Overview

- Fibre Channel (FC) has the incumbent position (over 83%* and growing) for bet-your-business enterprise-class storage
- FC has been a serious technology since 1990 and has by far the most extensive maturity and suite of supporting standards and committees of any interconnect technology
- This set of slides provides a statement of the framework and positioning that guide the FCIA marketing and development directions

*External Block Storage by $, Gartner, Sept 2005
ILM Requires Tiered Storage

The SNIA Data Management Forum (DMF) definition for ILM reads:

“Information Lifecycle Management (ILM) is comprised of the policies, processes, practices and tools used to align the business value of information with the most appropriate and cost effective IT infrastructure from the time information is conceived through its final disposition. Information is aligned with business processes through management of policies and service levels associated with applications, metadata, information and data.”

Matching Data To The Most Appropriate Storage Type Is The ILM Enabler
Established, Trusted and Ubiquitous

- Designed from the beginning for high throughput mission-critical applications with minimal latencies, data integrity and guaranteed delivery
- Supports all storage connections from disk drives to datacenters to campuses to 100 km remote sites
- *The* trusted and deployed technology in Fortune 500 for Mission Critical storage applications
- Innovating through initiatives like FC-SCM to bring enterprise-class capabilities to the SMB SAN market
- Thousands of proven reference designs

*The Safest Storage Implementation*
Fastest Speeds

- **2GFC Dominates current shipping SANs**
  - Twice 1 GbE speeds and more efficient
- **4GFC Fibre Channel solutions**
  - Fastest storage interconnect available today
- **8GFC Under development**
  - Active development of 8GFC, focusing on low cost, fast time-to-market
- **10GFC Deployed today for Inter-Switch Links**
- **16GFC Fibre Channel on the horizon**

A Roadmap All the Way to 128GFC
Flexible for Tiered Storage

- Highest performance switched interconnects for block storage traffic
- Highest performance disk drives
  - Three times the IOPS of SATA
- Highest performance tape systems
  - Only serious option for the enterprise
- Attaches a variety of performance and nearline-optimized solutions
  - FC Disk Drives
  - SATA Disk Drives

Enables ILM Applications
Backward and Forward Compatibility

• Automatically enables intermixing 8GFC, 4GFC, 2GFC & 1GFC technologies without slowdown in any point in the system
• Unparalleled ability to seamlessly scale
  – Capacity
  – Performance
  – Reliability, Availability and Serviceability (RAS)

Investment Protection
Proven Interoperability

- Extensive vendor testing and qual cycles
- Plugfests since 1996
- Active T11 interoperability profiles
- Multiple active interoperability test facilities
  - UNH
  - SNIA Tech Center
  - Independent Test Labs
  - Others

Guaranteed Standards-Compliant Implementations
Continuous Enhancements

• Provides investment protection for already installed infrastructures
  – Preserves existing, extensive software and hardware base
• Meeting customers’ evolving needs
  – Speed continually doubling
  – Bandwidth/Cost leader over other protocols
  – Solution enhancements
  – Lower cost solutions
  – Simplified solutions (Plug-n-play)

Future-Proof Your Storage Investments
Solid Standards Foundation for All Storage

- **Simple specifications define the FC protocol for:**
  - Guaranteed data delivery
  - Multiple copper and optical options
  - Wide range of physical interconnects
  - Comprehensive management

- **Standards supporting applications**
  - Remote SAN
  - Remote site replication
    - Disaster recovery
  - Back-end storage
  - Avionics
  - …and others

- **Supporting technologies**
  - Storage management and interfaces
  - Security
  - Physical interoperability research and development
  - Interoperability profiles
**The Gold Standard for Business**

- A clear dominance in 80%+ of business storage
- Proven complete SAN solutions
  - Performance, security, management
  - Reliable, scalable
  - Many established suppliers for components
- **EXCELLENT performance / cost properties**
  - Costs less than other technologies for same performance – may be the only way to get required performance

**Fibre Channel: The Storage of Business**
The **Gold Standard** for Storage Interconnects

- Open industry standards
- Technical foundation for multiple protocols
  - Basis for other interconnect technologies
- **Emphasis on interoperability**
  - Specifications apply at multiple connector interfaces
- **Comprehensive modeling methodologies**
  - Focused on high speed transports

**Unparalleled Maturity**
Continuous SAN Market Growth

Source: Gartner External Controller Based Disk Storage WW 2005-2009
29 September 2005 – FICON included in FC
Continuous Back-End Market Growth

External Storage System Revenue By Drive Interface*

FCIA Estimate: Fibre Channel Connected Storage

* External Storage means storage arrays only

Source: Gartner, September 2005
Fibre Channel: The Storage of Business

• Dominates the SAN market
• Well understood
• Easy to learn, use and implement
• Protects storage investments
• Future-proofs storage
• Provides comprehensive solutions
• Vision for extending into additional markets
• Continuous speed and Bandwidth/$ improvements

Fibre Channel: Unchallenged in Storage