Cisco 500 Series Stackable Switches

Product Presentation
Agenda

- Product Overview
- Product Transition
- Technical Feature Overview
- Positioning
- Competitive
- Resources and URLs
# Cisco Small Business 500 Series

## Value Proposition

<table>
<thead>
<tr>
<th>Fully Featured Stackable Switch at an Affordable Price</th>
<th>Ease of Use</th>
<th>Investment Protection with Enhanced Support &amp; Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Advanced features</td>
<td>- Multiple management options</td>
<td>- Cisco Small Business Support Service</td>
</tr>
<tr>
<td>- More security features to protect network traffic</td>
<td>- Auto voice features to easily deploy IP telephony solution</td>
<td>- Limited lifetime warranty with next business day advance replacement</td>
</tr>
<tr>
<td>- Energy efficient (EEE)</td>
<td>- True stacking enables multiple switches to be managed as one switch</td>
<td>- Firmware updates</td>
</tr>
<tr>
<td>- 1G, 5G, and 10G Stackable options—copper and fiber</td>
<td>- Interface and documentation available in seven languages</td>
<td></td>
</tr>
</tbody>
</table>

© 2010 Cisco and/or its affiliates. All rights reserved.
Cisco 500 Series Switches
Product Overview

- Next-generation Cisco Small Business Stackable Managed Switches replacing older Small Business products—**not a rebrand**
- 24 to 52 port models up to Gigabit Ethernet with optional 10-Gigabit uplinks
- 802.3af POE, 802.3at POE+, Legacy POE
- True stack—configure/troubleshoot/manage stack as a single unit
- Network-wide auto voice deployment using multiple protocols
- EEE energy-efficient technology
- Enhanced features including security, IPv6, VRRP*, RIP*
- 10 Gig and 5 Gig stack options
- Limited lifetime warranty with NBD

* 500X models
# Cisco 500 Series Switches

## Model Overview

### Fast Ethernet

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF500-24</td>
<td>24 10/100 ports 4 Gig ports (2x5G SFP)</td>
</tr>
<tr>
<td>SF500-24P</td>
<td>24 10/100 PoE ports 4 Gig ports (2x5G SFP)</td>
</tr>
<tr>
<td>SF500-48</td>
<td>48 10/100 ports 4 Gig ports (2x5G SFP)</td>
</tr>
<tr>
<td>SF500-48P</td>
<td>48 10/100 PoE ports 4 Gig ports (2x5G SFP)</td>
</tr>
</tbody>
</table>

### Gigabit Ethernet

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG500-28</td>
<td>24 10/100/1000 ports 4 Gig ports (2x5G SFP)</td>
</tr>
<tr>
<td>SG500-28P</td>
<td>24 10/100/1000 PoE ports 4 Gig ports (2x5G SFP)</td>
</tr>
<tr>
<td>SG500-28MPP</td>
<td>24 10/100/1000 PoE ports 4 Gig ports (2x5G SFP)</td>
</tr>
<tr>
<td>SG500-52</td>
<td>48 10/100/1000 ports 4 Gig ports (2x5G SFP)</td>
</tr>
<tr>
<td>SG500-52P</td>
<td>48 10/100/1000 PoE ports 4 Gig ports (2x5G SFP)</td>
</tr>
<tr>
<td>SG500-52MP</td>
<td>48 10/100/1000 PoE ports 4 Gig ports (2x5G SFP)</td>
</tr>
<tr>
<td>SG500X-24</td>
<td>24 10/100/1000 ports 4 10 Gig SFPs</td>
</tr>
<tr>
<td>SG500X-24P</td>
<td>24 10/100/1000 PoE ports 4 10 Gig SFPs</td>
</tr>
<tr>
<td>SG500X-48</td>
<td>48 10/100/1000 ports 4 10 Gig SFPs</td>
</tr>
<tr>
<td>SG500X-48P</td>
<td>48 10/100/1000 PoE ports 4 10 Gig SFPs</td>
</tr>
<tr>
<td>SG500XG-8F8T</td>
<td>8 10 Gig Copper 8 10 Gig SFPs</td>
</tr>
</tbody>
</table>
# Cisco 500 Series

## Model Pricing

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Product ID</th>
<th>Ports</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF500-24</td>
<td>SF500-24-K9</td>
<td>24 10/100; 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$590</td>
</tr>
<tr>
<td>SF500-24P</td>
<td>SF500-24P-K9</td>
<td>24 10/100 PoE+; 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$932</td>
</tr>
<tr>
<td>SF500-48</td>
<td>SF500-48-K9</td>
<td>48 10/100; 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$1,006</td>
</tr>
<tr>
<td>SF500-48P</td>
<td>SF500-48P-K9</td>
<td>48 10/100 PoE+; 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$2,062</td>
</tr>
<tr>
<td>SG500-28</td>
<td>SG500-28-K9</td>
<td>24 10/100/1000; 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$1,005</td>
</tr>
<tr>
<td>SG500-28P</td>
<td>SG500-28P-K9</td>
<td>24 10/100/1000 PoE (180W); 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$1,360</td>
</tr>
<tr>
<td>SG500-28MPP</td>
<td>SG500-28MPP-K9</td>
<td>24 10/100/1000 PoE (740W); 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$2,062</td>
</tr>
<tr>
<td>SG500-52</td>
<td>SG500-52-K9</td>
<td>48 10/100/1000; 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$1,911</td>
</tr>
<tr>
<td>SG500-52P</td>
<td>SG500-52P-K9</td>
<td>48 10/100/1000 PoE (375W); 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$2,743</td>
</tr>
<tr>
<td>SG500-52MP</td>
<td>SG500-52MP-K9</td>
<td>48 10/100/1000 PoE (740W); 4 Gigabit Ethernet (2 Combo mini-GBIC + 2 1G/5G SFP)</td>
<td>$3,429</td>
</tr>
<tr>
<td>SG500X-24</td>
<td>SG500X-24-K9</td>
<td>24 10/100/1000; 4 10 Gigabit Ethernet SFP+ (1G/5G/10G SFP+)</td>
<td>$1,905</td>
</tr>
<tr>
<td>SG500X-24P</td>
<td>SG500X-24P-K9</td>
<td>24 10/100/1000 PoE; 4 10 Gigabit Ethernet SFP+ (1G/5G/10G SFP+)</td>
<td>$2,540</td>
</tr>
<tr>
<td>SG500X-48</td>
<td>SG500X-48-K9</td>
<td>48 10/100/1000; 4 10 Gigabit Ethernet SFP+ (1G/5G/10G SFP+)</td>
<td>$3,175</td>
</tr>
<tr>
<td>SG500X-48P</td>
<td>SG500X-48P-K9</td>
<td>48 10/100/1000 PoE; 4 10 Gigabit Ethernet SFP+ (1G/5G/10G SFP+)</td>
<td>$4,444</td>
</tr>
<tr>
<td>SG500XG-8F8T</td>
<td>SG500XG-8F8T-K9</td>
<td>8 10 Gigabit Ethernet Copper; 8 10 Gigabit Ethernet SFP+ (1G/5G/10G SFP+)</td>
<td>$5,499</td>
</tr>
</tbody>
</table>
Simplified Configuration and Common Management

