

Understanding Redundant Trunk Links on EX Series Switches

In a typical enterprise network comprised of distribution and access layers, a redundant trunk link provides a simple solution for network recovery when a trunk port goes down. Traffic is routed to another trunk port, keeping network convergence time to a minimum. You can configure a maximum of 16 redundant trunk groups on a standalone switch or on a Virtual Chassis.

To configure a redundant trunk link, create a redundant trunk group. The redundant trunk group is configured on the access switch, and contains two links: a primary or active link, and a secondary link. If the active link fails, the secondary link automatically starts forwarding data traffic without waiting for normal STP convergence.

Data traffic is forwarded only on the active link. Data Traffic on the secondary link is dropped and shown as dropped packets when you issue the operational mode command `show interfaces xe- interface-name extensive`.

While data traffic is blocked on the secondary link, Layer 2 control traffic is still permitted. For example, an LLDP session can be run between two Juniper Networks EX Series Ethernet Switches on the secondary link.

STP is enabled by default on EX Series switches to create a loop-free topology. When trunk links are placed in a redundant group, they cannot be part of an STP topology. The Juniper Networks JUNOS Software for EX Series switches does not allow an interface to be in a redundant trunk group and in an STP topology at the same time. However, STP can continue operating in other parts of the network. For example, STP may continue operating between the distribution switches and linking them to the enterprise core.

Figure 1 shows three switches in a basic topology for redundant trunk links. Switch 1 and Switch 2 make up the distribution layer, and Switch 3 makes up the access layer. Switch 3 is connected to the distribution layer through trunk ports `ge-0/0/9.0` (Link 1) and `ge-0/0/10.0` (Link 2). Link 1 and Link 2 are in a redundant trunk group called `group1`. Link 1 is designated as the primary link. Traffic flows between Switch 3 in the access layer and Switch 1 in the distribution layer through Link 1. While Link 1 is active, Link 2 blocks traffic.

Figure 1: Redundant Trunk Group, Link 1 Active

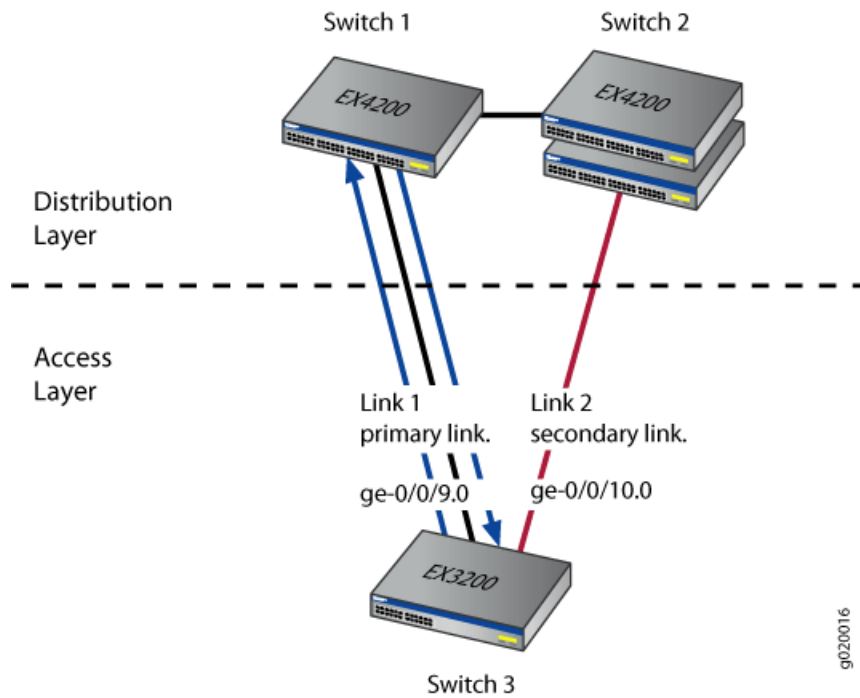
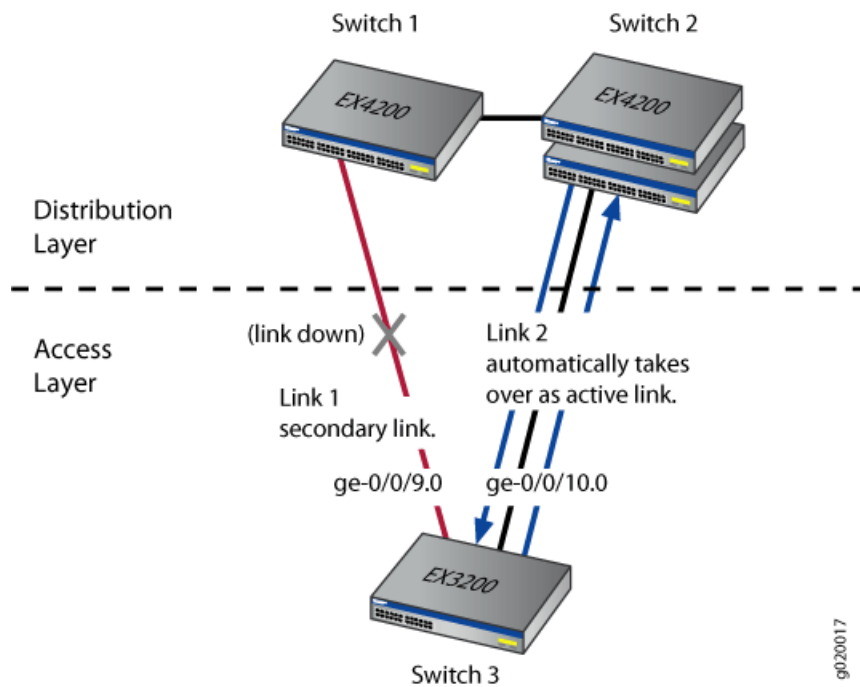


Figure 2 illustrates how the redundant trunk link topology works when the primary link goes down.

Figure 2: Redundant Trunk Group, Link 2 Active



Link 1 is down between Switch 3 and Switch 1. Link 2 takes over as the active link. Traffic between the access layer and the distribution layer is automatically switched to Link 2 between Switch 1 and Switch 2.

- Related Topics**
- Example: Configuring Redundant Trunk Links for Faster Recovery
 - `redundant-trunk-group`

Published: 2009-07-22