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## Overview

The Cisco 3945 router, modular Services Performance Engine (SPE) 150, which can be upgraded for even higher performance as next-generation WAN environments evolve.

### Quick Specs

Figure 1 shows the appearance of the CISCO3945/K9.



Table 1 shows the Quick Specs of the CISCO3945/K9.

|   |   |
|---|---|
| <b>Product Code</b>                       | CISCO3945/K9  |
| <b>Services Performance Engine module</b> | w/SPE 150   |
| <b>Rack Units</b>                         | 3U  |
| <b>Interfaces</b>                         | 3 integrated 10/100/1000 Ethernet ports with 2 ports capable of RJ-45 or SFP connectivity   |
| <b>Expansion Slot(s)</b>                  | 4 service module slots<br>1 Internal Services Module slot<br>4 onboard digital signal processor (DSP) slots<br>4 Enhanced High-Speed WAN Interface Card (EHWIC) slots |
| <b>RAM</b>                                | 1 GB (installed) / 2 GB (max)   |
| <b>Flash Memory</b>                       | 256 MB (installed) / 8 GB (max)   |
| <b>Dimensions</b>                         | 47.6 cm x 43.8 cm x 13.3 cm   |
| <b>Package Weight</b>                     | 21.84 Kg  |

### Product Details

Figure 2 shows the front panel of the Cisco 3945 router.



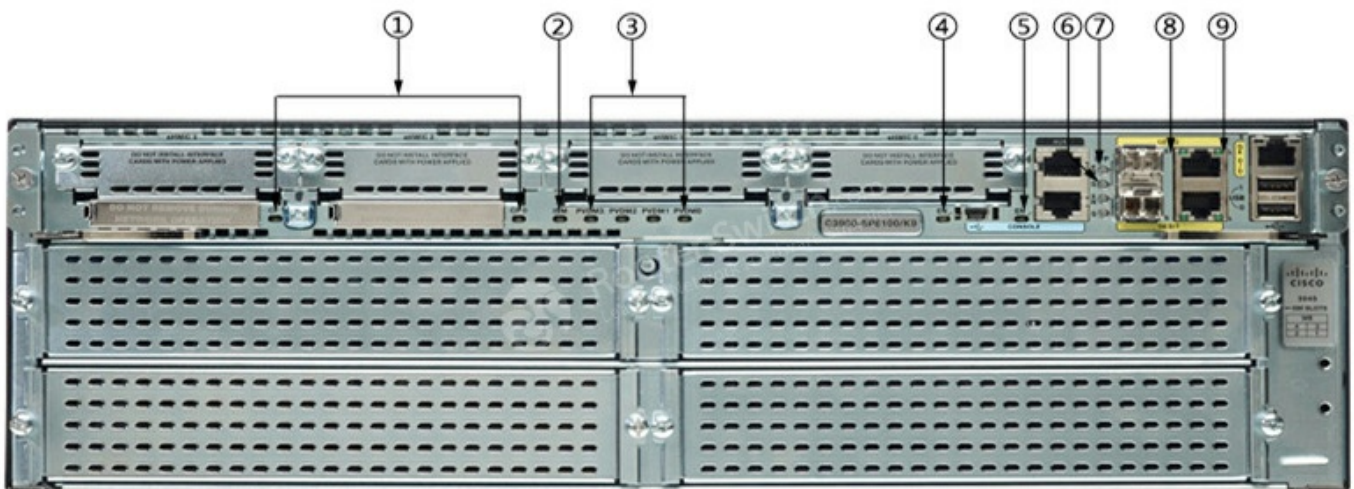
Note:

(1) On/Off switch (2) Power connector (3) LEDs area

Table 2 shows the LEDs area description.

| LED            | Description             |   |
|----------------|-------------------------|---|
| SYS status LED | Solid green             | Solid green indicates normal operation.   |
|                | Blinking green          | System is booting or is in ROM monitor mode.  |
|                | Amber                   | System error.   |
|                | Off                     | Power is off or system board is faulty.   |
| ACT status LED | Solid or blinking green | Solid or blinking indicates packet activity between the forwarding and routing engine and any I/O port. |
|                | Off                     | No packet transfers are occurring.  |
| POE            | Green                   | IP phone power is on.   |
|                | Amber                   | IP phone power is not on.   |
| PS1 / PS2      | Green                   | System is running.  |
|                | Amber                   | System is not running.  |

Figure 3 shows the back panel of the Cisco router 3945/K9 with LEDs.