- Cisco Configuration Assistant (CCA) for system-wide deployments
- Cisco Discovery Protocol and Cisco SmartPorts for easy management
- CLI for text-based configuration for mass deployment
- Cisco FindIT/Small Business Toolbar Application
- Full integration with OnPlus
- Cisco Prime LMS Support
- True stacking to manage multiple switches as a single unit
- Standalone configuration using the embedded Web GUI
- Remote monitoring support using SNMP
- Menu-based access through console for disaster recovery
Reliable SMB Network Foundation

- Creates a Reliable, Local-Area Network
- Easily Integrates with Data, Voice, Video, and Wireless
- Easy to Use with Consistent Interface Across All Cisco® Small Business Products
# Small Business Switch Accessories

## Mini-GBIC/SFP Transceivers

<table>
<thead>
<tr>
<th>Transceiver</th>
<th>Description</th>
</tr>
</thead>
</table>
| **MFEBX1** | 100BASE-BX-20U SFP transceiver  
- 1310-nm wavelength for single-mode fiber  
- For distances up to 20 kilometers |
| **MFEFX1** | 100BASE-FX SFP transceiver  
- 1310-nm wavelength for multimode fiber  
- Support for 100-Mbps speed up to 2 kilometers |
| **MFELX1** | 100BASE-LX SFP transceiver  
- 1310-nm wavelength for single-mode fiber  
- For distances up to 10 kilometers |
| **MGBBX1** | 1000BASE-BX-20U SFP transceiver  
- 1310-nm wavelength for single-mode fiber  
- For distances up to 40 kilometers |
| **MGBLX1** | 1000BASE-LX SFP transceiver  
- 1310-nm wavelength for single-mode fiber  
- For distances up to 10 kilometers |
| **MGBSX1** | 1000BASE-SX SFP transceiver  
- 850-nm wavelength for multimode fiber  
- For distances up to 550 meters |

---

© 2010 Cisco and/or its affiliates. All rights reserved.

Cisco Confidential
# Switch Accessories

## 10G/5G SFP+ Modules

### 10G Ethernet Fiber Transceivers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SFP-10G-SR</strong></td>
<td>10G SFP+ transceiver&lt;br&gt;850-nm wavelength for multimode fiber&lt;br&gt;For distances up to 300 meters</td>
</tr>
<tr>
<td><strong>SFP-10G-LR</strong></td>
<td>10G SFP+ transceiver&lt;br&gt;1310-nm wavelength for single-mode fiber&lt;br&gt;For distances up to 10 kilometers</td>
</tr>
<tr>
<td><strong>SFP-10G-LRM</strong></td>
<td>10G SFP+ transceiver&lt;br&gt;1310-nm wavelength for single-mode and multimode fiber&lt;br&gt;For distances up to 300 meters</td>
</tr>
</tbody>
</table>

### 5G/10G Copper Transceivers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SFP-H10GB-CU1M</strong></td>
<td>10G/5G SFP+ transceiver&lt;br&gt;Twinax cable, passive, 30 AWG cable assembly&lt;br&gt;One meter</td>
</tr>
<tr>
<td><strong>SFP-H10GB-CU3M</strong></td>
<td>10G/5G SFP+ transceiver&lt;br&gt;Twinax cable, passive, 30 AWG cable assembly&lt;br&gt;Three meters</td>
</tr>
<tr>
<td><strong>SFP-H10GB-CU5M</strong></td>
<td>10G/5G SFP+ transceiver&lt;br&gt;Twinax cable, passive, 30 AWG cable assembly&lt;br&gt;Five meters</td>
</tr>
</tbody>
</table>
Cisco 500 Series
Warranty

• Covers
  Switch, fans, and power supplies

• Length
  Limited lifetime warranty (new)

• Hardware Replacement
  Next business day advance replacement
  (where available, otherwise return to factory)

• Complimentary Phone Support
  One year

• Online Chat Support
  One year

• Software Updates for Bug Fixes
  Term of warranty
Service Extends to All Cisco Small Business Products

Small Business Support Service

- Three Years of ‘peace-of-mind’ support for Small Business Products
- Simple, easy-to-sell and support
- Access to Small Business Support Community
- Online Chat Support 24x7
- Telephone Support during Local Business Hours
- Delivered by Cisco, optional Partner value-add

Pricing and SKU

CON-SBS-SVC2
CON-SBS-SVC3

Small Business Support Center
Quick access to CCNA certified engineers for small business support issues
Improved Deployments

**DHCP Auto-Configuration**
- A way to deploy switches en-masse
- Uses DHCP Options 66 and 67
- Switch automatically loads its config from a TFTP Server

**LLDP-MED + CDP**
- LLDP—standards-based discovery mechanism similar to CDP
- Switch learns devices attached to specific ports
- Switch notifies endpoint which Voice VLAN to use, QoS parameters to set, etc

**Auto Smartports**
- Smartports—pre-created macros to speed up deployments
- Auto Smartports—Apply appropriate Smartports role to port based on discovered device

**Network-Wide Auto Voice VLAN**
- Dynamic creation and propagation of Voice VLAN and QoS across the network

**TextView CLI**
- Text-based Command Line Interface to ease mass deployment
Using DHCP Option 66

1. SP creates template config file via Sx500 Web GUI and backs up to TFTP server.

2. Sx500 powers up, connects to IAD, requests DHCP. IAD sends option 66 (IP of TFTP server, TFTP server can be IAD itself) to download config file.

