

**2004 MEDIA GATEWAY &  
SOFTSWITCH SHIPMENTS ANALYSIS**

BUSINESS OPPORTUNITIES AND MARKETS  
FOR NGN SOLUTIONS

-

EXECUTIVE SUMMARY  
(PREPARED FOR PRESS)

March 29, 2005

---

**Table of Contents**

***Introduction*..... 3**

    Methodology..... 3

    Carrier Grade VoIP Equipment Segmentation ..... 3

    Geographical Breakdown ..... 5

    List of Products Analyzed..... 5

***Executive Summary*..... 7**

    Market Size Analysis for 2004 ..... 7

    Market Trend Analysis..... 7

    Supplier Analysis..... 8

    Regional Analysis ..... 10

**Charts**

    Chart 1.1     2004 Worldwide VoP Market Share by Port Type ..... 7

    Chart 1.2     2004 Worldwide Market Share by VoP Ports Shipped ..... 8

    Chart 1.3     2004 Worldwide Market Share by VoIP Ports Shipped ..... 9

    Chart 1.4     2004 Worldwide Market Share Analysis by VoIP Revenue ..... 9

    Chart 1.5     2004 Regional Market Share by VoP Ports Shipped ..... 10

---

# ***INTRODUCTION***

## ***Methodology***

Dittberner Associates uses a variety of sources to compute the quarterly shipment and installed base and on order position analysis for VoIP Carrier grade systems. On a quarterly basis Dittberner Associates conducts extensive interviews with all suppliers profiled in this subscription. The main objective for these quarterly discussions is to learn about new product enhancements, short-term supplier strategy and discuss suppliers' product shipments trends. We receive, again on quarterly basis shipment information from all suppliers profiled in this edition. We also conduct extensive spot-checking with carriers in order to make sure the information presented is accurate.

The major sources used to develop these statistics were as follows:

- Information provided by suppliers directly to Dittberner Associates in response to our request on a quarterly basis.
- Information gathered from our interviews with selected Telecom Operators who are deploying such equipment.
- Industry trade press reports and manufacturer press releases relating to supplier success in obtaining new contracts worldwide.
- Information gleaned from industry conferences and seminars.

## ***Carrier Grade VoIP Equipment Segmentation***

Measuring the NGN market size and share is more difficult than a casual observer might suppose, and it is getting harder. First, one has to decide which companies actually belong in what equipment category. We do not accept the assertions of all those suppliers claiming to offer carrier grade VoIP "Softswitch" products, and we do not include some products as being in the category even if the vendors have (for marketing reasons) chosen to use the term. "Softswitch" is currently a more fashionable term, though it is often used to describe exactly the same products that were called gatekeepers or even network servers a few years earlier.

We believe that Softswitch adoption is really driven by the promise of sophisticated, revenue-generating IP services that integrate new applications and technologies, such as real-time rich media, Instant Messaging, Presence-based applications, the replacement of old Centrex services with new IP Centrex or "hosted PBXs," click-to-video calls, web and speech recognition web enabled applications and others.

Whether today's softswitches are capable of performing these functions depends on a vendor's concept and definition of "softswitch". Some softswitch vendors emphasize their products' gateways and session border controller (SBC) capabilities.

Some suppliers offer switches with a TDM front-end and IP interface. Although, we believe these platforms are very limited in terms of functionality they are VoIP capable and suppliers insist they should be counted. Other vendors offer what we call an integrated media gateway/Softswitch platform or a switch-in-a-box with call control, signaling and routing all tied together. They are also sometimes

---

masquerading as softswitches, and ride along on the softswitch hype. The market is now more mature, however, and the value proposition offered by a real softswitch in today's multimedia world must be complemented. For these reasons we separate in our analysis all products into the following three major categories:

### **1. MEDIA GATEWAYS**

The vast majority of Media Gateways (MGs) deployed in today's networks are of the trunk conversion variety or Class4. They are primarily deployed to support interconnection of circuit switches over packet trunking facilities and to provide a tandem switch replacement function. Class 5 Media Gateways that deliver end-office switching capabilities have yet to be demonstrated primarily because of the MGC functionality that is required to support end office switching is, in orders of magnitude, more complex than that required for simple trunk conversion. An end office or local-exchange MGC must implement three layers of functionality fully to meet the needs of a comprehensive softswitch-based local telephony solution: a call agent, a set of basic calling features, and a feature creation environment.

