



Release Notes for Cisco ONS 15530 for Cisco IOS Release 12.1(10)EV4

This document describes caveats for Cisco IOS Release 12.1(10)EV4 for the Cisco ONS 15530.

Date: December 9, 2002

Text Part Number: OL-2508-03

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Introduction

The Cisco ONS 15530 is a modular, scalable optical switching and aggregation platform designed to supplement the Cisco ONS 15540 ESP. With the Cisco ONS 15540 ESP, users can take advantage of the availability of dark fiber to build a common infrastructure that supports data, SAN (storage area network), and TDM (time-division multiplexing) traffic. For more information about DWDM technology and applications, refer to the [Introduction to DWDM Technology](#) publication and the [Cisco ONS 15530 Planning Guide](#).



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System Requirements

This section describes the system requirements for Cisco IOS Release 12.1(10)EV4 and includes the following sections:

- [Memory Requirements, page 2](#)
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- [Determining the Software Version, page 12](#)
- [Upgrading the System Image, page 12](#)
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Memory Requirements

The DRAM memory configuration is 64 MB, which is the default for the Cisco ONS 15530.

Hardware Supported

[Table 1](#) lists the hardware components supported on the Cisco ONS 15530 and the minimum software version required. See the [“Determining the Software Version” section on page 12](#) for information on determining your software version.

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements

Component	Part Number	Description	Minimum Software Version Required
Chassis	15530-CHAS-N	15530-CHAS-N chassis, NEBS Version	12.1(10)EV4
Chassis	15530-CHAS-E	15530-CHAS-E chassis, ETSI Version	12.1(10)EV4
Power supplies	15530-PWR-AC	120 to 240 VAC power supply	12.1(10)EV4
	15530-PWR-DC	Power supply –48 VDC	12.1(10)EV4
CPU switch module	15530-CPU	ONS 15530 CPU switch module	12.1(10)EV4
Carrier motherboard	15530-LCMB-0100	Carrier motherboard (supports OSC, WB-VOA, and PB-OE modules)	12.1(10)EV4
OADM modules without OSC	15530-MDXA-04A0	4-channel Band A	12.1(10)EV4
	15530-MDXA-04B0	4-channel Band B	12.1(10)EV4
	15530-MDXA-04C0	4-channel Band C	12.1(10)EV4
	15530-MDXA-04D0	4-channel Band D	12.1(10)EV4
	15530-MDXA-04E0	4-channel Band E	12.1(10)EV4
	15530-MDXA-04F0	4-channel Band F	12.1(10)EV4
	15530-MDXA-04G0	4-channel Band G	12.1(10)EV4
	15530-MDXA-04H0	4-channel Band H	12.1(10)EV4

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)

Component	Part Number	Description	Minimum Software Version Required
OADM modules with OSC	15530-MDXB-04A0	4-channel Band A	12.1(10)EV4
	15530-MDXB-04B0	4-channel Band B	12.1(10)EV4
	15530-MDXB-04C0	4-channel Band C	12.1(10)EV4
	15530-MDXB-04D0	4-channel Band D	12.1(10)EV4
	15530-MDXB-04E0	4-channel Band E	12.1(10)EV4
	15530-MDXB-04F0	4-channel Band F	12.1(10)EV4
	15530-MDXB-04G0	4-channel Band G	12.1(10)EV4
	15530-MDXB-04H0	4-channel Band H	12.1(10)EV4
MM transponder modules with splitter	15530-TSP1-0111	Ch 1-2 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-0311	Ch 3-4 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-0511	Ch 5-6 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-0711	Ch 7-8 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-0911	Ch 9-10 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1111	Ch 11-12 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1311	Ch 13-14 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1511	Ch 15-16 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1711	Ch 17-18 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1911	Ch 19-20 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2111	Ch 21-22 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2311	Ch 23- 24— 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2511	Ch 25-26— 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2711	Ch 27-28— 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2911	Ch 29-30— 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
15530-TSP1-3111	Ch 31-32— 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4	

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)

