

## Protected System Domain Overview

A Protected System Domain (PSD) is a redundant Routing Engine pair (or single Routing Engine) on the JCS 1200 platform that is assigned one or more Flexible PIC Concentrators (FPCs) from a T-series routing platform. Because a PSD has its own control plane (Routing Engines on the JCS chassis) as well as forwarding plane (Physical Interface Cards (PICs) on the FPCs in the T-series routing platform), it is considered to be a virtual hardware router. In this way, a PSD is an extension of the existing JUNOS software feature of a logical systems, which partition a single, physical router into multiple logical devices that perform independent routing tasks. Logical systems reduce complexity by performing a *subset* of the actions of the main router and by having their own unique routing tables, interfaces, policies, and routing instances. A set of logical systems within a single router can handle a set of functions previously performed by several small routers. In contrast, a PSD functions exactly as a physical router would, running a separate configuration file, administering its own domain, and requiring unique authentication in order to access it.

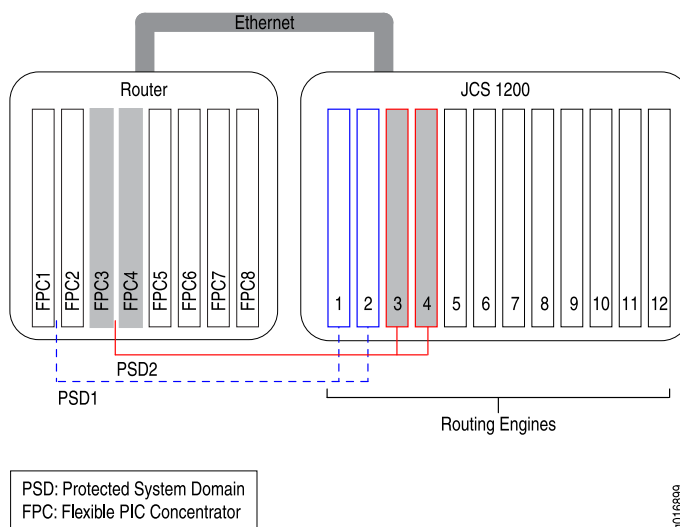


**NOTE:** When an FPC is not assigned to a PSD, it belongs to the Root System Domain (RSD) by default. A PIC on an FPC owned by the RSD can be configured as a shared interface. For more information, see Shared Interfaces Overview.

By providing a highly scalable control plane with a cost-efficient forwarding plane, the JCS 1200 chassis interconnected with up to three T-series routing chassis obviates the need to deploy numerous physical routers.

Any number of FPCs can be assigned to a PSD. Only one redundant Routing Engine pair (or single Routing Engine) can be assigned to a PSD. In Figure 1 on page 1, FPC1 and FPC2 and the Routing Engines in slots 1 and 2 belong to PSD1. In contrast, PSD2 is made up of the FPCs in slots 3 and 4 on the T-series routing platform and the Routing Engines in slots 3 and 4 on the JCS 1200 chassis.

**Figure 1: Protected System Domain**



A PSD detects and manages only its own Routing Engines in the JCS 1200 and the assigned FPCs and PICs in the T-series router. In addition, failures on one PSD do not affect other PSDs.

- Related Topics**
- Control and Forwarding Planes in Separate Chassis
  - JCS 1200 Platform Overview
  - Shared Interfaces Overview