<table>
<thead>
<tr>
<th>Replication Option</th>
<th>HA version (minimum)</th>
<th>AIX 5.3</th>
<th>AIX 6.1</th>
<th>AIX 7.1</th>
<th>VIOS</th>
<th>NPIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLVM synchronous</td>
<td>5.2+IY66555</td>
<td>YES – ML2</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>GLVM asynchronous</td>
<td><strong>5.5 SP1</strong></td>
<td>NO</td>
<td>Yes-TL2 SP3</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>SVC Metro Mirroring</td>
<td>5.2</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>SVC GLobal Mirroring</td>
<td>5.5</td>
<td>YES – TL9 RSCT 2.4.10.0</td>
<td>YES–TL2 RSCT 2.5.2.0</td>
<td>YES</td>
<td>Same as Metro above except no 5.4.1 support</td>
<td>YES</td>
</tr>
<tr>
<td>Storwize v7000 replication</td>
<td>5.5</td>
<td>TL11, SP01 RSCT 2.4.13.0</td>
<td>TL04 SP03 RSCT 3.1.0.3</td>
<td>TL0 SP02 RSCT 3.1.0.3</td>
<td>Same as Metro above except no 5.4.1 support</td>
<td>YES</td>
</tr>
<tr>
<td>ESS Metro</td>
<td>5.1</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES w/HA v6.1</td>
<td>YES</td>
</tr>
<tr>
<td>DS6k/8K Metro</td>
<td>5.2+IY73937 5.3+IY74112</td>
<td>YES-ML1</td>
<td>YES</td>
<td>YES</td>
<td>YES w/HA v6.1</td>
<td>YES</td>
</tr>
<tr>
<td>EMC SRDF (sync and async)</td>
<td>6.1 or <strong>7.1.2</strong></td>
<td>YES – TL9 RSCT 2.4.12.0</td>
<td>YES–TL2 SP1 RSCT 2.5.4.0</td>
<td>YES</td>
<td>Not vSCSI</td>
<td>YES</td>
</tr>
<tr>
<td>HP Continuous Access P9500</td>
<td>6.1 SP3</td>
<td>YES – TL9 RSCT 2.4.12.0</td>
<td>YES–TL2 SP1 RSCT 2.5.4.0</td>
<td>YES</td>
<td>Not vSCSI</td>
<td>YES</td>
</tr>
<tr>
<td>XIV</td>
<td><strong>6.1 SP7</strong> or <strong>7.1.2</strong></td>
<td>NO</td>
<td>YES - TL5 RSCT 3.1.0.3</td>
<td>YES – RSCT 3.1.0.3</td>
<td>Not vSCSI</td>
<td>YES</td>
</tr>
</tbody>
</table>
Addition EMC/SRDF software requirements:
- JAVA
- IBM’s Java 1.4 preferred
- EMC SYMCLI
- SYMCLI.SYMCLI.rte 7.0.0.0

The SYMCLI command line interfaces must be installed in the default location, /usr/symcli/bin
- EMC Storage Subsystem
  - DMX-3 with microcode 5772.103.93 or higher
  - DMX-4 with microcode 5773.134.94 or higher
  - V-MAX with microcode 5874.188.156 or higher
- PowerPath
  - 5.3.0.0
  - cluster.es.sr.rte
  - cluster.es.sr.cmds
  - cluster.msg.en_US.sr

Additional DS8700 Global Mirror software requirements
- DS8700 Firmware Software Bundle V75.1.145.0 or later
- DSCLI version 6.5.1.203 or later
- JAVA
- Additional filesets from 6.1 SP3 specifically above what comes on 6.1 EE base media
  - cluster.es.genxd
  - cluster.msg.en_US.genxd

Additional Hitachi software requirements
- USPV Microcode 60-06-05/00, or later
- CCI Version 01-23-03/06 or later
- Additional filesets from 6.1 SP3 specifically above what comes on 6.1 EE base media
  - cluster.es.tc
  - cluster.msg.en_US.tc

Additional HP software requirements
The following HP software and microcode were used as part of the testing:
1. HP StorageWorks XP Continuous Access Software (no version needed)
2. HP RAID Manager: 1.25.11
3. XP 24000 Microcode: 60-08-08-00/00
4. XP 12000 Microcode: 50-09-98-00/08
5. MPIO: MPIO ODM (5403) devices.fcp.disk.HP.xparray.mpio.rte 5.4.0.3

