Cisco VPN Product Update

Session 2404
Cisco’s VPN Outlook

- VPNs are an alternative WAN infrastructure
  - Offer significant cost benefits
  - Enables new infrastructure applications (Extranets, etc.)
  - Extends and enhances network connectivity
- Still an end-to-end network
  - Scalability, reliability, multiprotocol, multiservice, management, security, QoS, etc.
- Have specific additional requirements
  - Heightened security
  - New quality of service capabilities
  - Policy management
## Comprehensive VPN Solutions

Cisco Now Provides the Industry’s **Broadest** VPN Solution Set!

<table>
<thead>
<tr>
<th>Customer Type</th>
<th>Remote Access</th>
<th>Site-to-Site</th>
<th>Firewall-Based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Enterprise</td>
<td>3060 Concentrator</td>
<td>7x00 Routers</td>
<td>PIX 520</td>
</tr>
<tr>
<td>Medium Enterprise</td>
<td>3030 Concentrator</td>
<td>7x00, 3600 Routers</td>
<td>PIX 520, 515</td>
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<td>Small Enterprise</td>
<td>3015, 3005 Concentrator</td>
<td>3600, 2600 1700 Routers</td>
<td>PIX 515</td>
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<td>SOHO Market</td>
<td>800 Routers</td>
<td>1400 Cable Modem uBR924</td>
<td>PIX 506</td>
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<tr>
<td></td>
<td>VPN Client</td>
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</table>

## Drivers for VPN Deployment

**Intranet VPN**
- Low Cost, Tunneled Connections with Rich VPN Services, (IPSec and QoS) to Ensure Reliable throughput
- **Cost Saving and New Applications**

**Extranet VPN**
- Extends WANs to Business Partners
- **New Applications and Business Models**

Remote Access VPN
- Secure, Scalable, Encrypted Tunnels across a Public Network
- **Cost Saving**
Remote Access VPN Solutions

- High performance
- Scalable and manageable
- Standards-based interoperability

Remote Access Client
Cisco VPN Clients
Microsoft Win 2000 (IPSec)
Microsoft Win 9x/NT (PPTP)

Enterprise—Central Site
WAN Router—7x00
Cisco Secure PIX Firewall Appliance
Cisco VPN Concentrator
Introducing…

The Cisco VPN 3000 Concentrator Series

- Purpose built remote access solution
- Designed for enterprise deployment and CPE-based managed services
- “Full package” rounds out the Cisco VPN portfolio
  - High-performance architecture
  - Modular and scaleable
  - Easily managed
  - Flexible
  - Robust

Cisco VPN 3000 Concentrator Series

<table>
<thead>
<tr>
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<th>3005</th>
<th>3015</th>
<th>3030</th>
<th>3060</th>
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<tr>
<td>Simultaneous Tunnels</td>
<td>100</td>
<td>100</td>
<td>1500</td>
<td>5000</td>
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<td>Encrypted Throughput</td>
<td>4 Mbps</td>
<td>4 Mbps</td>
<td>50 Mbps</td>
<td>100 Mbps</td>
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<tr>
<td>Encryption Method</td>
<td>Software</td>
<td>Software</td>
<td>Hardware</td>
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<td>Expansion Slots</td>
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<td>3</td>
<td>2</td>
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<td>SEP (Enc.) Modules</td>
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<td>2</td>
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<td>Option</td>
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<td>System Memory</td>
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<td>64 MB</td>
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<td>Hardware Specs</td>
<td>1U, Fixed</td>
<td>2U, Scalable</td>
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<td>2U, Scalable</td>
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<tr>
<td>Redundant Power</td>
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<td>Option</td>
<td>Option</td>
<td>Option</td>
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<td>Client License</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
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</table>
Platform Highlights
Models 3015, 3030, 3060

- Modular
- Expandable
- Redundant
- Hardware Encryption

- Extensive Instrumentation
- 2U Form Factor

System Architecture
Models 3015, 3030, 3060

- Scalable Encryption Processing (SEP) Module
- Expansion Bus
  - SEP Accelerator Card
  - SEP Accelerator Card
  - Redundant SEP or Other
  - Redundant SEP or Other

