# HPE Data Replication Solution Service for Continuous Access P9000 XP Disk Family

## HPE Lifecycle Event Services

HPE Data Replication Solution Service for Continuous Access (CA) provides implementation of the CA feature of HPE P9000 XP disk arrays. This service provides your organization with the analysis, design, implementation, and testing services necessary to deploy real-time data mirroring functionality between a local and a remote disk array.

This service provides comprehensive implementation and test plans for remote data mirroring at two predetermined locations. With special consideration for data availability, consistency, and I/O performance, an experienced HPE storage specialist collaborates with your organization's designated IT storage administrator to plan, design, and deploy your configuration. The service can be customized to accommodate your needs.

Three levels of service are offered, ranging from basic implementation to more comprehensive implementation and integration activities:

- The Level I service is designed to help you get the product up and running quickly and to provide a demonstration of the product's key features using sample or test data only.

- The Level II service provides implementation and testing of the HPE CA configuration using volumes you designate and verifies operation of the designated volumes with one customer-configured application.

- The Level III service is a tailored service based on a Statement of Work (SOW) created by HPE that addresses your organization's unique requirements not addressed by Level I and II services. The Level III service can accommodate more than one application you've configured; scripting; or integration and configuration of your applications, backup environment, or databases.

## Service benefits

- Installation of the HPE CA feature in accordance with product specifications (Level I) and your organization's configuration requirements (Levels II and III)

- Reduced implementation time

- Availability of an HPE service specialist to answer questions during the on-site delivery of the service

- Project management and custom solution implementation, as detailed in the SOW (Level III only)

- Your IT staff can stay focused on their core tasks and priorities, resulting in less impact on your business

- HPE's expertise with data replication to help ensure that issues are avoided and risks are reduced

## Service feature highlights

- Service planning
- Service deployment
- Installation verification tests (IVTs)
- Customer orientation session
- Project management (Level III only)

## Specifications

**Table 1.** Service features

| Feature | Delivery specifications |
|---|---|
| Service planning | An HPE service specialist or project manager schedules the delivery of the service at a time mutually agreed upon between Hewlett Packard Enterprise and the customer, which shall be during local HPE standard business hours excluding HPE holidays, unless otherwise agreed by HPE. Any services provided outside of HPE standard business hours may be subject to additional charges.<br><br>The service specialist performs the following installation planning and coordination activities:<br><br>• Scheduling and coordinating the service<br><br>• Communicating with the customer, including handling queries from the customer regarding service delivery<br><br>• Verifying, using a predelivery checklist, that all service prerequisites that the customer is responsible for meeting have been met<br><br>• Gathering preliminary documentation for the installation report on the arrays, volumes, and hosts involved<br><br>Level I provides the planning activities associated with working through the prerequisites of installing HPE CA and HPE RAID Manager software and identifying nonproduction volumes that are used for sample or test volume testing.<br><br>Level II contains the deliverables of the Level I service, plus the planning activities to identify, configure, and verify the customer-designated volume pairs for a single customer application. Level III may include planning the deliverables of Level I and II services in addition to any requirements specified by the customer and documented in the SOW. |
| Service deployment | Level I deployment activities include:<br>• Reviewing the engagement with the customer using the predelivery checklist and verifying that all service prerequisites have been met<br><br>• Configuring any dependent SAN switches to establish connectivity between HPE disk arrays<br><br>• Configuring source and target arrays to establish HPE CA functionality between the arrays for a single source or target relationship<br><br>• Installing or updating HPE RAID Manager software on existing customer servers for a maximum of two hosts<br><br>• Creating a sample volume pair compatible with the customer's array configuration; the sample configuration contains a maximum of one HPE CA source or target relationship, two hosts, and sample or test volumes containing no production data of up to 500 GB in size<br><br>• Documenting the sample configuration details in the installation report<br><br>Level II deployment activities include all those listed under Level I, plus the following:<br>• Working with the customer to identify volumes associated with the customer's single chosen application<br><br>• Performing HPE CA pair configuration with volumes associated with the customer's designated application<br><br>• Documenting the deployed configuration details in the installation report<br><br>Level III deployment activities are defined by an SOW that HPE creates for the customer. It may contain or leverage elements of Level I or II service activities and/or other deliverables based upon the customer's needs. Activities are defined by the specific SOW but may include:<br>• Managing the project<br><br>• Assessing, designing, and deploying HPE CA with volumes corresponding to multiple applications<br><br>• Scripting, providing implementation with more than one customer application, or integration of CA with HPE or third-party application functions<br><br>• Providing customized deployment, documentation, and test plan deliverables requested by the customer<br><br>• Configuring multisite clustering |

