KEY CHALLENGES:

Reliable data transfer is critical in many applications to ensure data movement through the system.
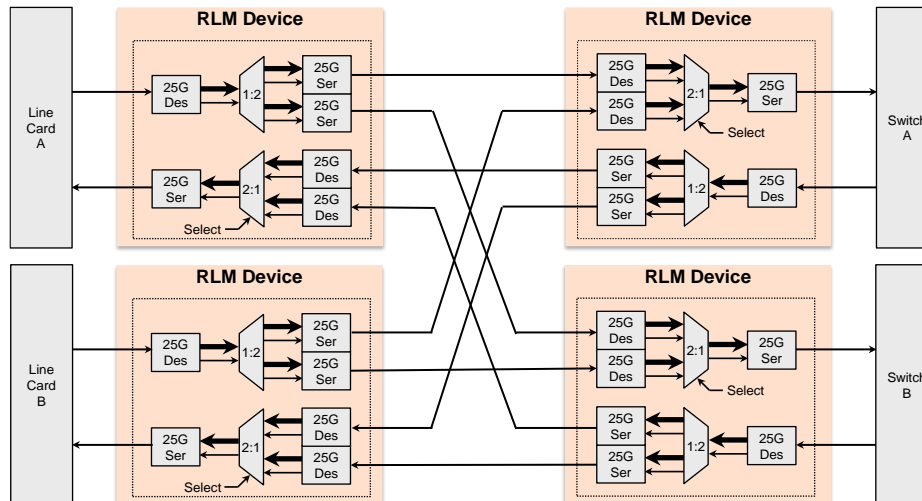
Redundant links:
- Prevent critical system shut down
- Key where time sensitive data can cause a safety issue or financial loss.
- Help ensure transient data which cannot be stored or retransmitted is not lost, such as in high-speed data acquisition

Redundancy may be required over a cable, backplane or a printed circuit board, and some systems may require multiple levels of redundancy. The below diagram illustrates a typical application, showing a "2x2" redundant switch plus line card solution.

KEY SYSTEM CONSIDERATIONS:

- Support industry communication standards
- Protocol independent data payloads
- Strong signal integrity ensuring reliable data transfer
- Support Forward Error Correction (FEC) to significantly reduce the number of missed packets and data retransmission requests.
- Package and power options supporting line card, daughter card and module applications are integral to system power and heat issues

THE MOSYS SOLUTION:

The MoSys MSH420 device is the best fit for redundant systems.

- Supports critical industry standards, such as:
  - IEEE and OIF 10G, 25G, 40G and 100G standards
  - Protocol independent payload supports Datacom, Telecom, Storage applications
  - Forward Error Correction (FEC) payload support allows direct connection to 25G and 100G optical standards requiring RS-FEC (e.g. SR/SR4, CWDM, PSM4)
- Independent PLLs per lane support different data rates within a single device
- Signal integrity is key to ensuring reliable transfer of data
  - MoSys self-adapting RX equalizers for ease of connection
  - Reduce board design and bring-up time by eliminating per-lane "tuning"
- Reduces the number of missed packets or data retransmission
- Package and power options for line card, daughter card, and module applications
  - Board power is always an issue in a system. The MSH420 has the lowest power/performance ratio
- Up to 5, bidirectional, Redundant Link Mode channels in a single MSH420 device
- Cost/performance must be considered in any system design:
  - Some devices in volume at less than $50 each

KEY POINTS SUMMARY:

- Adherence to industry standards for interoperability with other available industry devices
- Strong signal integrity and package/power options support cable, backplane, printed circuit boards and module level solutions.
- Redundant links and FEC can significantly reduce data loss and retransmission, while improving system uptime and availability

TYPICAL APPLICATIONS:

- High-reliability control environments
- Data loss prevention in critical systems
- High-availability systems
- Financial transaction execution

ADDITIONAL RESOURCES:

- Linespeed Product Line
- Linespeed Product Brief
- Linespeed Press Release