EMC Celerra Gateway Four-Host SAN QuickStart - CTL-EMC-BAS-NSG4H

This Avnet Technology Solutions *Service Brief* details the *EMC Celerra® Gateway Four-Host SAN QuickStart.* Using CLARiiON® -based storage, the service focuses on installing, configuring, and integrating the Celerra NAS Gateway and four Open Operating System Hosts into a Storage Area Network (SAN).

Project Scope

Avnet concentrates on designing and delivering a highly available SAN/NAS solution, using:

- A Celerra NS500GS/NS500G, NS600GS/NS600G, NS700GS/NS700GS, NS704G, NS40G, or NS80G with one or two control stations, as limited by the selected Celerra model.
- EMC NAS control software.
- *Navisphere®* configuration software.
- *PowerPath®* Automated Path Management software.
- One or two Fibre Channel departmental switches.
- A single CLARiiON® CX500/CX600/CX700, CX3-Ultrascale series Disk Processor Enclosure (DPE) with one or more CLARiiON Katana Disk Array Enclosures (DAE).
- Optional Disk Array Enclosure(s) (DAE2) for ATA disks.

Experienced Avnet Professional Services personnel work closely with customer staff and perform this engagement. This planning and implementation service is limited to new installations only. It is delivered to a single location for ten consecutive standard business days, and includes the following configuration:

- One CLARiiON storage array.
- One or two departmental switches.
- One Celerra NAS gateway (direct or fabric connected).
- A maximum of four hosts using an open operating system with a maximum of two host bus adapter (HBA) ports per host.

Note: Hosts must boot from internal hard disks (non-SAN booting) and the customer must load the host operating system prior to the Avnet implementation. The customer must also install the HBA drivers at the EMC-recommended version level.

- *PowerPath* installation on a maximum of four hosts (when licensed by the customer).
- Final fibre connectivity to hosts and switches.

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Note: Customer-provided or EMC-purchased Fibre Channel cables must be available prior to implementation.

- A maximum configuration of eight LUNs per RAID group for SAN installation.
- A maximum configuration of eight LUNs assigned per SAN host.
- SAN and NAS design based on the *Configuration Guide*.
- Final Navisphere® Manager Agent configuration and AccessLogix™ configuration for LUN mapping.
- Maximum configuration of six Ethernet Network interfaces for the primary Data Mover, and one network interface for the Control Station.

Note: A maximum of six additional physical Ethernet interfaces may be necessary for the standby Data Mover. The customer must provide the Ethernet cables.

- NAS storage configuration of:
  - One required 4+1 RAID5 RAID group for the NAS control LUNs
  - A choice of 4+1 RAID5, 8+1 RAID5, or RAID1 RAID groups for all Fibre Channel based NAS storage components
  - 6+1 RAID5, 4+1 RAID3, or 8+1 RAID3 RAID Groups only for any ATA NAS storage components.
  - A maximum of eight LUNs per RAID group
- Configure up to 12 file systems using the Celerra Manager.
- Implement internal Usermapper on a single Data Mover (when configuring CIFS).
- Configure up to 12 NFS exports using the Celerra Manager, or 12 CIFS shares using Windows 2000/2003® or NT 4.0 Tools.
- Integrate into one Authentication protocol (NIS, AD, or NTLM [NT 4.0]).
- Configure one file access protocol (NFS or CIFS). Implement up to six Celerra CIFS servers validated within a single Windows Domain (Windows 2000/2003 or NT 4.0), if necessary.

Note: All servers must be newly created servers; data migration from existing servers is not included in this service.

- Configure the Name Resolution Protocol for the Data Mover and Control Station (DNS and/or WINS, as required).
- Configure the *SnapSure*™ checkpoints and Celerra Manager-base scheduling for a maximum of 12 file systems (if licensed).
- Enable Quotas for up to 12 file systems or 12 directory trees (NFS only).

Note: CIFS quotas are to be handled by the customer through the standard Microsoft® Windows-based tools.

