IBM PowerHA SystemMirror for AIX 7.1.3 adds enhancements

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At a glance

PowerHA® SystemMirror for AIX® 7.1.3 enhances and adds new capabilities, including the following key features:

- HyperSwap® for active-active two-site configurations
- HyperSwap for single-node clusters
- Support for clustering with unicast communications
- Capability to dynamically modify the host name of a clustered node
- Operator-managed manual failover policy for multisite linked clusters
- Graphical Cluster Simulator
- Enhanced and flexible high availability management support for SAP

PowerHA SystemMirror for AIX Standard Edition is the IBM® Power Systems™ data center solution that helps protect critical business applications from outages, planned or unplanned.

PowerHA SystemMirror for AIX Enterprise Edition includes the Standard Edition plus advanced capabilities such as failover to back up resources at remote locations.

Overview

PowerHA SystemMirror for AIX 7 represents a new generation of clustering solutions for high availability and disaster recover. Based on Cluster Aware AIX (CAA), the PowerHA SystemMirror Standard Edition and the PowerHA SystemMirror Enterprise Edition offerings represent a major shift in the traditional architectural concepts of building and managing clusters for high availability and disaster recovery. Cluster Aware AIX shifts key aspects of clustering technology into the AIX kernel, helping to enable simpler, more robust cluster formation and management. Cluster Aware AIX features near real-time inter-node messaging and synchronization, cluster-wide health management, and multichannel redundancy. With Technology level (TL) 3, Standard Edition can be configured with unicast (Default option) or multicast communications.

The PowerHA SystemMirror V7.1 offering introduced new capabilities that include stretched clusters and linked clusters, both of which enable kernel-level communications between geographically dispersed nodes for more robust configurations. The linked cluster topology has an independent cluster repository at the primary and secondary sites, which enables clients to have two data centers linked by uncasting. A stretched cluster configuration has a single repository and supports multicasting and multichannel communications as well as unicast communications with TL 3.
The version 7 clustering technology enables PowerHA SystemMirror V7.1 Enterprise Edition to support HyperSwap with the IBM System Storage® DS8800 or DS8870 and Metro Mirror replication. HyperSwap technology enables PowerHA Enterprise Edition clients to deploy two Power Systems servers and two DS8870 storage units between sites in a cross-coupled configuration that provides continuity through a storage failure. With this announcement, version 7.1 TL3 enables an active-active HyperSwap configuration that will support active-active workloads on both sites. Active-active site configuration can provide for a powerful deployment model where the loss of compute nodes, storage systems, or even the site, may not result in any disruption to the business as in the traditional failover-based HA model. PowerHA SystemMirror V7.1.3 also will support HyperSwap configuration for a single server. This enables a client to have redundant and geographically dispersed storage servers in a HyperSwap configuration. HyperSwap technology allows nondisruptive switching between storage servers.

In addition to integration with Cluster Aware AIX, PowerHA SystemMirror V7.1 Standard Edition features include:

- Centralized cluster repository for cluster-wide name space management and internode synchronization.
- PowerHA SystemMirror kernel-based, low-latency event communication.
- Smart Assist technology, enabling out-of-the-box high availability support for popular applications and a new intuitive user interface. The Smart Assist portfolio supports IBM DB2®, IBM WebSphere®, IBM MQSeries®, Oracle, SAP, SAP MaxDB, Enterprise Content Manager, TSM, Lotus® Domino® Server, IBM LDAP, IBM HTTP printers, and FileNet®. PowerHA SystemMirror also includes Smart Assists to deploy and manage the SAP liveCache Hot Standby Solution. PowerHA SystemMirror TL03 enhances the support for SAP HA management. The customer can now deploy SAP global file systems to be within the PowerHA clusters or outside the cluster. Additionally, multiple instances of SAP deployment can be managed through the SAP Smart Assist provided by PowerHA. Many customization-related configuration parameters are allowed that will enable the SAP field practitioners to activate HA management for many varied SAP deployments.
- IPv6 is supported for both internal and external cluster communications.
- The IBM Systems Director based PowerHA SystemMirror management interface provides for an easy-to-use graphical interface to deploy and manage the PowerHA SystemMirror clusters. A set of wizards guides customers through creation of cluster and resource groups. A sophisticated management interface allows the customer to manage various clusters in their environment. Using this interface, administrators can generate reports, examine topology, and be notified of status changes to resources and clusters.
- PowerHA SystemMirror V7.1 Standard Edition and Enterprise Edition include the IBM Systems Director plugin at no charge, which can be installed and used to deploy and manage PowerHA SystemMirror clusters. The plugin consists of the IBM Systems Director server component and also the agent that gets deployed on individual nodes in the PowerHA SystemMirror clusters. IBM Systems Director Server component of the PowerHA plugin can also be downloaded and installed by the customer.
- PowerHA V7.1 TL3 includes a cluster simulator option that allows you to configure a simulated cluster topology and experiment with different configurations options. Configuration of such a cluster can be saved in a file and later deployed as a cluster (if the configuration matches with the hardware in place). Note that a cluster can be deployed using the configuration file once the hardware and the software components are in place.

PowerHA SystemMirror for AIX 7.1 highlights include:

- Support for HyperSwap with the DS8800.
- With TL3, support for active-active HyperSwap and single-server HyperSwap.
- Linked cluster technology for multisite unicast communications with independent cluster repositories.
• Stretched cluster technology for multisite multicast communications with a shared cluster repository.
• TL3 supports clustering through unicast (default) communications or multicast communications for Standard Edition configurations, enabling flexibility in regards to network setup. The Enterprise Edition using linked clusters already supports unicast-based clustering. Multiple sites using stretched clusters can also use unicast communication.
• PowerHA SystemMirror provides for centralized administration of the stretched and linked cluster topology's critical management capabilities in storage, network, and security areas. The IBM Systems Director based graphical interface provides a sophisticated dashboard for managing all the clusters in the enterprise environment from a single interface.
• Multisite configuration wizard for simplified setup of the PowerHA multisite cluster.

The PowerHA SystemMirror 7.1 Enterprise Edition also supports:

• IBM Storage Systems DS8800, SVC, V7000, and XIV® with either Metro Mirror or Global Mirror, enabling automatic failover between geographically dispersed data centers.
• Specified Hitachi and EMC storage replication services.
• Failover policy may be set to manual mode. In this mode, the operator decides whether or not to failover to the remote location.

**Key prerequisites**

PowerHA SystemMirror V7 is supported on AIX 6.1 and AIX 7.1 operating systems.

The specific software requirements for PowerHA SystemMirror V7.1.3 are as follows:

• Software levels required:
  – Operating system (one of the following):
    AIX 6.1 Technology Level 9 with Service Pack 1
    AIX 7.1 Technology Level 3 with Service Pack 1

**Planned availability date**

December 6, 2013

**Reference information**

Refer to Software Announcement ZP12-0468, dated October 03, 2012.

**Product number**

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**Announcement countries**

All European, Middle Eastern, and African countries.
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