In this equipment category we track DS-0 equivalent voice channels for the Class 4 MGs and DS-0 ports for the Class 5 MGs. We provide a clear break down of the protocol ATM/IP/TDM associated with each product category.

### **2. SOFTSWITCHES**

Softswitch a.k.a. Call agent a.k.a. MGC (media gateway controller) are products providing the basic MGC functionality needed to set up and tear down calls, and to maintain details of the state of each call. It interacts with the signaling protocols that exist on either side of MG for the purposes of coordinating call setup and teardown.

We would like to emphasize that MGs that support only trunk conversion need little more than basic call agent functionality in the MGC, and most of today's softswitch solutions comprise just such a call agent and nothing more. In a Softswitch based solution for local telephony, the call agent includes call routing functionality. In general, call routing is more complex in a local-exchange switch than it is in a tandem switch because it has to support special call routing capabilities, including operator services routing, E911 call routing, 800 number translation, local number portability (LNP), preferred interexchange carrier (PIC) code routing, and carrier access code (CAC) routing. For detailed technical specification information on which products actually provide that level of functionality please consult with Dittberner Tech Specs for Softswitches.

In this equipment category we keep track of the Right to Use (RTU) Licenses. Most suppliers continue to leverage a software RTU license structure to protect and recoup the value of their Softswitch Intellectual Property Rights (IPR). When a customer initially procures these softswitches, they are granted a nonassignable Right-to-Use ("RTU") license for the Softswitch that cannot be transferred without suppliers' express written consent. At the time of sale, the fee charged by the suppliers for the MGs and Softswitch RTU license is based on the customer's authorized usage level in the Software. Please note that most of the equipment profiled in this category consists of standalone Softswitch platforms designed specifically for distributed network architectures.

### **3. INTEGRATED CALL CONTROL/MEDIA GATEWAY PLATFORMS**

This is a switch that combines the functions of a Class 4/5 switch, sometimes even an ATM switch, a media gateway and a Softswitch or call control functions in one chassis. Products in this category generally are aimed at cap and grow

implementations or replacing central office switches in networks that serve anywhere from 600 to up to 80,000 subscribers.

Since most of the equipment profiled in this category comprises an integrated call control and media gateway function in the same box and are being deployed in a peer-to-peer network architecture rather than a distributed “Softswitch” architecture, we only count the MG DS-0 channels shipped. This category was introduced for the third quarter shipment analysis and thereafter. Future reports will reflect this new category. To keep the annual report consistent, we have included the integrated call control / media gateway platform as a part of the media gateway.

## ***Geographical Breakdown***

We have identified four geographic territories for analyzing and reporting sales data. The four territories are: (1) North America, comprised of the United States and Canada, (2) “EMEA”, comprised of Europe, Middle East and Africa, (3) “CALA”, comprised of the Caribbean and Latin America including Mexico, and (4) Asia Pacific, comprised of Asia and the Pacific region including China.

## ***List of Products Analyzed***

The following tables list the vendors and their products covered in our market share analysis, by product category.

### **— Media Gateway —**

<b>Vendors</b>	<b>Product Names</b>
Alcatel	7510, 740 MSP, 7670 RSP, 7505, 7515
Cirpack	SuperNode, SuperNode-B, LEN, TN,
Cisco Systems	MGX 8850, MGX 8880, AS 5850, MGX 8230, 8830, 8250, AS 5350, 5400
Ericsson	AXD301
Huawei Technologies	TMG8010
Marconi	XCD5000 Media Gateway
NACT/Verso	IPAX
NEC	CX3200
Nortel Networks	Passport PVG 7480, 15000, Succession MG 4000, 9000
Nuera	ORCA GX-21, BTX-4K, ORCA GX-8
Quintum Technologies	CMS, DX x096, x120
Samsung	AceMap AGW
sentitO Networks	IVG
Siemens	SURPASS hiG 1200 Trunk Gateway, SUR-PASS hiG 1000, 1100 Trunk Gateway
Sonus Networks	GSX9000 Open Services Switch
Veraz Networks	I-Gate 4000 PRO, I-Gate 4000
Verso/Clarent	Clarent BGH 8000, Clarent BGH 1000, Gateway 400, 800,

