Routing & Switching Solutions Update: Australia

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Network Systems Solutions Marketing, APAC
June 2008
Opportunity

Existing Cisco Customers

Migrating Base

Existing Cisco Customers

New Customers

Migrating Equipment & Green-Field Opportunities
Indicative Analysis – Aust migration opportunities

Installed Base from Y2000-2006 – $4.95 Bn

Cisco Installed Base – $3.48 Bn
Routing - $1.15 Bn; Switching - $2.33 Bn
Other Networking Vendor Installed Base – $1.47 Bn

Source: IDC
Characteristics of Cisco Installed Base

Networks Contain 15+ % Obsolete Equipment
*Source: Cisco Discovery - Network Assessment Tool*

Assuming 15% of the Cisco Base gives $522 mil
Plus
The Competition Base of $1.47 Bn

Opportunity for Migration is really Huge..
Green Field Analysis – Australia opportunities

Market Forecast 2008-2012 – $5.18 Bn
Routing - $1.38 Bn; Switching - $3.8 Bn

Australia Market Forecast: 2008 - 2012

Source: IDC
Campus

Today's Campus

- Network Complexity
- Evolving Traffic Patterns
- Struggling to Keep up with Security
- Limited Control over Users and Traffic
- Traffic Volume and Bandwidth Expanding
Campus Communications Fabric

- Operational Manageability
- Application Intelligence
- Virtualization
- Integrated Security
- Unified Network Services
- Non-IP/Non-Communications

Network Complexity

Traffic Volume and Bandwidth Expanding
Limited Control over Users and Traffic
Evolving Traffic Patterns
Network Complexity
Today’s Branch

- Aging, Disparate Data and Voice Networks
- Saturated WAN, Poor Response Time
- Struggling to Keep up with Security
- Limited Mobility, Limited Disaster Recovery
- Inconsistent Branch, Branch-HQ solutions

Branch-WAN
Branch

Branch-WAN

Empowered Branch

Unified Communications
Integrated Security
Routing Switching Management
Mobility
Application Performance

Aging
Data

Inconsistent Branch, Branch-HQ solutions Limited Mobility, Limited Disaster Recovery Struggling to Keep up with Security Saturated WAN, Poor Response Time Aging, Disparate Data and Voice Networks
Branch-WAN

Unified WAN Services

- Unified Network Services
- Integrated Security
- Routing Aggregation Management
- Non-Stop Communications
- Application Intelligence
Unified WAN Services / ASR 1000
Partner Launch – 25 Feb; External Launch – 4 Mar

- High-performance Embedded Services, Services Flexibility, Hardware/Software Resiliency, Modular Software
- Secure, Reliable, Concurrent WAN Services Aggregation
- Routing System with Integrated Services — Security, Voice, Video, Wireless, WAN Optimization

Branch

Head Office / WAN Aggregation
Introducing - ASR 1000 Series Routers

Instant-on Service Delivery

Embedded High-Performance Resilient Services

ASR 1002
5–10 Gbps

ASR 1004
10+ Gbps

ASR 1006
10+ Gbps
ASR 1000 Series
Powered by Cisco QuantumFlow Processor

World’s Most Advanced Piece of Networking Silicon

<table>
<thead>
<tr>
<th>Performance</th>
<th>40Gbs Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale</td>
<td>Over 1.3 Billion Transistors</td>
</tr>
<tr>
<td>Availability</td>
<td>Customized QoS</td>
</tr>
<tr>
<td>Services</td>
<td>Integrated and Programmable</td>
</tr>
</tbody>
</table>

Instant-on Service Delivery
Low Touch Deployment
Faster Qualification
Future Proof Technology
## High Performance Services – ASR Benefits

<table>
<thead>
<tr>
<th>ASR Business and IT Benefits</th>
<th>ASR Solution Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Rapid services integration</td>
<td>▪ Instant-on services</td>
</tr>
<tr>
<td>▪ Maximized investment</td>
<td>▪ Future-proof provisioning</td>
</tr>
<tr>
<td>▪ Reduced deployment time</td>
<td>▪ Wire-speed services</td>
</tr>
<tr>
<td>▪ Reduced IT OpEx and CapEx</td>
<td>▪ Powerful price-performance</td>
</tr>
</tbody>
</table>

