






# Inspur Gen 6 Fiber Channel Switches

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2020.08

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# Fiber channel network is important to storage

30000Mil

FC Transaction of every day

96%

Banking and retails and  
airline company

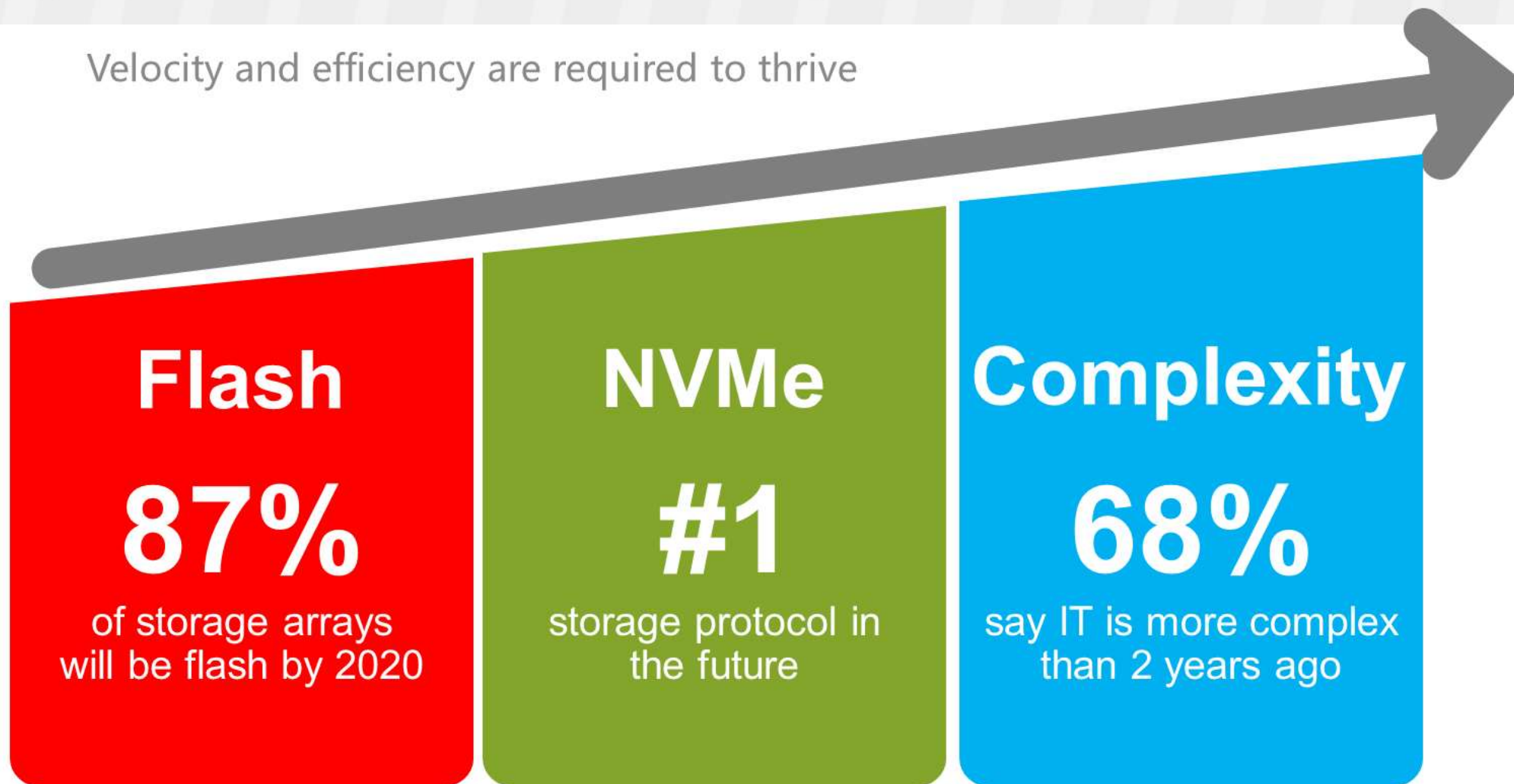
70+%

Select FC products company's

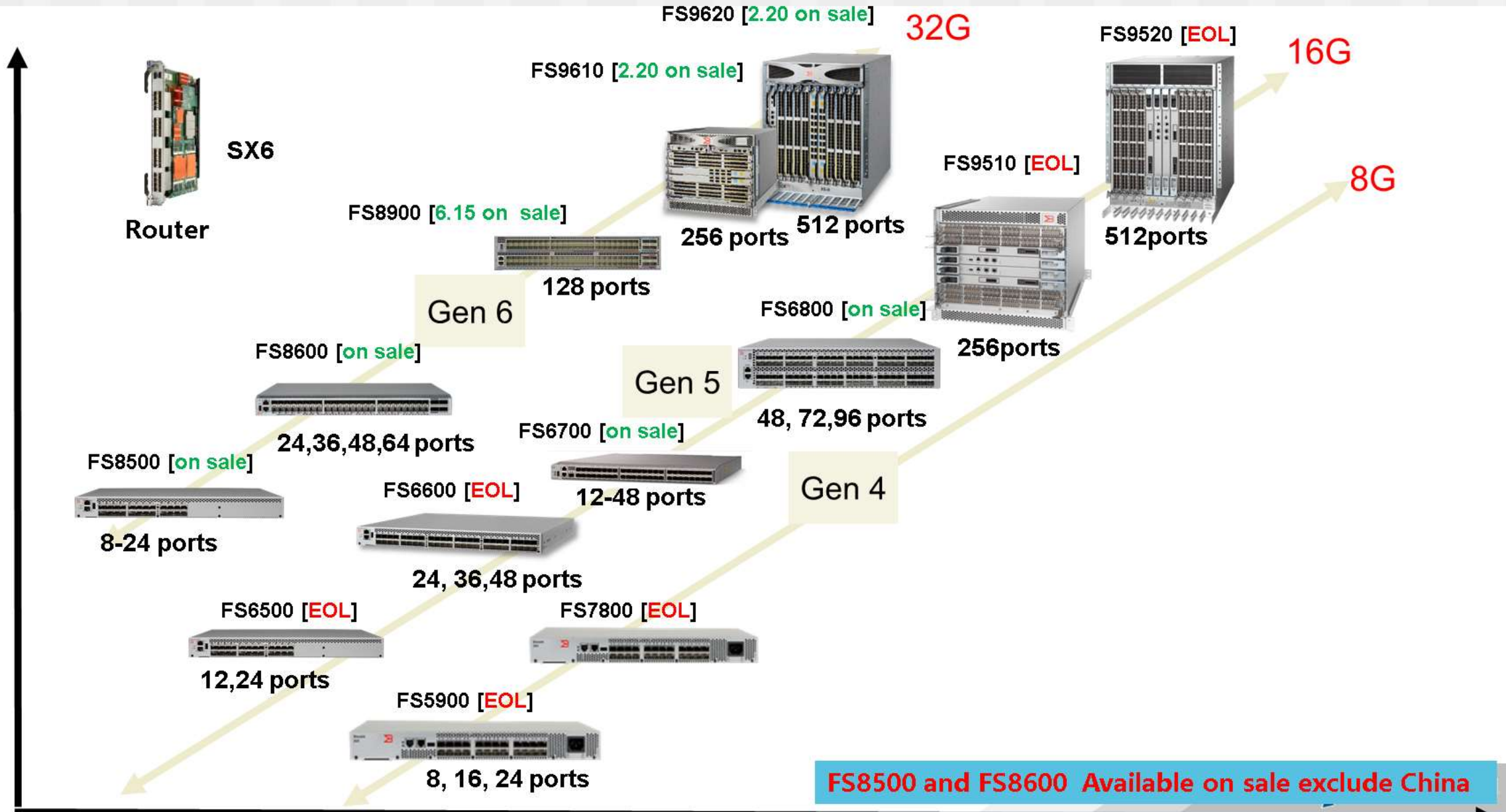
Reliable , wide deployed network equipment