- Base Unit
  - 10/100 LAN Interface
  - BUS Interface
  - Protocol Software: IP, PPP, RIP, OSPF
  - Authentication: RADIUS, Win NT, SDI, Internal, X.509
  - Security: IPSec, IKE, Dig., Certs.
  - L3/L4 Filtering
  - Management: SNMP, HTML, TELNET, Console
Platform Highlights
Model 3005

Fixed Configuration
Software Encryption
1U Form Factor

Limited Instrumentation
Best Choice for Managed
Service, Branch Office,
Medium Business

System Architecture
Model 3005

10/100 LAN Interface
Routing Stacks
Protocol Software
IP, PPP,
RIP OSPF
Authentication
RADIUS
Win NT SDI
Internal
X.509
L3/L4
Filtering
Policy
Management
Optional WAN
RIP V1 2
OSPF
Tunneling
PPTP L2TP
Security
IPSec IKE
Digital Certs
Management
SNMP HTML
TELNET
Console
Management Highlights

- Multiple user interfaces: HTML, menu driven CLI via telnet, console port
- Secure management via IPSec, SSL, and secure telnet support
- Dynamic reconfiguration
- Extensive monitoring and alert instrumentation
- Multi-chassis monitoring via SNMP using VPN 3000 monitor
- Centralized policy management by groups and users
  - Minimal client options; you determine the policies, not your users
  - Addressing, authentication, filtering
  - DNS/WINS assignment, time/duration
  - Security definitions
-Granular access control
  - Split tunneling support
  - Auto end-point discovery for LAN-to-LAN
  - NAT transparent with IPSec

Client Support

- Broad client support
  - VPN concentrator supports PPTP for MS and NTS clients
  - L2TP and L2TP tunneled in IPSec
- Cisco VPN 3000 client software
  - IPSec compliant
  - Unlimited license for all concentrator models
  - Easy deployment
  - Installation wizard
  - Backup server support
  - Policies are controlled at server
  - “Elegant simplicity”
VPN 3000 Client Installation and Management

- **Single-click installation**
  - Easily deployed in the field
  - Floppy disk set or CD-ROM
  - Pre-configured .INI file

- **Centralized configuration and policy management**
  - Reduction in configuration needed at client
  - Configuration and policies are “pushed” from concentrator

Cisco VPN 3000 Monitor Network View, Unit Profile, Trend Analysis

**Network View Shown…**

- Tracks Number of Users, CPU Utilization and Throughput
- Thresholds Set for Warning (Yellow) and Alarm (Red)
- Settable Poll Interval
- Line Turns Red on Major Failure
- Traps Displayed Here: White, Yellow and Red

Find a User

Drill Down by Double Clicking on a Unit
Security Features

- Strong encryption algorithms
  56 bit DES, 168 bit triple-DES, MPPE–40/128 bit RC4
- IPSec authentication algorithms
  HMAC with MD5, with SHA–1
- Key management
  IKE with Diffie-Hellman
- Digital certificate support
  Entrust, Baltimore, CyberTrust, Microsoft, PGP
- Packet filtering—layer 3 and 4
- Third party authentication servers
  Native support for radius, SDI (new card and next PIN
  code), NT domains, and MS-CHAP v1 and v2

High Availability

- Calculated MTBF
  200,000+ hours
- Redundancy
  (power supplies, fans, SEPs)
- Dual flash
- Destination pooling (client)
- Virtual router redundancy
  protocol (VRRP)

VRRP—Automatic Recovery with Same IP and MAC Address
VPN 3000 Client
Advanced Features—Split Tunneling

- Secure tunnels for enterprise-specific traffic (i.e.—email, file servers, etc.)
- Clear-text traffic for traditional Internet access (i.e.—web surfing, newsgroups, etc.)

Stockmaster.com

Central Site
Cisco VPN 3000 Concentrator
Router
Cisco VPN 3000 Client
Remote User
NAT Device

VPN 3000 Client
Advanced Features—IPSec/UDP

Central Site
Cisco VPN 3000 Concentrator
Router
Cisco VPN 3000 Clients
Remote Site
NAT Device

Proprietary Protocol
Allows Clients to Operate Behind a NAT Device
Provides the Security of IPSec/ESP
Configured Via Group Policies at Concentrator
Site-to-Site VPNs
Cisco VPN Routers

Cisco Site-to-Site VPN Solutions
Scalability for Every Site

- **Cisco 1700 Series**
  - VPN-Optimized Router
  - Connecting Remote Offices at T1/E1 Speeds

