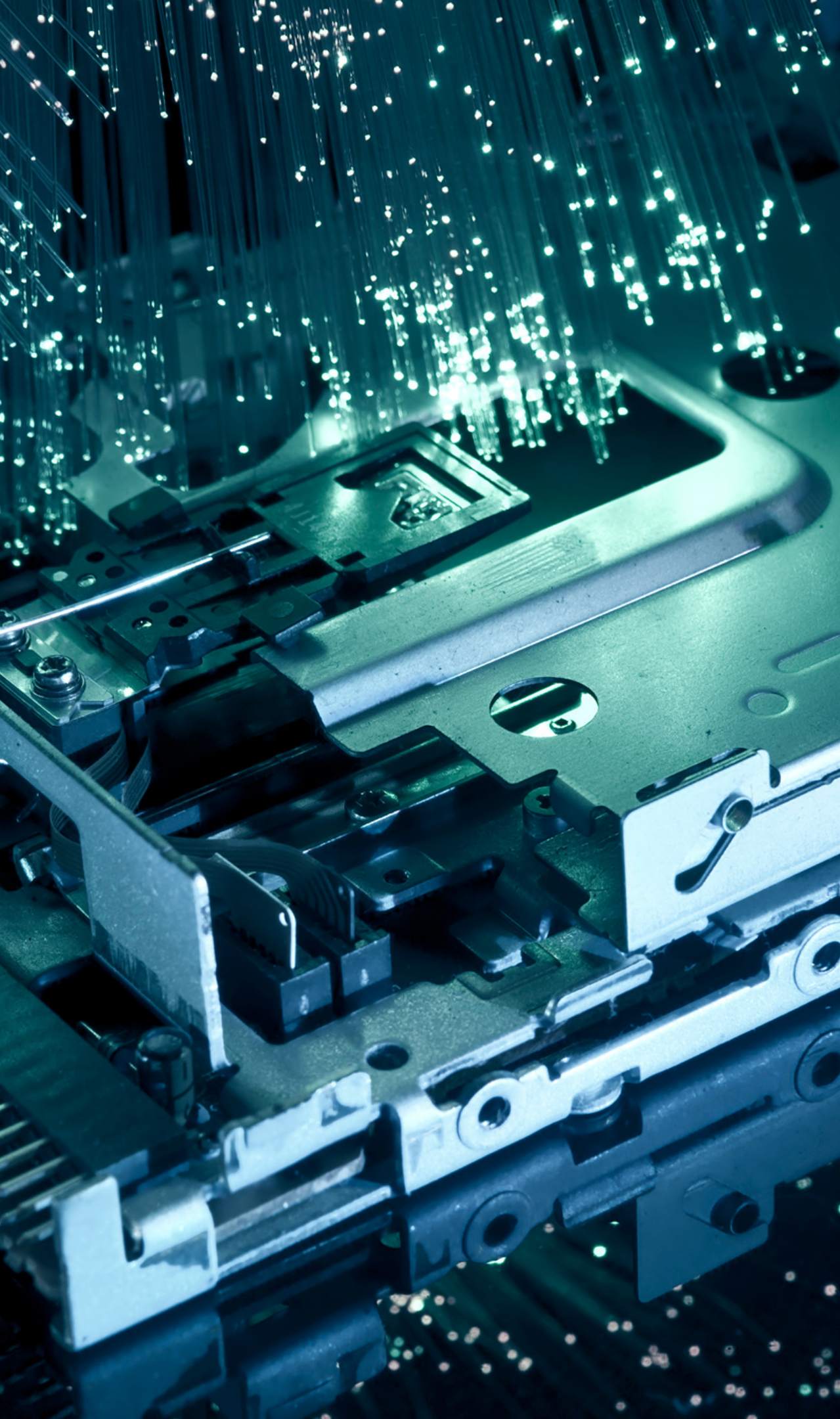




Storage *Area* *Network*

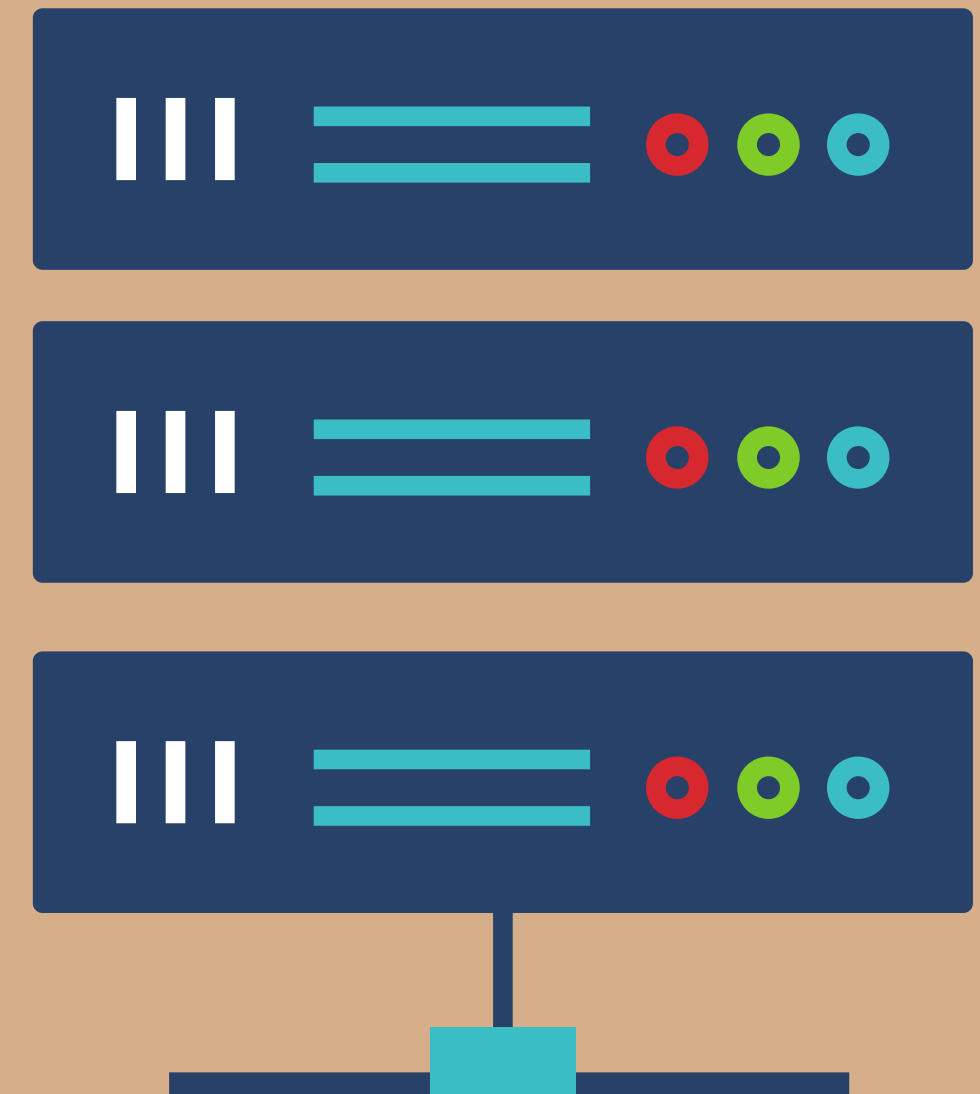
UNIVERSITY TRINITY SAINT DAVID
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Presentation Outline

- Storage Area Network
- SAN Evolution
- SAN Components
- Connectivity
- SAN Software Management
- Fibre Channel
- SAN Security



SAN

Dedicated
Storage
Network

Organised
Connection among:

- STORAGE
- COMMUNICATION DEVICES
- SYSTEM [1][2]