Component	Part Number	Description	Minimum Software Version Required
MM transponder modules without splitter	15530-TSP1-0121	Ch 1-2 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-0321	Ch 3-4 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-0521	Ch 5-6 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-0721	Ch 7-8 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-0921	Ch 9-10 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1121	Ch 11-12 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1321	Ch 13-14 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1521	Ch 15-16 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1721	Ch 17-18 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-1921	Ch 19-20 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2121	Ch 21-22 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2321	Ch 23-24 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2521	Ch 25-26 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2721	Ch 27-28 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
	15530-TSP1-2921	Ch 29-30 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4
15530-TSP1-3121	Ch 31-32 — 1310-nm MM 16 to 622 Mbps with SC	12.1(10)EV4	

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)

Component	Part Number	Description	Minimum Software Version Required
SM transponder modules with splitter	15530-TSP1-0112	Ch 1-2—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-0312	Ch 3-4—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-0512	Ch 5-6—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-0712	Ch 7-8—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-0912	Ch 9-10—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1112	Ch 11-12—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1312	Ch 13-14—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1512	Ch 15-16—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1712	Ch 17-18—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1912	Ch 19-20—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2112	Ch 21-22—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2312	Ch 23-24—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2512	Ch 23-24—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2712	Ch 25-26—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2912	Ch 27-28—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
15530-TSP1-3112	Ch 29-30—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4	

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)

Component	Part Number	Description	Minimum Software Version Required
SM transponder modules without splitter	15530-TSP1-0122	Ch 1-2—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-0322	Ch 3-4—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-0522	Ch 5-6—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-0722	Ch 7-8—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-0922	Ch 9-10—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1122	Ch 11-12—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1322	Ch 13-14—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1522	Ch 15-16—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1722	Ch 17-18—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-1922	Ch 19-20—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2122	Ch 21-22—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2322	Ch 23-24—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2522	Ch 23-24—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2722	Ch 25-26—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
	15530-TSP1-2922	Ch 27-28—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4
15530-TSP1-3122	Ch 29-30—1310-nm SM 16 Mbps to 2.5 Gbps with SC	12.1(10)EV4	

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)

Component	Part Number	Description	Minimum Software Version Required
10G ITU trunk line cards with splitter (1550 nm)	15530-ITU2-0110	CH 1—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-0210	CH 2—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-0310	CH 3—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-0410	CH 4—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-0510	CH 5—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-0610	CH 6—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-0710	CH 7—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-0810	CH 8—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-0910	CH 9—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1010	CH 10—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1110	CH 11—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1210	CH 12—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1310	CH 13—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1410	CH 14—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1510	CH 15—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1610	CH 16—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1710	CH 17—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1810	CH 18—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-1910	CH 19—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-2010	CH 20—10-Gbps ITU trunk line card with splitter	12.1(10)EV4

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)

Component	Part Number	Description	Minimum Software Version Required
	15530-ITU2-2110	CH 21—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-2210	CH 22—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-2310	CH 23—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-2410	CH 24—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-2510	CH 25—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-2610	CH 26—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-2710	CH 27—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-2810	CH 28—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-2910	CH 29—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-3010	CH 30—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-3110	CH 31—10-Gbps ITU trunk line card with splitter	12.1(10)EV4
	15530-ITU2-3210	CH 32—10-Gbps ITU trunk line card with splitter	12.1(10)EV4

Table 1 *Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)*

Component	Part Number	Description	Minimum Software Version Required
10G ITU trunk line cards without splitter (1550 nm)	15530-ITU2-0120	CH 1—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-0220	CH 2—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-0320	CH 3—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-0420	CH 4—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-0520	CH 5—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-0620	CH 6—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-0720	CH 7—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-0820	CH 8—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-0920	CH 9—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-1020	CH 10—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-1120	CH 11—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-1220	CH 12—10-Gbps ITU trunk line card without splitter	12.1(10)EV4

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)

