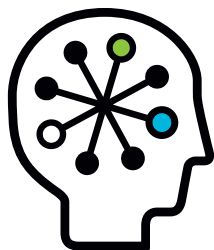


Continuity of Operations Planning

Implement COOP requirements for storage with HP LeftHand P4000 SAN Solutions



At a glance

HP LeftHand P4000 SAN Solutions provide built-in features for implementing federally mandated Continuity of Operations Planning directives:

- Protect against failures within a data center with SANs built to sustain multiple component failures
- Protect against site failure in a campus with built-in synchronous replication and auto failover/failback
- Recover from geographic failures with asynchronous replication and built-in failover and failback wizards
- Cost-effectively keep data protected at remote offices

Continuity of Operations Planning (COOP) is the disciplined planning needed to prepare for a natural or man-made emergency that affects service availability. With two new Federal Continuity Directives (FCDs), the COOP policy as outlined in NSPD-51, HSPD-20, and FPC 65 is smart planning that's now mandated. A well-designed business-continuance plan will detail how your agency's availability is supported from the initial response to an event to the full restoration of IT capabilities following an outage or disaster.

Reliable, enterprise-class storage

HP LeftHand P4000 SAN Solutions support continuous operations across a spectrum of potential failures—ranging from those that affect a single disk to disasters impacting an entire geographic location. Highly available, scalable, and simple to manage, P4000 SANs are ideal for applications that require continuous availability. Built-in synchronous and asynchronous replication functionality is included, not an additional-cost option as with traditional SANs.

Protect against failures inside the data center

Double disk faults really do happen, power cables get pulled, and RAID controllers fail. P4000 SANs protect against all of these by aggregating the resources of storage nodes into a cluster that provides higher availability. Logical volumes are load-balanced across the cluster and provided to application servers. The P4000 SAN's built-in synchronous replication—or network RAID—keeps volumes continuously online even if one or more of the cluster's storage nodes become unavailable.

Protect against entire data center failures

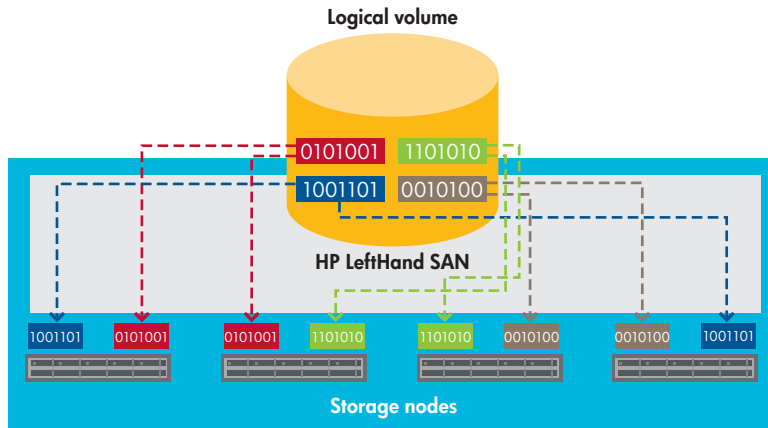
Many government organizations like yours have data centers spread across buildings on a campus or across different rooms in one large building. These physical designs can be resilient to the loss of a building or data center—if the storage system inside is continuously available. You can extend a P4000 SAN across multiple buildings on a campus or across geographic distance, creating a single, multi-site SAN. Network RAID maintains one or more copies of your data in each location. If one site goes dark, data is continuously available to servers in the second location. Unlike traditional SANs where synchronous replication is an add-on feature, P4000 SANs know the state of every data block. Failover and failback are automatic, making continuity of operations transparent to application servers.

Recover from geographic failures

Geographic disaster recovery is an important component of COOP strategies. With remote copies of agency-critical data, backup sites can take over in the event of a disaster at the primary site.

P4000 SANs implement asynchronous replication over geographic distances using periodic, scheduled remote copies. Remote copy uses snapshots to capture a consistent state of data at the primary site, then transfers only the blocks that have changed to the remote site. Remote replicas are both space- and time-efficient, minimizing bandwidth and reducing storage requirements. Because remote copies always replicate a consistent state of the storage system, there's never

Figure: HP LeftHand SANs synchronously replicate a logical volume's data blocks across a storage cluster, making it resilient to multiple component failures.



an issue of blocks being copied out of sequence. Intelligent bandwidth management dynamically adapts to network conditions, facilitating the use of the same network link for multiple classes of traffic. Built-in failover and failback wizards take the guesswork out of activating the remote site and restoring the primary site upon resolution. Remote copy is certified with VMware's Site Recovery Manager.

Keep data protected at remote and branch offices

Large agencies often maintain a data center with multiple remote offices. Many of those sites require a data recovery solution, but budgets don't always allow for this. HP LeftHand P4000 Replication for Remote Offices Software delivers SAN-based replication from remote and branch offices for an organization-wide, cost-effective solution. No SAN hardware is required at the sites, which are all managed from a single console through a simple, user-friendly interface. P4000 Replication for Remote Offices is certified with VMware's Site Recovery Manager, delivering efficient, affordable SAN replication.

Meet federal directives for COOP with P4000 SANs

Disasters come in all shapes and sizes, from the circuit-breaker failure that takes a rack out of service to the natural disaster that takes a geographic region offline. To help you meet mandated COOP directives, P4000 SANs provide enterprise-class storage with reliability and availability features designed into every architectural layer of the product.

Built-in continuity of operations features are provided at no additional cost, and they help maintain continuous availability of your data, whether the failure is within a data center, across a campus, at remote sites, or of geographic scale.

HP Services

Partner with HP Technology Services to boost availability and avoid costly downtime by mitigating technology-related business risks. To help take the worry out of deploying, supporting, and managing your HP LeftHand SAN Solution, we've designed a portfolio of service options that are as flexible, scalable, and affordable as our storage. For more information, talk with your HP sales representative or HP-authorized Channel Partner, or visit:

www.hp.com/hps/storage

HP Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help customers cost-effectively acquire, manage, and ultimately retire their HP solutions. For more information on these services, please contact your HP representative or visit:

www.hp.com/go/hpfinancialservices

For more information

To learn more about HP LeftHand P4000 SAN Solutions and how they can help you meet COOP directives, contact your local HP representative or visit:

www.hp.com/go/p4000

Technology for better business outcomes

To learn more, visit www.hp.com

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