- **Cisco 2600 and 3600 Series**
  - VPN-Optimized Routers
  - Connecting Branch and Regional Offices at ntxnT1/E1 Speeds

- **Cisco 7100, 7200 and 7500 Series**
  - 7100 for Dedicated VPN Head-End; 7200 and 7500 for Hybrid Private WAN + VPN Connectivity

- **Cisco 800, UBr900, and 1400 Series**
  - VPN-Optimized Routers for ISDN, DSL, and Cable Connectivity
Cisco 7100 Series VPN Router

Comprehensive, Integrated High-End VPN Solutions

Feature Rich Routing
- Industry Leading Routing
- World-Class Cisco IOS
- Fast Layer 3 Routing
- RIP, OSPF, EIGRP, BGP, NHRP, IGRP, IS-IS
- VPN Management

Optimized for VPN
- Integrated LAN/WAN for VPN Edge and Behind Edge Deployments
- Single/Dual Homed WAN Configurations
- Extensibility

Rich VPN Services
- Security/Tunneling/High-Speed Encryption
- Firewall and Intrusion Detection
- Advanced Bandwidth Management
- Service Level Validation

Embedded WAN interface for connectivity to VPN cloud
- Single or dual homed WAN configurations
- Embedded dual 10/100 auto-sensing fast ethernet ports for LAN/DMZ connectivity
- Focused on site-to-site VPNs with incidental remote access traffic
Cisco 7100 Series VPN Router

- Use dual 10/100 fast ethernet ports for deployment behind edge router

Cisco 7100 System Highlights

**Performance**
- RISC MIPS Processor for High Throughput and Rich VPN Services
- Modular VPN Services Processing Architecture

**Extensive Memory**
- 64 MB of System Memory for Reliable, High Speed Services Delivery—upgradable to 256 MB
- 64 MB of Packet Memory for Advanced Bandwidth Management and High Latency Networks
- 48 MB Flash Memory—Upgradable to 128 MB

**Expansion Slots**
- Port Adapter Slot for LAN/WAN Extensibility with Cisco 7XXX Series PA
- VPN Service Module Slot for IPSec DES/3DES or PPTP MPPE RC4 Acceleration

**Integrated I/O**
- Dual Auto-Sensing 10/100 Fast Ethernet
- 4 or 8 Port Serial
- Single or Dual Port T3/E3 Serial or ATM
- Single Port OC-3 SM
- Dual OC-3 MM Ports
Cisco 7100 Models: 7120 and 7140

The Cisco 7140 Delivers Superior Scalability and Redundancy for in High Capacity Environments

**Cisco 7120**
- 175 Kpps WAN throughput
- 50Mbps VPN throughput
- Single WAN interface
- Single AC power

**Cisco 7140**
- 300 Kpps WAN throughput
- 90Mbps VPN throughput
- Dual WAN interface
- Dual AC power

Integrated Services Module (ISM) Encryption Acceleration

**Hardware acceleration for IPSec or MPPE encryption**
**Delivers:**
- 3DES encryption at full duplex DS3 speeds (90 Mbps), up to 2000 sessions
- MPPE acceleration for 2000 PPTP simultaneous remote access sessions
**Installs in Service Module (SM) slot—no slot penalty!**
VPN Router Hardware Encryption Accelerators

- Hardware accelerators to deliver enhanced encryption performance
- Broad platform support
  
<table>
<thead>
<tr>
<th>Platform</th>
<th>Product</th>
<th>Performance</th>
</tr>
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<tbody>
<tr>
<td>7100</td>
<td>ISM</td>
<td>90 Mbps</td>
</tr>
<tr>
<td>7200</td>
<td>ISA</td>
<td>90 Mbps</td>
</tr>
<tr>
<td>7500</td>
<td>ISA-3Q '00</td>
<td>90 Mbps</td>
</tr>
<tr>
<td>3600</td>
<td>Q3 CY '00</td>
<td>up to 24 Mbps</td>
</tr>
<tr>
<td>2600</td>
<td>Q3 CY '00</td>
<td>8 Mbps</td>
</tr>
<tr>
<td>1700</td>
<td>1700-VPN</td>
<td>4 Mbps</td>
</tr>
</tbody>
</table>

Self-Healing, Self-Defending VPN Quality of Service Interoperability

- Enables bandwidth management for encrypted and tunneled VPNs
- Supports ISP differentiated services offerings
- Preserves QoS signaling end-to-end
- Standards-based using DiffServ