Component	Part Number	Description	Minimum Software Version Required
	15530-ITU2-1320	CH 13—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-1420	CH 14—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-1520	CH 15—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-1620	CH 16—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-1720	CH 17—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-1820	CH 18—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-1920	CH 19—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2020	CH 20—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2120	CH 21—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2220	CH 22—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2320	CH 23—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2420	CH 24—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2520	CH 25—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2620	CH 26—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2720	CH 27—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2820	CH 28—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-2920	CH 29—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-3020	CH 30—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-3120	CH 31—10-Gbps ITU trunk line card without splitter	12.1(10)EV4
	15530-ITU2-3220	CH 32—10-Gbps ITU trunk line card without splitter	12.1(10)EV4

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)

Component	Part Number	Description	Minimum Software Version Required
10-GE uplink card	15530-10GE-UPLINK	ONS 15530 10-Gbps uplink, 1310nm with SC	12.1(10)EV4
WB-VOA module	15500-VOA-0100	Single wide-band variable optical attenuator	12.1(10)EV4
	15500-VOA-0200	Dual wide-band variable optical attenuator	12.1(10)EV4
Single-band PB-OE module	15500-PEQ-01A0	Single-band optical equalizer Band A	12.1(10)EV4
	15500-PEQ-01B0	Single-band optical equalizer Band B	12.1(10)EV4
	15500-PEQ-01C0	Single-band optical equalizer Band C	12.1(10)EV4
	15500-PEQ-01D0	Single-band optical equalizer Band D	12.1(10)EV4
	15500-PEQ-01E0	Single-band optical equalizer Band E	12.1(10)EV4
	15500-PEQ-01F0	Single-band optical equalizer Band F	12.1(10)EV4
	15500-PEQ-01G0	Single-band optical equalizer Band G	12.1(10)EV4
	15500-PEQ-01H0	Single-band optical equalizer Band H	12.1(10)EV4
Dual-band PB-OE module	15500-PEQ-02AB	Dual band optical equalizer Band AB	12.1(10)EV4
	15500-PEQ-02CD	Dual band optical equalizer Band CD	12.1(10)EV4
	15500-PEQ-02EF	Dual band optical equalizer Band EF	12.1(10)EV4
	15500-PEQ-02GH	Dual band optical equalizer Band GH	12.1(10)EV4
AC cables	15530-CAB-AC=	ONS 15530 ETSI AC cable, North America (spare)	12.1(10)EV4
	15530-CAB-ACA=	ONS 15530 ETSI AC cable, Australia (spare)	12.1(10)EV4
	15530-CAB-ACE=	ONS 15530 ETSI AC cable, Europe (spare)	12.1(10)EV4
	15530-CAB-ACU=	ONS 15530 ETSI AC cable, UK (spare)	12.1(10)EV4
	15530-CAB-ACI=	ONS 15530 ETSI AC cable, Italy (spare)	12.1(10)EV4
	15530-CAB-ACR=	ONS 15530 ETSI AC cable, Argentina (spare)	12.1(10)EV4
Blank panel cover	15530-COV-MUX=	OADM blank panel cover	12.1(10)EV4
	15530-COV-SLOT=	Full slot panel cover	12.1(10)EV4
	15530-COV-PWR=	Power supply blank panel cover	12.1(10)EV4
	15530-COV-OSC=	OSC blank panel cover	12.1(10)EV4
Fan assembly	15530-FT01=	Fan assembly (spare)	12.1(10)EV4
Air ramp baffle	15530-BAF-E=	Air baffle (spare) for 15530-CHAS-E chassis	12.1(10)EV4
CompactFlash card (spare)	MEM-15530-FLC32M=	CompactFlash card 32 MB	12.1(10)EV4

Table 1 Cisco ONS 15530 Supported Hardware and Minimum Software Requirements (continued)

Component	Part Number	Description	Minimum Software Version Required
Accessory kit	15530-ACCKIT23	Accessory kit for 23 inch rack	12.1(10)EV4
	15530-ACCKIT19	Accessory kit for 19 inch rack	12.1(10)EV4
Rack mount kit	15530-RKMT-E=	Chassis rack mount kit for 15530-CHAS-E	12.1(10)EV4
	15530-RKMT-N23=	Chassis rack mount kit for 15530-CHAS-N (23 inch rack)	12.1(10)EV4
	15530-RKMT-N19=	Chassis rack mount kit for 15530-CHAS-N (19 inch rack)	12.1(10)EV4

Determining the Software Version



Note

We strongly recommend that you use the latest available software release for all Cisco ONS 15530 hardware.