**Table 1.** Service features (continued)

| Feature | Delivery specifications |
| --- | --- |
| **IVTs** | Hewlett Packard Enterprise runs the appropriate installation verification tests required for the level of service being provided to the customer.<br><br>Level I testing activities include:<br><br>• Running tests to verify HPE CA operational status, including pair creation, split, failover, resynchronization, and failback using a sample volume pair. This includes tasks such as:<br>  – Completing an initial copy of the sample volume pair<br>  – Verifying host level access to a remote copy of the data after a simulated failure<br>  – Demonstrating resynchronization after a link failure<br>  – Demonstrating resynchronization after a simulated failback<br>• Validating remote availability for the sample volume pair<br><br>Level II testing activities extend Level I testing activities to include the volumes associated with the single customer-designated application.<br><br>Level III testing activities include an acceptance test to validate the features and functions requested in the SOW, in lieu of fixed IVTs. |
| **Customer orientation session** | The HPE service specialist provides one orientation session of up to two hours duration at the customer's installation site on the product and/or technology, which will generally include:<br><br>• Highlighting the basic operations of HPE CA<br><br>• Familiarizing the customer with HPE RAID Manager<br><br>• Reviewing the installation report and configuration details with the customer, as implemented<br><br>• Confirming that the customer is aware of how to gain access to service documentation and support<br><br>• Holding a brief question-and-answer forum with the customer<br><br>The orientation session is informal, is typically conducted at a management console or configuration point with selected members of the customer's staff, and is not intended as a classroom activity or substitute for formal product training. The customer's participation in the product deployment and installation verification testing is a key component of the orientation session. |
| **Project management (Level III only)** | The project manager works with the customer to manage the integration, development, and delivery of the service during standard HPE business hours. The project manager provides the following activities, either remotely or on-site (at the discretion of HPE):<br><br>• Managing any HPE resource required for the delivery of the service<br>• Developing a project plan encompassing the scope of the services defined in the SOW<br>• Identifying the customer's responsibilities and other requirements in order to facilitate the delivery of this service<br>• Acting as the liaison and single point of contact between HPE and the customer<br>• Developing the project schedule and managing the project against defined timelines |

## Service eligibility

The customer must meet all of the following prerequisites for delivery of this service. The customer is responsible for ensuring compliance with the following eligibility requirements:

- Arrays and SAN must be implemented and be operational at all locations at currently supported firmware levels.

- All hosts must be at supported operating system revision and patch levels.

- For HPE CA, the customer must ensure that applications are installed, configured, and operational; that application servers are in a supported configuration; and that application data resides on the disk array.

- Access must be provided to operational hosts on the target array.

- Intersite infrastructure (IP, SAN, or other) must be installed and configured.

- Sufficient HPE CA link bandwidth must be provided to support the expected, sustained, and maximum I/O rates.