# Digital Era Drives Storage Modernization

Velocity and efficiency are required to thrive



# Inspur FS series switch product line

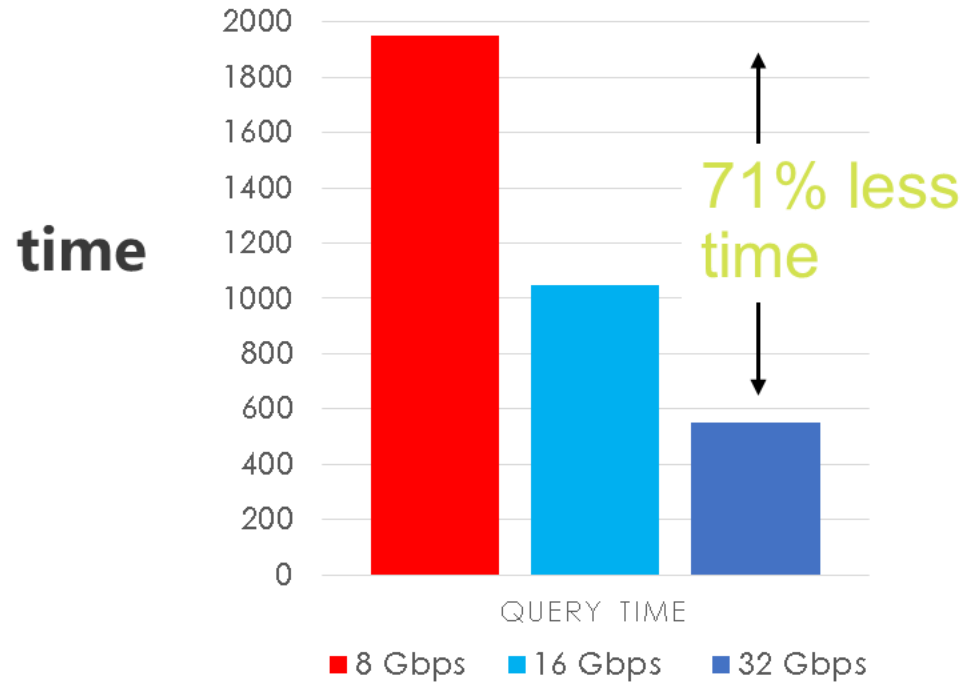


# Gen 6 improve FC Fabric reliable and performance

- Gen 6 standard
  - FCIA announced on Feb. 11, 2014
  - FC-PI-6: 32G interface standard effective
  - FC-PI-6P: 128G interface standard effective in 2015
  -
- Gen 6
  - FEC technology provide high reliability and availability
  - Parallel fiber channel (128Gb)



# Speed comparison between generations



**Vs. 8 Gbps All flash array testing**

**71%**  
Faster inquiry on file

**4x**  
Faster inquiry on database

All flash array together with Gen 6 FC switch brings more bandwidth and speed

# 128Gbps Speed is supported

## Q-FLEX PORT & QSFP TECHNOLOGY

- FC 128 Gbps UltraScale ICLs ports support up to 2km and 12 high end directors
  - FS9620 supports 32个(ICL)
  - FS9610 supports 16个(ICL)
- High density interface , 75% cable saving



UltraScale ICL QSFP  
(4×32 Gbps)



# Inspur FS series high lights

## **POWERFUL** for **DEVOPS**

Deploy applications faster, simplify system management, and quickly eliminate complexity

## **SIMPLE** with **ANSIBLE**

Eliminate repetitive tasks, simplify management, and orchestrate across all infrastructure

## **OPEN** for **COMMUNITIES**

Leverage REST APIs to build solutions, share best practices, and get to production faster

