# GlobalTone

## ALTERNATIVE COMMERCIAL VOIP SOLUTIONS

### *THE MERITS OF 'HOSTED IP SERVICE' RELATIVE TO 'IP PBX'S'*

A WHITE PAPER PRESENTED BY
GlobalPhone Corp.

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## *THE MERITS OF 'HOSTED IP SERVICE' RELATIVE TO 'IP PBX'S'*

### 1. TOTAL COST OF OWNERSHIP (TCO)

Business customers are highly sensitive to both pricing and perceived value – all else being equal, price advantage and high 'value add' will carry the day in the decision-making process. At the very least, therefore, Service Provider sales teams must be in a position to address Total Cost of Ownership (TCO) in a thorough and compelling way. A TCO comparison, to be comprehensive and balanced, must consider the widest range of relevant factors. Readily **quantifiable cost factors** related to an IP PBX in the context of a TCO analysis are:

- Number of physical office locations,
- Number of employees and number of telephones (as well as growth over the TCO study period),
- Capital cost for IP PBX equipment, including both hardware and software,
- Monthly telecom expenses, including long-distance service, equipment leases, network facilities between offices, software upgrades, relevant building space, and any in-house support labor cost,
- Monthly system maintenance cost,
- Cost of required features (if not included in IP PBX software cost – for instance, voice mail, conference bridges or distributed fax services).

The cost associated with these factors must be compared with the cost of a Hosted IP service solution – on a cash flow or Net Present Value basis – taking care to ensure that the comparison is "apples-to-apples" to the extent possible. For instance: the same features should be included with each alternative; the same cost-driving factors should be considered for each alternative; impacts to Internet access should also be considered with each alternative.

GlobalPhone Corp. has developed a Cost Savings Tool that enables this comparison for enterprise prospects in a quick, straightforward manner.

At the same time, there are also **cost factors that may not be fully reflected in a quantitative analysis**, but which provide significant upside for Hosted IP solutions – these should not be ignored. Important among these are:

- **Improved service performance for office staff**, resulting from higher-speed Internet access,
- **Increased office staff productivity**, resulting from system ease-of-use and enhanced features,
- **More efficient network resource utilization**, resulting from the consolidation of office voice and data traffic over a single LAN and single high-speed Internet access facility,
- **Time and dollar savings**, resulting from simplified, on-demand Moves, Adds and Changes (MACs) associated with desktop devices (such as telephone sets).

Also note that the TCO analysis will be even more favorable to Hosted IP solutions as:

- The number of geographically dispersed customer locations increases,
- Customer requirements for advanced feature-functionality grow,
- The number of remote and mobile end-users increases.

## IP PBX vs GlobalTone
## Total Cost of Ownership

**2 Locations** **150 Phones**

| IP PBX | Unit Price | Qty | Extended | Globaltone | Unit Price | Qty | Extended |
|---|---|---|---|---|---|---|---|
| **Equipment Expense** | | | | | | | |
| PBX w/voicemail system | $ 75,000 | 2 | $ 150,000 | Edgemarc Router | $ 651 | 2 | $ 1,302 |
| PBX Proprietary Phones | $ 350 | 150 | $ 52,500 | Standard SIP Phones | $ 199 | 150 | $ 29,850 |
| **Installation Expenses** | | | | | | | |
| PBX Installation | $ 3,000 | 2 | $ 6,000 | Per Seat Install | $ 20 | 150 | $ 3,000 |
| Per-station installation | $ 20 | 150 | $ 3,000 | DID Install | $ 10 | 150 | $ 1,500 |
| Verizon Trunk Activation | $ 30 | 38 | $ 1,125 | Router Install | $ - | 2 | $ - |
| **Total One Time Charges** | | | **$ 212,625** | | | | **$ 35,652** |
| **Monthly Recurring Expenses** | | | | | | | |
| Internet T-1 | $ 500 | 2 | $ 1,000 | Internet T-1 | $ 500 | 2 | $ 1,000 |
| Verizon Voice T-1 | $ 700 | 2 | $ 1,400 | Autoattendant | $ 27 | 1 | $ 27 |
| Verizon Trunks | $ 31 | 38 | $ 1,163 | Basic Seat 500 min | $ 18 | 30 | $ 540 |
| PBX Maintenance | $ 300 | 2 | $ 600 | Enhanced Seat 500 min | $ 23 | 120 | $ 2,700 |
| Moves Adds and Changes | $ 300 | 2 | $ 600 | DID Monthly Charges | $ 3 | 150 | $ 375 |
| **Local/Long Distance Service (500 min per month per user)** | | | | | | | |
| Local Voice Calls | $ 0.02 | 37,500 | $ 750 | Local Voice Calls | $ - | 37,500 | $ - |
| Intrastate Voice | $ 0.08 | 18,750 | $ 1,500 | Intrastate Voice | $ - | 18,750 | $ - |
| Interstate Voice | $ 0.06 | 18,750 | $ 1,125 | Interstate Voice | $ - | 18,750 | $ - |
| Long Distance Interoffice | $ 0.06 | 18,750 | $ 1,125 | Long Distance Interoffice | $ - | 18,750 | $ - |
| International Voice | $ - | | $ - | International Voice | $ - | - | $ - |
| Conference Calling Minutes | $ 0.15 | 1,500 | $ 225 | GlobalConference | $ 0.08 | 1,500 | $ 120 |
| Webex Minutes | $ 0.20 | 1,500 | $ 300 | WebConference | $ 0.10 | 1,500 | $ 150 |
| **Total Monthly Charges** | | | **$ 9,788** | | | | **$ 4,912** |
| **Total Five Year Cost** | | | **$ 799,875** | **Total Five Year Cost** | | | **$ 330,372** |