Note:

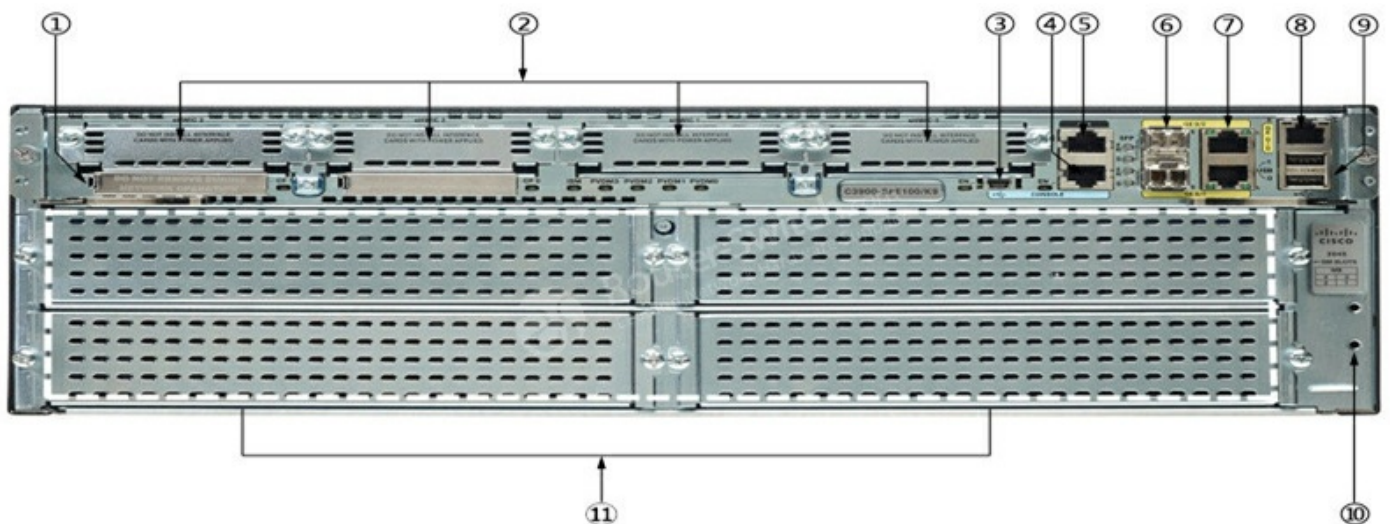
(1) Compact flash 0 and 1 (0, right) (2) ISM (3) PVD M3 0,1,2 and 3 (0, far right) (4) EN (Enable USB console)

(5) EN (Enable RJ-45 console)(6) SFP S (7) SFP EN (8) S (Speed) (9) L (Link)

Table 3 shows the description of these LEDs on the back panel.

| LED                          | Color                         | Description                              | Location   |
|------------------------------|-------------------------------|--|------------|
| CompactFlash 1               | Green                         | Flash memory is busy.                    | Back Panel |
|                              | Amber                         | Initialized with error.                  |            |
|                              | Blinking Green then turns off | CompactFlash is ready for removal.       |            |
| CompactFlash 0               | Green                         | Flash memory is busy.                    | Back Panel |
|                              | Amber                         | Initialized with error.                  |            |
|                              | Blinking Green then turns off | CompactFlash is ready for removal.       |            |
| S (Speed)                    | 1 blink + pause               | GE port operating at 10 Mb/s.            | Back Panel |
|                              | 2 blink + pause               | GE port operating at 100 Mb/s.           |            |
|                              | 3 blink + pause               | GE port operating at 1000 Mb/s.          |            |
| L (Link)                     | Green                         | GE link is established.                  | Back Panel |
|                              | Off                           | No GE link is established.               |            |
| EN (RJ-45 console port)      | Green                         | The RJ-45 console port is active.        | Back Panel |
| EN (USB serial console port) | Green                         | The USB console port is active.          | Back Panel |
| ISM                          | Green                         | Initialized.                             | Back Panel |
|                              | Amber                         | Initialized with error.                  |            |
|                              | Off                           | Not installed.                           |            |
| PVDM3 0,1,2 and 3            | Green                         | PVDM is initialized.                     | Back Panel |
|                              | Amber                         | PVDM is detected but not initialized.    |            |
|                              | Off                           | No PVDM installed.                       |            |
| SFP S                        | Blinking green                | Blinking frequency indicates port speed. | Back Panel |
| SFP EN                       | Off                           | Not present.                             | Back Panel |
|                              | Green                         | Present and enabled.                     |            |
|                              | Amber                         | Present with failure.                    |            |

Figure 4 shows the back panel of the Cisco 3945 router with slots and ports.