### Built-in, Instant-on, High Performance Features

![Throughput in Gbps Chart for Cisco ASR 1000 Series ESP-10G](chart.png)
## Integrated Security and Application Intelligence – ASR Benefits

<table>
<thead>
<tr>
<th>ASR Business and IT Benefits</th>
<th>ASR Solution Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Operation Efficiency</td>
<td>Instant-on highly available advanced services</td>
</tr>
<tr>
<td>Safeguards Client Confidentiality</td>
<td>Tight integration of routing &amp; advanced services</td>
</tr>
<tr>
<td>Lowers Deployment and Upgrade Costs</td>
<td>Standards based, certified security services</td>
</tr>
<tr>
<td>Ensures Regulatory Requirements</td>
<td></td>
</tr>
</tbody>
</table>

### Built-in, Instant-on, Full WAN Protection Features

- **Network Foundation Protection:** Scalable Control Plane Policing (CoPP)
- **Access control:** Up to 10Gb Firewall Services
- **Encryption services:** Up to 3.5Gb IPsec VPN encryption
- **Application Intelligence:** Multi-Gigabit NBAR (DPI), Performance Routing
- **QoS services:** 128K queues with hierarchical QoS
- **Traffic monitoring:** Scalable ERSPAN, High-speed Logging, Multilink
Non-Stop Communications – ASR Benefits

**ASR Business and IT Benefits**
- Adaptive and resilient infrastructure
- Enhanced CapEx and OpEx Savings
- Enhanced Investment Protection
- Increased Operational Efficiency

**ASR Solution Benefits**
- Rapid failover without service disruption
- Streamlined change management
- Reusable hardware
- Complete hardware, software redundancy

**Key High-Availability Features**
- Separate control and forwarding planes
- Redundant control and forwarding plane (ASR1006)
- Industry’s first redundant software on non-redundant hardware (ASR 1002/ 1004)
- Modular IOS XE — re-startability, fault containment, in-service upgrades
- In-service upgradeable, reusable SPAs
Delivering Power Efficiencies

ASR 1000 Power Efficiencies

- Power savings vs. multiple devices
- Reduced real-estate requirements
- Remote provisioning eliminates truck rolls

Power Consumption (In Watts)

- Twice as power efficient with >10x performance
- ~ $170K power cost savings over 5-years*

* with 20 WAN routers deployed.
Empowered Branch 4:
Partner Launch – 8 Apr; External Launch – 10 Apr

Extending Consistent Services to Every Branch
## Cisco 860, 880 Fixed Router Solution

### Cisco 860 ISR
- Data, Security, Wireless

### Cisco 880 ISR
- Data, Security, Wireless

### Cisco 880 IAD
- Integrated Access

#### Teleworker Mobile Workforce Small Branch

<table>
<thead>
<tr>
<th>Feature</th>
<th>Cisco 860 ISR</th>
<th>Cisco 880 ISR</th>
<th>Cisco 880 IAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional 802.11n</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dual WAN Links</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3G Option</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Unified Wireless</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Security</td>
<td>Basic</td>
<td>Advanced</td>
<td>Advanced</td>
</tr>
</tbody>
</table>

The Cisco 860 ISR is an entry-level, secure routing solution for Teleworker and Small Business. The Cisco 880 ISR offers full-featured secure router capabilities for Teleworker and Small Business. The Cisco 880 IAD is designed for SP managed services only.
Application eXtension Platform

Secure Network Integrated Infrastructure to host Branch Applications

**AIM-102**
- 256MB, 1GB, Intel Celeron
- Embedded Light-Weight Apps

**NME-302/522**
- 512MB-2GB, 80/160GB
- Intel Celeron Pentium M
- General-Purpose
- Packet Services
- Advanced Services

**Complete Ecosystem**
- SDK and Development Portal
- AXP Partner Program
- AXP Development Services
- AXP Advanced Services

**Customer Benefits**
- Server Consolidation
- Lowers Branch TCO
- Network/App Integration
- Standards compliance – HIPAA, PCI, SOX etc.
- “Green”

- Linux-based integration environment
- Certified libraries to implement C, Python, Perl and Java applications
- Multi-app support with ability to segment and guarantee CPU, memory and disk resources
- Extensible Cisco CLI with Cisco IOS APIs
- Cisco ISR 1841, 2800, 3800 series support
Security and Management

