

# 8G - Thinking Out of the Box

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## What We'll Cover

- Quiz!
- Market Considerations
- Concerns

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## *Tom's Roadmap Quiz*

The move of 4G into the fabric was:

***Duh!***

The move of 8G into the fabric will be:

***Almost Duh!***

***(Full credit for "Not quite Duh!")***

# 8G - Thinking Out of the Box

- Market considerations for extending 8G to the fabric
  - 8G Component availability is a factor of market demand - feasibility issues are still to be determined
  - Market demand
    - 8G in the back-end will beg the question from end-users: “Why can’t I have 8G in the SAN?”
    - It’s not what end-users need, it’s what they want
    - End-users will eventually demand 8G in the SAN
  - Even with no extension the following 8G components will exist
    - Initiator Devices (HBA’s, RAID/NAS Back-ends, MAC’s, etc)
    - Target Devices (Hard Drives, Tape Drives, RAID’s, Servers, etc)
    - SFP’s - Optical and Copper
    - Optical cables, Copper cables
    - Switches – Fabric or Non-Fabric

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- Market considerations for extending 8G to the fabric
  - Assumed: The existing LC infrastructure will support the great majority of implementations (distance is the only issue)
  - Assumed: Unknown how well existing copper infrastructure will work
  - Required: 8G prices settle out at 1X to 1.3X 4G prices
  - 8G will be compatible with 1G, 2G and 4G
    - 8G is essentially 4G - it just runs twice the speed
    - Multi-speed issues may need some ironing out
  - 8G does push the limits of the PCI-X bus, but not PCI-Express
    - PCI-Express should be mainstream by the time 8G arrives
  - 8G is extremely compelling when compared to 1G & 10G iSCSI

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- Market considerations for extending 8G to the fabric
  - 8G will be competing against 6G SAS and SATA
    - 8G in the fabric will help reduce the cost of 8G in the back-end, making 8G in the back-end an even better proposition when compared to SAS and SATA - Sheer economies of scale
    - Better competitive positioning is good for the whole FC industry
  - Looking even further into the future, 6G SAS and SATA can feed Fibre Channel front ends at 8G even better than at 4G
    - Perfect case for one 8G link to handle 6G worth of data
  - Two 8G links exceed the performance of a single 10G link
    - Two 8G links should cost roughly equivalent to a single 10G link
    - Two 8G links provides inherent failover
  - Systems will begin showing up in test labs in '07 ('06?)
    - The Fibre Channel market will be ready for another boost

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- Market considerations for extending 8G to the fabric
  - End-user input
    - **Small Business SAN (SMB)**
      - Extremely price sensitive
      - Desire Enterprise-class RAS and performance
      - New market and growing significantly (43% CAGR)
      - Very few reasons for applying 10G
    - **Medium Business SAN (SMB)**
      - Very price sensitive
      - Require Enterprise-class RAS and Performance
      - Large market with healthy growth opportunities
      - Will require 10G for some applications
    - **Big Enterprise SAN**
      - Increasingly Price conscious - value pricing
      - Demand Enterprise-class RAS and Performance
      - Large market and growing (5% CAGR)
      - 8G and 10G will be required in a significant number of applications

# 8G - Thinking Out of the Box

- Why 8G in the Fabric is “*Almost Duh!*”
  - Concerns:
    - 10G may offer all that is needed in the SAN
    - Test matrixes get increasingly complex with 8G.
      - 1G, 2G, 10G already exist, 4G doubles testing and 8G will double that!
    - Recouping investments at 2G has been problematic, 4G is just beginning to hit, and now here comes 8G?!
    - 8G re-allocates tight resources
    - Can value pricing can be maintained even as competitive technologies are introduced?
    - 8G may only be a short-term gain proposition



# 8G in the Fabric – *Almost Duh!*