	1200
VocalTec	GW2000, VGW 480
ZTE Corporation	ZXSS10 M100, T200

**— Softswitch —**

<b>Softswitch Vendors</b>	<b>Product Names</b>
Alcatel	5020 Softswitch
Cirpack	HVS
Cisco Systems	BTS 10200 Softswitch, PGW 2200
Convergent Networks	PMC (formerly ICSX CMS)
Ericsson	ENGINE Integral (TeS)
Huawei Technologies	SoftX3000
Italtel	iMSS Softswitch
Lucent Technologies	Lucent Softswitch
Marconi	XCD5000 Softswitch Call Agent
NEC	CX6800-CA, SS
NetCentrex	CCS Softswitch
Nortel Networks	Succession Communication Server 2000, CS2000 Compact
Nuera	ORCA SSC Softswitch
OKI	CenterStage NS
Samsung	SSX5000
Siemens	hiQ 8000
Sonus Networks	Insignus Softswitch
Syndeo	Syion 426 CMS
Telcordia Technologies	Telcordia Call Agent
Veraz Networks	NexVerse ControlSwitch
Verso/Clarent	C4CM, C5CM
ZTE Corporation	ZXSS10 SS1

**— Integrated Media Gateway-Softswitch Platform —**

<b>Vendor Name</b>	<b>Product Names</b>
Convergent Networks	ICS2000
CopperCom	CSX 1100, CSX 2100
Lucent Technologies/Telica	Plexus 9000, MAX TNT 6000, APX 1000, 8000, 8100
MetaSwitch	VP3500
sentitO Networks	NEO Services Switch (NSS)
Tekelec/Santera/Taqua	Tekelec 3000 MGC/8000 MG (formerly SanteraOne OFX/BOX), Tekelec 7000 (formerly Taqua OCX)
UTStarcom	mSwitch Media Gateway, Total Control 1000

---

# EXECUTIVE SUMMARY

## Market size Analysis

### a) 45.56 MILLION VoP PORTS SHIPPED

A total of 45.56 million VoP ports were shipped during the year 2004. The VoP market exceeds US\$ 1.25 billion.

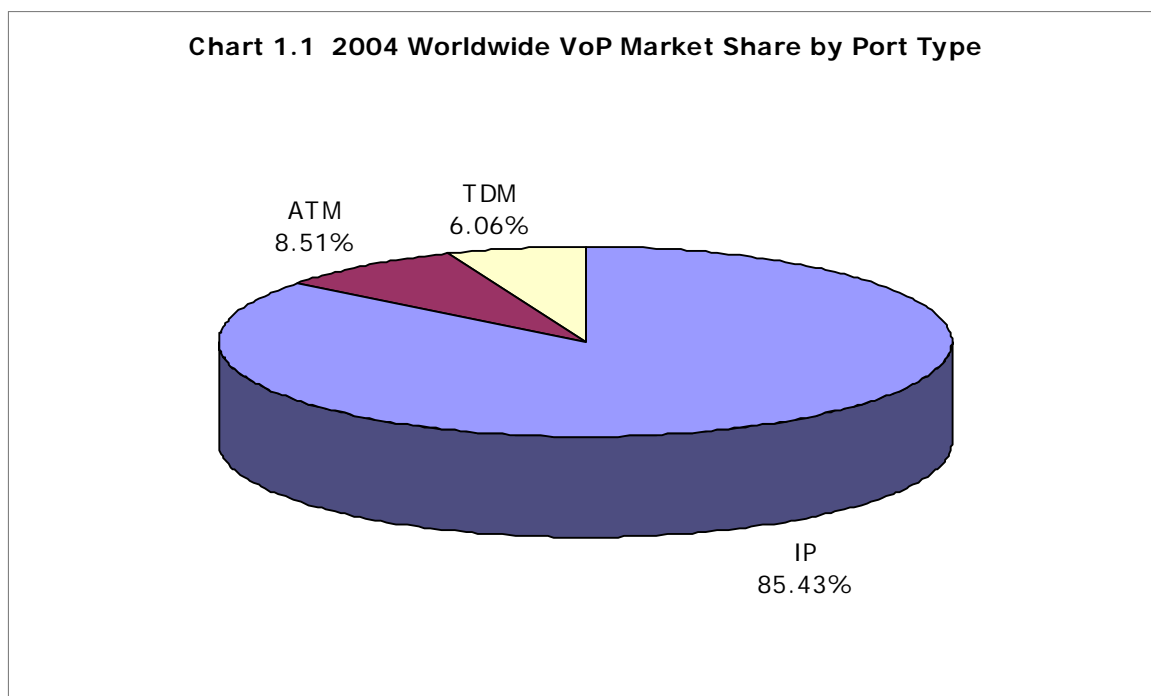
### b) VoIP MARKET EXCEED US\$ 1 BILLION

A total of 38.92 million VoIP ports were shipped during the year 2004. The VoIP market exceeds US\$ 1 billion.

