Primary Backup on the SG550XG and SG350XG Switches

Table of Contents

Objective

For a stack to operate it must have a primary unit. A primary unit is the active unit that handles the configuration of the stack, while the other units assume the member role. Additionally, a unit within the stack also assumes the role of primary backup, in the event that the primary unit fails.

The objective of this document is to understand unit failures in a stack and the resulting primary backup process on the SG550XG and SG350XG Series Managed Switches.

For a full length demonstration of Primary Backup, click here view the video.

Applicable Devices

SG550XG

SG350XG

Software Version

v2.0.0.73 – SG550XG/SG350XG

Primary Backup

Primary Failure/Backup Switchover

Suppose the stack is in a ring topology, with Unit 1 as the primary unit, Unit 2 as the backup

primary, and Units 3 and 4 as member units. If the primary is disconnected at all points from the ring or chain topology, Unit 2 will assume the new primary role.

This process of the backup unit taking over the primary role is called a switchover. When the switchover occurs, the backup unit becomes the primary, and all of its processes and protocols are initialized to take responsibility for the entire stack. As a result, there is temporarily no traffic forwarded to this unit; however, the member units remain active.

Member Unit Handling

When the backup unit becomes the primary, the active member units remain active and continue to forward packets based on the configuration from the original primary, minimizing data traffic interruption. Once the backup unit has completed the transition to the primary state, it initializes the member units one at a time by resetting the configuration of the member unit to default. This helps prevent any incorrect configurations from the new primary unit.

Reconnecting the Original Primary Unit after Failover

After a switchover, the original primary can reconnect to the stack and resume its former role, causing the new primary to reboot and become the backup once again.

Conclusion

The primary backup process is an efficient way for a stack to continue to function normally in the event of a unit failure. If the primary unit fails, the backup unit assumes the primary role and continues to function as the primary. This switchover prevents the failure of the primary from causing the entire stack to fail. The original primary unit can also be reconnected and become the primary unit once again, while the backup primary unit can resume its original backup role as well. This allows for easy topology changes within the stack, without disrupting the rest of the member units.