

NexGen Fabric Requirements

A Fibre Channel Growth Model

K.I.S.S.

- Allow easy upgrade / migration paths.
- Minimize impact on existing systems and networks.
 - Plug 'n Play is an important concept.
- One word: Interoperability.
- Think about the power of the “ubiquitous interconnect”:
 - RJ-11 Phone Jack.
 - RJ-45 Ethernet Jack.

In contrast, Fibre Channel has at least two Optical FF, and three Electrical FF!

Stabilize and Standardize on the Interfaces

- **Data Rate Interoperability**
 - Need to insure at least one generation of forward / backward compatibility
- **Optical / Electrical Conversion**
 - SFP Form Factor.
 - Common optical interconnect (LC ?).
- **Serial Electrical Interconnect**
 - Common Electrical Interconnect (HSSDC_2 / SFP-HSSDC_2 ?)

Standardize on Distance objectives

- Datacenters aren't shrinking, why should the cable radius? Need to always meet the "good enough" criterion:
 - 100M for datacenter objective.
 - 15M for rack interconnect objective.
 - 24" for backpanel interconnect objective.
 - For ALL data rates published on the roadmap.

Make It Manage-able!

- Discoverable
 - What is the port connected to?
- Identifiable
 - What is the port capable of?
- Configurable
 - Can I change it?
- Serviceable
 - Can I isolate the failing component?

What should the Fabric data-rate be?

- 10GFC is not interoperable with 2G/4G.
- 8GFC is slower (2/3) than 10GigE, 10GFC.
- 8G **will** be the data-rate of choice for future disk and backend architectures.
- The new fabric speed should achieve the objectives of interoperability, configurability, and maintain the current performance standard.
- A doubling of the 8G data-rate would achieve all of these objectives:
 - **Recommendation: 16G in the Fabric, 8G in the backend.**
 - **When is this needed? Same timing as 8G***

where information lives

EMC²
where information lives