Non-Classified Traffic

Classifier

QoS Marking

Crypto Engine

Tunneled and Encrypted Packet with QoS Preservation

Output Queuing ISP End-to-End
Self-Healing, Self-Defending VPN Resiliency and Recovery

- Dynamic route recovery using GRE+IPSec tunnels
  GRE enables routing updates across the VPN
  Provides redundancy employing routing protocols
- Tunnel recovery using IPSec keep-alives
  Dynamic failover upon tunnel failure
- Tunnel provisioning and recovery using IPSec tunnel endpoint discovery
  Dynamic failover to alternate gateway

VPN Device Manager
Single Device Management

- Simple, easy to use management from a web browser directly to the device
- Configuration and monitoring of site-to-site VPN services for Cisco IOS-based devices
  Device setup
  Tunneling, encryption
  Firewall and intrusion detection
  Deployment templates/wizards
- Provided at no additional cost
- Available Q3 CY ’00
Multidevice VPN Management

- Policy-based configuration management system for site-to-site VPNs
  - IPSec tunnels/encryption
  - Firewall
- Assures consistent security policy across Cisco IOS and PIX

- CiscoWorks 2000 product family for Cisco VPN routers
- Comprehensive infrastructure management
  - Router configuration proliferation
  - Inventory management
  - Response-time analysis
  - ACL management

VPN Client Support

- Cisco secure VPN client
  - Windows 95, 98, NT4.0 support
  - IPSec and IKE with DES, 3-DES encryption
  - Dynamic addressing and AAA support
  - Multiple authentication methods:
    - Pre-shared keys and digital certificates
    - RADIUS, secureID and tokens (with IOS FW)
  - Free unlimited distribution with ISM

- Microsoft client support
  - PPTP as in 95/95/NT4.0
  - 40/128-bit MPPE (RC4) accelerated in ISM
  - Windows 2000 support
  - L2TP tunneling with IPSec encryption
Firewall-Based VPNs
Cisco Secure PIX

Firewall Solutions

- Cisco IOS firewall
  Integrated firewall solution for Cisco IOS software
  Combines advanced firewalling and intrusion detection with full routing and WAN capabilities

- PIX firewall
  Dedicated firewall
  High-performance, scalable and fault-tolerant
  The most advanced features and application support
Cisco Secure PIX™ Firewall

- Market-leading firewall
  - PIX 520: enterprise core
  - PIX 515: enterprise branch
    office and small-to-medium businesses
- Highest performance with unbeaten security
  - 250,000 connections at 340 Mbps
  - Common criteria EAL 2 certification
- Integrated appliance packaging
- IPSec VPN support

Cisco PIX Firewall 520

- Enterprise chassis design
  - Over 250,000 simultaneous sessions
  - Most flexible configuration options
  - Designed for enterprise environments
Cisco PIX Firewall 515

- Over 125,000 simultaneous sessions
- Two configuration options
- Designed for a smaller environments
- Low-profile chassis
- Up to six integrated 10/100 Ethernet ports
- Network configurable-no need for floppy drive

Cisco PIX Firewall IPSec VPNs

- Expand corporate intranet
  Leverage the internet for cost savings and increased connectivity
- Enable mobile users
  Increase efficiency
  Reduce response time
- DES IPSec at no cost
  3DEs for nominal license fee
  Up to 90 Mbps DES
  Up to 20 Mbps 3DES
PIX 506

- SOHO deployment
- 200 MHz Intel Pentium MMX processor
- 32 MB RAM, 8 MB flash
- 2 integrated fast Ethernet (10/100) ports
- External power supply
- Compact size (8x12 x 1.7”)
- 10 Mbps throughput
- 4 Mbps 3DES
- 10 IPSec SAs

NEW

PIX v5.1 for the 515 and 520

- 6 total ports
- 6 FE (10/100 ports)
- 4 token ring
- 2 GigE
- 2 FDDI, with no other ports
- Gigabit ethernet
- PPTP support
- Enhanced java filtering
- RAS v2 support
- RIP v2 support
- RTSP support
PIX Gigabit Ethernet Card

- Designed for large enterprise and complex, high-traffic environments
- Up to 387 megabits/second (full duplex)

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Please Complete Your Evaluation Form

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