## Service limitations

Unless specified in this document or in a separate SOW, activities such as, but not limited to, the following are excluded from this service:

- For Level I, configuration of HPE CA with customer production data on more than two hosts, or with sample or test volumes containing more than 500 GB of data

- For Level II, configuration of HPE CA with more than one production application

- Any implementation of applications or products that integrate with HPE CA via APIs (for example, SAP®, HPE Data Protector) or extensive, customer-specific scripting (unless provided in the SOW)

- Migrations or upgrades from prior versions of HPE CA

- HPE disk array firmware upgrades required for the supported version of HPE CA

- Implementation of software revisions, including hot fixes, patches, service packs, or upgrades from prior versions, on the customer's existing SAN, host, and application environment

- Any hardware reconfigurations of existing environments, such as removal or movement of host adapters, array disk drives, and adapter cards, or conversion and reformatting of existing storage between RAID levels or emulation types

- Planning, design, implementation, or assessment of the customer's overall SAN or fabric architecture

- Installation or configuration of the network infrastructure or any hardware or software products not specified in this document

- Migration of existing data to a new array or to a new configuration within an existing array

- Design or implementation of high availability and other complex configurations, such as host clustering

- Operational testing or troubleshooting of the customer's applications

- Performance testing or modeling

- Any services or documentation not clearly specified in this document or in an associated SOW

## Customer responsibilities

The Customer will:

• Contact an HPE service specialist to schedule delivery within 90 days of date of purchase of the service

• Assign a designated person from the customer's staff who, on behalf of the customer, will grant all approvals; provide information; ensure that all hardware, firmware, and software that the HPE service specialist will need in order to deliver this service are available and that software products are properly licensed; and otherwise be available to assist HPE in facilitating the delivery of this service

• Complete and return the HPE predelivery checklist to the service specialist at least two weeks prior to the start of the service, including array configuration information, as necessary

• Ensure that all service prerequisites as identified in the "Service eligibility" section have been met

• Assume responsibility for access and manipulation of the applications related to the implementation of HPE CA software, unless otherwise specified in Level III SOW

• Ensure that prerequisite volume capacity and shared memory is available in the HPE disk array to support the HPE CA implementation

• Be responsible for the pulling and installation of all cables external to the disk arrays

• Coordinate service deployment on third-party-maintained products (if applicable) with HPE

• Ensure that any and all prerequisite firmware or driver dependencies for the environment are completed before on-site service delivery begins

• Ensure the availability, at all times during service delivery, of one or more individuals who will provide administrator-level access to the systems where the work is to be performed

• Ensure that all hardware, firmware, and software that the HPE service specialist will need in order to deliver this service are available and that software products are properly licensed

• Allow HPE full and unrestricted or escorted access to all locations where the service is to be delivered

• Provide a suitable work area for delivery of the service, including access to an outside telephone line, power, and any network connections required

• Be responsible for all data backup and restore operations

• Perform other reasonable activities to help HPE identify or resolve problems, as requested by HPE

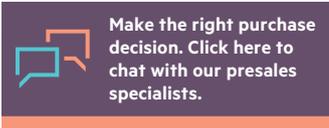## General provisions/other exclusions

- Hewlett Packard Enterprise reserves the right to reprice this service if the customer does not schedule and provide for subsequent delivery within 90 days of purchase.

- HPE reserves the right to charge, on a time and materials basis, for any additional work over and above this service package pricing that may result from work required to address service prerequisites or other requirements that are not met by the customer.

- HPE's ability to deliver this service is dependent upon the customer's full and timely cooperation with HPE, as well as the accuracy and completeness of any information and data the customer provides to HPE.

- Portions of the service are delivered remotely or on-site, at HPE's discretion.

- The service is delivered during HPE standard business hours. Service delivery outside these hours is available at additional cost.

- This service is delivered as a single, contiguous event. If customer resource availability or other customer restrictions delay installation or require additional visits beyond the defined scope of the service, additional charges may apply.

- Travel charges may apply; consult your local office.

Activities such as, but not limited to, the following are excluded from this service:

- Services that, in the opinion of HPE, are required due to unauthorized attempts by third-party personnel to install, repair, maintain, or modify hardware, firmware, or software

- Service required due to causes external to the HPE maintained hardware or software

- Service deployment on hardware not covered by an HPE warranty or service maintenance contract

- Service deployment on hardware covered by a third-party maintenance contract

- Any services not clearly specified in this document

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