

Failover Network Using Redundant Paths

Using STP and HSRP

Your Name

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Problem Statement

- In critical networks (hospitals, banks, universities), a single device or link failure can cause complete network outages.
- Downtime leads to service loss, data unavailability, and operational disruption.
- Redundant links without control protocols cause network loops and broadcast storms.

- **Redundancy:** Create backup physical links between switches and routers.
- **Loop Prevention with STP:**
 - STP blocks redundant links during normal operation.
 - STP unblocks backup links if primary fails, ensuring continuity.
- **Gateway Redundancy with HSRP:**
 - Configure two routers sharing a virtual IP.
 - One router acts as Active, the other as Standby.
 - Automatic gateway switch-over during failure.

- **High Availability:** Continuous network operation even after device or link failure.
- **Automatic Recovery:** No manual intervention needed.
- **Network Resilience:** Reliable access to resources and services.