To determine the version of Cisco IOS software currently running on a Cisco ONS 15530 system, log in to the system and enter the **show version EXEC** command. The following sample output is from the **show version** command. The software version number is shown on the second line of the sample output.

```
Switch# show version
Cisco Internetwork Operating System Software
IOS (tm) ONS-15530 Software (ONS15530-I-M), Version 12.1(10)EV4
<Information deleted>
```

Upgrading the System Image

To ensure proper system functioning, follow the system image upgrading procedure described in the *Cisco ONS 15530 Software Upgrade Guide*.



Note

Always set the configuration register to 0x2102 when upgrading the system image using the **config-reg 0x2102** command in configuration mode.



Caution

Improper system image upgrades can affect system functioning and redundancy. Always follow the recommended upgrade procedures.

Feature Set Table

The Cisco IOS Release software is packaged in feature sets (also called software images) depending on the platform. Each feature set contains a specific set of Cisco IOS features. [Table 2](#) lists the Cisco IOS software feature sets available for the Cisco ONS 15530.

Table 2 *Feature Sets Supported by the Cisco ONS 15530*

Feature Set	12.1(10)EV4
In-band message channel	X
Gigabit Ethernet	X
Fast Ethernet	X
Ethernet	X
ATM OC-3/STM-1, OC-12/STM-4, and OC-48/STM-16	X
SONET ¹ /SDH ²	X
POS ³	X
Coupling link	X
Fibre Channel (1 Gbps)	X
Fibre Channel (2 Gbps)	X
FDDI ⁴	X
ESCON ⁵ aggregation (2.5 Gbps)	X
FICON ⁶ (800 Mbps)	X
Token Ring	X
SNMP	X
CiscoView	X
Cisco Transport Manager	X
IP packets	X
OSCP ⁷	X
APS ⁸ channel protocol	X
Point-to-point	X
Hubbed ring	X
Meshed ring	X
Sysplex	X

1. SONET = Synchronous Optical Networking
2. SDH = Synchronous Digital Hierarchy
3. POS = Packet over SONET
4. FDDI = Fiber Distributed Data Interface
5. ESCON = Enterprise Systems Connection
6. FICON = Fiber Connection
7. OSCP = Optical Supervisory Channel Protocol
8. APS = Automatic Protection Switching

New and Changed Information

This section lists new features that appear in this and previous releases of Cisco IOS Release 12.1. The new features are sorted by release number.

New Features in Release 12.1(10)EV4

No new features are available for the Cisco ONS 15530 in Cisco IOS Release 12.1(10)EV4.

Caveats

This section lists the caveats for the 12.1(10)EV4 release. Use [Table 3](#) to determine the status of a particular caveat. In the table, “C” indicates a corrected caveat, and “O” indicates an open caveat.

Table 3 Caveat Matrix for the Cisco ONS 15530

DDTS Number	12.1(10)EV4
CSCdw35704	C
CSCdx02980	C
CSCdx78717	O
CSCdx83919	O
CSCdy01768	C
CSCdy02850	C
CSCdy08228	C
CSCdy20002	C
CSCdy20010	C
CSCdy20022	C
CSCdy40864	C
CSCdy40882	C
CSCdy46550	O
CSCdy49249	C
CSCdy53288	C
CSCdy59551	O
CSCdy61641	C
CSCdy63359	C
CSCdy65411	C
CSCdy66507	C
CSCdy68224	C
CSCdy68257	C
CSCdy69086	C
CSCdy72463	C
CSCdy78546	C
CSCdy81501	C
CSCdy82663	C
CSCdy85125	C