**24, 48, 96, 128, 256, 512 on demand, 16Gb, 32Gb can be selected  
in various applications**

**Server, storage, FC switch in one Inspur Brand will improve win rate**

# Inspur FS8500 switch

Affordable, entry-level switch

**Perfect for**

Flash and NVMe storage

**Built for**

Small to mid-size enterprise environments

**Designed for**

Simple deployment



FS8500 Switch  
24×32 Gbps SFP+ ports , single power supply

Industry's highest port density switch

Start small, grow on demand from 8 to 24 ports and power up from 16 to 32 Gbps

Simple deployment

Install in three easy steps and deploy best practices in a single click

Fabric Vision with VM Insight

Deliver continuous uptime by monitoring health and performance of VMs

# Inspur FS8600 switch

Purpose-built high-density switch for mission-critical storage

**Perfect for**

Flash and NVMe storage

**Built for**

Mid-size to large enterprise environments

**Optimal for**

Workload-intensive environments



Brocade G620 Switch  
48 × 32 Gbps SFP+ and  
4 × 4 × 32 Gbps or 4 × 128 Gbps Q-Flex ports

Industry's highest port  
density switch

64 ports in a 1U form factor

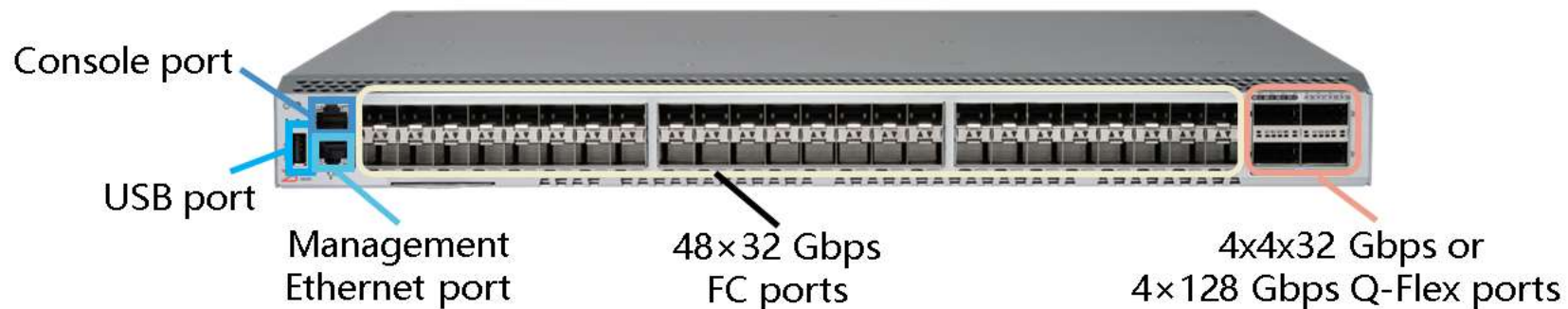
Q-Flex ports

High-speed device and ISL connectivity

Deliver VM Insight and IO  
Insight

Gain visibility into VM and storage IO health and performance metrics

# FS8600 panel



- 1U 48×32 Gbps Fibre Channel ports
- 4x4x32 Gbps or 4×128 Gbps Q-Flex ports
- System Ethernet port (RJ45) for management
- Serial console port (RJ45)
- USB port

# Software specification

No license, active default

- Zoning
- D\_Port
- E\_Ports

Need license to active

- Trunking
- Extended Fabric
- Fabric Vision

# Monitor Software Position—Fabric Vision

## Fabric Vision Technology on Gen 5

### Monitoring, management, and diagnostic tools

- Predefined, threshold-based rules/policies
- Dashboard views
- Live monitoring

## Fabric Vision Technology with IO Insight

### Gen 6 storage IO-level monitoring

- SCSI R/W response/latency monitoring
- Alert for host and storage outliers
- Identify latency and congestion
- 100 percent non-disruptive

#### Use cases:

- Flow-level monitoring of a device port
- Visibility to understand storage performance
- Monitoring SLA compliance

## Analytics Monitoring Platform

### Gen 5 and Gen 6 end-to-end IO monitoring

- Full visibility into all SCSI commands
- Alert for host, fabric, and storage outliers/individual IO flows
- Automatic LUN/flow learning
- Direct fabric latency monitoring
- 100 percent non-disruptive

