HP 5400R zl2 Switch Series

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Q1. What is HP 5400R zl2 Switch Series?

A1. The HP 5400R zl2 Switch Series provides enterprise-class resiliency and unprecedented flexibility, scalability, and ease of use for enterprise-edge, small- to medium-sized business (SMB), and branch office core deployments.

Q2. What does the "R" in the HP 5400R zl2 Switch Series stand for?

A2. The "R" stands for resiliency. The HP 5400R zl2 Switch Series attains resiliency by means of dual redundant management modules and redundant power supplies. Redundant management modules offer nonstop switching and hitless failover. Redundant power supplies offer full redundancy as well as N+1 redundancy.

Q3. What are v3 zl2 modules for the 5400R zl2 Switch Series?

A3. v3 zl2 modules are next generation modules for the 5400R zl2 Switch Series using the new sixth generation HP Networking ASIC. The new modules feature higher bandwidth per slot, fully flexible OpenFlow, 40G interfaces, HP Smart Rate interfaces, and MACsec.

Q4. What is HP Networking 6th Generation ASIC?

A4. The HP Networking 6th Generation ASIC is a purpose-built switching ASIC that powers the new v3 zl2 modules for the 5400R zl2 Switch Series. This new custom ASIC provides fully flexible OpenFlow for innovative software-defined networking (SDN) capability, increased performance and throughput, as well as support for next wave wired and wireless infrastructure needs while providing investment protection and lower total cost of ownership (TCO).[1]

Q5. Will the HP 5400 zl and HP 8200 zl Switch Series support v3 zl2 modules?

A5. No, v3 zl2 modules are only supported on the 5400R zl2 Switch Series.

Q6. What is HP Smart Rate?

A6. HP Smart Rate is a new type of twisted-pair network RJ-45 switch interface that enables the majority of existing cable installations found in enterprise and campus LAN environments to provide higher bandwidth connectivity (more than 1G), provide power to connected devices, and protect the wired link for next-generation 802.11ac applications.

Q7. What are the main HP Smart Rate features?

A7.

- Multi-gigabit speed with auto-negotiation on a single port with support for 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps operation over twisted-pair cabling.
- 1 Gbps and 10 Gbps HP Smart Rate modes interoperate with existing 1 Gbps and 10 Gbps copper ports.
- Power over Ethernet (PoE) with support for up to 30 watts of power over the twisted-pair link at any speed.
- MACsec[2] to provide link-level encryption between the two ends of the twisted-pair link.
- Operates over existing Category 5e, 6, and 6A cabling.

Q8. Is MACsec available on all v3 zl2 modules?

A8. Link-level security MACsec will be available on the following ports on the new v3 zl2 modules:

- All twisted pair 1000BASE-T and 1GbE SFP fiber ports
- All HP Smart Rate 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps ports[3]
- All 1GbE/10GbE SFP/SFP+ fiber ports
- Not available on 40GbE QSFP+ ports

Q9. Can I mix v2 zl and v3 zl2 modules in the same 5400R zl2 Switch Series Chassis?

A9. v2 zl and v3 zl2 modules can be intermixed in the same HP 5400R zl2 Switch Series Chassis. The 5400R can operate in v3-only mode or compatibility mode. While in v3-only mode, v2 zl modules will not be recognized by the chassis. While in compatibility mode, v2 zl and v3 zl2 can co-exist; however, v3 module fully flexible OpenFlow features are not available.

[1] Compared to a similarly configured Cisco Catalyst 4500E series product
[2, 3] Not available at initial release.

Q10. What are the major feature differences between v2 and v3 modules?

A10.

	v3 (in v3-only mode)	v3 (in compatibility mode)	v2 (in compatibility mode)
Bandwidth/slot	80 Gbps	80 Gbps	40 Gbps
HP Smart Rate	Yes	Yes	N/A
40G ports	Yes	Yes	N/A
MACsec	Yes	Yes	N/A
Fully flexible OpenFlow	Yes	N/A	N/A
v2 SDN capability	N/A	Yes	Yes

Q11. What happens to switching bandwidth and performance if v3 modules and v2 modules are combined in the 5400R chassis?

