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NETAPP SYSTEM ADVANCED DEPLOYMENT SERVICE

This Service Description is by and between NetApp ("NetApp") and customer as identified in NetApp's quote ("Customer"). In the absence of an effective written agreement between the parties, expressly governing these services, this service is governed by the standard NetApp Support and Professional Services terms posted at www.netapp.com/us/how-to-buy/stc. html as of the sales quotation date, which are incorporated herein by reference.

The NetApp® System Advanced Deployment Service ("Advanced Deployment Service") installs a single- or dual-controller NetApp ONTAP® appliance. The Advanced Deployment Service includes one of the predefined implementation packages to prepare the system for operations, to connect the system into the Customer's environment, and to image and deploy Customer-specific details for the NetApp system management domain.

If Customers want to deploy multiple appliances, a deployment package is required for each unit that defines the system—for example, each high-availability (HA) pair or each node.

Advanced Deployment Service

With the Advanced Deployment Service, NetApp provides physical installation and implementation of NetApp technologies. NetApp gathers information about what is required in the physical and software configuration and prepares and configures the system according to a design that is developed by NetApp engineers on behalf of the Customer's IT organization. After the system has been configured, NetApp verifies that it is functional and ready to use.

Key benefits
The flexibility, efficiency, and scale that NetApp technologies provide help organizations grow and meet changing business needs. Improper installation or misconfiguration of new technology could cause the system to fail, wasting time, resources, and money. To avoid missteps and to optimize efforts, careful planning, knowledge of best practices, and thorough testing are required before deployment of the system in a production environment. Without expert help, customers can experience downtime and miss out on many of the capabilities and benefits that NetApp technology has to offer.

The goal of the NetApp Advanced Deployment Service is to provide a high-performance NetApp appliance that is ready to meet the application requirements. In addition to installation, setup, implementation, and verification, NetApp optimizes the system so that Customers can reap the benefits of a consistent, high-quality deployment from the start while minimizing risk and shortening deployment time. NetApp service professionals help eliminate missteps so that the Customer's staff can stay focused on business-critical tasks.

Service delivery

To confirm that the new system is compatible with the Customer environment and can be easily integrated, the Advanced Deployment Service starts with a review of all relevant parts of the Customer environment. The Advanced Deployment Service interview is performed in person or virtually by telephone, Webex, Zoom, or other online meeting service between the NetApp consultant and the Customer. The result of this interview is a completed deployment questionnaire, noting all the required information for the deployment and configuration phases.

The Advanced Deployment Service is delivered in six phases:

- **Service preparation.** NetApp engineers engage with designated Customer personnel to perform a site preparation and deployment review. They apply standard methodology and best practices while planning the Customer's system deployment.
- **Deployment.** Installation is scheduled and performed during normal business hours unless determined otherwise. Applying NetApp best practices, NetApp engineers install one or more appliances in a standalone or HA configuration. The engineers also minimally configure the operating system as required.
- **Service validation.** To validate that the Customer's equipment is ready for use, NetApp creates a minimal test configuration and then tests it to determine that read/write access is available for up to two co-located hosts (when applicable). If the Customer has purchased an HA model, NetApp also tests and verifies local failover and failback capabilities. For NetApp ONTAP appliances, deployment also includes all necessary switches and cabling installation, as well as node configuration.
- **Implementation.** Based on environmental variables such as IP addresses, host names, and networking infrastructure designs, the NetApp technology is configured within the limits defined in the Advanced Deployment Service package selected.
- **Validation.** NetApp validates the features that are configured as part of the implementation packages selected.
- **Service completion and Knowledge Transfer.** NetApp service professionals provide all necessary information to the Customer's team during a single Knowledge Transfer (KT)* session so that the Customer can continue to support and to maintain the new system in their environment. NetApp's goal is to provide the Customer with a fully functional working system so that the Customer can deploy it into their data infrastructure, either with their own resources or by using NetApp Services resources.

* KT does not replace NetApp Learning Services training. The Customer must have all necessary staff available for the KT session, and the session must occur on or before the completion of the Standard Deployment Service.

Service scope

Advanced Deployment Service includes the following services.

Service Preparation
- Prepare the Customer site and conduct installation review
  - Validate that the Customer environment is suitably prepared for integration of the NetApp system solution
  - Perform software and hardware inventory check.
- Review and receive final sign-off from the Customer of parameters to be used during the deployment and validation process

Deployment
- Physically install the purchased products
- Validate, update, and verify the firmware and software versions that are included with the hardware purchase
- Configure core components:
  - Power
  - Controllers to storage shelves
  - Storage and client management network connection
- Perform system tests to confirm that the system is prepared for implementation of the custom configuration
- Set up the purchased system or systems:
  - Load the system management software
  - Enable controller failover, if the system is clustered
  - Configure email and SNMP notifications, if applicable
  - Deploy the management node, if applicable
  - Enable NetApp AutoSupport® telemetry, if applicable

Service Validation
- Perform internal testing for successful integration within the Customer environment
- Verify and test the system:
  - Verify the protocol and licensing, if applicable
  - Create the management account and confirm client access on a test volume, if applicable
  - Perform a connectivity test; connect up to two hosts

Implementation
- Configure the Implementation Package (which varies by product) based on the Customer's selection from Group A and Group B in the tables at the end of this document; the Implementation Package is discussed and agreed upon with the Customer during the time of engagement and project kickoff
- Integrate the system into the Customer's network infrastructure

Validation
- Perform basic tests on the features and system services that are included in the advanced configuration scope selected.
- Perform basic tests on HA failover (based on the hardware purchased).
- Perform cluster-mode testing and operation (based on the hardware purchased).