Remember that support is contingent on the common denominator across all the pieces. For example, SVC Metro Mirroring is supported at HA 5.2 and above. However, it is NOT supported in a VIOS environment in 5.2. Hopefully this chart makes sense. This is created and maintained by Shawn Bodily. Feel free to send feedback to sbodily@cleartechologies.net
IBM PowerHA SystemMirror v7.1.2 Enterprise Edition Adds Support for the EMC® Symmetrix® VMAX®
August 30, 2013

IBM PowerHA SystemMirror for AIX® V7.1.2 for AIX V6.1 and V7.1 Enterprise Edition adds support for the EMC Symmetrix VMAX.

PowerHA SystemMirror V7.1 Enterprise Edition now supports High Availability and Disaster Recovery (HA/DR) capability with EMC Symmetrix Remote Data Facility (SRDF) replication with the EMC Symmetrix VMAX. Support is for both Synchronous and Asynchronous SRDF mirror capabilities.

Please refer to the following information for support details.

<table>
<thead>
<tr>
<th>Symmetrix VMAX</th>
<th>AIX V6.1</th>
<th>AIX V7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerHA V7.1.2 Enterprise Edition</td>
<td>PowerHA V7.1.2 SP 3 AIX 6.1 TL 8 SP 3 AIX APARs IV43497, IV43498</td>
<td>PowerHA V7.1.2 SP 3 AIX V7.1 TL 2 SP 3 AIX APARs IV37880, IV41728</td>
</tr>
</tbody>
</table>

**Addition EMC/SRDF Software Requirements:**
- EMC SYMCLI - SYMCLI.SYMCLI.rte 7.5.1.9 (The SYMCLI command line interfaces must be installed in the default location, /usr/symcli/bin)
- EMC Storage Subsystem:
  - DMX-3 with microcode 5773.184.130 or higher
  - DMX-4 with microcode 5773.184.130 or higher
  - VMAX with microcode 5875 or higher
- PowerPath 5.5.0.6
- Customers running EMC Solutions Enabler 7.60 should install SE Hotfix 7.5.1.9. Please see EMC Primus Case emc321039 for details.
IBM PowerHA SystemMirror for AIX V7.1.2 Enterprise Edition Adds Support for the Hewlett Packard (HP) P9500 Disk Array

March 31, 2013

IBM PowerHA SystemMirror for AIX V7.1.2 Enterprise Edition* for is adding support for the Hewlett Packard (HP) P9500 Disk Array.

IBM PowerHA SystemMirror for AIX V7.1.2 Enterprise Edition for AIX will now support High Availability and Disaster Recovery (HA/DR) capability with HP P9000 Continuous Access Synchronous Software replication for the HP P9500 Disk Array.

Support is available for both FC-attach and NPIV. "This support includes both synchronous and asynchronous replication."

Please refer to the following information for support details.

Testing was performed with the following levels:

<table>
<thead>
<tr>
<th>HP P9500</th>
<th>AIX V6.1</th>
<th>AIX V7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerHA SystemMirror V7.1.2 Enterprise Edition</td>
<td>PowerHA V7.1.2 SP 2 AIX V6.1 TL 8 AIX APAR IV31365</td>
<td>PowerHA V7.1.2 SP 2 AIX V7.1 TL 2 AIX APAR IV31373</td>
</tr>
</tbody>
</table>

Clients are advised to obtain the latest available service updates from IBM and HP. The following HP software and microcode were used as part of the testing:

1. HP P9000 Continuous Access Synchronous Software
2. HP P9000 RAID Manager: 01-23-03/06
3. P9500 Microcode: 70-02-05-00/00
4. MPIO: MPIO ODM (5403) devices.fcp.disk.HP.xparray.mpio.rte 5.4.0.3
IBM PowerHA SystemMirror for AIX V7.1.2 Enterprise Edition Adds Support for the Hewlett Packard (HP) XP12000 and XP24000
March 31, 2013

IBM PowerHA SystemMirror for AIX V7.1.2 Enterprise Edition* is adding support for the Hewlett Packard (HP) XP12000 and XP24000.