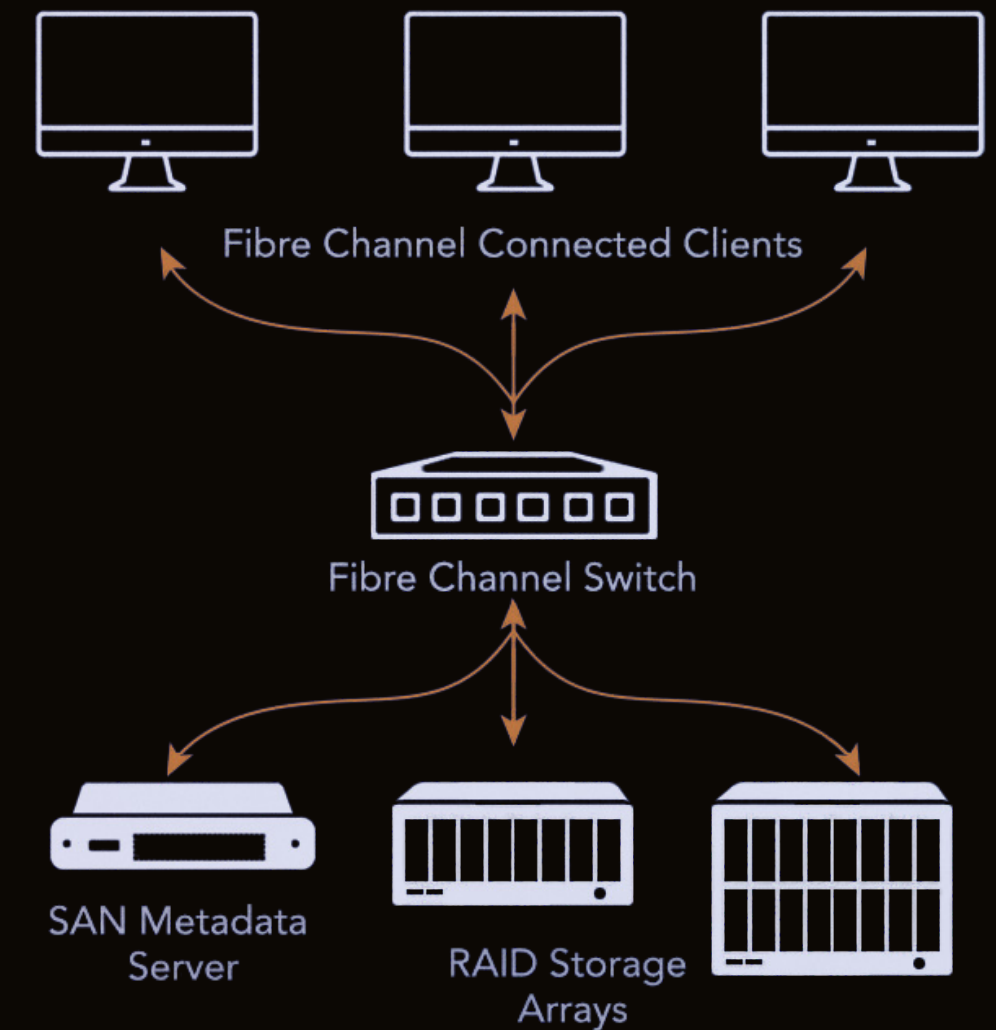


FIG 1: SAN Architecture [2]

Evolution of Fibre channel SAN

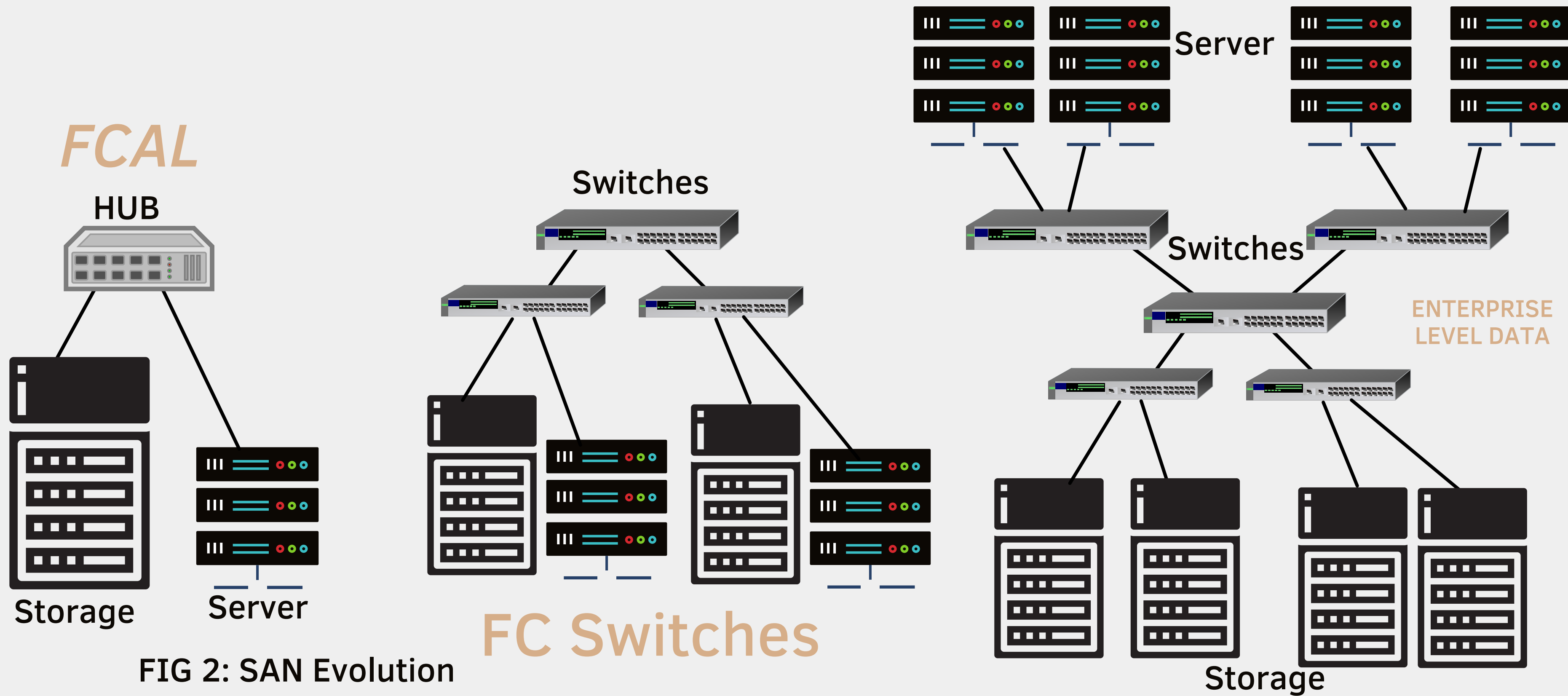


FIG 2: SAN Evolution

COMPONENTS OF THE *SAN*

✓ HOST BUS ADAPTER

✓ FIBRE CABLING

✓ FIBRE CHANNEL SWITCH

✓ STORAGE ARRAYS

✓ MANAGEMENT SYSTEMS [3]