Note:

(1) Compact flash 0 and 1 (0, right) (2) EHWIC 0,1,2 and 3 (0, far right) (3)USB serial port (4)RJ-45 serial console port (5)AUX port (6) SFP 1 and SFP 2 (2, top)  
(7) 10/100/1000 Ethernet port GE 0/1 and GE 0/2 (GE 0/1, down) (8) 10/100/1000 Ethernet port GE 0/0 (9) USB 0 and USB 1 (1,top) (10) Ground (11) Service module slots

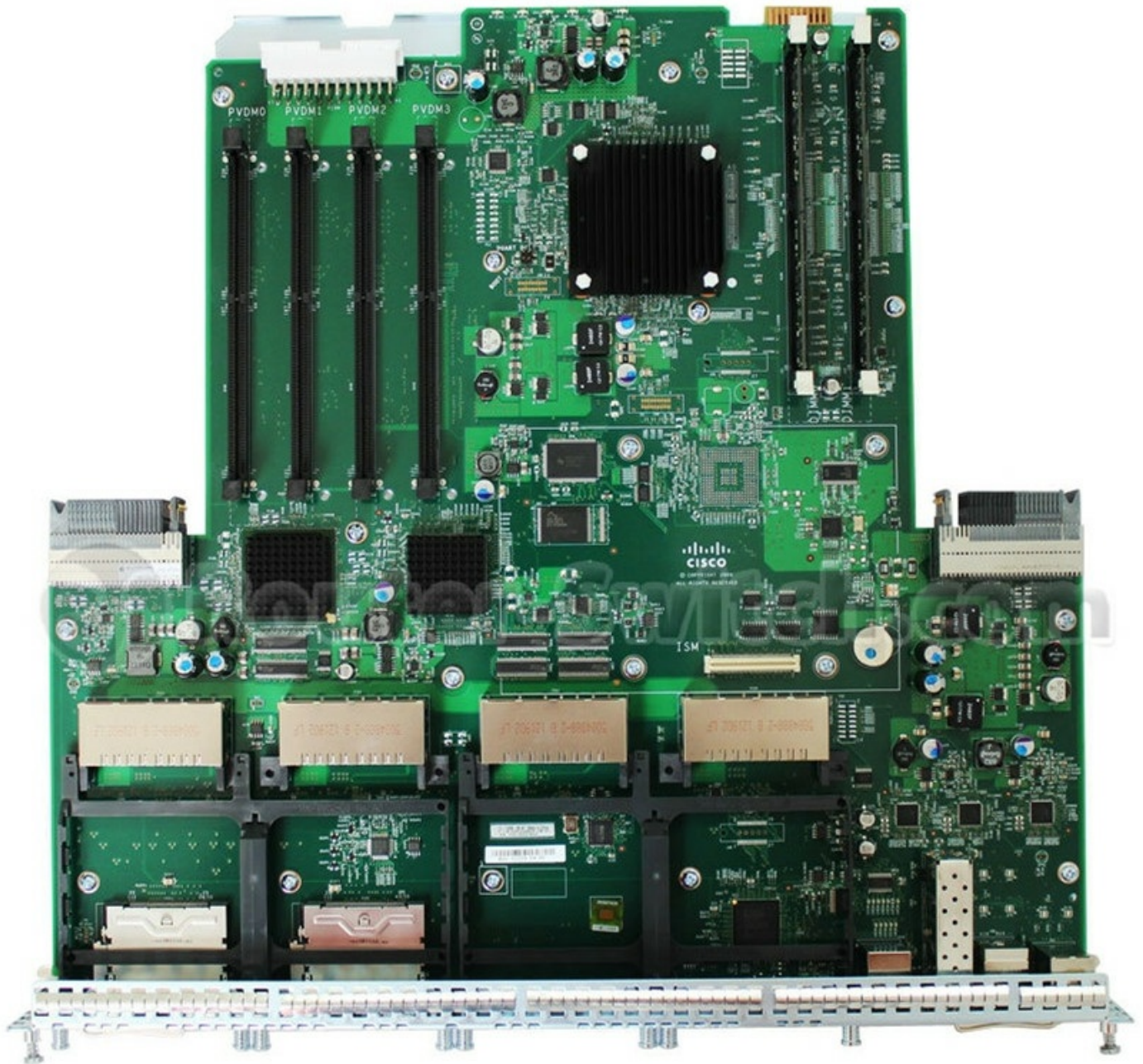
**Figure 5 shows the SPE area and you can upgrade these slots and ports directly by one SPE module.**