Table 3 *Caveat Matrix for the Cisco ONS 15530 (continued)*

DDTS Number	12.1(10)EV4
CSCdy85563	C
CSCdy88154	C
CSCdz00116	C
CSCdz04036	C
CSCdz06004	C
CSCdz06602	C
CSCdz08641	O
CSCdz08774	C
CSCdz11505	C
CSCdz12139	C
CSCdz12200	O
CSCdz13538	C
CSCdz13673	C
CSCdz15649	O
CSCdz16457	C
CSCdz20508	C
CSCdz28582	C
CSCdz33672	C
CSCdz33752	C
CSCdz34105	C
CSCdz34254	C
CSCdz36187	C
CSCdz36234	O
CSCdz36420	C
CSCdz36823	C
CSCdz38508	C
CSCdz39112	C
CSCdz39711	C
CSCdz40904	C
CSCdz42349	O
CSCdz43372	C
CSCdz43833	C
CSCdz44366	O
CSCdz44515	C

This section describes the caveats in the Cisco ONS 15530.

- [CSCdw35704](#)
Symptom: Unchecked buffer boundary in NTP.
Workaround: None.
- [CSCdx02980](#)
Symptom: When the NME is connected to an auto-sensing switch/hub, going from 10 Mbps/half to 100 Mbps/half (or similarly 10 Mbps/full to 100 Mbps/full) on FastEthernet0 results in the link going down.
Workaround: Configure FastEthernet0 as duplex auto and speed auto.
- [CSCdx78717](#)
Symptom: A change in optical threshold condition at a WB-VOA or PB-OE module power monitor may not be detected if the condition is temporary and does not last for more than a second.
Workaround: None
- [CSCdx83919](#)
Symptom: When swapping the ESCON line card with the 10-G ITU trunk line card in a given slot, the following error message is seen four times:
%BPE-3-NOT_REGISTERED: Interface[EthernetDcc9/0/0] MAC is not registered.
Workaround: None.
- [CSCdy01768](#)
Symptom: The CPU switch module LED for alarms is not cleared even though the Optical Power Monitoring alarm gets cleared. There is no functionality problem. On a CPU switch module switchover this alarm LED is cleared and gives the correct alarm status.
Workaround: OIR the card on which the alarm was generated.
- [CSCdy02850](#)
Symptom: When both wavepatch interfaces are in an administrative down state, a low alarm does not appear on the standby wavepatch interface after a **no shutdown** is done on the wave interface.
Workaround: Do a **shutdown** and a **no shutdown** command sequence on the interface; the low alarm is then reported for this interface.

- [CSCdy08228](#)
Symptom: Interface reports up/up even when there is no light source connected.
Workaround: Perform a shut and then a no shut on the interface.
- [CSCdy20002](#)
Symptom: A transparent interface carrying Gigabit Ethernet traffic and configured with gigabit Fibre Channel encapsulation shows good quality signal on the **show interfaces transparent** command output and does not assert any ingress alarms. The wave interface assert loss of lock and loss of sync alarms.
Workaround: Remove and reinsert the transponder module to bring it to the correct state.
- [CSCdy20010](#)
Symptom: LoF (loss of frame) alarms are not reasserted after a **shutdown/no shutdown** command sequence on both the transparent and wave interfaces on the transponder module.
Workaround: Disable and reenables monitoring on the transparent interface to reassert the alarms.
- [CSCdy20022](#)
Symptom: The **show facility-alarm** command status does not report existing LoF/LoSync/LoLock alarms after OIR/hw-mod power off/on.
Workaround: Disable and enable monitoring back will reassert existing alarms in the show facility-alarm status.
- [CSCdy40864](#)
Symptom: A software compatibility problem causes the active CPU switch module to reset the standby CPU switch module.
Workaround: None.
- [CSCdy40882](#)
Symptom: The **show hardware** command output displays information about the CPU switch module that has been removed from the system.
Workaround: None.
- [CSCdy46550](#)
Symptom: OSC wave and ethernetdcc interfaces come up with default traffic-shaping parameters. Since this is considered as default, on removing the configuration using the **no** form of the command, the parameter value should revert back to the default value, which is not being done.
Workaround: Reconfigure the traffic-shaping parameters.
- [CSCdy49249](#)
Symptom: If a line card that was removed prior to switchover is inserted during switchover, the line card may not come up properly.
Workaround: Insert the line card after switchover is complete.
- [CSCdy53288](#)
Symptom: The system crashes at is_optical_ifstatus_up.
Workaround: None.