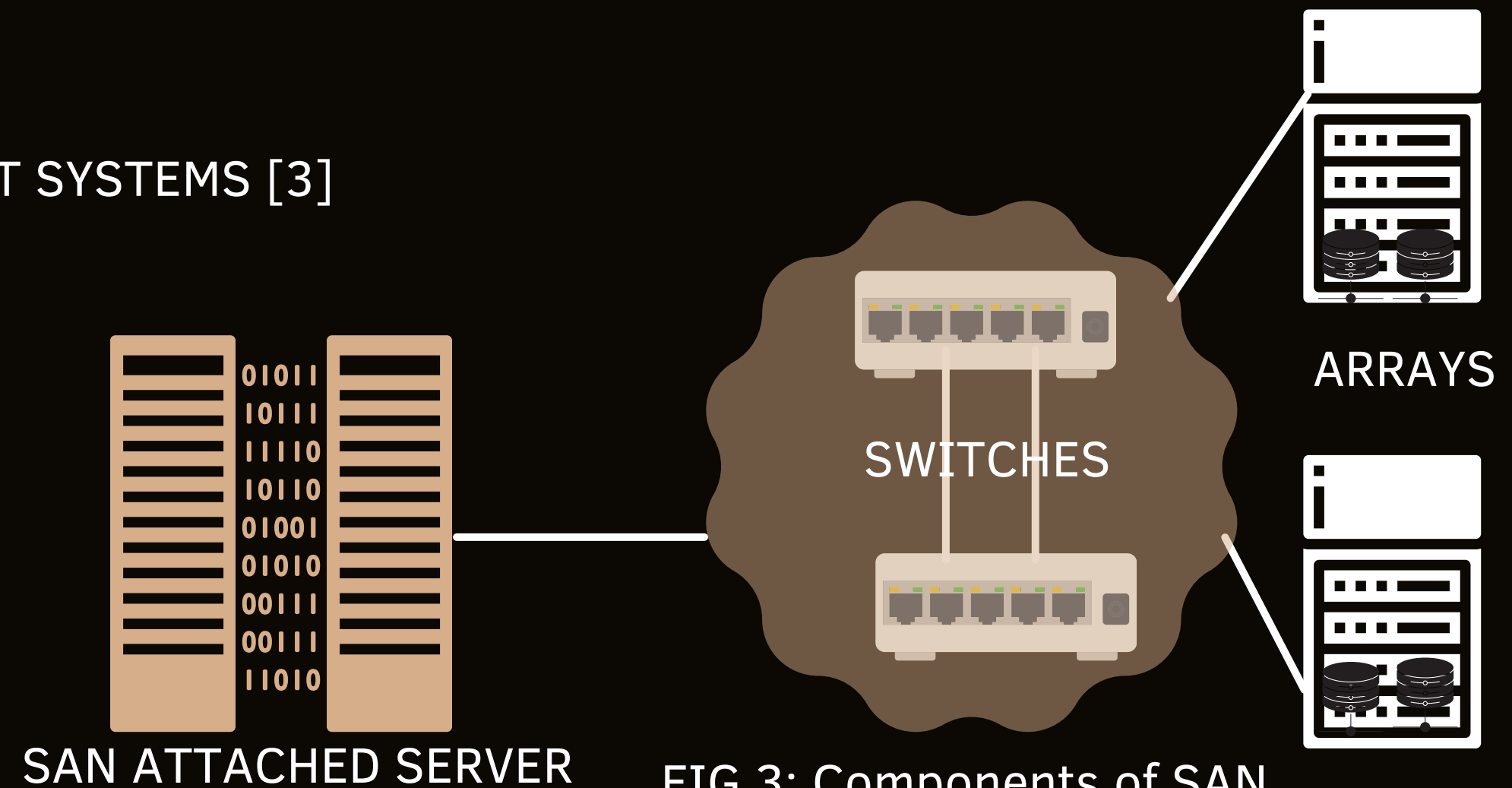
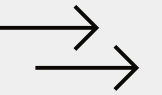