## Market Trend Analysis

### a) IP DOMINATED THE MARKET

Over 85% of the ports shipped during 2004 were VoIP ports, 8.51% represented ATM and the remaining 6% were TDM.



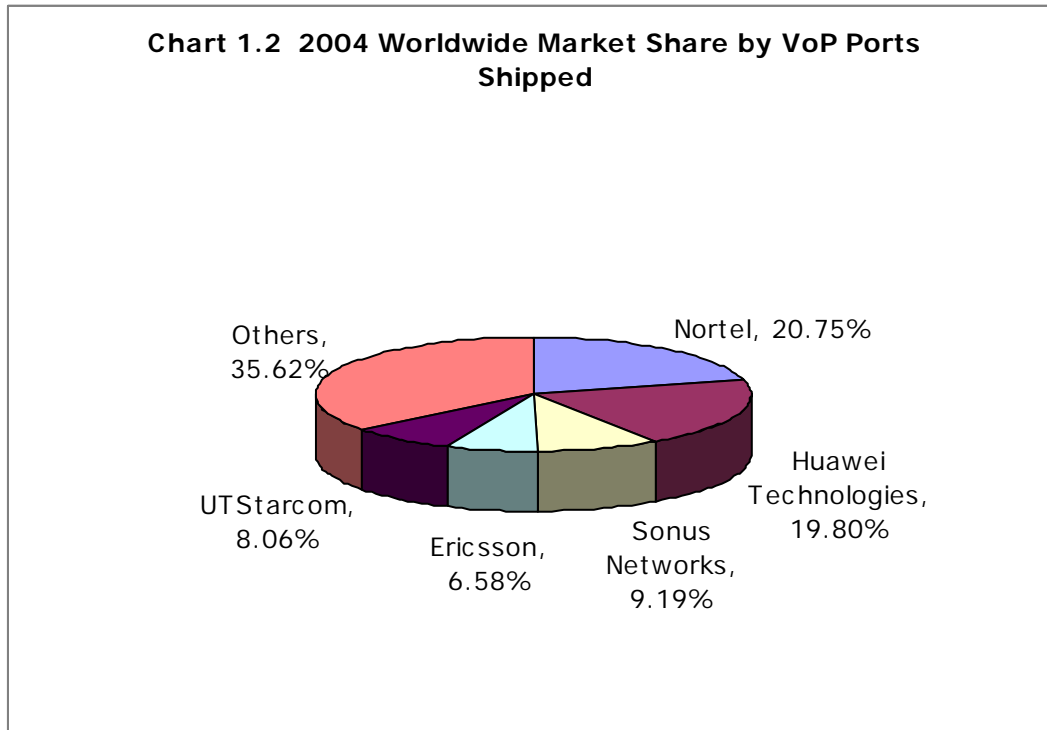
Source: Dittberner Associates, Inc.

---

## Supplier Analysis

### a) NORTEL LEADS THE WORLDWIDE VOP MARKET FOR 2004

Nortel was the market leader for 2004 Worldwide Carrier Grade for VoP ports in terms of both ports shipped and revenue. It achieved a market share of 20.75% VoP ports shipped and 24.81% of the revenue. Huawei closely followed Nortel with 19.8% market share in terms of ports however, it trailed in terms of revenues with 11.42% market share. Sonus stood third with 9.19% of the ports shipped and 9.72% of the total revenue for the year 2004.

