



**INT NETLINK's Past Projects**

# **Service Provider Storage and Backup**

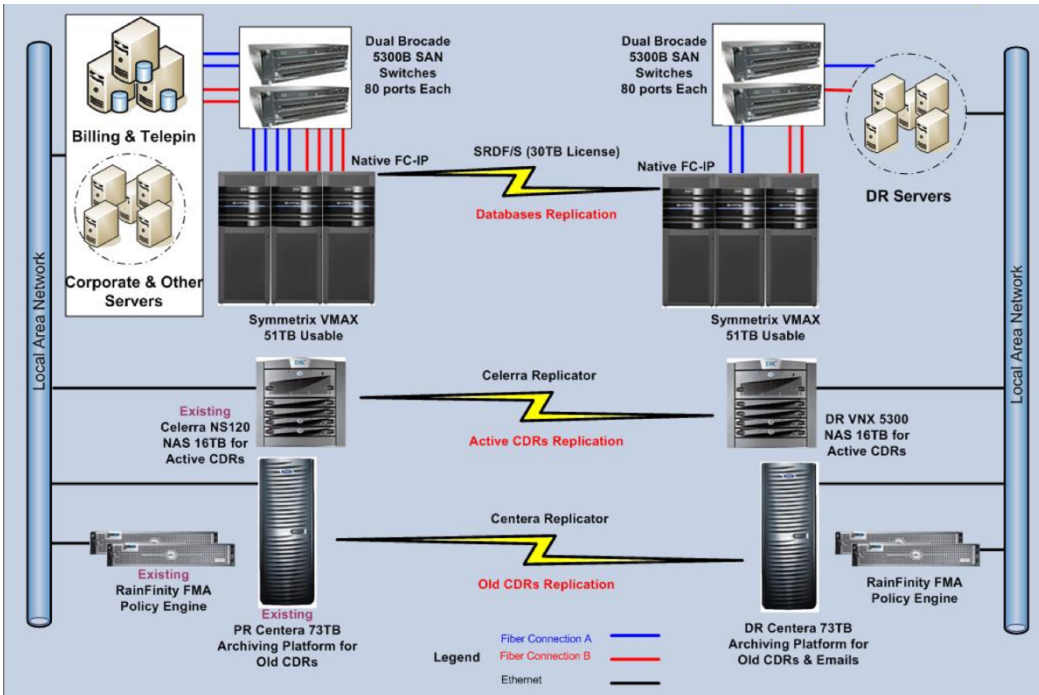
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**Afghanistan**

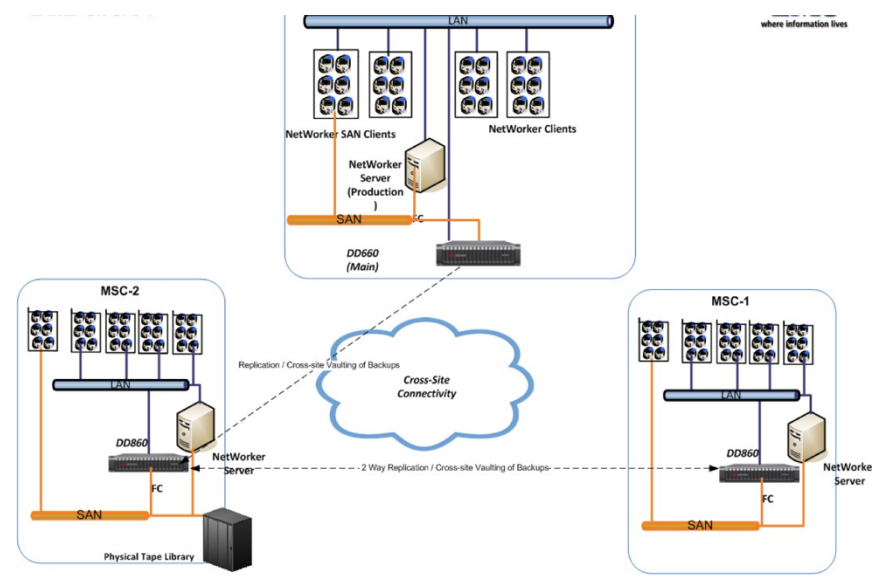


The requirement of Storage and Backup solution was addressed by providing business continuity solution includes industry leading Symmetrix V-MAX at both the Production and DR sites in Kabul. Also added to the DR site are the VNX5300, Centera, Rainfinity FMAs and Data Domain. As a solution these systems is helping customer address key areas such as streamlining their storage infrastructure, providing scalability, high data availability, means of efficient archiving, and of course a reliable backup and restore process.