The Cisco 3900 Series offers field-replaceable SPEs which allow you to protect your initial investment in the Cisco 3900 platform for a longer time period and scale router performance as your network and branch-office needs grow.



Figure 6 shows the internal view of the CISCO3945/K9.





Note:

The Cisco 3945 router supports two memory slots which has been installed two 512MB memory cards. When upgrading the memory, the same capacity of memory cards must be inserted into the two memory slots in the same time. It doesn't support to use only a single memory slot.

## Modules and Licenses

Table 4 shows modules and licenses for this router.

| Models                           | Description  |
|----------------------------------|--|
| <a href="#">C3900-SPE150/K9</a>  | Cisco Services Performance Engine 150 for Cisco 3945 ISR. (It's a configured item in the CISCO3945/K9.)                    |
| <a href="#">SM-ES3G-16-P</a>     | Enhanced EtherSwitch Service Module, L2/L3 switching, 16* 10/100/1000 GE ports, Enhanced POE, Cisco EnergyWise technology  |
| <a href="#">SM-ES3G-24-P</a>     | Enhanced EtherSwitch Service Module, L2/L3 switching, 24 * 10/100/1000 GE ports, Enhanced POE, Cisco EnergyWise technology |
| <a href="#">VVIC3-2MFT-G703</a>  | Cisco Voice/WAN Card VVIC3-2MFT-G703   |
| <a href="#">HWIC-2T</a>          | 2-Port Serial WAN Interface Card Cisco Router High-Speed WAN Interface card  |
| <a href="#">EHWIC-1GE-SFP-CU</a> | Cisco 1900, 2900, 3900 Router EHWIC WAN Card EHWIC-1GE-SFP-CU  |
| <a href="#">EHWIC-4ESG</a>       | Four port 10/100/1000 Base-TX Gigabit Ethernet switch interface card for Cisco 1900 2900 3900 Routers                      |

|                                  |   |
|----------------------------------|---|
| <a href="#">ISM-SRE-300-K9</a>   | Internal Services Module (ISM) with Services Ready Engine   |
| <a href="#">PVDM3-16</a>         | 16-channel high-density voice DSP module  |
| <a href="#">MEM-CF-256U1GB</a>   | 256MB to 1GB Compact Flash Upgrade for Cisco 1900,2900,3900   |
| <a href="#">MEM-CF-256U2GB</a>   | 256MB to 2GB Compact Flash Upgrade for Cisco 1900,2900,3900   |
| <a href="#">MEM-CF-256U512MB</a> | 256MB to 512MB CF Upgrade for Cisco 1900,2900,3900 ISR  |
| <a href="#">MEM-CF-256U4GB</a>   | 256MB to 4GB Compact Flash Upgrade for Cisco 1900,2900,3900   |
| <a href="#">MEMUSB-1024FT</a>    | 1GB USB Flash Token   |
| <b>Licenses</b>                  | <b>Description</b>  |
| <a href="#">L-FL-39-HSEC-K9=</a> | Cisco 3900 License L-FL-39-HSEC-K9 U.S. Export Restriction Compliance license for 3900 series           |
| <a href="#">L-FL-39-SNA=</a>     | Cisco 3900 Router License - FL-39-SNA= SNA E-Delivery License for Cisco 3925/3945 for Cisco 3900 Series |
| <a href="#">L-SL-39-APP-K9=</a>  | Cisco Application Experience License ISR 3900 series - includes licenses for: AppX, DATA and WAASX.     |
| <a href="#">L-SL-39-SEC-K9=</a>  | Cisco 3900 License L-SL-39-SEC-K9 Security E-Delivery PAK for Cisco 3900 Series                         |
| <a href="#">L-SL-39-UC-K9=</a>   | Cisco 3900 License L-SL-39-UC-K9 Unified Communication E-Delivery PAK for Cisco 3900 Series             |

## Get more information

Do you have any question about the Cisco 3945/K9 router?

