

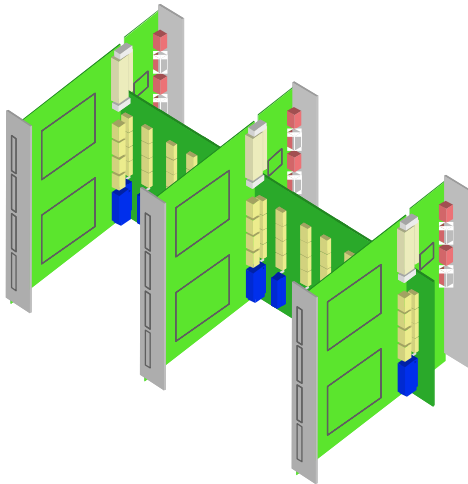
Perspective on Telco Equipment based on an Ethernet Back-plane

Prepared by Bob Brunner

Ericsson

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Trend is towards an Open HW Building Practice such as ATCA versus a Proprietary HW Practice

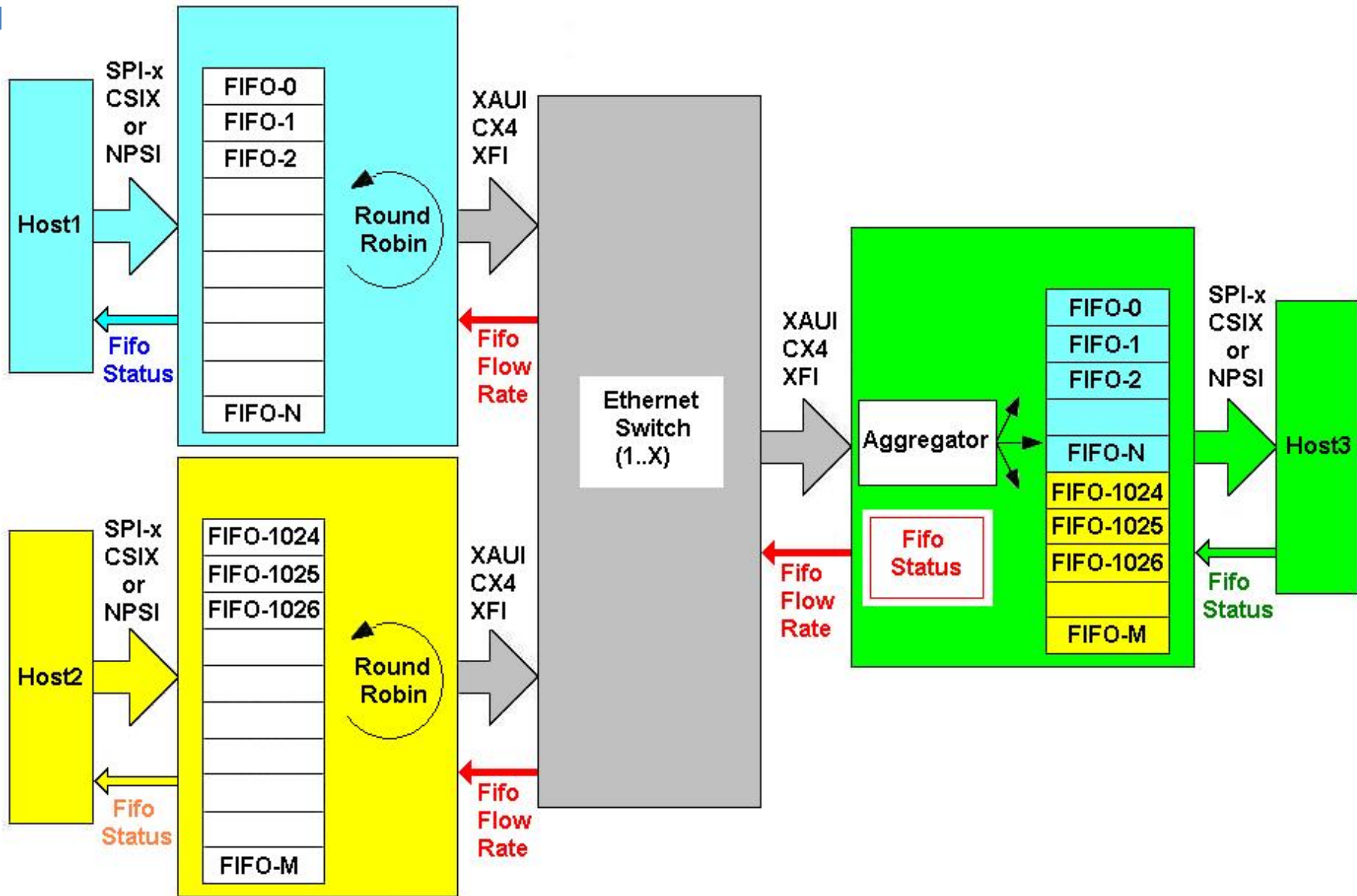


- current technology permits a local Ethernet switch on every ATCA blade
- 8 AMC mezzanines, and 1 RTM can be accommodated per ATCA blade, with intra-mezzanine connectivity via Ethernet
- High availability (N+1 redundancy) inter-blade connectivity can be provided by a local Ethernet switch when used with a Full Mesh ATCA Back-plane

Ethernet as the Predominant Back-plane Interconnect

- The predominant interface for back-planes on high performance silicon is currently SPI-4.2, CSIX, and NPSI.
- Typical silicon with these interfaces include Network Processors, Crypto chips, Traffic Managers, DSP's, and various framers (e.g. SONET, FR, POS, ATM, Ethernet).
- Before a majority of silicon vendors provide a native MAC for back-plane applications, Ethernet will need to be designed for loss-less performance.

ERICSSON "Anything" Tunneled over Ethernet



- Need to transport “anything” over Ethernet, such as SONET, FR, POS, ATM, PPP, Ethernet, etc., with lots of aggregation processing
- Need a “loss-less” solution
- Need a solution for “silicon-to-silicon” inter-connects, with cross-bar like functionality
- Need a lightweight (minimal overhead) tunneling protocol
- Need a solution that could map legacy NPSI/CSIX/SPI channels to an “Ethernet Universal Channel ID” and vice versa
- Require granular “flow (rate) control” per “Ethernet Universal Channel ID” Tunnel, to prevent head-of-line blocking
- Need Flow Control calculations to factor in switch latency, receive buffer size, buffer fill rate, buffer spill rate, etc.