#### Use cases:

- Monitoring mission-critical workloads
- Extensive diagnostics and troubleshooting
- Highly scalable from device level to fabric level

# Real time insight

## Fabric Vision

### Simplified Monitor

- Deploy with policy, rules, executions definite in advance
- More convenience
- Show network healthy and performance directly



One click deployment with 15 years' practice

### High availability

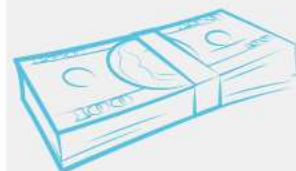
- Error detection and recovery automatically
- Early warning on potential fault
- Reduce failure shutdown time



Reduce network failure

### Lower cost

- Operation cost down through automatic operation
- Save \$1M Capital disposition on third party tools
- Simulation before infrastructure deployment



Avoid 48% maintenance cost

# Fabric Vision

## Expand on Gen 5 Fiber

- Provides an easy-to-use solution for policy-based threshold monitoring and alerting.

MAPS



- Helps ensure optical and signal integrity for Fibre Channel optics and cables, simplifying deployment and support of high-performance fabrics.

Clear Link



- Provides at-a-glance views of switch status and various conditions that are contributing to performance issues,

Dashboards



- Enables administrators to identify, monitor, and analyze specific application flows in order to simplify troubleshooting,

Flow Vision



- Leverages predefined MAPS policies to automatically detect and alert administrators to different latency severity levels, Performance

Fabric Performance Impact



- Enables recovery from bit errors in Gen 5 links, enhancing transmission reliability and performance. FEC is mandatory in Gen 6 links with more robust error recovery to support 32 Gbps

Forward error correction



- Automatically detects and recovers buffer credit loss at the Virtual Channel (VC) level, providing protection against performance degradation and enhancing application availability.

Credit Loss Recovery



- Simplifies deployment, safeguards consistency, and increases operational efficiencies of larger environments with automated switch and fabric configuration services.

COMPASS

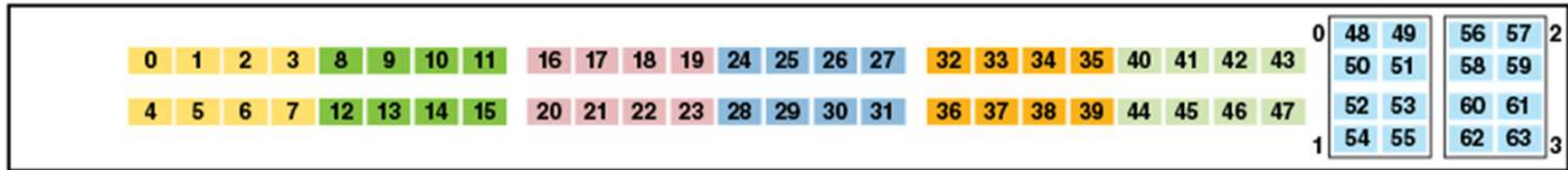




# SAN——Trunking

## Trunking configuration sample

Same trunk group, all ports must be in one port group. One port group include 8 ports normally, exam.0-7, 8-15, 16-23。



# Long-Distance Fabrics ——Extended Fabric

The most effective configuration for implementing long-distance SAN fabrics is to deploy Fiber Channel switches at each location in the SAN. Each switch handles local interconnectivity and multiplexes traffic across long-distance dark fiber or wave-length division multiplexing (WDM) links, while the Brocade Extended Fabrics software enables SAN management over long distances.