Contact us now via [Live Chat](#) or [sales@router-switch.com](mailto:sales@router-switch.com).

## Specification

| CISCO3945/K9 Specification          |  |
|-------------------------------------|--|
| General                             |  |
| <b>Manufacturer</b>                 | Cisco Systems, Inc   |
| <b>Manufacturer Part Number</b>     | CISCO3945/K9   |
| <b>Product Type</b>                 | Router   |
| <b>Form Factor</b>                  | Desktop - modular - 3U   |
| <b>Connectivity Technology</b>      | Wired  |
| <b>Data Link Protocol</b>           | Ethernet, Fast Ethernet, Gigabit Ethernet  |
| <b>Capacity</b>                     | Cisco Unified Communications Manager Express sessions : 350<br>Cisco Unified SRST sessions : 1200  |
| <b>Network / Transport Protocol</b> | IPSec, PPPoE, L2TPv3   |
| <b>Routing Protocol</b>             | OSPF, IS-IS, BGP, EIGRP, DVMRP, PIM-SM, IGMPv3, GRE, PIM-SSM, static IPv4 routing, static IPv6 routing, policy-based routing (PBR)   |
| <b>Remote Management Protocol</b>   | SNMP, RMON   |
| <b>Encryption Algorithm</b>         | SSL  |
| <b>Features</b>                     | Firewall protection, VPN support, MPLS support, Syslog support, content filtering, IPv6 support, Class-Based Weighted Fair Queuing (CBWFQ), Weighted Random Early Detection (WRED), Quality of Service (QoS), Dynamic Multipoint VPN (DMVPN) |

|  |   |
|--|---|
| <b>Compliant Standards</b>                 | IEEE 802.3, IEEE 802.1Q, IEEE 802.1ah, IEEE 802.1ag   |
| <b>DRAM Memory</b>                         | 1 GB (installed) / 2 GB (max)   |
| <b>Flash Memory</b>                        | 256 MB (installed) / 8 GB (max)   |
| <b>LED Status Lights Indicators</b>        | Link activity, power  |
| <b>Connectivity Slots</b>                  |   |
| <b>Router Interfaces</b>                   | 3 x 10Base-T/100Base-TX/1000Base-T - RJ-45<br>Management : 1 x console - RJ-45<br>Management : 1 x console - mini-USB Type B<br>Serial : 1 x auxiliary - RJ-45<br>Hi-Speed USB : 2 x 4 PIN USB Type A<br>2 x SFP (mini-GBIC)                            |
| <b>Expansion Slots Total (Free)</b>        | 4 ( 4 ) x EHWIC<br>4 ( 4 ) x PVDM<br>2 ( 1 ) x CompactFlash Card<br>1 ( 1 ) x Expansion Slot<br>4 ( 4 ) x service module (SM)   |
| <b>Power Supply</b>                        |   |
| <b>Power Device</b>                        | Power supply - internal   |
| <b>Voltage Required</b>                    | AC 120/230 V ( 47/63 Hz )   |
| <b>Dimensions / Weight / Miscellaneous</b> |   |
| <b>Width</b>                               | 47.6 cm ( 18.74 in)   |
| <b>Depth</b>                               | 43.8 cm ( 17.24 in)   |
| <b>Height</b>                              | 13.3 cm (5.24 in)   |
| <b>Package Weight</b>                      | 21.84 kg ( 48.15 lbs)   |
| <b>Weight</b>                              | 17.7 kg ( 39.02 lbs)  |
| <b>Compliant Standards</b>                 | CISPR 22 Class A, CISPR 24, EN55024, EN55022 Class A, EN50082-1, AS/NZS 60950-1, AS/NZ 3548 Class A, CAN/CSA-E60065-00, ICES-003 Class A, CS-03, FCC CFR47 Part 15, EN300-386, UL 60950-1, IEC 60950-1, EN 60950-1, CSA C22.2 No. 60065, BSMI CNS 13438 |
| <b>System Software</b>                     |   |
| <b>IOS Software Included</b>               | Cisco IOS IP Base   |

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