- Configure a manual or network backup solution.
- Implement single backup solution (manual or network). The backup solution will provide basic functionality for the backup and restore capabilities for one host on each platform in the storage infrastructure. The backup solution will also encompass the NAS backup and restore testing. The customer is responsible for administrating all host activities within their infrastructure. The customer must provide tape units or TLU, cabling, and licensed software, as the solution requires.
- Implement File System Full Notification.
- Install the customer-provided network cabling.
- Implement default HA configuration for Primary and Standby Data Movers (for NS500G, NS600G, NS700G, NS704G, NS42G, and NS80G only; does not apply to NS500GS, NS600GS, NS700GS, and NS40G gateway models).
- Completed *Test and Acceptance Plan.*
- Basic Implementation Functional Overview.

Notes:

- Implementation to be completed for all SAN hosts and the NAS gateway during initial implementation. Delayed host implementation is not available with this service.
- Such Functional Overview relates to the customer's storage environment and is not a substitute for the formal EMC product Customer Education courses available. Avnet strongly encourages attendance at EMC Customer Education classes to gain further insight into the product architecture and its integration.

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Deliverables

The following EMC *Celerra Gateway plus Four Host SAN QuickStart* deliverables are provided:

- Implementation as defined in the *Project Scope* section above.
- *Project Plan.*
- *Configuration Guide* documenting the implementation.
- Product *Functional Overview* session.
- Configuration of one or two EMC Connectrix® Departmental Switches including zoning.
- An operational Celerra NS500GS/NS500G/NS600GS/NS700GS or NS600G/NS700G/NS704G/NS40G/NS80G NAS platform and a SAN environment with a maximum of 4 hosts implemented in conjunction with CLARiiON storage.

Avnet Staffing

Avnet provides experienced Professional Services personnel to perform the tasks listed above.

Customer Responsibilities

- Provide at least one technical contact with system administration responsibilities and appropriate system/information access privileges to perform this service.
- Make appropriate system maintenance window(s) available for Avnet (or authorized agents) as needed to prepare equipment.
- Ensure all environment and operational requirements are met prior to implementation.
- Provide access to the Customer's systems and networks as necessary to perform the services during normal business hours, or at mutually agreed timeframes.
- Provide support from technical support teams for all vendors and third parties as necessary.
- Assume all responsibility for network connectivity, performance, and configuration issues.
- Verify the equipment location (work site) is prepared to perform the engagement services.
- Provide basic configuration information for network and authentication requirements.
- Provide installed and tested power, network, and telephone connections.
- Provide installed HBAs with EMC recommended drivers in a maximum of four Hosts.

Engagement Duration

- The anticipated engagement start date is within two (2) weeks or an agreed upon start date after receipt and approval by Avnet of the customer's purchase order for this engagement.
- Avnet expects to complete this engagement within *10 days* after the actual start date (based on performance on consecutive days during Avnet's normal business hours). Unless otherwise specified or agreed by Avnet, service is performed on consecutive days.

Engagement Scope Exclusions/Changes

Any additions or changes to engagement scope must be stated in a separate Avnet *Statement of Work* detailing the changes, and the impact on pricing, and timeframes. Such changes include, but are not limited to:

- Any additional hardware configuration not listed in this document.
- Licenses for any additional required software.
- Modification of the customer's application software.
- Development of custom solutions including scripting.
- Multiple, basic installation services requiring Project Management services.
- CAVA installation.
- Installation of any advanced networking features (FSN, Trunking, LCAP).
- Application integration.
- Any extended NAS feature (MirrowView/S or MPFSi etc.)

Fixed Bid Engagement Fee and Invoicing Schedule

- The engagement is delivered on consecutive days during normal business hours (9:00 AM–5:30 PM local time, M–F, excluding local holidays).
- Invoices are issued upon Avnet's receipt and approval of the customer's purchase order.
- Customer authorizes Avnet to invoice for and shall pay additional amounts related to performance outside normal business hours or consecutive days, and reimbursement of travel-related expenses.