3. Sx500 requests CFG file from TFTP server, once file is obtained, switch saves file to startup config and reboots.
500/300/200 in UC Deployments

Power the Phones Using PoE

Zero-Touch Deployments

- Learns the Voice VLAN from UC3xx/5xx or IAD via CDP/LLDP
- Instruct phones via CDP/LLDP on Voice VLAN and QoS parameters to use
- Automatically assign Voice VLAN on all relevant ports in the network
  - Links between Switches
  - Links to UC and IAD
  - Links to Phones
  - Links to APs
- Automatically set security levels for different types of devices with Auto smartports
  - Number of devices, Storm Control, Port mode, VLAN, Spanning Tree

Managed by CCA
Auto Voice VLAN Competitor Support

Additional Manual Config:
- When Voice VLAN changes
- When QoS rules in network changes
- If Voice VLAN on switch 2 not set same as switch 1
- If QoS on Switch 2 not set same as switch 1
- If OUI table not correctly populated
Auto Voice Deployment Across Network
Supported Only with Cisco 500, 300, and 200 Switches

1. CDP Advertises Voice VLAN 100
2. VLAN 100 created on switch—assigned to port Gi4 and Gi5
3. Instruct phone which Voice VLAN and QoS to use—LLDP-MED or CDP
4. Recognize phone—CDP/LLDP-MED
5. Switch Configures port Fa1 with optimal parameters for IP Phone
6. Advertizes Voice VLAN 100 and QoS parameters via VSDP to switch 2
7. VLAN 100 created on switch—assigned to port Gi1 and Fa1
8. Recognize phone—CDP/LLDP-MED
9. Instruct phone which Voice VLAN and QoS to use—LLDP-MED or CDP
10. Switch Configures port Fa1 with optimal parameters for IP Phone

No Manual Config
Network Adapts Automatically To:
- Voice VLAN changes
- QoS rule changes in network
- If Voice VLAN on switch 2 not set same as switch 1
- If QoS on Switch 2 not set same as switch 1
- Even when different call control devices advertising different Voice VLANs connected to the network

True Zero Touch Deployment | AUTO
Working on Patent Application

© 2010 Cisco and/or its affiliates. All rights reserved
Automatic Deployment of Voice

1. CDP Advertises Voice VLAN 100

2. VLAN 100 created on switch—assigned to port Gi4

3. Voice VLAN 100 and SCP/COS values advertised via VSDP

4. VLAN 100 created on switch—assigned to Gi28

5. CDP/LLDP Advertizes Voice VLAN 100 and DSCP/COS values—switch adds to Fa1. Sets port with ideal Parameters for Phone

6. CDP/LLDP Advertizes Voice VLAN 100 and DSCP/COS values—switch adds to Gi1. Sets port with ideal Parameters for Phone

7. CDP/LLDP Advertizes Voice VLAN 100 and DSCP/COS values—switch adds to Fa4. Sets port with ideal parameters for AP
Web based authentication

Easily authenticate the mobile users

• New user information provisioned on authentication server

• Mobile user connects to the network and access any website

• Session is redirected to network login page for user credentials

• Only after successful login, the user is able to access the network

Simple & intuitive
No hassle of 802.1x client
Friendly to guest users for offices, hospitality and education
NEW 500 Series 10Gig & Max PoE+
Expanded 10G and Max PoE+ offering

- **SG500XG-8F8T**
  8-Port 10G Copper + 8-Port 10G SFP+

- **SG500-28MPP**
  28-Port Gigabit with Max PoE+

- **SG500-52MP**
  52-Port Gigabit with Max PoE+

Comprehensive features, high performance, power efficiency and ease of use. Ready for PoE device of tomorrow...
SG500XG 16-port XG Managed Switch

• What is it:
  16-port 10-Gig Stackable Managed Switch – 8 copper and 8 SFP+
  -SG500XG-8F8T-K9 fixed Stackable Managed

• Key Features:
  10G copper and SFP+ options
  Stackable with 500X
  Energy Efficiency (EEE)
  IPv6 support
  Auto Smartports
  CDP
  Network-wide Auto Voice
  Advanced Security
  Wirespeed L3 routing for IPv6 and IPv6
  DHCP Server/Relay
  Web-based Authentication
  Stack trunks

• Key Differentiation
  Green
  Stack trunk & Stacks with 500X
  CDP and Bonjour Discovery
  Auto Smartports
  IPv6 FHS
  Attractive pricing
  Limited Lifetime Warranty

• Key Routes to Market:
  Disti / VAR

• Schedule
  • FCS target – 1QCY14
# SG500XG - Features and Benefits

<table>
<thead>
<tr>
<th>Features</th>
<th>Partner &amp; Customer Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eight 10GBase-T copper ports</td>
<td>• Cost-effective high-speed connectivity for Servers and Storage</td>
</tr>
<tr>
<td>Eight 10Gig SFP+ slots</td>
<td>• Flexible 10 gig slots for fiber modules enabling long-range stacking (horizontal stacking) and backbone connectivity. Also Coax cable option for short range stacking</td>
</tr>
<tr>
<td>True Stacking + stacks with 500X</td>
<td>• Stacking flexibility simplifies switch management and troubleshooting while creating investment protection and growth</td>
</tr>
<tr>
<td>20 Gbps Stacking bandwidth and 10 Gig Device connectivity</td>
<td>• Increases capacity for future cloud and premise based applications. As more devices integrate 10G at desktop, infrastructure is there to support</td>
</tr>
<tr>
<td>L3 Routing - Static/Dynamic (RIP); VRRP</td>
<td>• Simplifies networks &amp; increases performance</td>
</tr>
<tr>
<td></td>
<td>• Increases network availability</td>
</tr>
<tr>
<td>Gold IPv6 &amp; USGv6</td>
<td>• Future proofs network with next generation IP infrastructure</td>
</tr>
<tr>
<td>Energy Efficient with EEE support</td>
<td>• Lowers operational costs via lower power consumption &amp; cooling requirements</td>
</tr>
<tr>
<td>Network-wide Auto Voice + Auto Smartports + CDP</td>
<td>• Ease of use – plug and play out of the box installation for voice</td>
</tr>
<tr>
<td></td>
<td>• Lowers partner learning curve and provides up-sell opportunities</td>
</tr>
</tbody>
</table>
Technical Overview
Stackable Switches

