

Failover Network Using Redundant Paths

Implementing STP and HSRP

Your Name

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Problem Statement

- In critical networks (hospitals, banks, universities), a single failure can shut down the entire system.
- Redundant links without control protocols cause loops and broadcast storms.
- Downtime results in service loss, financial cost, and reputation damage.

Redundancy:

- Create backup links between switches and routers.

STP (Spanning Tree Protocol):

- Avoids loops by blocking redundant links.
- Automatically re-activates backup links if primary fails.

HSRP (Hot Standby Router Protocol):

- Two routers share a virtual gateway IP.
- Active router forwards traffic; standby takes over if active fails.

Expected Outcome

- **High Availability:** Continuous service even during failure.
- **Automatic Failover:** Fast and seamless recovery.
- **Enhanced Network Reliability:** Essential for mission-critical applications.