**Savings** **59%**

Some of the items that follow in this paper (specifically, items 2, 4, 7 and 8) should ideally be reflected in a comprehensive TCO analysis. However, since there are important points worth noting with regard to these items, they have been highlighted and discussed individually below.

## 2. PBX's Need Dedicated, Configured Space

An IP PBX system requires properly configured physical space at the business customer's premise, including provision for power, heating, cooling, environmental requirements, and so on. For businesses with limited space in an already full LAN closet, this can be a very significant issue. Hosted IP service, on the other hand, only requires that phones be plugged into the customer's existing LAN infrastructure.

## 3. Proprietary Nature of PBX's

A vendor's IP PBX platform and associated equipment is, by its nature, proprietary – this is true for all IP PBX OEMs (Original Equipment Manufacturers). This means that an IP PBX system from 'vendor A' will only support IP phones and soft clients which are also manufactured by 'vendor A'. In addition, there will be very limited availability of compatible 3rd party software.

And businesses with multiple physical sites face a significant issue in order to efficiently enable inter-site communications using IP PBX systems:

- IP PBX's from different OEMs will present compatibility issues,
- Even different size IP PBX systems from the same OEM will often utilize different technologies and have different feature sets – so, for instance, a smaller business customer site may not be able to gain access to call center or unified messaging applications residing on an IP PBX at a larger site,
- If IP PBX's in different sites are not running the same software load, they will not be able to effectively communicate with one another.

With regard to networking of multiple physical sites using IP PBX technology, it is worth noting that a number of other challenges also need to be overcome, including: implementation of a consistent abbreviated dialing plan; inter-site trunking; and smooth running Automatic Call Distribution (ACD) for inbound call handling.

A Hosted IP service, however, provides access to the same applications at any one time for all sites, so effective inter-site communication is assured.

Moreover, Hosted IP solutions utilizing SIP (Session Initiated Protocol) open standards make life quite straightforward for business customers, since all 3rd party software and hardware vendors can manufacture products which are SIP-compatible. IP PBX platforms, however, can utilize any one of a number of different protocols, including H.323, MGCP and SCCP. This complicates life in terms of limiting 3rd party products to those using the same standard and sometimes requiring royalty fees.

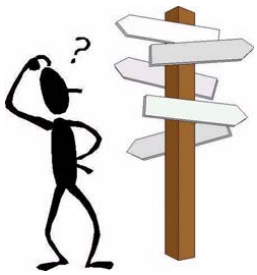
## 4. Slow & Costly MACs on PBX Systems

When telephone set and feature Moves, Adds and Changes (MACs) are required in an IP PBX environment, a customer staff member will need to log onto the system to make necessary adjustments – this is the case whether someone moves their office from one cubicle to another or wishes to change the number of times their phone rings before tripping to voicemail. It is also worth noting that, in order to manage MACs and other set-up & maintenance activities associated with an IP PBX, the customer's system administration resource needs to be available to carry out required duties of this position. In addition, training to ensure that a system administrator is proficient can be intense and take considerable time (weeks or sometimes months).

With a Hosted IP solution end-users are able to self-manage their telephony needs. An employee can even move to a new location in a different building in a different country, and still arrange to keep the same virtual location and the same set of calling features if he / she wishes – all managed online via point-click and without the help of a system administrator or support specialist.

## 5. The Challenge of PBX Vendor Support

With a multi-vendor IP PBX installation, obtaining support can be a very difficult issue due to the need to isolate troubles between different vendors – the IP PBX Value Added Reseller (VAR), network provider, long-distance provider, and so on. Obtaining agreement as to where the issue lies, and then getting action to remedy the situation can often be quite challenging. "Finger pointing" between vendors has long been a frustration for customers in the telecom market. Hosted IP services, by contrast, ensure that the customer has a single point of contact for any issue, whether software or hardware related. This simplifies, and greatly speeds up, trouble resolution.