- [CSCdy59551](#)

Symptom: Performing a **shutdown command** on the active wavepatch interface of a nonsplitter card brings the waveethernetphy interface down and reports “Loss of Light” in the output of the **show interface** command, but the traffic continues to flow.

Workaround: If the intent is to stop traffic, do a **shutdown** on the waveethernetphy interface.
- [CSCdy61641](#)

Symptom: Following a CPU switch module crash and switchover, the **show redundancy** command shows “Not known”, without any additional information.

Workaround: Enter **show version** from the standby CPU switch module console to see the additional information.
- [CSCdy63359](#)

Symptom: The **getnext** and **getbulk** commands do not function properly after a CPU switch module switchover.

Workaround: None.
- [CSCdy65411](#)

Symptom: APS traps mode mismatch takes 30 minutes for completion.

Workaround: None.
- [CSCdy66507](#)

Symptom: Low alarm is not cleared on the wavepatch interface for the transponder.

Workaround: Perform a **shutdown/no shutdown** command sequence on the wavepatch where it is seen.
- [CSCdy68224](#)

Symptom: CVRD, CRC or CDL HEC error counters are not incremented, but the CDL HEC SF condition is exceeded.

Workaround: None.
- [CSCdy68257](#)

Symptom: When trying to modify cApsConfigSpan through SNMP set to an unsupported value, no error is reported.

Workaround: None.
- [CSCdy69086](#)

Symptom: Alarms are created on the wave interface by pulling out the cable.

Workaround: The **shutdown** command will clear all of the alarms on the wave interface.
- [CSCdy72463](#)

Symptom: Spurious memory access is seen when issuing the **show tech** command on the standby CPU switch module; the **show align** command shows an increase in the spurious memory errors after each **show tech** command is issued.

Workaround: None
- [CSCdy78546](#)

Symptom: PTOPO configuration rows can be configured for nonexistent interfaces.

Workaround: None.

- [CSCdy81501](#)
Symptom: The **show connect intermediate** command output does not display all the protection paths when a switch fabric cross connect is used.
Workaround: Display the information using the **show connect** command.
- [CSCdy82663](#)
Symptom: Active CPU switch module incorrectly detects a faulty switch fabric port, causing a switchover to the standby CPU switch module.
Workaround: None.
- [CSCdy85125](#)
Symptom: When copying or reading a file to or from Compact flash (disk0), a transient error with the following message may appear and read/write access to compact flash is terminated:

```
ATA_Status timeout waiting for <1/2/3>
```

Workaround: None.
- [CSCdy85563](#)
Symptom: Defect-indication error message does not give information if the defect-indication bit was cleared or asserted for that interface.
Workaround: None.
- [CSCdy88154](#)
Symptom: Some interfaces are not be available to the NMS station since the agent does not create them on OIR.
Workaround: Reload the box after removal/insertion of the cards.
- [CSCdz00116](#)
Symptom: APS message channel configured for UDP/IP does not work over two IP hops. The UDP/IP packets get dropped at the end of the second hop.
Workaround: None.
- [CSCdz04036](#)
Symptom: Switch fabric protection is not disabled if the nonactive CPU switch module is in ROM monitor mode. As a result if an RxFail is noticed on any fabric port, that fabric port will switch over its receive to the nonactive CPU switch module.
Workaround: None.
- [CSCdz06004](#)
Symptom: The **redundancy reload shelf** command on the active CPU switch module can cause a switchover if the peer CPU switch module is in ROM monitor mode.
Workaround: Use the **reload** command to reload the active CPU switch module, if the peer CPU switch module is in ROM monitor mode.
- [CSCdz06602](#)
Symptom: Issuing **getbulk** command to retrieve PM parameters returns 0 row.
Workaround: None.
- [CSCdz08641](#)
Symptom: The **ciscoFlashPartitionFileCount** returns an incorrect number of files on the flash card.
Workaround: None.