FIG 3: Components of SAN



SAN Connectivity

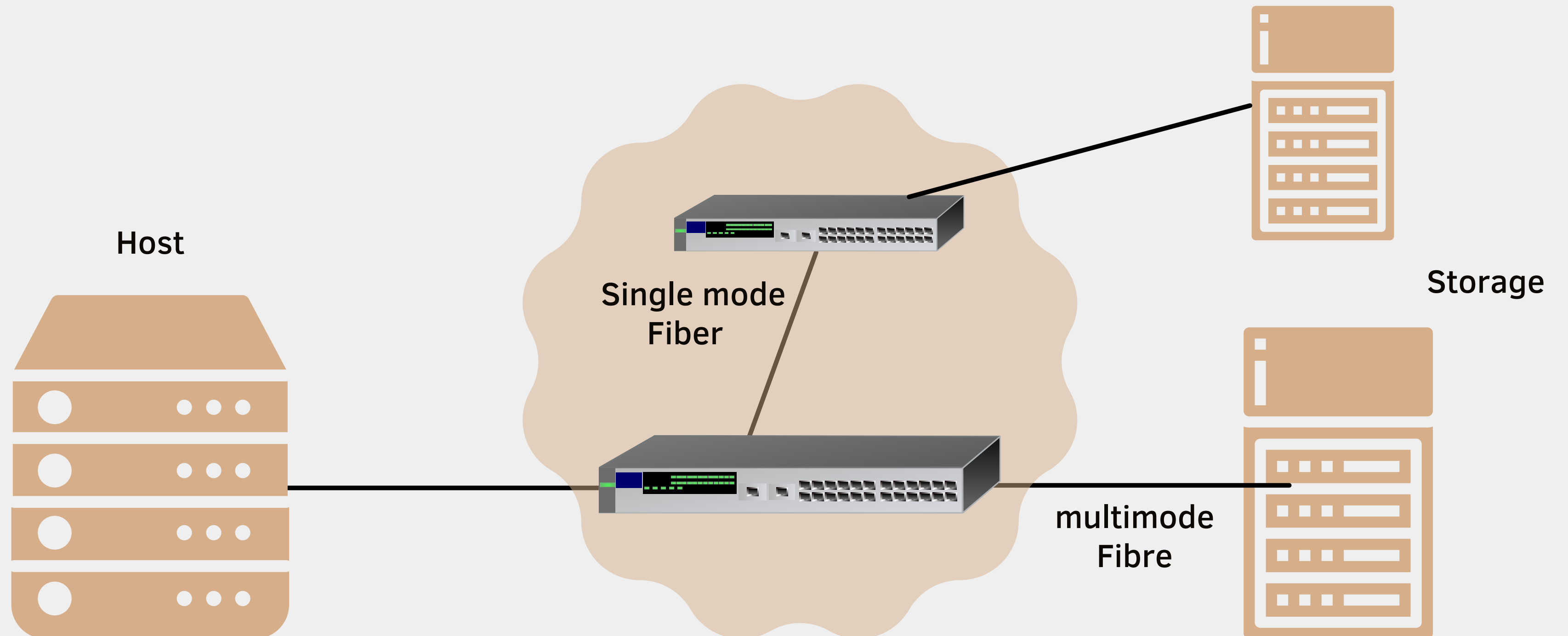
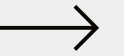