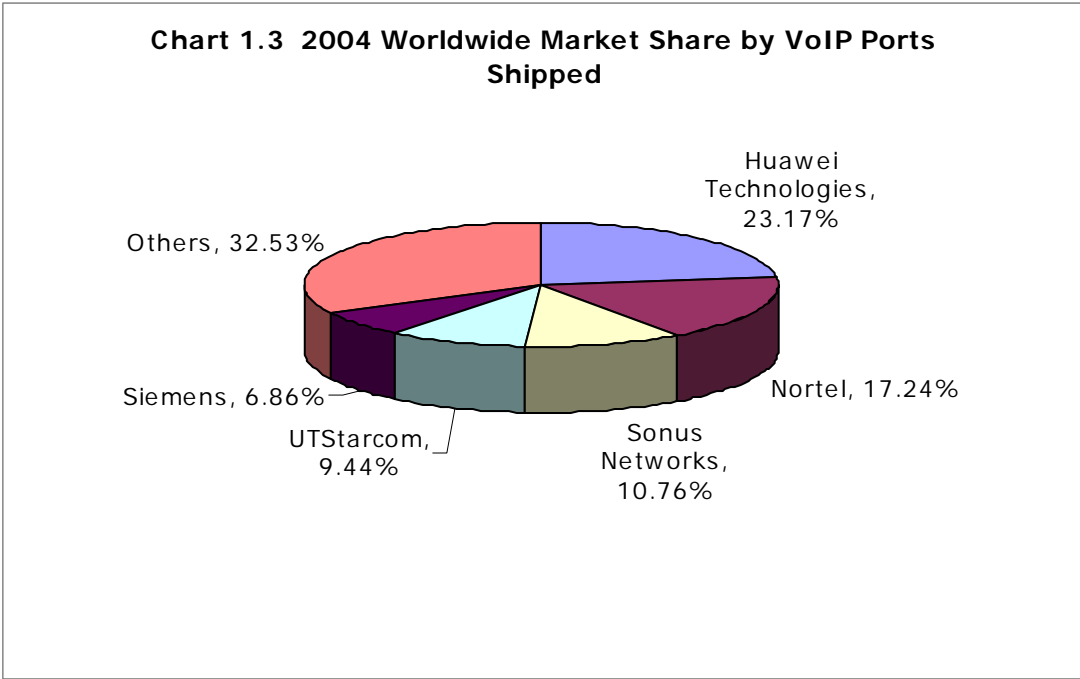


Source: Dittberner Associates, Inc.

### b) HUAWEI LEADS THE WORLDWIDE VOIP PORTS SHIPPED

Huawei shipped the most number of VoIP ports in 2004 achieving a market share of 23.17%. Nortel Networks followed with 17.24% while Sonus stood at third position with 10.76% of the VoIP ports shipped during 2004.

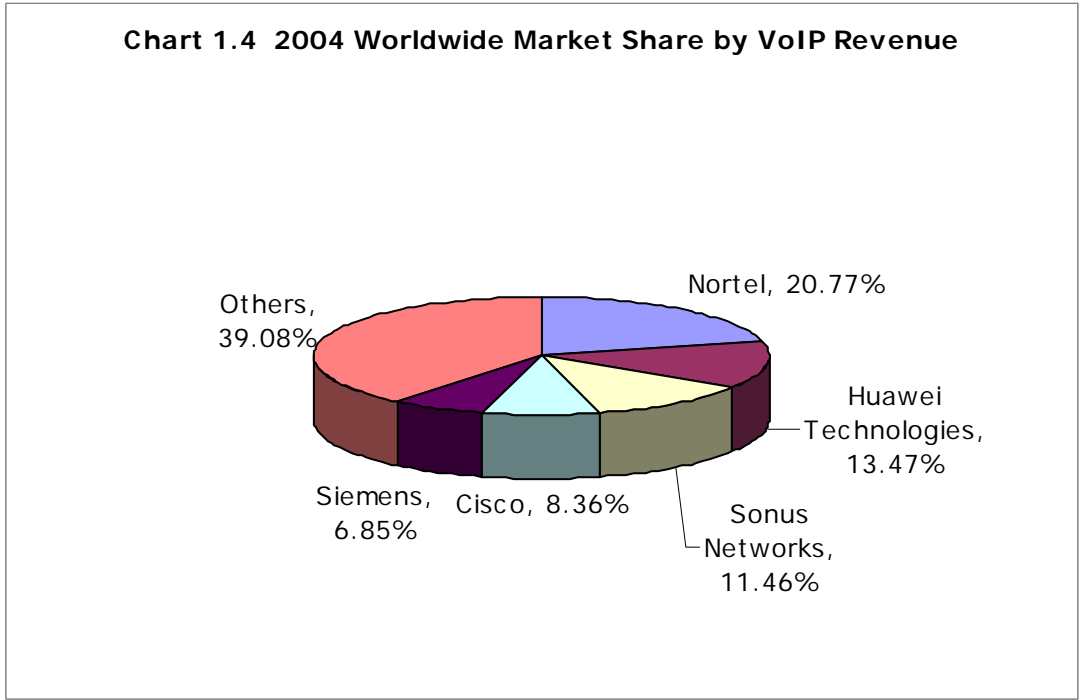




Source: Dittberner Associates, Inc.