Local and Horizontal Stacking

Sx500—5G Resilient Stacking
- Low cost stackable switches
- Gigabit and 10/100 versions
- High power PoE (802.3at » 30W vs. 15W)

SG500X—10G Resilient Stacking
- SG500 features with 10G stacking/uplink SFP+ ports (Gigabit only)
- Supports stacking or connections to server with 10G interfaces
- Can mix SG500XG and SG500X in stack
- SG500X/500XG adds:
  - Dynamic Layer 3 switching
  - 10 Gig Interfaces for stacking or Device connectivity
  - VRRP—Virtual Router Redundancy Protocol (HSRP)
500/500X Series—True Stacking

- Single IP management
- 8 Units in a stack
- Local and Horizontal Stacking
- Troubleshoot, configure, and manage entire stack as single entity
  - Spanning Tree, Port/VLAN mirror, LAGs, ACLs, QoS, etc.
- Stack-plane Dual Ring Architecture
  - High throughput
    - Sx500 » 10 Gbps
    - SG500X/XG » 20/40 Gbps
  - Stacking Resiliency—switch can be removed with minimal affect to rest of the stack
- Stack trunk supported in version 1.4*
## Feature-Rich Switches Offer Best Value

<table>
<thead>
<tr>
<th>Performance</th>
<th>Layer 2 Switching and Layer 3</th>
<th>Security</th>
<th>Quality of Service</th>
<th>Management and General</th>
<th>Cisco® Discovery Protocol &amp; Smartports</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Wire-speed performance on Fast Ethernet and Gigabit Ethernet switches</td>
<td>• VLANs</td>
<td>• MAC-based port security</td>
<td>• Classification</td>
<td>• Intuitive interface</td>
<td>• Desktop</td>
</tr>
<tr>
<td>• Nonblocking switch fabric</td>
<td>• Spanning tree</td>
<td>• IEEE 802.1x</td>
<td>• 802.1P</td>
<td>• IPv6 Host</td>
<td>• Cisco phone plus desktop</td>
</tr>
<tr>
<td>• PoE + (802.3at) with up to 30W per port</td>
<td>• Link aggregation</td>
<td>• Storm control</td>
<td>• DSCP/CoS</td>
<td>• Port and VLAN mirroring</td>
<td>• Router</td>
</tr>
<tr>
<td></td>
<td>• 802.1Q trunking</td>
<td>• Secure Core Technology (SCT)</td>
<td>• WRR/SP</td>
<td>• Localization</td>
<td>• Switch</td>
</tr>
<tr>
<td></td>
<td>• Port and VLAN mirroring (SPAN)</td>
<td>• Private VLAN Edge (PVE)</td>
<td>• Rate limiting</td>
<td>• LLDP-MED</td>
<td>• Access point</td>
</tr>
<tr>
<td></td>
<td>• Multicast</td>
<td>• DAI, IPSG, STPRG, DHCP Snooping</td>
<td>• Policing and Shaping</td>
<td>• Auto voice VLAN</td>
<td>• Other</td>
</tr>
<tr>
<td></td>
<td>• Virtual Router Redundancy Protocol (VRRP)</td>
<td>• IPv6 FHS</td>
<td>• Web-based Auth</td>
<td>• Cloud Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• RIP and Static</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Designed for Small Business

© 2010 Cisco and/or its affiliates. All rights reserved.
Cisco 500 Series Switches
Power over Ethernet

• All models feature 802.3at PoE (Power over Ethernet Plus (PoE+))
  High power budgets enable up to 30W consumption per port
  Backward compatible with 802.3af
  Cisco Legacy POE also supported

• Supports Power Hungry Devices:
  Dual-band 802.11n access points
  Video-based IP Phones
  PD Powered Switch
  Video endpoints

• Need for rewiring eliminated
• More device placement options
Energy-Efficient Technology
Auto Power-Down

- Automatically turns off power on Gigabit Ethernet RJ-45 port when the switch detects a link down
  - If there is no link on a port (when there is no connection or the device connected is turned off), the port(s) enter a “sleep mode”
- Resumes active mode when the switch detects the link is up or a device is connected
  - Switch sends out electrical pulses at frequent intervals
- Adjusts power based on cable length (on Gigabit Ethernet models)
- Detects the length of connected Ethernet cable and adjusts power usage accordingly—without affecting performance
- EEE (802.3az) support lowers power during quiet periods
How Much Power Can You Save?

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Power Consumption No EEE</th>
<th>Power Consumption with EEE Active</th>
<th>% Power Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG500X-24</td>
<td>36.5W</td>
<td>30.6W</td>
<td>16.2%</td>
</tr>
<tr>
<td>SG500X-24P</td>
<td>57.2W</td>
<td>53.3W</td>
<td>6.8%</td>
</tr>
<tr>
<td>SG500X-48</td>
<td>60.3W</td>
<td>45.8W</td>
<td>24.0%</td>
</tr>
<tr>
<td>SG500X-48P</td>
<td>74.4W</td>
<td>61.7W</td>
<td>17.1%</td>
</tr>
<tr>
<td>SG500-28</td>
<td>23.2W</td>
<td>15.8W</td>
<td>31.9%</td>
</tr>
<tr>
<td>SG500-28P</td>
<td>35W</td>
<td>27.3W</td>
<td>22.0%</td>
</tr>
<tr>
<td>SG500-52</td>
<td>47W</td>
<td>30.1W</td>
<td>36.0%</td>
</tr>
<tr>
<td>SG500-52P</td>
<td>63.7W</td>
<td>50.7W</td>
<td>20.4%</td>
</tr>
</tbody>
</table>

Table based on typical network scenario—all ports active with 10% traffic

© 2010 Cisco and/or its affiliates. All rights reserved.
Market Factors Driving IPv6 Deployment

IPv4 Address Run-Out

IPv6 OS, Content and Applications

National IPv6 Strategies
US Federal/Civilian, US DoD, China NGI, EU

Infrastructure Evolution
SmartGrid, SmartCities, DOCSIS 3.0, 4G/LTE, IPSO
Next-Generation Internet