A11. v2 and v3 modules have different switching capacities and throughput capabilities. Switching capacity and throughput of each module is not impacted when used in compatibility mode. Note that a 5412R chassis fully loaded with v2 modules provides 1,056 Gbps of switching capacity and 785.7 Mpps of throughput. A 5412R chassis fully loaded with v3 modules provides 1,920 Gbps of switching capacity and 1,142 Mpps of throughput. Total chassis switching capacity and throughput will depend on the combination of v2 and v3 modules loaded into the chassis.

Q12. What are the new products associated with the v3 introduction for 5400R zl2 Switch Series?

A12. The following new bundles are introduced:

SKU	Description
JL001A	HP 5412R 92GT PoE+/4SFP+ (No PSU) v3 zl2 Switch
JL002A	HP 5406R 8-port 1/2.5/5/10GBASE-T PoE+/8-port SFP+ (No PSU) v3 zl2 Switch
JL003A	HP 5406R 44GT PoE+/4SFP+ (No PSU) v3 zl2 Switch
JL095A	HP 5406R 16-port SFP+ (No PSU) v3 zl2 Switch

The following new accessories are introduced:

SKU	Description
JH231A	HP X142 40G QSFP+ MPO SR4 Transceiver
JH232A	HP X142 40G QSFP+ LC LR4 SM Transceiver
JH233A	HP X142 40G QSFP+ MPO eSR4 300M XCVR
JH234A	HP X242 40G QSFP+ to QSFP+ 1m DAC Cable
JH235A	HP X242 40G QSFP+ to QSFP+ 3m DAC Cable
JH236A	HP X242 40G QSFP+ to QSFP+ 5m DAC Cable

The following new modules are introduced:

SKU	Description
J9986A	HP 24-port 10/100/1000BASE-T PoE+ MACsec v3 zl2 Module
J9987A	HP 24-port 10/100/1000BASE-T MACsec v3 zl2 Module
J9988A	HP 24-port 1GbE SFP MACsec v3 zl2 Module
J9989A	HP 12-port 10/100/1000BASE-T PoE+/12-port 1GbE SFP MACsec v3 zl2 Module
J9990A	HP 20-port 10/100/1000BASE-T PoE+/4-port 1G/10GbE SFP+ MACsec v3 zl2 Module
J9991A	HP 20-port 10/100/1000BASE-T PoE+/4p 1/2.5/5/10GBASE-T PoE+ MACsec v3 zl2 Module
J9992A	HP 20-port 10/100/1000BASE-T PoE+ MACsec/1-port 40GbE QSFP+ v3 zl2 Module
J9993A	HP 8-port 1G/10GbE SFP+ MACsec v3 zl2 Module
J9995A	HP 8-port 1/2.5/5/10GBASE-T PoE+ MACsec v3 zl2 Module
J9996A	HP 2-port 40GbE QSFP+ v3 zl2 Module

Q13. Which software release supports v3 zl2 modules?

A13. Software release KB 15.17 or later for the 5400R zl2 Switch Series is required to support v3 zl2 modules.

Q14. Does the HP 5400R Switch Series have the same dimensions as the HP 5400 zl Switch Series?

A14. Yes, the HP 5400R zl2 switches have the same height, width, and depth as the HP 5400 zl switches.

Q15. What is the PoE budget of the HP 5400R zl2 switches?

A15. The HP 5412R zl2 switches can provide 9,250 W of PoE. In other words, up to 288 ports can be powered at 30 W per port.

Q16. In comparison with HP 5400 zl Switch Series, I noticed that the external power shelf is no longer offered. What replaces it?

A16. There is no need for an external power shelf in the HP 5400R zl2 Switch Series. The new internal power supplies can attain 100 percent PoE while providing redundancy.

Q17. What types of redundancy modes are available?

A17. Three new power supply units are available with the HP 5400R zl2 Switch Series. N+1 redundancy is provided when one power supply acts in standby mode and is allowed for both even and odd number of like power supplies. N+N redundancy, also known as full redundancy, is provided when there are an equal number of active and standby power supplies. This is allowed for only even number of like power supplies. Additionally, PoE redundancy is configurable.