Service Completion, KT, and Administrative Details
- Conduct the KT session, which is a short briefing about the implemented functions. Give instructions and hints to the operating staff for best practices in daily work, manageability, and monitoring
- Prepare and deliver the following:
  - Acceptance test procedure—testing all components, readying implementation for service
  - Documentation for the NetApp system as deployed
  - An "as-built" document with the deployment and configuration details
  - Base setup step-by-step documentation
  - Advanced setup step-by-step documentation
  - Testing logs and NetApp Active IQ® Config Advisor output
- Review "as-built" documentation with the Customer contact
- Provide the Customer with a quick tour of the NetApp Support Site
- Register the system

Note: NetApp tests its products to standard software or hardware specifications. Completion of this testing is not a requirement of the product's acceptance, which is addressed under the product purchase agreement.

Service prerequisites and conditions

NetApp responsibilities
- Advanced configuration deliverables are available up to 3 months after the system setup and installation have been completed.
- Advanced configuration deliverables will not exceed 5 days of delivery.
- NetApp reserves the right to subcontract any or all portions of the Advanced Deployment Service provided herein.

Customer responsibilities
- The new equipment must be available at the Customer site before services begin.
- The data center must be prepared so that rack space and the necessary power and network connectors are available and meet standard product specifications.
- The Customer must provide access to the data center and required systems.
- The Customer must provide all information necessary for the deployment on or before the date of the service.
- The Customer must make sure that network connectivity and physical infrastructure (for example, electricity, facilities, and cabling) are available and meet product specifications.
- The Customer must provide a contact who is available throughout the service to clarify questions and to provide information, access, and passwords when needed.
- The Customer contact must be immediately available to work with the NetApp consultant during the handover stage of the service.
- The Customer must provide access to the contacts and the facility as requested for completion of Advanced Deployment Service.
- The Customer must provide at least 2 weeks' notice to schedule service delivery.
- The Customer is responsible for registering any third-party product or products that are purchased on the NetApp quote. This registration enables Customer access to downloads, documentation, and support notifications and reminders for support renewal when the third-party product support contract expires. Additional information on these third-party products can be found on the NetApp Support Site.

Shared responsibilities
- The entire Advanced Deployment Service must be completed within 1 year of the purchase order date. Otherwise, the purchase order automatically terminates and is deemed complete.
- NetApp will send the Customer a confirmation email when the Advanced Deployment Service is complete, providing an opportunity for the Customer to advise whether the Advanced Deployment Service was not delivered satisfactorily. If the Customer does not submit a written notification (email is acceptable) of a service performance issue within 5 business days from receipt of the confirmation email, the work will be deemed accepted by Customer.

Exclusions

The following items are not included in the Advanced Deployment Service:
- Low-level detailed design.
- Repositioning of equipment after installation
- Any services not listed in this Service Description (for example, migration service); these services should be purchased separately.

Fee description and payment

Before NetApp performs any services, NetApp requires an approved purchase order from the Customer, acceptable to NetApp. NetApp will invoice when it receives the approved purchase order. Payments are nonrefundable, with no right to refund or credit. If the Customer requires additional time, a new NetApp sales quote and purchase order will be required.

Additional services

NetApp can assist in every phase of the NetApp system lifecycle. Whether customers need help with planning their next-generation solution, need an extra set of hands for a major deployment, or want to optimize an existing infrastructure, NetApp Services personnel have the skills to help customers start it right and keep it right. NetApp offers a complete portfolio of related services, including consulting, design, implementation, and support services.

Implementation packages

ONTAP scope
The Advanced Deployment Service includes one package from Selection Group A and two additional packages, either from Selection Group A or Selection Group B. Customer selects all packages before they schedule delivery.

Selection Group A
Customer must select at least one of the packages from Group A before they schedule delivery.

NAS Implementation Package	SAN Implementation Package
- Up to 4 storage VMs (SVMs) - Up to 4 aggregates - Up to 48 volumes - Up to 48 qtrees - Up to 1 CIFS-NFS server - Up to 24 LIFs - Up to 36 CIFS share-NFS exports per volume 1 failover group per node management LIF, cluster management LIF, and data LIF (1 subnet for data traffic per SVM) - Up to 48 Snapshot policies	- Up to 4 SVMs - Up to 4 aggregates - Up to 48 volumes - Up to 48 qtrees - Up to 24 SAN LIFs - Up to 24 LUNs mapped to 10 SAN hosts - Up to 48 NetApp Snapshot™ policies 1 NetApp SnapMirror relationship per SVM - Full HA and network redundancy testing - FC and IP SAN configuration - Up to 4 switches (purchased from NetApp) - Up to 12 VLANs per switch

Selection Group B

Storage Backup Package	Disaster Recovery Package	Advanced Knowledge Transfer
• 1 SnapMirror relationship per SVM • Full HA and network redundancy testing • Up to 10 SnapMirror relationships set up (including schedule and destination volume) • 1 intercluster LIF per node (if applicable) • 2 cluster peer relationship baseline transfers performed and updated (if time allows) • Testing of SnapMirror failover and giveback	• Up to 10 NetApp SnapVault® relationships (including schedule and destination volume) • Testing of the SnapVault relationship for backup and restore functionality	• At least 2 hours dedicated to explaining the system, how it was set up, and how to get the most out of the ONTAP and OFFTAP features

MetroCluster configuration

The Advanced Deployment Service must be ordered for both systems that will form a MetroCluster configuration, and then the following deliverables are included:

- Gathering of MetroCluster specific requirements
- Planning meetings to verify prerequisites:
  - Network connection/layer 2
  - IP addresses
- Configuration of MetroCluster features
- Validation testing to determine that the MetroCluster connection is functioning properly
- Remediation to achieve a successful MetroCluster configuration

Incorporated terms

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