**IOS® Content Filtering**
- Annual Licensed Feature
- Leverages Trend Micro URL Ratings Database

**Cisco Configuration Professional**
- Unified Configuration of Voice, Data, Security
- Multi Device Management

**IOS® Content Filtering**
IOS 12.4(15)XZ, 12.4(20)T

**Graphical Configuration Tool**
Video Surveillance

EVM-IPVS-16A
- Up to 16 analog video ports
- 2xRS-485 ports for PTZ cameras
- 8 contact closure ports

Analog Video Encoding Module

NME-VMSS
- Manage, Monitor, Control Video Surveillance Sources
- Up to 160GB storage
- Up to 32 ports

Video Management and Storage

Supported on Cisco 2821, 2851, 3825, 3845

Physical Security
New WAE-674 with Virtual Blade

<table>
<thead>
<tr>
<th>Microsoft</th>
<th>Cisco</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Windows Server 2008 Server Core</strong></td>
<td><strong>WAAS with Virtualization</strong></td>
</tr>
<tr>
<td>▪ Branch optimized IT services</td>
<td>▪ Complete WAN optimization + application acceleration</td>
</tr>
<tr>
<td>▪ Read-only domain controller</td>
<td>▪ Ability to host Windows services locally</td>
</tr>
<tr>
<td>▪ Print services</td>
<td></td>
</tr>
<tr>
<td>▪ DNS/DHCP services</td>
<td></td>
</tr>
</tbody>
</table>

New Cisco WAAS Appliance
WAE-674 with Virtual Blade Support
# Cisco ISR

## Competitive Snapshot

<table>
<thead>
<tr>
<th>Feature</th>
<th>Cisco ISR</th>
<th>Juniper J-Series</th>
<th>Nortel Secure Routers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Platform for Custom Apps</td>
<td>✓</td>
<td>No Open API.Juniper Controlled</td>
<td>✗</td>
</tr>
<tr>
<td>Integrated WAN Optimization</td>
<td>✓</td>
<td>Promised. Not Yet Available</td>
<td>✗</td>
</tr>
<tr>
<td>Native UC</td>
<td>✓</td>
<td>Avaya third Party</td>
<td>External Device</td>
</tr>
<tr>
<td>Integrated 3G Wireless WAN</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Survivable UC on Teleworker Solution</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>MS Windows Server Virtualized in the Branch</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Video Surveillance</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
Cisco Empowered Branch 4
Three Things to Remember

1. Open Platform for Applications
   - Supports custom and off the shelf applications
   - Address branch footprint consolidation challenges
   - Unique differentiation for Cisco branch platforms

2. Highly Integrated Teleworker
   - Support for 3G, 802.11n Unified WLAN
   - Universal software image
   - Higher performance, new security features, recurring revenue from content filtering

3. Router-Integrated Video Surveillance
   - Converges legacy/analogue networks to IP
   - Customer benefits similar to IP Telephony migration
   - Taps existing base of installed ISRs, drives network traffic and router slot requirements (upsell)
Campus Communications Fabric 3
Int Launch – 15 Apr; Ext & Partner Launch – 29 Apr

Network Requirements

Telepresence
IP Video Conferencing
Webcam
VoD
CCTV
IP Video Surveillance
Streaming Digital Media
Desktop Collaboration
Bidirectional
Unidirectional
Concurrent Sessions
Enterprise Video
Network Requirements

Optimize
Secure
Scale

Ensure the User Experience
Secure Confidential Communications
Manage Video Growth

The Video-Ready Campus
Video Optimization
How Do You Ensure the Video Experience

- Delivery Optimization
  Traffic Control
  Bandwidth Utilization

- Monitoring & Management
  Operational Expense
  Video Asset Management

- Non-Stop Communications
  Business-Critical Video
Video Optimization
How Do You Ensure the Video Experience

Delivery Optimization
- Intelligent Edge Classification
- Quality of Service & Multicast
- Low Latency & Jitter

Monitoring & Management
- CiscoWorks & Multicast Manager
- Automation and SLAs
- Application Intelligence & Analysis

Non-Stop Communications
- CiscoWorks & Multicast Manager
- Automation and SLAs
- Application Intelligence & Analysis

How Do You Ensure the Video Experience?
Video Security
How Do You Ensure Confidential Communications

- Users
  Access Control

- Virtualization
  Logical Partitions

- Infrastructure Security
  Video-Specific Attacks
  Network Integrity
Video Security
How Do You Ensure Confidential Communications

