Q & A

Cisco CRS Performance Route Processors

Q. What are the Cisco® Carrier Routing System (CRS) Performance Route Processors?
A. The Performance Route Processors are the next-generation route processors for the Cisco CRS family of routers. They are the first Cisco CRS route processors to use Intel CPUs. They replace the previous-generation Cisco CRS Route Processor and Cisco CRS Route Processor B.

Q. What are the benefits of using a Performance Route Processor?
A. Faster routing convergence, larger scale, faster boot up and reduced installation time.

Q. How many Performance Route Processor models are available?
A. There are four models: 6 GB and 12 GB versions for the Cisco CRS 16-Slot Line Card Chassis Performance Route Processor, and 6 GB and 12 GB versions for the Cisco CRS 4/8-Slot Line Card Chassis Route Processor.

Q. Does a Performance Route Processor cost more than the Cisco CRS Route Processor B?
A. The 6 GB versions of the Performance Route Processor cost the same as the previous-generation route processor, even though they have more memory and faster CPUs. However, the 12 GB versions do cost more.

Q. Can I upgrade a 6 GB Performance Route Processor to a 12 GB version with a memory upgrade kit?
A. No. There will be no memory upgrade kit for Performance Route Processors because the memory banks are not easily accessible.

Q. Are the Performance Route Processors for the Cisco CRS-3 Series only?
A. No. Performance Route Processors will work for both the Cisco CRS-1 and CRS-3 Series. Both Cisco CRS series will benefit from the faster convergence times, larger scale, and faster boots and installations.

Q. Do I need to use a Performance Route Processor with 140 G fabric and 140 G line cards?
A. No. A Performance Route Processor will work equally well with 40 G fabric and 40 G line cards.

Q. Is there any difference between the Cisco CRS 16-Slot and CRS 4/8-Slot Performance Route Processors?
A. Yes. The 16-slot versions contain Quad-Core 2.13 GHz Processors and the 4/8-slot versions contain Dual-Core 1.73 GHz Processors.

Q. I have heard of the code name “Satori”; does this refer to the Cisco CRS Performance Route Processors?
A. Yes. “Satori” is the internal code name for the Performance Route Processors.

Q. Are the Solid State Drives (SSDs) removable?
A. No. The SSDs are internal and cannot be removed. However, a Performance Route Processor has an external Universal Series Bus (USB) port where a user can insert a USB Flash device to transfer files.

Q. Can a Performance Route Processor be upgraded through “Golden Disk” or disk swap?
A. No. Because the SSDs are internal, they cannot be removed or swapped. However, Performance Route Processors have much shorter software installation times, which should make disk swap upgrades unnecessary.

Q. What happens if one of the SSDs fails?

A. The data store on that drive will not be accessible. But because the boot partition is mirrored, the system itself will continue to operate without any problems. To repair the SSD, a return materials authorization (RMA) of the Performance Route Processor is needed. The failure rate of the SSD should be low because of its high mean time between failure (MTBF).

Q. Can I boot or install from an external USB Flash device?

A. Yes. An external USB Flash device can be used to turboboot the system or as the installation source for Package Information Envelope (PIEs) and Software Maintenance Upgrades (SMUs). A Flash device can also be used for users' data files, core files, and configuration backups.

Q. Can I use an external USB Flash device as my primary boot device?

A. No. The Cisco IOS® XR Software cannot be installed onto an external USB Flash device. It can be installed from an external USB Flash device.

Q. I notice there is a P version and PX version of the Cisco IOS XR Software. Which version do I need for a Performance Route Processor?

A. You use the PX version of the software, which supports the Intel CPU. Note that the PX version is also required for all 140 G Fabric and 140 G Line Cards.

Q. Which version of Cisco IOS Software do I need to use with a Performance Route Processor?

A. You need Cisco IOS XR 4.0.2, IOS XR 4.1.0, or later.

Q. What is the function of the Pre-OIR button?

A. Pressing the Pre-OIR button instructs the Performance Route Processor to properly close all open files and shut down all processes in preparation for removal of the route processor from service. This helps to prevent accidental file corruption and ensures a proper shutdown of the route processor.

Q. What happens if I forget to push the Pre-OIR button and remove the Performance Route Processor?

A. Nothing will happen to the Cisco CRS system. On the Performance Route Processor that was removed, some files might be corrupted because the processor was unable to close them before removal.

Q. Can I stop the Pre-OIR sequence once I push the button?

A. No. After you push the button, the sequence cannot be stopped.

Q. What happens if I push the Pre-OIR button and do not remove the Performance Route Processor?

A. The Performance Route Processor will be taken out of service. After 5 minutes, the system will reboot the Performance Route Processor.

Q. What is the function of the Service Ethernet Port?

A. The port is provided for future capability and is not functional at present. Questions about the capability or features of the Service Ethernet Port should be directed to the Product Manager for Performance Route Processors.

Q. The Performance Route Processors list a slightly higher power usage than the Cisco CRS Route Processor B. Do I need to upgrade the power supplies?

A. No, the previous-generation power supplies can handle the slightly higher load of the Performance Route Processors.

Q. My Performance Route Processor came with a short LC to LC single-mode cable labeled Upgrade Cable. What is this used for?

A. This is only used when upgrading from a Cisco CRS Route Processor or Cisco CRS Route Processor B to the Cisco CRS Performance Route Processor. The cable is used to synchronize the Cisco IOS XR Software (assuming that the Cisco CRS Route Processor is already running an appropriate PX version of the software) and configuration to the Cisco CRS Performance Route Processor. Note that you cannot do the reverse and synchronize the earlier route processors from a Performance Route Processor.

Q. After software synchronization from an Cisco CRS Route Processor or Cisco CRS Route Processor B to the Cisco CRS Performance Route Processor, I get a “Sync Complete” message, but the route processor does not come up to a Standby Ready state. Is this normal?

A. Yes. Cisco does not support a Standby Ready state with different route processors in the system.

Q. Can I run a Cisco CRS system with one Cisco CRS Route Processor or Cisco CRS Route Process B and one Cisco CRS Performance Route Processor?

A. Only for the purpose of upgrading to the Cisco CRS Performance Route Processor for synchronization of the Cisco IOS XR Software and configuration.

Q. Is there anything I need to synchronize manually between the Cisco CRS Route Processor B to the Cisco CRS Performance Route Processor during an upgrade using the upgrade sync cable?

A. Crypto Keys are not synchronized. If you are running protocols like Secure Shell (SSH), you will need to generate new keys and synchronize them with the servers.

Q. Can I use a Performance Route Processor in the Designated Shelf Controller (dSC) and RP-B in the non-dSC part of a Cisco CRS Multichassis system? Can I use a Performance Route Processor in some of the Line Card Chassis and Cisco CRS Route Processor or Cisco CRS Route Processor B in other parts of the Line Card Chassis within the same Multichassis system?

A. No. The same type of route processor must be used throughout the Multichassis system.

Q. Is there another way to upgrade to a Performance Route Processor besides using the upgrade cable and synchronizing the software and configuration?

A. You can replace both route processors with Performance Route Processors in a greenfield type of upgrade, where the system is shut down and both route processors are replaced at once. However, the operation is responsible for backing and restoring the configuration. It may also be necessary to upgrade or downgrade to the correct version of Cisco IOS XR Software.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

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