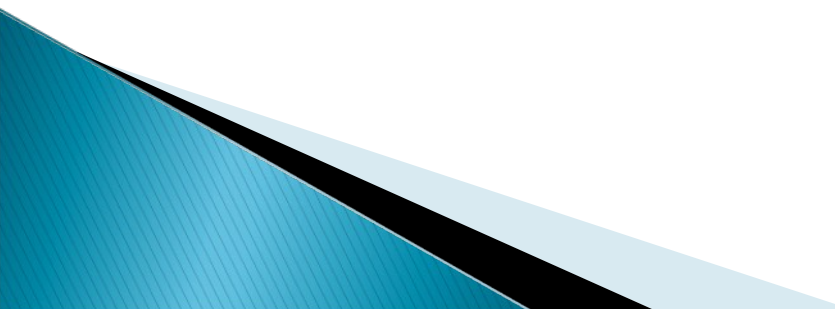
Hosted IP PBX systems provide small to medium sized businesses with abilities and features that are available to large enterprises, while providing the potential to reduce long-term operating costs considerably. Hosted IP PBX systems can cost as little as \$32 per month per user (or even less in many installations) with no setup costs. It is more important to make sure that your system has the basic features that you require now for the operation of your enterprise and for its future growth than to drive the cost to the absolute bare minimum. Unless you are already using an efficient IP telephony system, you will save money no matter what.

You should look for the following in any upgrade to hosted IP PBX:

- Basic operating cost reductions due to lower call charges, the need for only one communications network and lower maintenance costs.
- A minimal investment risk, because your enterprise data network is your new backbone and it is already in place and functioning effectively.
- Straight forward installation costs based on tested, reliable components connecting to a system your IT personnel already understands.
- Improved efficiency and operations within your organization.
- New features that can improve your business's effectiveness.

It is the last of these points that is most important and critical to the success of the upgrade. This is where the power of converged networks – combined voice and data networks – really comes into its own in terms of providing your enterprise with more tools, capabilities and options than it previously had. The cost savings are essentially a bonus.

You can find out more about features and offerings by contacting BNCVoice for consultation.



About BNCVoice

BNCVoice is a hosted PBX service provider focused on the needs of small and medium sized businesses. Our objective is to empower your company to run more efficiently and more purposefully by providing access to an enterprise-grade hosted environment that is monitored 24x7 and maintained by certified systems engineers. Through our dynamic and scalable network, we can provide the facilities, the network and expert staffing that can infuse strength and stability into your company's critical IT systems.

BNCVoice help businesses realize a substantial cost savings while adding productivity tools and benefits inherent to VoIP technology, without the risk of obsolescence and heavy investments in capital equipment.

Why Is BNCVoice Different?

Quality of Service (QoS) – BNCVoice installs a proprietary router that allows us to guarantee your quality with a No Hassle Quality Guarantee. Our router manages the Internet bandwidth coming into your business regardless of the provider, so your voice calls take priority and as a result are crystal clear.

Local Relationship Manager – BNCVoice is committed to customer support as no other company provides. BNCVoice assigns a RM to every account. No more waiting on hold in a call center just to speak with somebody who doesn't know anything about your business or history. At BNCVoice, you call your RM for every one of your needs and/or concerns. They are an extension of your company.

Application Consultants – BNCVoice sales consultants listen first and respond accordingly. Our consulting system is geared toward the needs of our customers – not the needs of our own company. We will uncover a business problem or issue and fix or compliment it with our technology and services.