IBM PowerHA SystemMirror for AIX V7.1.2 will now support High Availability and Disaster Recovery (HA/DR) capability with HP StorageWorks XP Continuous Access Software replication for the HP XP12000 and XP 24000.

Support is available for both FC-attach and NPIV. "This support includes both synchronous and asynchronous replication."

Please refer to the following information for support details.

Testing was performed with the following levels:

<table>
<thead>
<tr>
<th>HP XP12000 and XP24000</th>
<th>AIX V6.1</th>
<th>AIX V7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PowerHA SystemMirror</strong></td>
<td><strong>V7.1.2</strong></td>
<td><strong>V7.1.2</strong></td>
</tr>
<tr>
<td><strong>Enterprise Edition</strong></td>
<td><strong>SP 2</strong></td>
<td><strong>SP 2</strong></td>
</tr>
<tr>
<td></td>
<td><strong>AIX V6.1 TL 8</strong></td>
<td><strong>AIX V7.1 TL 2</strong></td>
</tr>
<tr>
<td></td>
<td><strong>AIX APAR IV31365</strong></td>
<td><strong>AIX APAR IV31373</strong></td>
</tr>
</tbody>
</table>

Clients are advised to obtain the latest available service updates from IBM and HP. The following HP software and microcode were used as part of the testing:

1. HP StorageWorks XP Continuous Access Software (no version needed)
2. HP RAID Manager: 1.25.11
3. XP 24000 Microcode: 60-08-08-00/00
4. XP 12000 Microcode: 50-09-98-00/08
5. MPIO: MPIO ODM (5403) devices.fcp.disk.HP.xparray.mpio.rte 5.4.0.3
IBM PowerHA SystemMirror for AIX V7.1.2 Enterprise Edition Adds Support for the Hitachi Virtual Storage Platform (VSP)

March 31, 2013

IBM PowerHA SystemMirror for AIX V7.1.2 Enterprise Edition* for AIX V6.1 and V7.1 is adding support for the Hitachi Virtual Storage Platform (VSP).
IBM PowerHA SystemMirror for AIX V7.1.2 Enterprise Edition for AIX V6.1 and V7.1 will now support High Availability and Disaster Recovery (HA/DR) capability with Hitachi TrueCopy replication for the Hitachi VSP.

Support is available for both FC-attach and NPIV. Support includes:
synchronous replication via TrueCopy
asynchronous replication via Hitachi Universal Replicator (HUR).

Please refer to the following information for support details.

Testing was performed with the following levels:

<table>
<thead>
<tr>
<th>Hitachi VSP</th>
<th>AIX V6.1</th>
<th>AIX V7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerHA SystemMirror V7.1.2 Enterprise Edition</td>
<td>PowerHA V7.1.2 SP 1 AIX V6.1 TL 5 AIX APAR IV31365</td>
<td>PowerHA V7.1.2 SP 1 AIX V7.1 TL 2 AIX APAR IV31373</td>
</tr>
</tbody>
</table>

Clients are advised to obtain the latest available service updates from IBM and Hitachi.
The following Hitachi software and microcode were used as part of the testing:
1. Microcode: 70-01-66-00/00
2. MPIO: Hitachi.aix.support.rte 5.0.52.3 and DLManager.mpio.rte 6.5.3.
IBM PowerHA SystemMirror for AIX Enterprise Edition Adds Support for the Hewlett Packard (HP) XP12000 and XP24000
November 19, 2011

IBM PowerHA SystemMirror for AIX V6.1 Enterprise Edition* is adding support for the Hewlett Packard (HP) XP12000 and XP24000.

IBM PowerHA SystemMirror for AIX V6.1 Enterprise Edition now supports the High Availability and Disaster Recovery (HA/DR) capabilities of the HP XP12000 and XP24000 Disk Arrays with synchronous and asynchronous replication.

Support is available for both FC-attach and NPIV.

Please refer to the following information for support details.

Testing was performed with the following levels:

<table>
<thead>
<tr>
<th>HP XP12000 and XP24000</th>
<th>AIX V6.1</th>
<th>AIX V7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerHA SystemMirror</td>
<td>PowerHA V6.1 SP3</td>
<td>PowerHA V6.1 SP3</td>
</tr>
<tr>
<td>V6.1 Enterprise Edition</td>
<td>AIX V6.1 TL05</td>
<td>AIX V7.1</td>
</tr>
<tr>
<td></td>
<td>RSCT V3.1.0.3</td>
<td>RSCT V3.1.0.3</td>
</tr>
</tbody>
</table>

Clients are advised to obtain the latest available service updates from IBM and HP.