- [CSCdz08774](#)

Symptom: ciscoFlashDeviceChangeTrap should be supported on ONS155xx platforms since it is a basic operation. Whenever a removable flash device is removed or inserted, this trap should be generated.

Workaround: None.
- [CSCdz11505](#)

Symptom: When FLC is disabled on all 10 esconphy ports and they are administratively shut down, packets are still being sent to the backplane.

Workaround: None.
- [CSCdz12139](#)

Symptom: OPM feature does not work for nonsplitter transponders.

Workaround: None.
- [CSCdz12200](#)

Symptom: Invalid mac-address or ip-address can be made via SNMP. No error check is done.

Workaround: Delete the entry through SNMP or with the **topology neighbor disable** command.
- [CSCdz13538](#)

Symptom: Egress Loss of Signal alarm is not reasserted in the **show facility alarm status** output after the hardware module power is turned off and turned back on.

Workaround: None.
- [CSCdz13673](#)

Symptom: The wave interface remains down when the signal quality is GOOD, after the hardware module power is turned off and turned back on.

Workaround: None.
- [CSCdz15649](#)

Symptom: When wave interface is in SHUT mode, the corresponding active wavepatch interface is brought down and a low alarm is asserted.

Workaround: None.
- [CSCdz16457](#)

Symptom: When IOS is rebooted on a system and a transient link failure condition occurs on 10 G DWDM Uplink cards, system may continuously send the backward defect indication.

Workaround: None.
- [CSCdz20508](#)

Symptom: The wavepatch interfaces are stuck in the down state after using the **show wave interface** command with splitter APS after the trunk fiber has been cut.

Workaround: None.
- [CSCdz28582](#)

Symptom: After a fiber cut, the OSC interface remains up with signal quality good.

Workaround: Use the **shut/no shut** command.

- [CSCdz33672](#)
Symptom: The standby CPU switch module can get stuck in trying to register control ports.
Workaround: Enter **redundancy reload peer** on the active CPU switch module.
- [CSCdz33752](#)
Symptom: In bidirectional APS, if both NEs have the same priority request, the master/slave determination fails, leading to both claiming the control and resulting in not sending a REVERSE-REQUEST.
Workaround: None.
- [CSCdz34105](#)
Symptom: When a **shutdown/no shutdown** command sequence is done on a waveethernetphy interface that is in the UP state, the Signal Condition shows Loss of Lock.
Workaround: None.
- [CSCdz34254](#)
Symptom: In bidirectional line card protection, if the APS group is associated with working cross connect invalid and protection cross connect 'active', APS erroneously sets the aps channel request on working to WAIT-TO-RESTORE. This does not recover even when the working cross connect is made dormant by the connection manager. As a result both NEs are pegged to protection until an event (that has higher priority than WTR) is triggered.
Workaround: None.
- [CSCdz36187](#)
Symptom: Splitter APS protection comes up as active on bootup.
Workaround: None.
- [CSCdz36234](#)
Symptom: Dynamic discovery of topology via CDP on the tengigethernetphy interface is not configurable.
Workaround: None.
- [CSCdz36420](#)
Symptom: In a preconfigured APS group (for the case when the interfaces do not exist), if the group is configured for revertive mode, it cannot be enabled.
Workaround: None.
- [CSCdz36823](#)
Symptom: The CPU switch module crashes after midnight with optical performance on when an interface capable of performance monitoring is not shut down.
Workaround: None.
- [CSCdz38508](#)
Symptom: In unidirectional revertive APS, after OIR removal followed by OIR insertion of working and protection elements on both NEs, the active signal may be received from the Protection line instead of working line.
Workaround: Do a manual or force switch to working line.