**Depiction of PR /DR setup**



**Depiction of backup Setup**



## **General detail of the components**

**EMC Data Domain** systems reduce the amount of disk storage needed to retain and protect data by removing duplicate data before storing it. Backup data sets can be reduced on average 10-30x.

By relocating inactive data to lower storage tiers, **File Management Appliance** reduces the amount of primary storage needed.

### **Scalability**

The system must be able to handle expected and unexpected growth easily, cost-effectively, and with minimal disruption to business activities.

**Symmetrix VMAX** provides massive, on-demand scalability beyond a single footprint. **Symmetrix VMAX** systems scale from one to eight **VMAX** engines and resources are aggregated with fully shared activity, processing, and capacity. The Virtual Matrix Architecture provides the foundation to scale to hundreds of petabytes of capacity, supporting thousands of servers and millions of IOPS.

The **VNX Series** is designed for a modular, pay-as-you grow approach. Add X-blades for the right amount of file sharing power; add Storage Processors for more storage pool scale.

**EMC Data Domain** systems can scale up to 570 TB usable per system, which is equal to 28.5 PB of logical storage (assuming a 50:1 deduplication ratio).

**Symmetrix VMAX** with Engenuity offers unmatched availability and reliability, and each system undergoes rigorous testing before it is shipped. All functionality is non-disruptive including operations, upgrades, configuration changes, and serviceability, while continuous monitoring and testing ensure data integrity. Additional reliability features include 100% internal redundancy, battery backup, permanent spares, compensative cooling, and extensive environmental monitoring. Virtual LUN technology enables non-disruptive movement of data between storage tiers without impacting business continuity.

The **VNX Series** is designed to deliver five-nines availability for your mission-critical business environment with built-in high availability features such as redundant components with no single point of failure, RAID, multipath data access, mirrored cache, automated system diagnostics, and global hot spare technology.

By enabling disk-based backup and archiving, **EMC Data Domain** appliances keep data available onsite for longer periods. Along with dual disk parity RAID-6, the **Data Domain** Data Invulnerability Architecture provides extra levels of data integrity protection to detect faults and repair them to ensure backup data or recovery is not at risk.

**File Management Appliance** includes built-in high availability for continuous, non-disruptive file recall. File placement impact can be simulated prior to implementation to prevent downtime. File recall data is stored in stubs on the NAS file server instead of persistent metadata, enabling quicker access to archived files.

Efficient Archiving

Long-term information retention with fast access will enable **Customer** to achieve compliance objectives; more efficient archiving will streamline systems and reduce costs.

**VNX Series** automated file archiving is delivered through **EMC File Management Appliance** integration with the **VNX FileMover API**, and automatically moving inactive or infrequently accessed files to lower cost storage or the cloud.

**File Management Appliance** provides active archiving of unstructured data by relocating inactive data to lower storage tiers for efficiency of storage capacity and costs.

With **EMC Data Domain** systems, you can archive data more efficiently by removing duplicate data, streamlining costs. DD Archiver, the industry's first system for long-term retention of backup and archive, provides up to 28.5 PB logical capacity and fault isolation for long-term recoverability.

#### **Fast, Reliable Restore**

Data that is backed up or archived must be quickly restorable to meet corporate and government compliance requirements and to maximize productivity.

The **VNX Series** supports a comprehensive offering of EMC data protection software. The **VNX Data Protection Pack** includes replication capabilities, point-in-time recovery features such as snaps and clones combined with automated application copies for assured recovery, along with monitoring and alerting for compliance to protection policies.

**EMC Data Domain** inline deduplication enables cost-efficient backup to disk and high-speed, reliable recovery. With aggregate throughput up to 26.3 TB/hour, faster per controller than conventional virtual tape library (VTL) systems, **Data Domain** establishes consistently high benchmarks across the spectrum of common data center backup metrics.

**File Management Appliance** improves recovery times because inactive data is removed from the backup process on primary storage.