FIG 4: Interconnected



Storage Resources

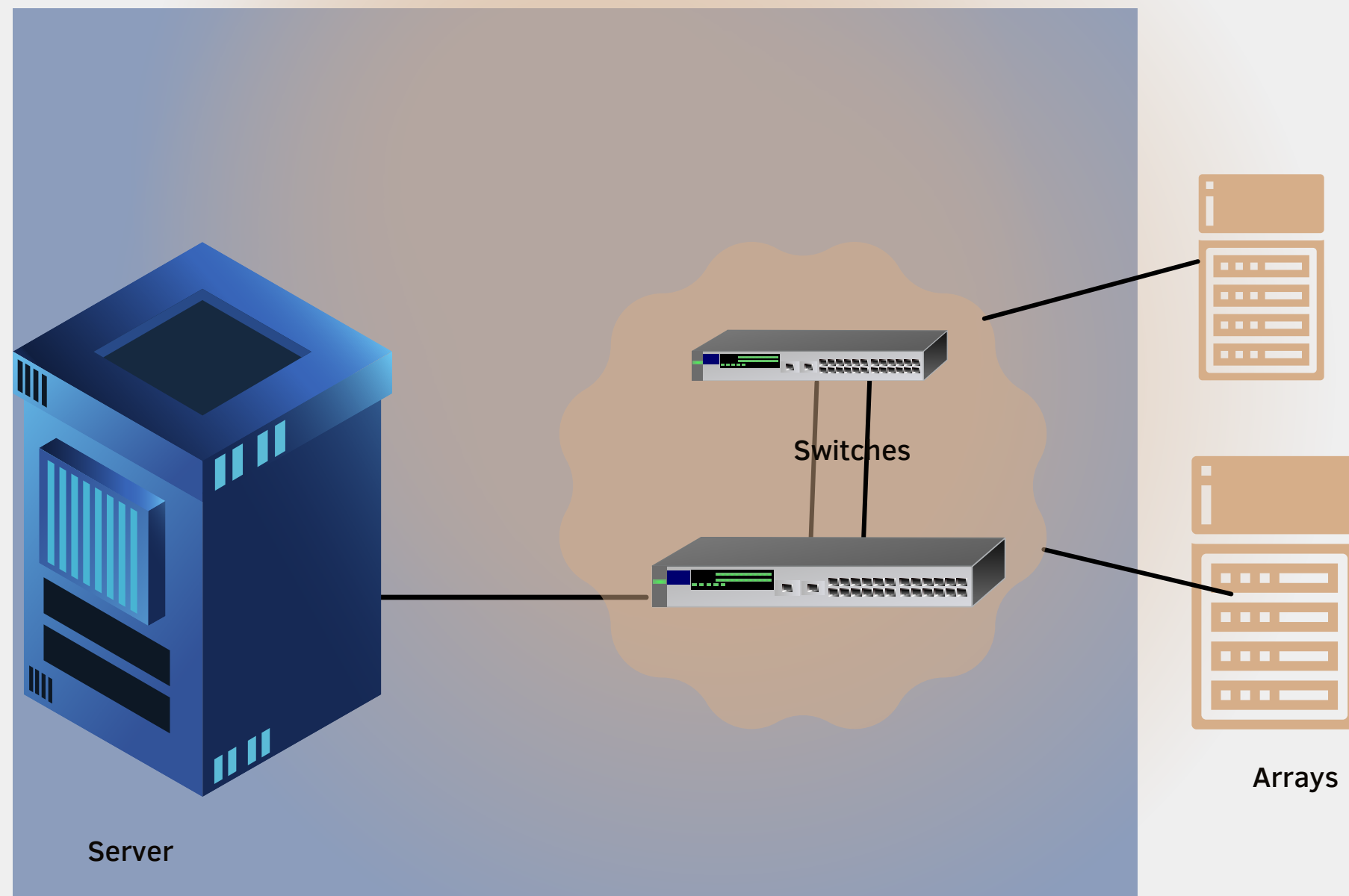


FIG 5: feature of array

- **Array**
 - Centralisation and provide storage consolidation
- **Array features**
 - Performance
 - Business continuity
 - Multiple host connection
 - High availability and Redundancy[4][5]

Benefits of using a SAN

HIGH BANDWIDTH

Fibre Channel

SCSI

Block Input / Output

RESOURCE CONSOLIDATION

Centralised storage

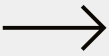
SCALABILITY

More than 16 million devices

SECURE ACCESS

Filter and Isolation [6]





SAN MANAGEMENT SOFTWARE

- Storage unit mapping
- Monitoring and alerting for a defective component
- Logical Partition [7]