The Extended Fabrics feature enables the following functionality:

- Fabric interconnectivity over Fiber Channel at longer distances
- Simplified management over distance
- Optimized switch buffering

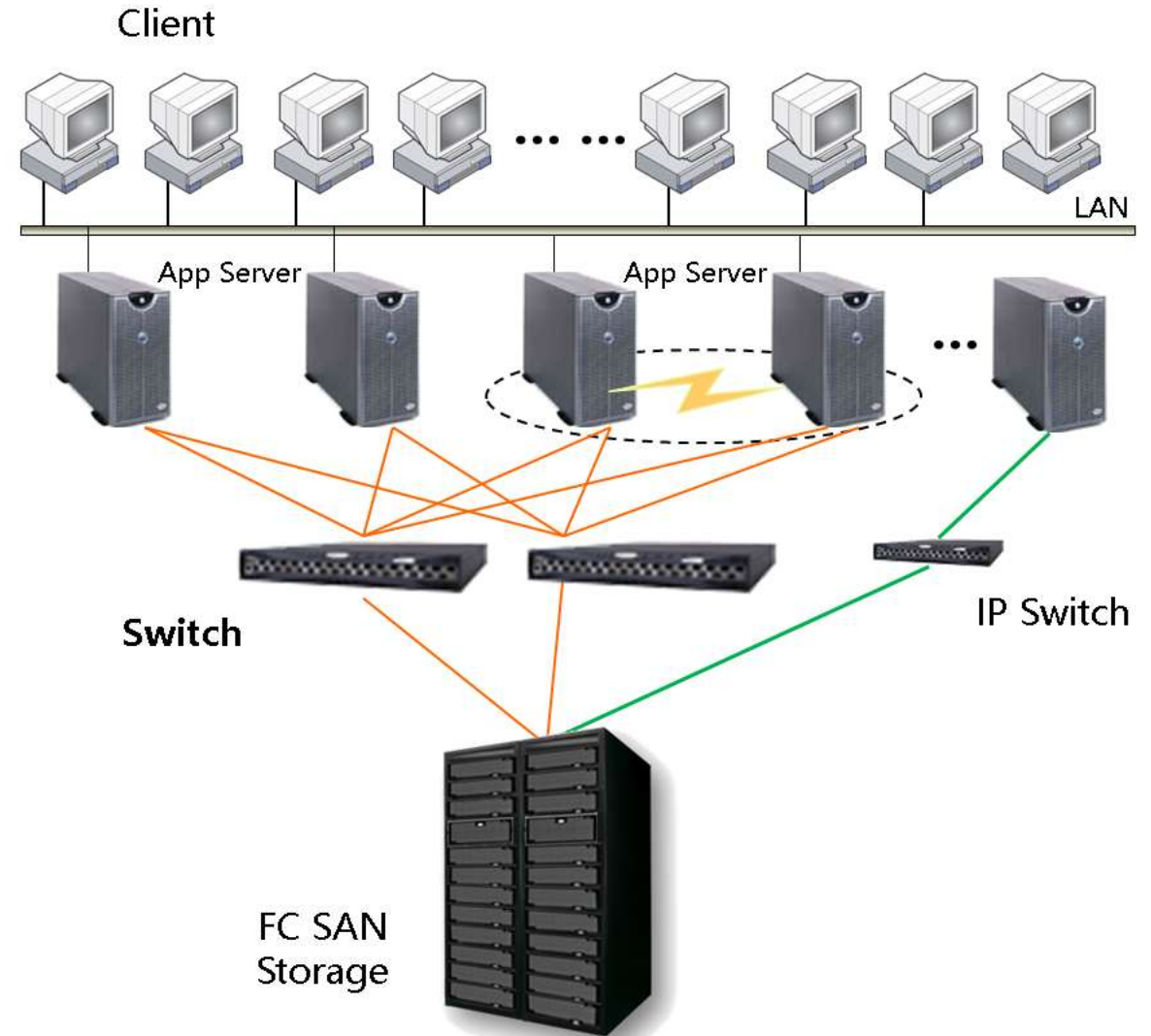
# SAN application

- **Description**

FS6800 links to front application server and FS SAN Storage, all servers share data on one storage system

- **Value to customer**

Versus DAS structure, more efficiency room centralized, at same time, avoid isolation data island, simplified storage device management