Q18. Can I mix power supplies in my chassis?

A18. Power supply mixing is allowed but discouraged as it voids power redundancy.

Q19. Will v1 modules be supported on the HP 5400R zl2 Switch Series?

A19. No, v1 modules will not be supported on the HP 5400R zl2 Switch Series.

Q20. Will v2 modules be supported on the HP 5400R zl2 Switch Series?

A20. Yes, v2 modules will be supported on the HP 5400R zl2 Switch Series. This includes the v2 AllianceOne modules and the MSM775 Wireless LAN Controller module.

Q21. Will the HP 5400R zl2 Management Module on the HP 5400 zl and HP 8200 zl switches be supported in the HP 5400R zl2 switches?

A21. No, the Management Module on the HP 5400 zl and HP 8200 zl switches will not be supported in the HP 5400R zl2 switches.

Q22. Will the new Management Module on the HP 5400R zl2 switches be supported in the HP 5400 zl and HP 8200 zl switches?

A22. No, a new Management Module is introduced in the HP 5400R zl2 Switch Series that is incompatible with the HP 5400 zl and HP 8200 zl switches.

Q23. Will the power supplies on the HP 5400 zl and HP 8200 zl switches be supported in the HP 5400R zl2 switches?

A23. No, the power supplies and the external power shelf on the HP 5400 zl and HP 8200 zl switches will not be supported in the HP 5400R zl2 switches.

Q24. Will the new power supplies on the HP 5400R zl2 switches be supported in the HP 5400 zl and HP 8200 zl switches?

A24. No, the three new power supplies that are introduced in the HP 5400R zl2 Switch Series are incompatible with the HP 5400 zl and HP 8200 zl switches.

Q25. Why does my HP 5406R zl2 switch have a part number J9850A mentioned on the chassis label? It is not listed in the table above.

A25. The HP 5406R zl2 switch (J9821A) includes the base chassis J9850A, the HP 5400R zl2 Management Module (J9827A), and the HP 5406R zl2 Switch Fan Tray (J9831A). The bundles J9823A, J9824A, J9868A, JL002A, JL003A, and JL095A each include the base chassis J9850A, the HP 5400R zl2 Management Module (J9827A), and the HP 5406R zl2 Switch Fan Tray (J9831A) in addition to the switch modules mentioned previously.

The part number J9850A is not orderable.

Q26. Why does my HP 5412R zl2 switch have a part number J9851A mentioned on the chassis label? It is not listed in the table above.

A26. The HP 5412R zl2 switch (J9822A) includes the base chassis J9851A, the HP 5400R zl2 Management Module (J9827A), and the HP 5412R zl2 Switch Fan Tray (J9832A). There is no shipping mistake. The bundles J9825A, J9826A, and JL001A each include the base chassis J9851A, the HP 5400R zl2 Management Module (J9827A), and the HP 5412R zl2 Switch Fan Tray (J9832A) in addition to the switch modules mentioned previously.

The part number J9851A is not orderable.

Q27. Do the 5400R zl2 switches require a software license to run premium features?

A27. The 5400R zl2 switches do not require a license. All features that required a software license in the 5400 zl switches are included in the HP 5400R zl2 switches at no additional cost.

Q28. What is the warranty of the HP 5400R zl2 Switch Series?

A28. The HP 5400R is covered under Limited Lifetime Warranty 2.0[4] (hardware warranty replacement, with next-business day advance replacement available in most countries and 3-year, 24x7 phone support).

[4] See hp.com/networking/warrantysummary for details.

Q29. Where can I get software updates for the 5400R zl2 Switch Series?

A29. Software updates are available at hp.com/networking/support.

• Type a product name (e.g., 5400R) or SKU product number in the **Auto Search text box**.

• Select an appropriate product from the dropdown list.

• Click the "**Display selected**" button.

• From the options that appear, select "**Software downloads**" (on the right-hand side).

Q30. Where can I find more information on the HP 5400R zl2 Switch Series?

A30. Visit hp.com/go/networking.

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