
Open Business over IP

(www.OpenBoIP.org)

Supporting the OpenSource community for the development of Business over IP.

A White paper by Jose C. Lacal (jose.lacal@volks-pc.org)

DRAFT

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1. Revision History.

03/26/99 JCL First draft

Filename: OpenSource - BoIP.doc

This document will be permanently evolving. Please consider it in "permanent draft" status.

Please send any comments about this document to jose.lacal@volks-pc.org

2. Glossary.

This is a list of acronyms used throughout this document and their definition.

BoIP	<p>Business over IP: A combination of software, hardware, services and knowledge bases that, integrated and delivered in a cost efficient, ubiquitous manner, empowers individuals and entities to create new business opportunities. IP (Internet Protocol) is the basic infrastructure enabler for BoIP.</p>
Closed Source Software (CSS)	<p>Refers to software where the user does not get access to the source code of the software. The user is at the mercy of the software developer when it comes to patches, customization, and further enhancements to the code. Microsoft's software is the perfect example of CSS.</p>
FUD Factor	<p>Fear, Uncertainty and Doubt Factor: Perfected by Microsoft, this concept is widely used</p>
GNU/Linux	<p>GNU/Linux is a free Unix-type operating system with the kernel originally created by Linus Torvalds and many other utilities developed by the Free Software Foundation and developers around the world. GNU/Linux is an independent POSIX implementation and includes true multitasking, virtual memory, shared libraries, demand loading, proper memory management, TCP/IP networking, and other features consistent with Unix-type systems. Developed under the GNU General Public License, the source code for Linux is freely available to everyone. More information available at http://www.linux.org</p>
IPR	<p>Intellectual Property Rights:</p>
OpenSource	<p>The basic idea behind OpenSource is very simple. When programmers on the Internet can read, redistribute, and modify the source for a piece of software, it evolves. People improve it, people adapt it, and people fix bugs. In addition, this can happen at a speed that, if one is used to the slow pace of conventional software development, seems astonishing. The OpenSource community has demonstrated that this rapid evolutionary process produces better software than the traditional closed model, in which only a very few programmers can see source and everybody else must blindly use an opaque block of bits. More information available at http://www.opensource.org</p>
OS	<p>Operating System. The basic piece of software that allows computers to interpret instructions from both software applications and operator's input. Microsoft Windows and Linux are examples of operating systems.</p>

TTR

Time to Revenue:
Old notions of ROI (Return On Investment), TTM (Time
To Market)

3. Summary.

This paper urges any telecommunications manufacturer offering proprietary VoIP solutions (hereinafter referred to as “the Company”) to lead the creation of the OpenBoIP initiative.

NOTE: You must read the author’s earlier White Paper “OpenSource VoIP Threat – 030899.doc” (hereinafter referred to as the “OpenSource VoIP document”) in order to fully understand the implications of the analysis presented in the document you are currently reading. The OpenSource VoIP document presents additional information and background on OpenSource and OpenSource VoIP issues. The paper is available on-line at <http://www.volks-pc.org/document/boip/threat.pdf>

The document you are currently reading contains less than 05% of the material of the OpenSource VoIP document.

Additional documents from the author you might be interested in:

http://www.volks-pc.org/document/boip/p_co1013.pdf

<http://www.volks-pc.org/document/boip/boip.pdf>

http://www.volks-pc.org/document/boip/boip_02.pdf

Suggested related materials:

- An analysis from the RAND Foundation on the similarities between the printing press and the Information Economy (<http://www.rand.org/publications/P/P8014/P8014.pdf>)

4. What is Business over IP?

This section provides an analysis of the author's definition of Business over IP.

Working assumptions for BoIP.

This document is based on a set of assumptions of how the future will look like in the next 05 years.

These are the author's working assumptions:

Always-on "IP Tone"

The

Telecom + IT "to the wall"

The

No more charges for long-distance and local calls

Arthur C. Clarke long ago predicted the disappearance of both distance- and time-based billing systems for telecommunications.

With the emergence of the Internet and other IP-based networks, distance and time on-line have effectively become irrelevant notions.

Empowering the individual

The author is of the strong opinion that current telecom and IT know-how should be applied in a manner to allow individuals the power to become economic agents in today's "Digital Economy." The

Sample BoIP applications.

These are some of the possible applications of BoIP.