The following HP software and microcode were used as part of the testing:

1. HP StorageWorks XP Continuous Access Software (no version needed)
2. HP RAID Manager: 1.25.11
3. XP 24000 Microcode: 60-08-08-00/00
4. XP 12000 Microcode: 50-09-98-00/08
5. MPIO: MPIO ODM (5403) devices.fcp.disk.HP.xparray.mpio.rte 5.4.0.3
IBM PowerHA SystemMirror for AIX adds Enterprise Edition Support for the IBM XIV Storage System (2810-A14/2812-114)
December 16, 2011

IBM PowerHA SystemMirror for AIX* extends Enterprise Edition support to the IBM XIV Storage System (models 2810-A14/2812-114).

IBM PowerHA SystemMirror for AIX Enterprise Edition will now support High Availability and Disaster Recovery (HA/DR) capability with synchronous and asynchronous replication for the IBM XIV.

Support is available for both direct FC-attach and NPIV through VIOS. It is not supported for attach through VIOS/vSCSI.

Please refer to the following information for support details.

<table>
<thead>
<tr>
<th>IBM XIV Storage System (2810-A14/2812-114)</th>
<th>AIX V5.3</th>
<th>AIX V6.1</th>
<th>AIX V7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerHA SystemMirror V6.1</td>
<td>PowerHA V6.1 SP7 (APAR IV11782), AIX V5.3 TL9, RSCT 2.4.13.0</td>
<td>PowerHA V6.1 SP7 (APAR IV11782), AIX V6.1 TL5 SP1, RSCT 2.5.5.2</td>
<td>PowerHA V6.1 SP7 (APAR IV11782), AIX V7.1, RSCT V3.1.0.3</td>
</tr>
</tbody>
</table>

Clients are advised to obtain the latest service updates for this support.

Notes:

- PowerHA requires XIV microcode level 10.2.4 or later for the 2810-A14 and XIV microcode level 11.0.0 or later for the 2812-114
- When XIV is used in an EE cluster, both sites must use the same model of XIV. That is, having both a 2810-A14 and a 2812-114 in the same cluster is not supported. IBM intends to remove this restriction in a future release.
- Multipath I/O via iSCSI is not supported at this time. IBM intends to remove this restriction in a future product update.
IBM PowerHA SystemMirror for AIX Enterprise Edition Adds Support for the Hitachi Virtual Storage Platform (VSP)

August 19, 2011

IBM PowerHA SystemMirror for AIX V6.1 Enterprise Edition* for AIX V6.1 and V7.1 is adding support for the Hitachi Virtual Storage Platform (VSP).
IBM PowerHA SystemMirror for AIX V6.1 Enterprise Edition for AIX V6.1 and V7.1 will now support High Availability and Disaster Recovery (HA/DR) capability with Hitachi TrueCopy replication for the Hitachi VSP.

Support is available for both FC-attach and NPIV.

Please refer to the following information for support details.

Testing was performed with the following levels:

<table>
<thead>
<tr>
<th>Hitachi VSP</th>
<th>AIX V6.1</th>
<th>AIX V7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerHA SystemMirror V6.1</td>
<td>PowerHA V6.1 SP3 AIX V6.1 TL05 RSCT V3.1.0.3</td>
<td>PowerHA V6.1 SP3 AIX V7.1 RSCT V3.1.0.3</td>
</tr>
</tbody>
</table>

Clients are advised to obtain the latest available service updates from IBM and Hitachi.

The following Hitachi software and microcode were used as part of the testing:

1 Microcode: 70-01-66-00/00
2 MPIO: Hitachi.aix.support.rte 5.0.52.3 and DLManager.mpio.rte 6.5.3.0
IBM PowerHA SystemMirror for AIX Enterprise Edition adds support for the IBM DS8700 Global Mirror Feature

September 10, 2010

IBM PowerHA SystemMirror for AIX Enterprise Edition* (formerly HACMP*) V6.1 for AIX V5.3 and V6.1 adds support for the IBM DS8700 Global Mirror (asynchronous replication) feature.