IPv6

- Provides customers with support for Next-Generation Internet
- Delivers consistent functions across breadth of portfolio

Now USGv6 and IPv6 Gold Logo certified

Enables next generation of applications and operating systems

Supports IPv4

Products Will Include IPv6 Support:

- Routers
- Switches
- Applications
- Cameras
- Phones
- Telephone Gateways
**IPv6 First Hop Security (FHS)**

Securing IPv6 Networks

---

**IPv6 FHS**

<table>
<thead>
<tr>
<th>IPv6 Integrity Guard</th>
<th>IPv6 RA Guard</th>
<th>IPv6 DHCP Guard</th>
<th>IPv6 Source Guard</th>
<th>IPv6 Destination Guard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IPV6 Binding Table Integrity Guard</strong></td>
<td><strong>IPv6 RA Guard</strong></td>
<td><strong>IPv6 DHCP Guard</strong></td>
<td><strong>IPv6 Source Guard</strong></td>
<td><strong>IPv6 Destination Guard</strong></td>
</tr>
<tr>
<td>Protection against address theft from rogue or malicious users</td>
<td>Protection against MiM Attacks</td>
<td>Protection against MiM &amp; DoS attacks</td>
<td>Validate source address or prefix</td>
<td>Validates destination address of IPv6 traffic reaching the link</td>
</tr>
<tr>
<td>Integrity protection for FHS binding table</td>
<td>Protection against rouge or malicious Router Advertisement</td>
<td>Rejection of invalid DHCP offers</td>
<td>Protects against source address spoofing</td>
<td>Protects against scanning or DoS attacks</td>
</tr>
</tbody>
</table>

---

Future release
Text View CLI

- Text-based Command Line Interface
  Full CLI to configure all product features
  Menu-based CLI is also present
- Accessible over Console, Telnet, and SSH
- Familiar command usage, syntax, and operation
- Facilitates mass deployment, scripting of commands
- Three User Privilege levels
  1. Read-only with limited access to switch information/statistics
  2. Expanded Read levels with some write operations like saving config, clear stats, shutdown interfaces, etc.
  3. Full Access to all commands and settings—read and write
- Command Help, command completion (tab), show, config, etc.
### TextView CLI

```
console> enable
console# ?
   boot           Boot Commands
   clear          Reset functions
   clock          Manage the system clock
   configure      Enter configuration mode

console# configure terminal
console(config)# interface GigabitEthernet 1
console(config-if)# exit
console(config)# interface GigabitEthernet 1
console(config-if)# end
console#

switch# show running-config interface Gi1-2
interface gigabitethernet1
   switchport mode access
   switchport access vlan 2
!
interface gigabitethernet2
   switchport trunk native vlan 2
!
```

```
console# show vlan tag 2
<table>
<thead>
<tr>
<th>Vlan</th>
<th>Name</th>
<th>Ports</th>
<th>Type</th>
<th>Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>2</td>
<td>permanent</td>
<td>Required</td>
</tr>
</tbody>
</table>

console# conf
console(config)# GigabitEthernet 1
console(config-if)# switchport trunk native vlan 2
console(config-if)# show vlan tag 2
% Unrecognized command
console(config-if)# do show vlan tag 2

<table>
<thead>
<tr>
<th>Vlan</th>
<th>Name</th>
<th>Ports</th>
<th>Type</th>
<th>Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>gi1</td>
<td>permanent</td>
<td>Required</td>
</tr>
</tbody>
</table>
```
## Important Portfolio Enhancements

<table>
<thead>
<tr>
<th>Improvement</th>
<th>Customer Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEE Technology</td>
<td>Reduces power consumption and energy costs</td>
</tr>
<tr>
<td>Additional Usable Gigabit Ethernet Ports on GigE Models</td>
<td>Ability to connect more devices and better value for the purchase</td>
</tr>
<tr>
<td>Network-wide Auto Voice, Auto Smartports, and CDP/LLDP</td>
<td>Automatic zero touch deployment of voice and other services</td>
</tr>
<tr>
<td>Localized GUIs and Documents</td>
<td>Clarity of product installation in select markets</td>
</tr>
<tr>
<td>802.3at POE+</td>
<td>High power POE powers more devices</td>
</tr>
<tr>
<td>5/10G Stacking</td>
<td>Improved performance</td>
</tr>
<tr>
<td>Simplified Configuration with Additional Mgmt Options SB Toolbar, TextView/CLI</td>
<td>Easy to install and multiple management options for optimal deployment and support</td>
</tr>
<tr>
<td>Lifetime Warranty with NBD (includes power supplies and fans)</td>
<td>Helps protect investment</td>
</tr>
</tbody>
</table>

© 2010 Cisco and/or its affiliates. All rights reserved.
New Features—500 Series
Over 100 New Software Features

- 5G/10G Stacking
- LLDP-MED
- Static Routing
- CCA
- Policer Stats
- RIP*
- MAC-Based VLAN
- Time-Based 802.1x
- Private VLAN
- Guest VLAN
- DOS Attack Prevention
- Network-Wide Auto-Voice
- MLD Snooping
- 802.3at POE+
- 500 X
- Dynamic VLAN Assignment
- Fanless
- IPv6 Gold/USGv6
- CDP
- Energy Efficiency
- Localization
- L3 Isolation
- Protected Ports
- More Gigabit Ports
- VLAN Mirroring
- QinQ
- FindIT
- TCP Congestion Avoidance
- Voice VLAN
- Auto Smartports
- Option 82
- VRRP*
- Additional Browser Support

* 500 X
Competitive
## Cisco 500/X Series Switching Competitive Comparison

<table>
<thead>
<tr>
<th></th>
<th>Cisco 500/X SB Managed</th>
<th>Netgear Managed GSM</th>
<th>D-Link Managed DGS</th>
<th>HP Managed E2910af</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adv Features—IPv6, MVR, Stack, VLAN mirror, etc</td>
<td>★ ★ ★</td>
<td>★ ★ ★</td>
<td>★ ★ ★</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Cisco Unique Value + Price competitiveness</td>
<td>CDP, Network Auto Voice, Auto Smartports</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Programs: FastTrack, PDF, etc.</td>
<td>★ ★ ★</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Warranty + Support</td>
<td>★ ★ ★</td>
<td>★ ★ ★</td>
<td>★ ★ ★</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Multiple Mgmt: LLDP/CDP/Bonjour CLI/Menu CLI SNMP Management CCA—System Mgmt FindIT and OnPlus</td>
<td>★ ★ ★</td>
<td>★ ★ ★</td>
<td>★ ★ ★</td>
<td>★ ★ ★</td>
</tr>
</tbody>
</table>

*Information on competitor products is accurate to the best of Cisco’s knowledge and is based on commercially available documentation from competitors as of December 2011. Partners/customers are encouraged to verify information.*
"We were impressed with the comprehensive set of features, performance, overall power efficiency, and ease-of-use of the Cisco switches... best resiliency when subjected to a DoS attack...more economical ... most efficient...easiest to configure and implement, forwarded line rate full mesh traffic at all frame sizes with zero packet loss, and provided the most extensive support for IPv6 transitions.” - Rob Smithers, CEO Miercom

<table>
<thead>
<tr>
<th>Stacking features</th>
<th>Cisco 500X</th>
<th>HP 2910al</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stack Type</td>
<td>Ring/Chain</td>
<td>Cluster</td>
</tr>
<tr>
<td>Stack units function as a single switch</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Stack resilience – Backup Master/Commander</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Lowest switch failover/recovery impact</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Automatic stack formation</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Stack LEDs</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Cross-stack sync – ACL, MAC, VLAN tables</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Cross-stack functions – LAG and Port Mirroring</td>
<td>✔</td>
<td>✗</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General capabilities</th>
<th>Cisco 500X</th>
<th>HP 2910al</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Energy consumption</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Energy Efficient Ethernet (EEE)</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Operation under attack</td>
<td>Pass</td>
<td>Fail</td>
</tr>
<tr>
<td>Best ease-of-use</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Lowest cost per Gig</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Lowest price - POE watt</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Highest capacity (VLANs, ACLs, MAC)</td>
<td>✔</td>
<td>✗</td>
</tr>
</tbody>
</table>

Download report at: www.miercom.com
## Competitive (Non-10 Gig) Cisco

<table>
<thead>
<tr>
<th>SKU sample (24 FE with POE)</th>
<th>Cisco SBTG 500 Series</th>
<th>Cisco Catalyst 2960 LAN Lite</th>
<th>Cisco Catalyst 2960 LAN Base</th>
<th>HP Procurve 2520 Managed L2</th>
<th>HP Procurve 2610 Managed Static L3</th>
<th>HP Procurve 2610 Managed Static L3</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPL</td>
<td>USD 725</td>
<td>USD 1,995</td>
<td>USD 2,995</td>
<td>USD 1,049</td>
<td>USD 1,579</td>
<td>USD 969</td>
</tr>
<tr>
<td>10/100 Mbps</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>10/100/1000</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>SFP Gbic</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>PoE</td>
<td>180W</td>
<td>357W</td>
<td>357W</td>
<td>195W</td>
<td>527W</td>
<td>189W</td>
</tr>
<tr>
<td>VLAN</td>
<td>4K</td>
<td>64</td>
<td>256</td>
<td>256</td>
<td>256</td>
<td>256</td>
</tr>
<tr>
<td>MAC Table Size</td>
<td>16K</td>
<td>8K</td>
<td>8K</td>
<td>8K</td>
<td>8K</td>
<td>8K</td>
</tr>
<tr>
<td>Management</td>
<td>SNMP, WebGui, CLI, FindIT</td>
<td>SNMP, CNA, CiscoWorks</td>
<td>SNMP, Cisco Network Assistant, CiscoWorks</td>
<td>SNMP, WebGui, HP Procurve Manager</td>
<td>SNMP, WebGui, HP Manager</td>
<td>SNMP, WebGui, HP Manager</td>
</tr>
<tr>
<td>ACL</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DHCP Snooping</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IP Source Guard</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DAI</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>STP Root Guard</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Option 82</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Options 66/67</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Stacking</td>
<td>True Stacking</td>
<td>Clustering only</td>
<td>Clustering Only</td>
<td>Clustering Only</td>
<td>Clustering Only</td>
<td>Clustering Only</td>
</tr>
<tr>
<td>MVR</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IPv6 Host</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>L3</td>
<td>Static</td>
<td>No</td>
<td>No</td>
<td>Yes—Static</td>
<td>Yes—Static</td>
<td>Yes—Static</td>
</tr>
<tr>
<td>CLI</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Smartports</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Network-wide Auto Voice</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>CDP</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>LLDP</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Warranty</td>
<td>LLW w/NBD</td>
<td>LLW</td>
<td>LLW</td>
<td>LLW w/NBD</td>
<td>LLW w/NBD</td>
<td>LLW w/NBD</td>
</tr>
</tbody>
</table>

*Information on competitor products is accurate to the best of Cisco’s knowledge and is based on commercially available documentation from competitors as of December 2011. Partners/customers are encouraged to verify information.*
Competitive Selling Messages

**Competitive Advantage**

- Easy Management with Cisco technology CCA, CDP, SmartPorts, FindIT
- Network-wide auto voice deployment
- Additional ports on Gigabit Ethernet
- Enhanced features: IPv6, Layer 3, and security
- Cisco quality and reliability
- EEE/energy-efficient technology on all models
- POE+ (802.3at) on all POE models
- True stacking
- Extremely price-competitive offerings

**Silver Bullet**

- Cisco 500 Series offers an excellent value with an excellent mix of advanced features and reasonable price. It is competitively priced
- Cisco 500 Series Switches are part of a comprehensive network portfolio that includes unified communications, security, wireless, and routing—all designed to work together and managed with one tool
- Cisco 500 Series simplify voice deployments with auto voice features that dynamically configures the voice network
- The switches offer investment protection with limited lifetime warranty with next business day (where available)

*Information on competitor products is accurate to the best of Cisco's knowledge and is based on commercially available documentation from competitors as of December 2011. Partners/customers are encouraged to verify information.*
Positioning
# Catalyst and SB Portfolio Positioning

<table>
<thead>
<tr>
<th></th>
<th>Cisco SMB</th>
<th>Classic ENG Products</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target Market</strong></td>
<td>SMB</td>
<td>SMB, Mid-market and Enterprise</td>
</tr>
<tr>
<td><strong>TCO</strong></td>
<td>Lower CapEx</td>
<td>Lower OpEx (overall network life)</td>
</tr>
<tr>
<td><strong>Integration</strong></td>
<td>Seamlessly integrates with other SBTG solutions</td>
<td>Foundation for Borderless Networks solutions</td>
</tr>
<tr>
<td><strong>Support</strong></td>
<td>Cisco SBSC</td>
<td>Cisco TAC</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Small Business Architecture, ease-of-use</td>
<td>Advanced Architectures – TrustSec, Medianet, EnergyWise, Smart Operations</td>
</tr>
<tr>
<td><strong>Software</strong></td>
<td>Non-Cisco IOS Software</td>
<td>Cisco IOS Software</td>
</tr>
<tr>
<td><strong>Orderability / Refresh Cycles</strong></td>
<td>3-5 years orderability 1-2 years product refresh Support: 5 yrs. after EOS</td>
<td>5-7 years orderability 3-5 years product refresh Support: 5 yrs. after EOS</td>
</tr>
<tr>
<td><strong>Services</strong></td>
<td>Cisco SMB Services</td>
<td>Cisco SMARTnet® / SmartCare Services</td>
</tr>
<tr>
<td><strong>Scalability</strong></td>
<td>Scale to a few sites</td>
<td>Scale up to world’s largest networks</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Optimized for deployment and management of small networks</td>
<td>Multiple enterprise-level management options: CNA, Prime Infrastructure for large/multi-site networks with TCO emphasis</td>
</tr>
</tbody>
</table>
## Customer-Centric Market Segments

Across SMB (1 to 249 Employees)

<table>
<thead>
<tr>
<th>Basic</th>
<th>Open to Guidance</th>
<th>Elite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td>Business Connectivity</td>
<td>Business Productivity</td>
</tr>
<tr>
<td>IT Resources</td>
<td>On My Own</td>
<td>Rely on Partner</td>
</tr>
<tr>
<td>View of Technology</td>
<td>Stick to Basics</td>
<td>Willing to Invest</td>
</tr>
<tr>
<td>Temperament</td>
<td>Reactive</td>
<td>Proactive</td>
</tr>
<tr>
<td>Purchase Mindset</td>
<td>Product</td>
<td>Solution</td>
</tr>
<tr>
<td>Decision Driver</td>
<td>Simplicity and Value</td>
<td>Trusted Partner</td>
</tr>
<tr>
<td>Satisfied When It...</td>
<td>...Just Works</td>
<td>...Boosts Productivity</td>
</tr>
<tr>
<td>Preferred RTMs</td>
<td>Retail, eComm, DMR</td>
<td>VAR, DMR, SP</td>
</tr>
</tbody>
</table>
Managed Switching for SMB
One Portfolio—A Spectrum of Choices

Fixed Standalone
- Catalyst 2960 Switches
- Catalyst 3560

Fixed Stackable
- Catalyst 2960-S LAN Base
- Catalyst 3750

Functionality
- 300 Series Managed
- 500 Series Switches

Cost
Cisco SMB Product Mix

Reliable, Easy to Use Drivers: Simplicity and Price
- Competitive features (firmware updates)
- Broad portfolio of choice designed for small businesses
- Easy to install and manage
- Rich functionality at an affordable price

Advanced LAN Switching Drivers: Scalability, Willing to Invest
- Intelligent services (Cisco IOS)
- Network-level management
- Broad range of services
- Comprehensive security
- Service integration

Cisco Small Business Support Options
Cisco Support Services (SmartNet)

Manageability
## Stacking Options Comparison

<table>
<thead>
<tr>
<th>Feature</th>
<th>SBTG 500-Series Stacking</th>
<th>2960-S Stacking Ease of Use</th>
<th>3750-X StackWise Plus Ease of Use and High Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Device Limit</strong></td>
<td>8 units</td>
<td>4 units</td>
<td>9 units</td>
</tr>
<tr>
<td><strong>Stack Bandwidth</strong></td>
<td>10G / 20G</td>
<td>10G / 20G</td>
<td>32G / 64G</td>
</tr>
<tr>
<td><strong>Architecture</strong></td>
<td>Shortest path</td>
<td>HW Drop Table</td>
<td>Ring (Destination stripping)</td>
</tr>
<tr>
<td><strong>Dynamic Ring Load Balancing</strong></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Stack Convergence</strong></td>
<td>Few milliseconds to 5 sec</td>
<td>1-2 seconds</td>
<td>Few milliseconds</td>
</tr>
<tr>
<td><strong>Stack QoS</strong></td>
<td>Applied hop by hop</td>
<td>Applied hop by hop</td>
<td>Applied on ingress</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Single IP address, SNMP, SYSLOG</td>
<td>Single IP address, SNMP, SYSLOG</td>
<td>Single IP address, SNMP, SYSLOG</td>
</tr>
<tr>
<td><strong>Configuration</strong></td>
<td>Single config and CLI, auto image and config update</td>
<td>Single config and CLI, auto image and config update</td>
<td>Single config and CLI, auto image and config update</td>
</tr>
<tr>
<td><strong>Show and Debug Commands</strong></td>
<td>Unified</td>
<td>Unified</td>
<td>Unified</td>
</tr>
<tr>
<td><strong>Single Forwarding and Control Plane</strong></td>
<td>Synchronize ARP, MAC Address, IGMP, VLAN tables</td>
<td>Synchronize ARP, MAC Address, IGMP, VLAN tables</td>
<td>Synchronize ARP, MAC Address, IGMP, VLAN, Routing tables</td>
</tr>
<tr>
<td><strong>Cross-Stack Features</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Single Bridge-ID</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Pre-Provision Members</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Redundancy</strong></td>
<td>Stack master 1:2 redundancy</td>
<td>Stack master 1:N redundancy</td>
<td>Stack master 1:N redundancy</td>
</tr>
<tr>
<td><strong>Easy Member Replacement</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
# Prime LMS Support

<table>
<thead>
<tr>
<th>3rd Party Generic</th>
<th>Cisco Small Business (300/500/ESW2)</th>
<th>Cisco Catalyst</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Discovery/Inventory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fault Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIB Compiler (read-only)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health (uptime, historical report, etc.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Configuration push/archive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Image Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>L2 Topology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CiscoView</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lifecycle Management (EOX) and PSIRT reporting (Future)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BN Services (Trustsec, Medianet, Energywise, etc.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IOS Features—VLAN, stacking, Routing, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Full Compliance—PCI, SOX, HIPAA, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assurance—Netflow, IPSLA, NBAR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Best Practice Config Templates</td>
<td></td>
</tr>
<tr>
<td></td>
<td>User/Endpoint tracking and Troubleshooting</td>
<td></td>
</tr>
</tbody>
</table>
Cisco 500 Series Switches
Purchase Decision

Affordable Stacking Switches with Advanced Features

- Growing network
- Support high-bandwidth application
- Advanced network features
  - Security
  - QoS
  - IPv6
  - Layer 3 Routing
  - 10GE
- Easy-to-install products management options
- Value led
- Small Business Support Center
Resources and URLs

- Cisco® 500 Series Switches  
  www.cisco.com/go/500switches

- Partner Central Small Business Switching  
  www.cisco.com/go/smbpartner/switching

- Cisco Small Business Support Community  
  www.myciscocommunity.com/community/smallbizsupport

- Cisco 500 Series Switches Warranty  
  www.Cisco.com/go/warranty

- Cisco Small Business Service  
  www.cisco.com/go/smbservices
Thank you.
300/500 Series – Advanced Features

- Additional VLAN types – Unauthenticated VLAN, Mac-based VLANs
- Dynamic VLAN Assignment
- Time-based 802.1x, Port, and PoE
- Max PoE Options
- Auto Smartports
- VSDP
- SSD
- SCT – Control Plane Policing
- MVR
- DHCP Relay
- Static Routing
- UDP Relay
- VLAN Mirroring
- True Stacking – unified Control, Data, and Management Planes
- Stacking Trunk
- 802.1x Monitor Mode
- Radius/TACACS Accounting
- TCP Congestion Avoidance
- IPv6-related – ISATAP, USGv6/Gold Logo certification
- IPv6 FHS – RA Guard, DHCP Guard, Integrity Guard, Source Guard*, Dest Guard*
- MLD Snooping
- Integration into Onplus and Cisco Prime LMS
- Works with ISE for Authentication, Authorization, and Accounting
- More uplinks, larger packet buffer, more memory
- Additional power saving modes (disable port LEDs, time-based shutdown, etc)
- DHCP Server
<table>
<thead>
<tr>
<th>Unmanaged 100 Series</th>
<th>Smart 200 Series</th>
<th>Smart (Emerging) 200E Series</th>
<th>Managed 300 Series</th>
<th>Managed Stackable -500 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Gig ports</td>
<td>26 Gig ports</td>
<td>26 Gig ports</td>
<td>28 Gig ports</td>
<td>28 Gig ports</td>
</tr>
</tbody>
</table>

Green Ethernet (including EEE)

<table>
<thead>
<tr>
<th>Basic QoS</th>
<th>Smart 200 Series</th>
<th>Smart (Emerging) 200E Series</th>
<th>Managed 300 Series</th>
<th>Managed Stackable -500 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Standards Based - Existing Competitor features
- VLANs, QoS, Rate Limiting, Spanning Tree, 802.1x, IGMP Snooping etc

- Bonjour (discovery application used for FindIT)
- Auto Voice VLAN
- Auto-LAN Policy Discovery
- IPv6 Host
- Text-editable configs
- CDP
- CCA Support

<table>
<thead>
<tr>
<th>.3af POE (1/2 enabled) Budget 1/4 ports at 15W</th>
<th>.3af POE (all enabled) Budget 1/2 ports at 15W</th>
<th>.3af POE (all enabled) Budget 1/2 ports at 15W</th>
</tr>
</thead>
</table>

- .3af POE (1/2 enabled) Budget 1/4 ports at 15W
- .3af POE (all enabled) Budget 1/2 ports at 15W
- .3af POE (all enabled) Budget 1/2 ports at 15W

<table>
<thead>
<tr>
<th>Green</th>
<th>SBSC</th>
<th>Cloud</th>
<th>Next-gen Internet</th>
<th>Ease-of-use / Support</th>
<th>New Compet features</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Green</th>
<th>SBSC</th>
<th>Cloud</th>
<th>Next-gen Internet</th>
<th>Ease-of-use / Support</th>
<th>New Compet features</th>
</tr>
</thead>
</table>

- Standards Based - Existing Competitor features
- SNMP, RMON, Cable Diags, TextView, MSTP

- Guest VLAN
- IGMP Querier
- Trusted Device VLAN
- TextView (CLI)
- DHCP Relay
- Congestion Evasion
- VLAN Diagnostics

- Standards Based - Existing Competitor features
- GVRP, ACLs, Shaping, Flow-based QoS and Security, Dual Image, L3 priority

<table>
<thead>
<tr>
<th>Static Routing - 32 routes</th>
<th>Static Routing - 128 routes</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Stacking</td>
<td>5G Stacking - Gigabit models</td>
</tr>
</tbody>
</table>

- Advanced Security (DAI, IPSG, STPRG, DHCP Snooping); MVR

- Standards Based - Existing features
- Advanced Security (DAI, IPSG, STPRG, DHCP Snooping); MVR

- Supported on 500X:
  - VRRP
  - Dynamic L3 - RIP
  - 10 Gig Stack and Device connectivity
IPV6 First Hop Security

Guard against proliferation of IPv6 devices –Mobiles, Tablets

**BINDING INTEGRITY GUARD:**
Defend Source Imitation with IPv6 Source Identity

**RA GUARD:**
Defend against Fake Router Advertisements

**DHCP GUARD:**
Defend against Fake Server DHCP Replies
Targeting HP 2920

Cisco 500 Series
- Better Value
- Superior Stacking
- Superior Energy Savings (EEE)
- Flawless performance under DOS attacks
- Better scalability
- Simplicity of deployment
- Auto Smartports and CDP

Cisco Catalyst
- Superior functionality
- Architectures – Medianet, TrustSec, EW
- Superior Stacking
- Lower OPEX
- Cisco Smart Operations
- Better Scalability
- Auto Smartports and CDP

Miercom Report - DR120911
www.miercom.com