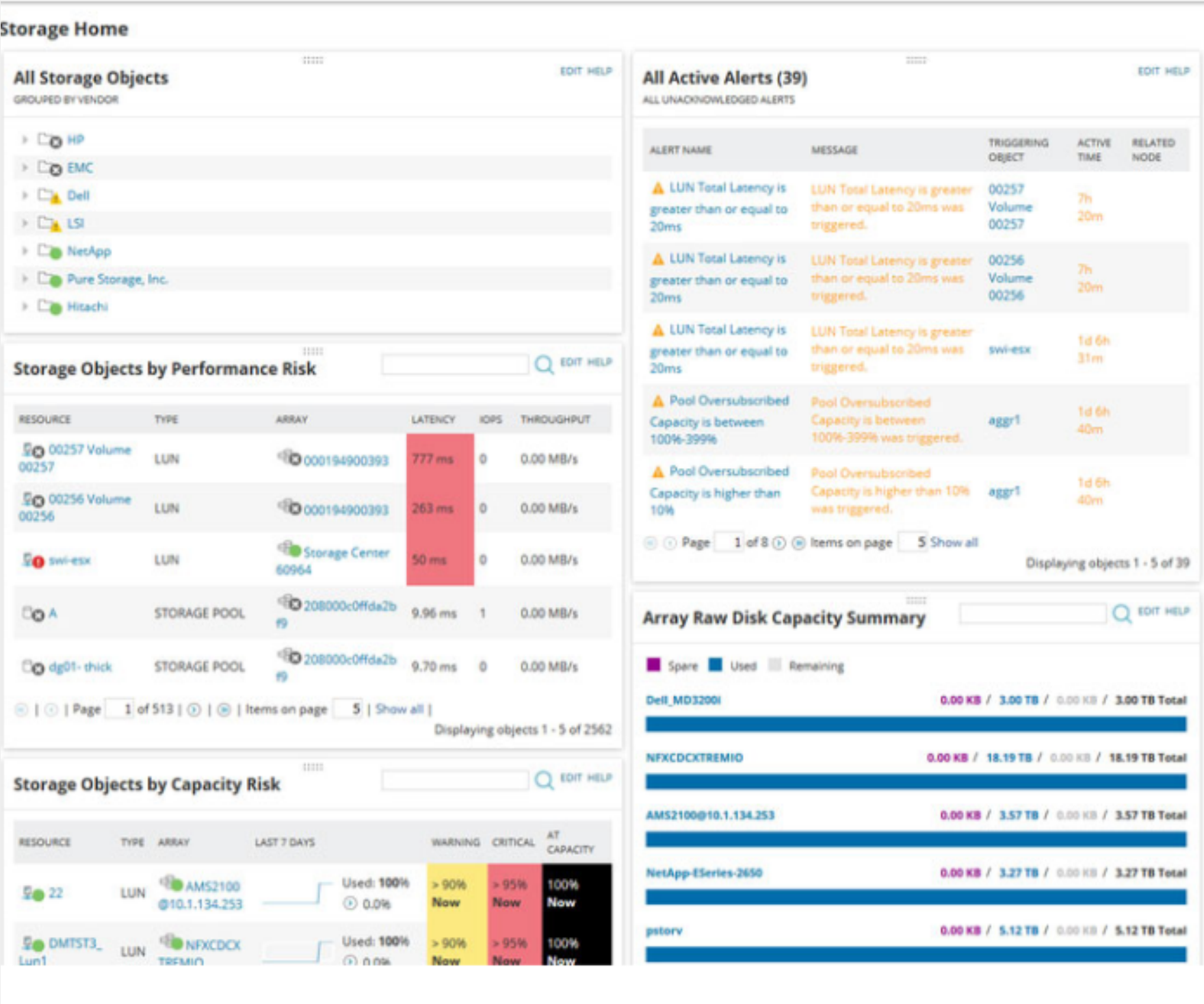


FIG 6 : SolarWind storage monitor [7]



FIBER CHANNEL

- Storage is using core networking concepts
- the server is connected to two distinct networks.
 - Front-end
 - Back-end
- Frabric [8]

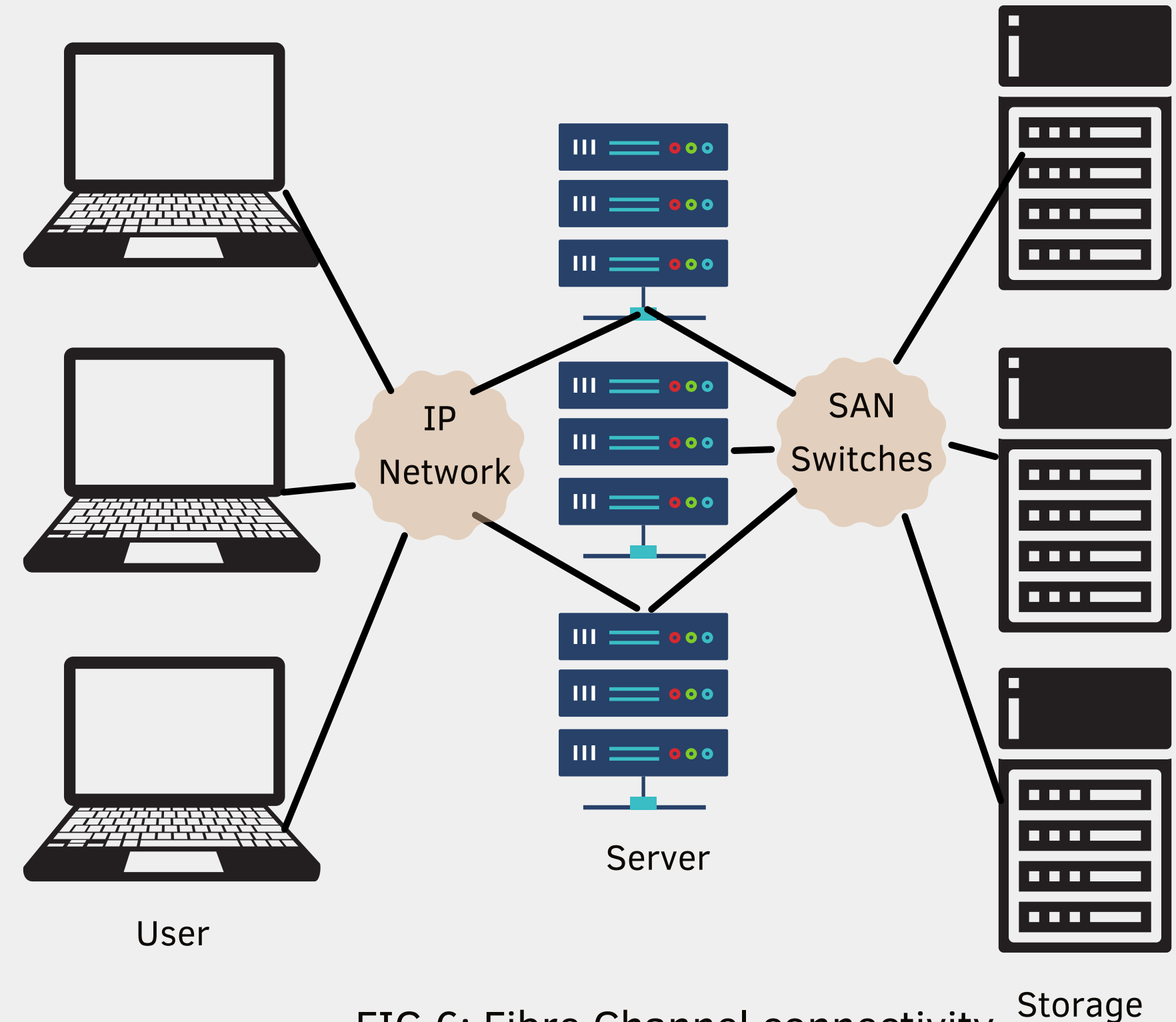
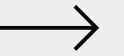