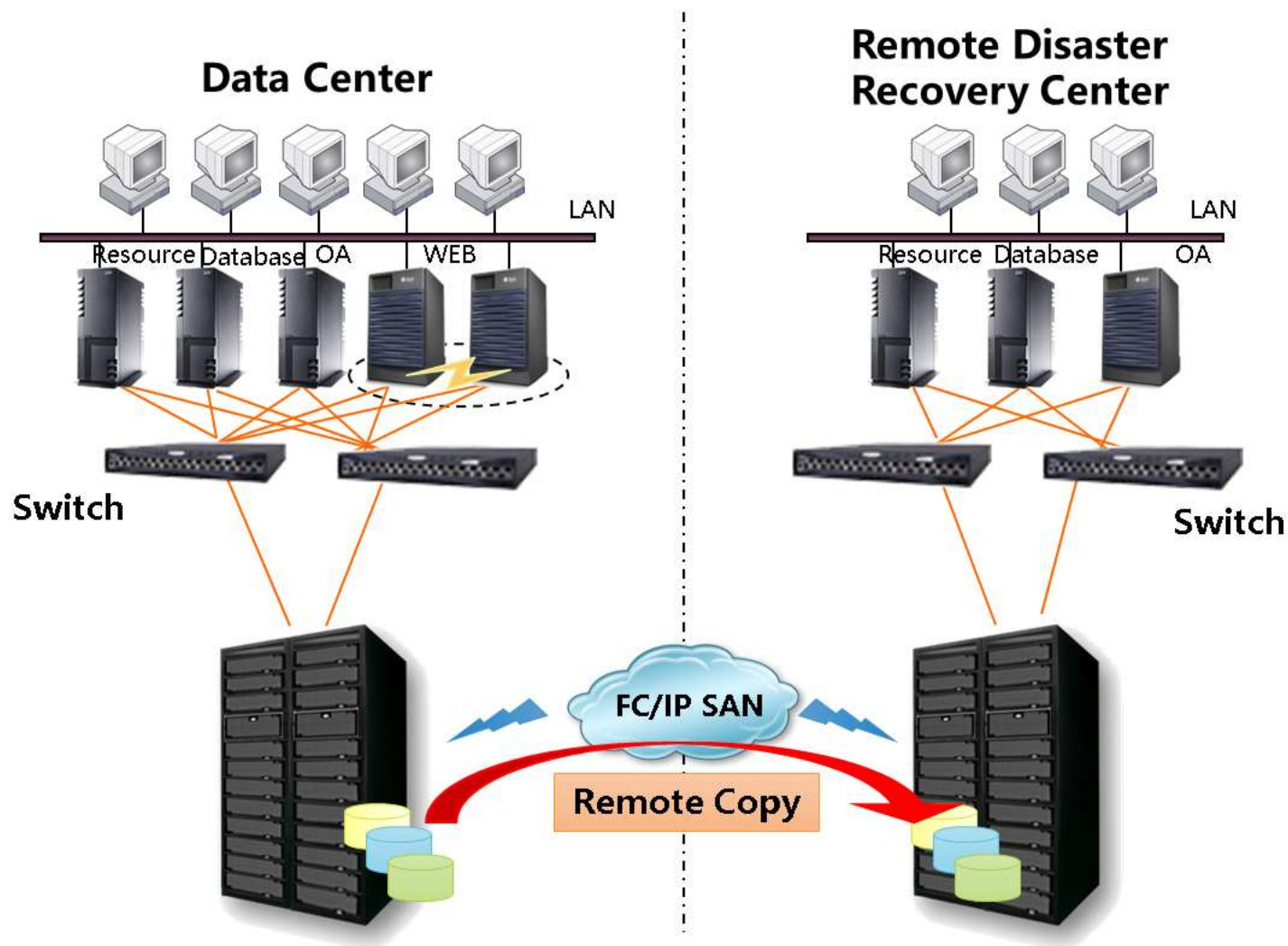
# Data center SAN network solution

- **Description**

Use FS6800 switch link to front application server and storage device, build SAN network.

- **Value to customer**

FS6800 switch compatible 16Gb FC and 8/4Gb FC protocol , meet various data center equipment and complex network.



Thank you