**Access Control**
- User & Device Policy Control
- Network-Level Policy Control
- Video-Specific Mechanisms

**Virtualization**
- GRE Tunnels
- VRF-Lite
- MPLS

**Infrastructure Security**
- Cisco® Integrated Security Features
- Multicast Security
- Application-Aware Access Control
Video Scaling
How Will You Replicate Your Successes

- Increased Bandwidth
  - HD Video

- Hardware Compatibility
  - Modularity
  - StackWise® Plus

- Mobility
  - Wireless Integration
Constructing the 10 Gigabit Campus
Design Options for 10 Gigabit Video Deployment

Access Layer
- Catalyst® 6500
- Catalyst 4500 E-Series
- Catalyst 3750-E
- Catalyst 3560-E

Distribution Layer
- Catalyst 6500
- Catalyst 4500

Core Layer
- Catalyst 6500
The Campus Communication Fabric
The Infrastructure for the Video Ready Campus

How Do I Manage Video on My Network?

How Do I Ensure Video Availability?

How Do I Isolate Video to Authorized User Groups?

Operational Manageability

Non-Stop Communications

Virtualization

Integrated Security

Application Intelligence

Unified Network Services

How Do I Identify and Prioritize Video?

How Do I Integrate Video for Both Wired and Wireless?

How Do I Secure Video on My Network?

How Do I Integrate Video for Both Wired and Wireless?
The Campus Communication Fabric

The Infrastructure for the Video Ready Campus

- QoS Policy Manager, Cisco Multicast Manager, PISA, Network Analysis Module
- NSF/SSO, ISSU, EEM, GOLD
- VRF-Lite, GRE, MPLS, Virtual Switch
- QoS, Multicast, NBAR, NetFlow, IPSLAs, Flexible Packet Matching
- 802.11n, Enhanced Power over Ethernet, Wireless Services Module
- Identity Based Network Services, TrustSec, Multicast Security, CISF, Infrastructure Security

Operational Manageability

Non-Stop Communications

Virtualization

Integrated Security

Unified Network Services

Application Intelligence

Enhanced Power over Ethernet, Wireless Services Module
New Pricing
Cat4500 E-Series Backbone Linecard

6-port 10GbE Line Card
WS-X4606-X2-E

$24,995
$15,000

24-port GbE Line Card
WS-X4624-SFP-E

$20,000

* FCS in June 08

Note: US Pricing
### New Bundles

**Cat4500 E-Series 10/100**

<table>
<thead>
<tr>
<th>Bundle Type</th>
<th>Components</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C4503-E Data Bundle</strong></td>
<td>1 * Sup II+ 1 * 1000W AC PS 1 * WS-X4148-RJ</td>
<td>$10,000</td>
</tr>
<tr>
<td></td>
<td><strong>WS-C4503-E-S2+48</strong></td>
<td></td>
</tr>
<tr>
<td><strong>C4503-E PoE Bundle</strong></td>
<td>1 * Sup II+ 1 * 1300W AC PS 1 * WS-X4248-RJ45V</td>
<td>$12,000</td>
</tr>
<tr>
<td></td>
<td><strong>WS-C4503-E-S2+48V</strong></td>
<td></td>
</tr>
<tr>
<td><strong>C4507R-E Data Bundle</strong></td>
<td>1 * Sup II+ 1 * 1000W AC PS 2 * WS-X4148-RJ</td>
<td>$17,500</td>
</tr>
<tr>
<td></td>
<td><strong>WS-C4507R-E-S2+96</strong></td>
<td></td>
</tr>
<tr>
<td><strong>C4507R-E PoE Bundle</strong></td>
<td>1 * Sup II+ 1 * 2800W AC PS 2 * WS-X4248-RJ45V</td>
<td>$21,500</td>
</tr>
<tr>
<td></td>
<td><strong>WS-C4507R-E-S2+96V</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** US Pricing