## 6. Dealing with Obsolete PBX Technology

Most IP PBX vendors issue 'dot' releases at least every six-months, and sometimes much more frequently. Releases can require hardware upgrades as well, which add to the customer's cost. (There is sometimes a need to replace processing components of the PBX, for example, to ensure compliance with new releases.) And, the business will need to complete maintenance on the IP PBX system, including disk clean-ups, filter changes, and so on. With a Hosted IP solution, the Service Provider is responsible for managing all software and hardware upgrades – business customers need only be aware of necessary maintenance windows to permit completion of this work, normally scheduled during nighttime hours. With upgrades, the Service Provider will even send their business customers updated configuration files for end-user devices.

## 7. LIMITATIONS ON GRADUAL PBX TRANSITION

If a business wants to transition from a non-IP compliant PBX platform to an IP PBX, their vendor may not have a migration path available. Some PBX products are being moved to "sunset" status, so that an "end-of-life" date has been established – even some IP PBX products have this status today. If this is the case, the business can either:

1. Stay with the installed PBX beyond the "end-of-life" date, BUT without OEM support, or
2. Forklift out the installed PBX and replace it with a current and supported IP PBX product.

In this situation, the business may not be able to gradually replace an old, installed PBX with a new IP PBX. A Hosted IP service, however, does not saddle the business with high levels of up-front capital – instead, users can be added at a pace that the business customer is comfortable with.

## 8. LIMITS TO PBX SCALABILITY

Even if a forklift upgrade to an IP PBX system is made, the new IP PBX represents a "lumpy" investment, since capacity of the initial system, as well as expansion of the system over time, occurs in sizable increments of capital (and cost). So, the initial investment for line-side slots, trunk-side cards and software is very significant (systems generally start in the $50,000-to-$100,000 price range). Growth or, for that matter downsizing, of the system also requires lumpy changes in capacity. Moreover, telephone sets being used with an existing PBX may not be compatible with a new IP PBX, so replacement of these sets is a further necessary investment. Hosted IP service, on the other hand, is scalable – to a very granular level. An individual Hosted IP user can be added for just the cost (or charge) associated with that single user. And, since SIP is an open standard, end-user devices (such as telephone sets) are generally compatible with any SIP-based Hosted IP service.

## 9. LIMITS TO PBX DISASTER RECOVERY

IP PBX equipment is housed at the business customer's site, so that in the event of a serious environmental issue affecting this equipment (such as a power outage, flood, fire, etc.) inbound callers receive a busy signal. And, if the voicemail system is also impaired, recordings will be lost. With a Hosted IP service, as the name implies, application servers and other critical elements are located physically on the Service Provider's network (or their vendor's network). This means, of course, that important applications – such as auto attendant and voicemail – can still function and be accessed from any remote location. If a business customer experiences a serious environmental issue, phones can be plugged into the IP network from any other remote location and business will carry on as usual.

## 10. VIRUS & HACKER IMPACTS ON PBX'S

A business's IP PBX is connected to the onsite LAN. As a result, if the LAN becomes infected with a virus or is susceptible to hacking from the outside, this will compromise the IP PBX as well. At the very least, these events will cause interruptions in telephone service, but they can also lead to equipment damage. A Hosted IP solution, on the other hand, is managed through a secure network with built-in redundancy and high levels of security.

## SUMMARY

The business case for an IP PBX or Hosted IP solution has many variables. However, the need for a truly scalable, low-cost and high-performance solution can strongly favor Hosted IP.

| PRACTICAL ISSUES SUMMARY | IP PBX | HOSTED IP |
|---|---|---|
| Total Cost of Ownership (TCO) | **IP PBX cost comparison with Hoted IP must consider:**<br>No. of office sites<br>No. of employees & telephones<br>Capital cost (hardware & software)<br>Monthly telecom expenses<br>Monthly maintenance expenses<br>Additional features | **Hosted IP also generates:**<br>Improved service performance<br>Increased staff productivity<br>More efficient network resource utilization<br>MAC time & dollar savings<br>**These factors also favor Hosted IP:**<br>Geographically dispersed sites<br>Demand for advanced feature-functionality<br>Remote & mobile end-users |
| Dedicated Configured Space |  |  |
| Proprietary Technology |  |  |
| Moves, Adds & Changes (MACs) |  |  |
| Vendor Support |  |  |
| Technology Obsolescence |  |  |
| Gradual Transition |  |  |
| Scalability |  |  |
| Disaster Recovery |  |  |
| Viruses/ Hackers |  |  |