- [CSCdz39112](#)

Symptom: When an invalid channel number is detected by the OSCP client while it processes the client message received from the peer, OSCP does not free the message buffer. This results in buffer starvation over a period of time and connectivity via the network management interface and back plane ethernet (IPC and OSCP) interface are lost.

Workaround: None.
- [CSCdz39711](#)

Symptom: SEF errors are repeatedly asserted on the console and are not soaked.

Workaround: None.
- [CSCdz40904](#)

Symptom: When an interface is shut down administratively, the **show aps detail** command shows the channel request as sf-lp; however, a get on the object **cApsChanStatusCurrent** does not reflect sf-lp in the corresponding bits.

Workaround: None.
- [CSCdz42349](#)

Symptom: Connection to a different subinterface on the same 10-Gbps ITU trunk card is accepted, but crossconnection fails in the switch fabric.

Workaround: None.
- [CSCdz43372](#)

Symptom: APS group is displayed as “not associated” in **show aps detail** command output.

Workaround: Do a **shutdown/no shutdown** command sequence to either or both interfaces in the APS group. This causes a state change of the interfaces. You can also do a **disable/enable** to the APS group.
- [CSCdz43833](#)

Symptom: Y-cable transponder protection does not come up as active after removing lockout.

Workaround: Do a **disable/enable** to the APS group.
- [CSCdz44366](#)

Symptom: With line card protection configured, the switch fabric on both the active CPU switch module and the standby CPU switch module are out of sync.

Workaround: Insert all the cards and perform a **no connect** command and then **connect** command.
- [CSCdz44515](#)

Symptom: CDR loss of lock is not reported after Sysplex CLO/ETR encapsulation on a transparent interface.

Workaround: Perform a **shutdown/no shutdown** command sequence on the interface will correct the CDR loss of lock reporting.

Limitations and Restrictions

This section provides limitations and restrictions for Cisco ONS 15540 ESP hardware and software.

- If both CPU switch modules are removed, all aggregation cards, OSC modules, transponder line cards, ITU trunk cards, and uplink cards are shut down.



Note Traffic on pass through optical channels (which passively pass through the OADM modules) are not affected by the removal of the processor cards.

Related Documentation

Refer to the following documents for more information about the Cisco ONS 15530:

- [Regulatory Compliance and Safety Information for the Cisco ONS 15500 Series](#)
- [Cisco ONS 15530 Planning Guide](#)
- [Cisco ONS 15530 Hardware Installation Guide](#)
- [Cisco ONS 15530 Optical Transport Turn-Up and Test Guide](#)
- [Cisco ONS 15530 Cleaning Procedures for Fiber Optic Connections](#)
- [Cisco ONS 15530 Configuration Guide](#)
- [Cisco ONS 15530 Command Reference](#)
- [Cisco ONS 15530 System Alarms and Error Messages](#)
- [Cisco ONS 15530 Troubleshooting Guide](#)
- [Network Management for the Cisco ONS 15530](#)
- [Cisco ONS 15530 TL1 Commands](#)
- [MIB Quick Reference for the Cisco ONS 15500 Series](#)
- [Cisco ONS 15530 Software Upgrade Guide](#)

Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following URL:

<http://www.cisco.com>

Translated documentation is available at the following URL:

http://www.cisco.com/public/countries_languages.shtml

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Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

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Obtaining Technical Assistance

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The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available through the Cisco TAC: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Inquiries to Cisco TAC are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Which Cisco TAC resource you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

The Cisco TAC Web Site allows you to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to the following URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco services contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to the following URL to register:

<http://www.cisco.com/register/>

If you cannot resolve your technical issues by using the Cisco TAC Web Site, and you are a Cisco.com registered user, you can open a case online by using the TAC Case Open tool at the following URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, it is recommended that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

This document is to be used in conjunction with the documents listed in the “[Related Documentation](#)” section.

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