Personal CO (Central Office)

"Personal" VoIP gateways will become the largest VoIP market segment in the next 05 years. Larger than telcos / ISPs / etc. Not sure? Remember what Desktop Publishing (DTP) did to the "design bureaus" and small printing companies. Every person will, potentially, become his / her own telco operator, buying bandwidth on the spot market (via ADSL, cable modems, WLL, satellite, etc.).

NOTE: Please refer to the author's Personal CO document, available at http://www.volks-pc.org/document/boip/p_co1013.pdf

One

"IP Gaming"

<http://linuxworld.com/linuxworld/lw-1999-03/lw-03-penguin2.html>

5. Benefits of supporting OpenBoIP.org

This section presents an analysis of the benefits the Company will derive by supporting the OpenBoIP.org initiative.

NOTE: Please refer to section 06 of the VoIP Threat document (available at <http://www.volks-pc.org/document/boip/threat.pdf>) for more details.

Own the IPRs

Intellectual Property Rights No more partnerships / OEM deals.

Control its own future

BoIP technology, and initially VoIP technology, will end up embedded inside the Company's products and services, across company units, in the near future. The author proposes that the Company can not afford to have so many products and services dependent upon an outside partner whose interests are not the same as the Company's.

Take a leadership position

The Company can use its support of the OpenBoIP initiative as a great PR / Marketing tool.

Infect its people

Bring the OpenSource fast-paced mentality to the Company's business units and employees.

Offer add-on services

Like most OpenSource business ventures, the Company will give something away in order to charge for the rest of the package.

- Integration
- Technical support
- Customization
- Financing
- Remote Management
- SS7 services
- Gatekeeper

The above add-on offerings are part of what makes the Company successful. This is the same approach followed by IBM with Apache, and Cygnus (<http://www.cygnus.com>) with their GCC products.

Faster "Time to revenue" (TTR)

The Company, by its very nature and culture, is unable to react and respond in a fast manner to changing market conditions.

Offer an “end to end solution”

By using the best components available in the marketplace at any one point in time, developed by the best programmers in the world. No company can possibly expect to offer the best solution at any point in time.

Showcase the company's expertise

Make it transparent.

Capitalize on Company's intellectual assets.

6. How to launch OpenBoIP.org

This section presents the necessary steps for the Company to launch the OpenBoIP initiative.

Acquire a VoIP software developer.

The author has identified a group of suitable candidates for further evaluation.

Acquire a VoIP hardware developer.

The author has identified a group of suitable candidates for further evaluation.

Acquire customer-edge VoIP developers.

The author has identified a group of suitable candidates for further evaluation.

OpenSource all the acquired and the existing IPRs

The Company should immediately OpenSource its BoIP expertise, that already existing in-house as well as all the acquired IPRs.

- e-commerce
- Billing
- Security and encryption

Integrate OpenBoIP.org with other OpenSource initiatives

There are already a wide variety of GNU/Linux-based OpenSource applications that fit within the BoIP concept. Among those applications:

mail2sms

Converts a (MIME) mail to a short message, allowing search/replace, conditional rules, date/time dependent actions, customizing the output format, etc. The output defaults to 160 characters, which is perfectly suitable for sending the text to a GSM telephone as an SMS message.

<http://www.fts.frontec.se/~dast/mail2sms/>

DBS Server

The DBS Server provides integration between a PC and a Panasonic DBS telephone system using the DBS API port (or optional API card on older systems). This server allows one to exchange call control messages with the DBS as well as to control digital display

telephones such as placing custom menus on said phones, or trapping keypad input directly to the PC.

<http://www.tycho.com/dbs/>

QtDragon

This is a tool to configure the telephone-related stuff of aDataBox Speed Dragon. The aim of this program is to provide all functions of Hagenuk's Configuration-Utility. It is based on Qt and its style will be very close to the user interface of the Windows-version.

<http://www.dillingen.baynet.de/~jdorner/qtdragon/>

SohoVoice

This application is purely in a conceptual phase right now. It will be a complete voice mail and fax system that allows for unlimited mailboxes, and a GUI for message/fax retrieval which will incorporate audio streaming for audio playback. It uses vgetty for call handling. If you visit the homepage, you'll only see a proposal/rough-draft of the layout and possible functionality.

<http://www.scs.unr.edu/~scottf/sohovoiced/>

HylaFAX

This is a telecommunication system for UNIX systems. It supports sending facsimile, receiving facsimile, polled retrieval of facsimile, transparent shared data use of the modem and sending alpha-numeric pages. The software is structured around a client-server architecture. Fax modems may reside on a single machine on a network and clients can submit outbound jobs from any machine that can communicate with the machine on which the modems reside. An access control mechanism is included to control which users on which machines may access a server.