Asynchronous replication allows the flexibility to deploy multiple applications with Extended Distance Disaster Recovery support in variety of combinations. Enterprise customers can use PowerHA System Mirror (Enterprise Edition) 6.1 and DS8700 Global Mirror to add High Availability and Disaster Resiliency functions to multiple applications.

Please refer to the following information for support details. The specified levels, or later, are required for this support.

<table>
<thead>
<tr>
<th>IBM DS8700 Global Mirror</th>
<th>AIX V5.3</th>
<th>AIX V6.1</th>
<th>AIX V7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerHA V6.1 Enterprise Edition</td>
<td>PowerHA V6.1 SP3, AIX 5.3 TL9, RSCT V2.4.12.0</td>
<td>PowerHA V6.1 SP3, AIX 6.1 TL2 SP1, RSCT V2.5.4.0</td>
<td>PowerHA V6.1 SP3, AIX V7.1, RSCT V3.1.0.0</td>
</tr>
</tbody>
</table>

**NOTE:** There are new install images required for this exact support. Performing a typical "update_all" on SP3 will not install them. You must perform and "install_all" and include:

cluster.es.genxd
cluster.msg.en_US.genxd

The following storage hardware/software/microcode is required for this support:

- IBM DS8700
- DS8700 Firmware Software Bundle V75.1.145.0 or later
- DSCLI version 6.5.1.203 or later

**Important:** This support is initially limited to direct attach only. This limitation is expected to be removed in a future release.
February 2, 2010

IBM PowerHA SystemMirror for AIX* (formerly HACMP*) V6.1 for AIX V5.3 and V6.1 adds support for the EMC Symmetrix V-Max.

The Extended Distance (XD) feature of the IBM PowerHA SystemMirror V6.1 Enterprise Edition now supports High Availability and Disaster Recovery (HA/DR) capability with EMC Symmetrix Remote Data Facility (SRDF) replication with the EMC Symmetrix V-Max.

Please refer to the following information for support details.

<table>
<thead>
<tr>
<th>Symmetrix V-Max</th>
<th>AIX V5.3</th>
<th>AIX V6.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerHA V6.1</td>
<td>PowerHA V6.1, SP1</td>
<td>PowerHA V6.1, SP1</td>
</tr>
<tr>
<td></td>
<td>AIX 5.3 TL9</td>
<td>AIX 6.1 TL2 SP1</td>
</tr>
<tr>
<td></td>
<td>RSCT V2.4.12.0</td>
<td>RSCT V2.5.4.0</td>
</tr>
</tbody>
</table>

Service can be obtained from the IBM Electronic Fix Distribution site at:
http://www-03.ibm.com/servers/eserver/support/unixservers/aixfixes.html
IBM PowerHA supports Asynchronous Mirroring Option for GLVM
March 26, 2009

IBM* PowerHA* (formerly HACMP*) for AIX*, Version 5.5 with the PowerHA/XD optional feature, expands support to include the asynchronous mirroring option for GLVM.

Please refer to the following information for support details.

<table>
<thead>
<tr>
<th>PowerHA</th>
<th>AIX 6.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerHA V5.5</td>
<td>PowerHA V5.5 SP1</td>
</tr>
<tr>
<td></td>
<td>AIX 6.1 TL2 SP3</td>
</tr>
<tr>
<td></td>
<td>RSCT V2.5.2.0</td>
</tr>
</tbody>
</table>

Notes:

- Geographic Logical Volume Manager (GLVM) provides data replication over IP networks for use in disaster recovery solutions. GLVM supports two modes for replication: Synchronous replication and Asynchronous replication.

  More information can be found in the Geographic LVM: Planning and Administration Guide.

- PowerHA/XD GLVM Asynchronous support requires PowerHA APAR IZ31205 and IZ31207 (included in PowerHA V5.5 SP1), and AIX APAR IZ31208 (included in AIX V6.1 TL2 SP3). IBM recommends the software levels stated in the above table.

Restriction Notes:

- If it is necessary to change the configuration of a geographically mirrored volume group - such as, to replace a failed disk, or to extend the volume group - it is necessary to bring the volume group off-line and on-line again. IBM intends to remove this restriction in the future.

Service can be obtained from the IBM Electronic Fix Distribution site at: