



Basics of VoIP Termination

Version 1.1

July 26, 2006

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Executive Summary

A VoIP terminator is an ITSP (Internet Telephony Service Provider) dealing with multiple carriers that terminate voice calls on multiple voice gateways. The whitepaper precisely describes the concept of VoIP Terminator and provides complete hardware requirements to setup VoIP Termination.

This whitepaper also discusses different business models for VoIP Termination and provides brief information regarding "Cost and Revenue".

Introduction

All VoIP calls finally need to be terminated to normal PSTN lines. This is the case even if the call is PC to Phone or Phone to Phone.

The basic terms about this white paper are defined in the "Basics of VoIP" white paper. This paper assumes you have read that white paper or know enough about the VoIP business and terms.

A VoIP terminator is one who takes VoIP calls off internet and delivers them to PSTN phones.

Hardware Requirements

Hardware requirements for VoIP termination are simple. The only hardware needed is a gateway that takes calls off the Internet and delivers them onto PSTN lines. A gateway therefore has two types of Interfaces.

1. An Ethernet interface that connects the gateway to the Internet.
2. One or more telephony interfaces taking analog or digital phone lines.

As explained in the "Basics of VoIP" white paper an analog line can take one phone call at a time while a digital line can take more. A T1 lines takes 24 calls and supports 1.5 Mbits while an E1 lines takes 30 calls and supports 2Mbits simultaneously. A typical digital gateway has 4 T1s or 4 E1s and usually costs between US\$1000 ~ US\$2000/E1 (30 ports). Following is the list of some gateway vendors:

- Ascend Communications, Inc. <http://www.ascend.com>
- Cisco Systems Inc. <http://www.cisco.com>
- Lucent Technologies Inc. <http://www.lucent.com>
- Motorola Inc. <http://www.mot.com>
- Nortel Networks <http://www.nortelnetworks.com>

For a detailed list of VoIP Gateway Vendors please, visit <http://www.dslreports.com/faq/4242>

Business Models

VoIP termination is usually done on two business models.

1. Small home based termination
2. Carrier class co-location facility based termination

1. Home based termination

As mentioned before, to do VoIP termination all you need is an Internet connection and some analog or digital phone lines. Home based terminators usually use their DSL or cable based internet connections and analog lines to do VoIP termination.

A cheap analog gateway like Welltech or Quintum Tenor is all what is required to start a home based termination business.

Users connect Internet into one end of the gateway and the phone lines into the other end. As mentioned in the "Basics of VoIP" white paper, 16 Kbits/sec of bandwidth is required per voice call. So if a user has a 128 Kbits/sec DSL connection, he can safely terminate 8 simultaneous voice calls. This is only when the DSL is capable of giving sustained 128 Kbits/sec (usually

referred to as **CIR** - Confirmed Information Rate). If the DSL throughput falls below 128 Kbits/sec the customer should terminate less voice calls so as to give a reasonable voice quality on the calls terminated.

2. Co-Location based termination

A co-location is a facility provided by data centers or large telecoms for putting in your equipment into their highly advanced premises. Usually the telco data centers have multiple digital lines and high end redundant internet bandwidth available in them, as well as lots of rack space for the co-located equipment.

Typical charges for co-location space in USA are US\$50 per month per U of rack space. A U is equal to 1.75" and is the unit of server thickness. Servers are also measured in Us and typical servers are 1, 2 or 4 U thick. All rack mount servers are 19" wide.

Co-Location charges in other countries are much more than in USA. Check with your local co-location provider on the rates of co-location space, Internet bandwidth and digital telephone lines.

A user co-locating his gateways in a data center usually puts in digital gateways. A digital gateway usually takes 4 T1 or 4 E1 lines. There are larger capacity gateways also available.

Cost and Revenues

A terminator earns his income from taking calls off the Internet and delivering them onto PSTN numbers. He does termination arrangement with different people who have origination traffic to his supported destinations.

The gateways generate the CDRs (Call Detail Records) which are then used by a billing solution to calculate the bill for each originator.

Our software CDRMonitoring.com is just suitable for this purpose. The major costs of the terminator are in the bandwidth provided and the ongoing costs of the digital phone lines taken. This entire bill is usually paid to the telecom providing the delivery of the phone calls to PSTN numbers.

Summary

All VoIP calls finally need to be terminated to normal PSTN lines in both the cases either the call is PC to Phone or Phone to Phone. A VoIP terminator is one who takes VoIP calls off internet and delivers them to PSTN phones.

Hardware requirements for VoIP termination are simple. The only hardware needed is a gateway that takes calls off the Internet and delivers them onto PSTN lines.

VoIP termination is usually done on two business models.

- Small home based termination
- Carrier class co-location facility based termination

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Contact Information

In case of any ambiguity regarding the concept, explained in the whitepaper, please feel free to contact us at support@advancedvoip.com or please, visit http://www.advancedvoip.com/voip_contact.html

For further information please, visit www.advancedvoip.com

We welcome your suggestions

Thank You for reading this whitepaper. We will be pleased to receive your response and suggestions. Kindly give us your feedback, as your satisfaction is ours!!! [Feedback Form](#)