<http://www.hylafax.org/>

Html2Phax

This application is intended to become a multi-featured webclient to Hylafax for a PHP enabled Apache webserver on a Linux system.

<http://www.xs4all.be/~mosaic/html2phax/>

mgetty

This package contains an intelligent getty for allowing logins over a serial line (such as through a modem). It allows automatic callback and includes fax support (though mgetty-sendfax needs to be installed to make full use of its fax support).

<http://www.leo.org/~doering/mgetty/index.html>

kvoice

This is a graphical frontend for easy handling of voice mails and faxes. It uses the mgetty package for sending and receiving fax and voice mails.

<ftp://xpc56.mpi-hd.mpg.de/pub/kde/kvoice/>

Speak Freely

This package allows you to talk over a network. If your network connection isn't fast enough to support real-time voice data, various forms of compression may help. To enable secure communications, encryption with DES, IDEA, and/or a key file is available. If PGP is installed on the user's machine, it can be invoked automatically to exchange IDEA session keys for a given conversation. Speak Freely for Unix is compatible with Speak Freely for Windows, and users of the two programs can intercommunicate.

<http://www.fourmilab.ch/speakfree/unix/>

KvoiceControl

This package is a speech recognition system that allows the user to connect spoken commands to unix commands. It automatically detects signals coming from a microphone then performs recognition on this speech input and in case of successful recognition executes the unix command the user hooked up to it.

<http://www.kieczka.de/daniel/kde/index.html>

CCFAudio

This package is a multi-user Internet conferencing phone that is available in source and binaries. It features mixing of multiple voices, high sound quality, no need for MBONE capability, and is very easy to set up conferences with the included CCFringer.

<http://emily.mathcs.emory.edu/ccf/>

PostgreSQL

Zope

OpenLDAP

OpenSource Game engines

OpenSSL

"Open" ICQ

The author is of the opinion that ICQ (<http://www.mirabilis.com>) is fast on its way to become the de-facto "Internet numbering plan" standard. The OpenBoIP initiative will be a strong supporter of the ICQ technology, via OpenSource means.

One of such ICQ-like products are called Teaser and Firecat, available at <http://www.bowerbird.com.au/teaser/>

These were originally going to be a new protocol to replace the proprietary ICQ system, but with the IETF drafting their own open protocol (called RVP), Teaser's author decided to turn the Teaser into an implementation of the RVP protocol.

7. Benefits of OpenBoIP.org for customers.

This section covers the benefits the OpenBoIP initiative will bring to individuals and organizations.

Long-term viability

Access to the hardware and software source code allows customers to be assured their investment in OpenBoIP-compliant solutions is guaranteed. Telecom and consumer equipment tends to have a usable life far greater than the average life of a computer hardware / software developer enterprise.

True adherence to standards

100% customer control

Extensible, embeddable, modifiable, customer-centric design

Modular, plug and play

8. Potential downside.

This section covers what the author considers as potential downside factors in the Company's support of the OpenBoIP initiative.

The author identifies these issues and brings them out into the open in order to address the "FUD Factor" that will undoubtedly be used to try to shoot the ideas presented in this White Paper down.

Political issues

The Company's support of the OpenBoIP initiative will imply an acknowledgement that prior attempts by the Company to enter the VoIP /BoIP arena

Relinquishing control

Corporate arrogance

The "Not Invented Here" syndrome is alive and deeply embedded in most large enterprises, the Company included.

Cost of failing to act

These are some of the consequences if the Company fails to endorse the concepts presented in this paper:

- Microsoft recently took an equity stake in Dialogic. This action paves the way for Microsoft to embed VoIP support natively on all Windows versions.
- <http://www.Opentelecom.org> is an initiative of natural MicroSystems, Lucent and other telecom vendors. They offer OpenSource telecom software and hardware know-how free for the taking.
- <http://www.openh323.org> is developing an OpenSource H.323 stack.
- <http://www.linuxtelephony.org> presents a list of existing OpenSource telephony applications currently available.
- Somebody else (a Siemens' competitor) will swallow Quicknet.

"Single line support only. The InternetSwitchBoard version 3.0 supports one call per PC. Watch for updates to support multiple lines!"

That is, they will start creeping up in features / power / capabilities, endangering Siemens' existing VoIP solutions.