FIG 6: Fibre Channel connectivity



SAN SECURITY MANAGEMENT

INFRASTRUCTURE
PROTECTION

ALLOCATION OF
STORAGE

MANAGEMENT OF
PERFORMANCE

FABRIC
ADMINISTRATION

CAPACITY
MONITORING [9]

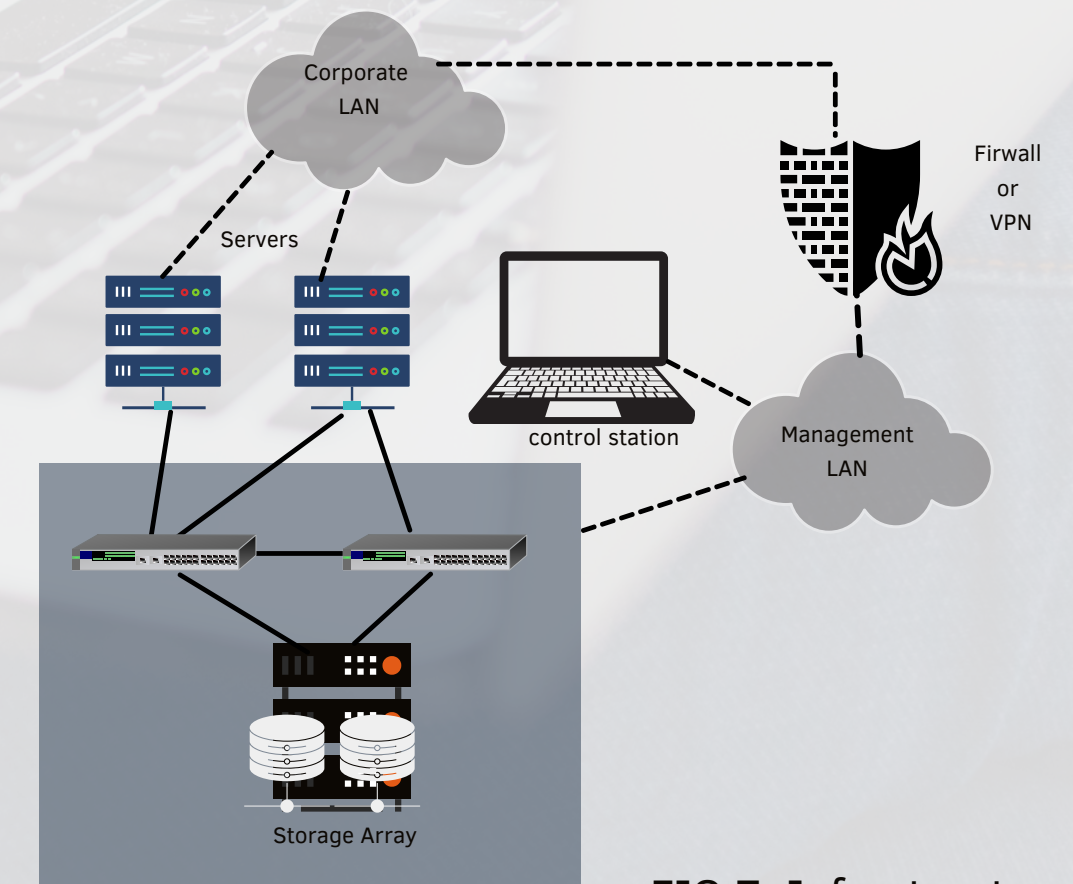


FIG 7: Infrastructure

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Thank you!