- **20% SmartNet Discount**
- **Up To 33% Discount**
## Special SMARTnet Pricing

**Sup 32 with PISA bundle**

<table>
<thead>
<tr>
<th>Bundle SKU's</th>
<th>Standard Chassis SmartNet Pricing</th>
<th>Special SMARTnet for Chassis + PISA Bundles</th>
<th>Discount over Standard SmartNet</th>
</tr>
</thead>
<tbody>
<tr>
<td>WS-C6503E-S32P-GE WS-C6503E-S32P10GE</td>
<td>$2415</td>
<td>$2077</td>
<td>14%</td>
</tr>
<tr>
<td>WS-C6504E-S32P-GE WS-C6504E-S32P10GE</td>
<td>$2415</td>
<td>$2077</td>
<td>14%</td>
</tr>
<tr>
<td>WS-C6506E-S32P-GE WS-C6506E-S32P10GE</td>
<td>$5250</td>
<td>$2940</td>
<td>44%</td>
</tr>
<tr>
<td>WS-C6509E-S32P-GE WS-C6509E-S32P10GE</td>
<td>$6500</td>
<td>$3770</td>
<td>44%</td>
</tr>
<tr>
<td>WS-C6513-S32P-GE WS-C6513-S32P10GE</td>
<td>$11000</td>
<td>$4840</td>
<td>56%</td>
</tr>
</tbody>
</table>

*Note: US Pricing*
### Advanced Technology Credits (Cisco AMs)

**Sup 32 with PISA**

Catalyst 6500-E 3, 4, 6 or 9 Slot + Sup32-PISA-GE Sup32-PISA-10GE = 60% AT Credits (30% Security + 30% ANS)

<table>
<thead>
<tr>
<th>Eligible SKU</th>
<th>DESP.</th>
<th>CORE Credit %</th>
<th>Security AT Credit</th>
<th>ANS AT Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>WS-S32-GE-PISA (=)</td>
<td>Sup32-PISA GE SKU w/ L2 IP Base License</td>
<td>40%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>WS-S32-10GE-PISA (=)</td>
<td>Sup32-PISA 10G SKU w/L2 IP Base License</td>
<td>40%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>S3P3AIK9-12218ZY</td>
<td>Advanced IP Services Software</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>WS-C65xxE-S32P-GE</td>
<td>Chassis + Sup32-PISA GE Uplinks Bundle SKU</td>
<td>40%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>WS-C65xxE-S32P-10GE</td>
<td>Chassis + Sup32-PISA 10G Uplinks Bundle SKU</td>
<td>40%</td>
<td>30%</td>
<td>30%</td>
</tr>
</tbody>
</table>
Campus Communications Fabric 3
Three things to remember

1. Initiate customer discussion around video readiness

2. Migrate and upsell to 3750-E, 4500 series and 6500 series Catalyst switches

3. Leverage new pricing and bundles
Cisco Fixed Switching Solutions
Launched Jan 2008

Extension to Cisco Catalyst Fixed Switching Families

- Cisco Catalyst 2960 PoE Switches
- Cisco Catalyst 2960 Powered Device Compact Switch
- Cisco Catalyst 3560E-12D Switch
- Cisco Catalyst 3560E-12SD Switch
New! Cisco Catalyst 2960 PoE Switches!

Delivers Power over Ethernet for Catalyst 2960 Customers

- Catalyst 2960-24PC-L
- Catalyst 2960-24LT-L
**New! Cisco Catalyst 2960 Powered Device Compact Switch!**

Provides Solution for Power and Space Constrained Customers

- Small Form Factor!

Catalyst 2960PD-8TT-L
New! Cisco Catalyst 3560E-12D Switch!

Extending Customer Flexibility

Industry First!

Catalyst 3560E-12D
New! Cisco Catalyst 3560E-12SD Switch!

12-port Gigabit SFP ports and 2-port 10 Gigabit X2 ports (WS-C3560-12SD-S and WS-C3560E-12SD-E)

- 10 GE X2 Transceiver support: SR, LR, ER, CX4, LX4, LRM
- TwinGig Converter Module for mixed GE/10GE uplinks
- 1 Rack Unit
- Dual hot-swappable power supplies (AC and DC)
- Redundant field-replaceable fans
- Layer 3 feature set option from the get go - EIGRP, OSPF, BGPv4
- IPv6 support for increased security and compatibility

Extending Customer Flexibility

IPv6 Support!
For more Information….

- **Unified WAN Services / ASR 1000**
  
  www.cisco.com/web/partners/sell/technology/switching/solutions/uwan_services.html
  
  www.cisco.com/go/uws

- **Empowered Branch**
  
  
  www.cisco.com/go/empoweredbranch

- **Campus Communications Fabric / Fixed Switching**
  
  
  www.cisco.com/go/ccf