**c) NORTEL LEADS THE VOIP REVENUE FOR 2004**

Nortel Networks led the VoIP revenue charts in 2004 achieving a market share of 20.77%. Huawei followed with 13.47% while Sonus stood at third position with 11.46% of the VoIP revenue during 2004.



Source: Dittberner Associates, Inc.

**d) HUAWEI LEADS MEDIA GATEWAY PORTS SHIPMENT; NORTEL LEADS MEDIA GATEWAY REVENUE FOR 2004**

The media gateway market shipped a total of 25,054,765 ports worldwide and was valued at US\$ 643,622,095 during 2004. Huawei Technologies led the media gateway market with 17.10% share. Following close was Nortel Networks with a market share of 16.32%. UTStarcom stood third with 14.66% market share. Nortel Networks led the media gateway revenue market with 19.05% of the market share. Cisco was second with 12.56% of the revenue market. Huawei Technologies was third with 10.64% market share.

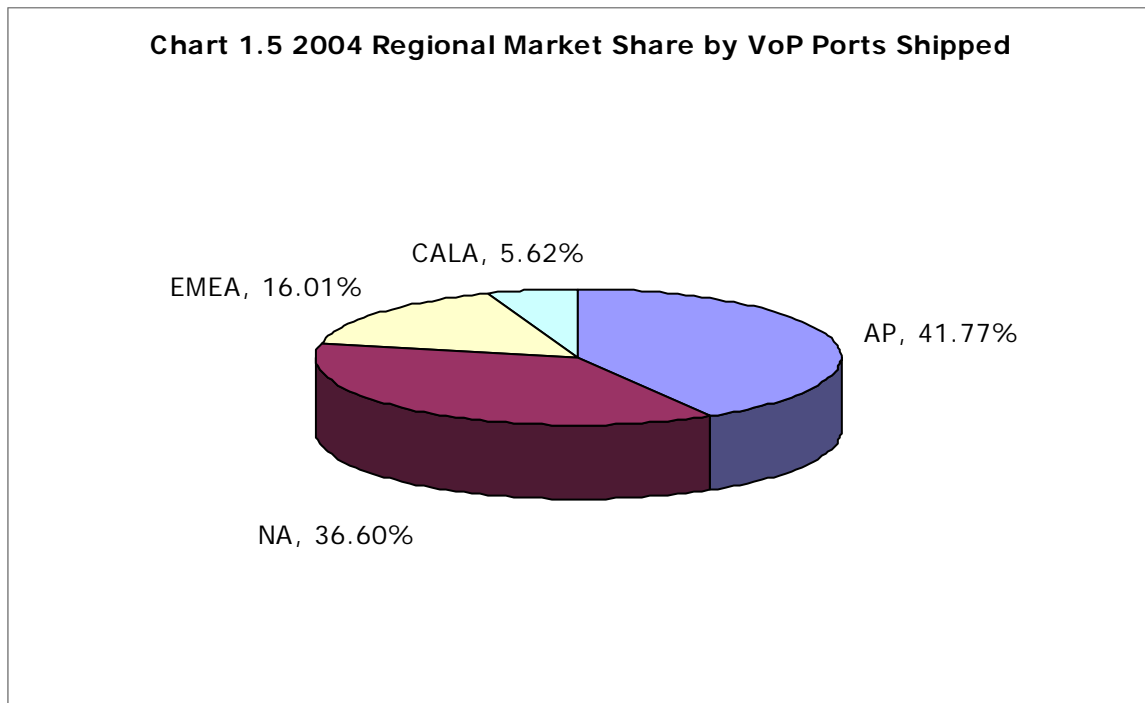
**e) NORTEL LEADS 2004 SOFTSWITCH MARKET**

20,505,429 softswitch ports were shipped worldwide during 2004. This market was worth US\$ 607,562,619. Nortel is the market leader in the Softswitch market with a 26.16% of the ports shipped and 30.91% of the revenue. Huawei holds the second at 23.09% ports and 12.24% revenue; while Sonus is third with 10.62% of the Softswitch ports market and 10.75% of the Softswitch worldwide revenue for 2004.

**Regional Analysis**

**a) 41.77% VoP PORTS SHIPPED TO ASIA PACIFIC REGION**

Most number of ports were shipped to the Asia Pacific region, however, the North American region led the revenue charts with 43.2% of the total VoP revenues during the year.



Source: Dittberner Associates, Inc.