Enhancements to IBM Geographically Dispersed Parallel Sysplex (GDPS)

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At a glance

Geographically Dispersed Parallel Sysplex™ (GDPS®) V3.8 has been enhanced with a number of new capabilities which address improved cross-platform support, enhanced availability, increased scalability, and simplified systems management. In addition, there are new tools available that can be used in conjunction with GDPS that extend and complement GDPS functionality and help manage the GDPS environment.

Overview

IBM® Server Optimization and Integration Services - IBM Implementation Services for Geographically Dispersed Parallel Sysplex, announced in Services Announcement LS10-0019, dated March 23, 2010, has been enhanced and updated to Version 3.8.

For a detailed description of the enhancements, refer to the Description section of this announcement.

Key prerequisites

A complete description of the GDPS prerequisites can be found at


Planned availability date

March 31, 2011
- RCMF/PPRC V3.8
- GDPS/PPRC V3.8
- GDPS/PPRC HyperSwap™ Manager V3.8
- RCMF/XRC V3.8
- GDPS/XRC V3.8
- GDPS/Global Mirror V3.8
- GDPS Metro/Global Mirror V3.8
- GDPS Metro/z/OS Global Mirror V3.8

June 30, 2011
- GDPS/GM support for 'copy once' volumes
Description

IBM Server Optimization and Integration Services - IBM Implementation Services for Geographically Dispersed Parallel Sysplex enhancements:

- Improved cross-platform support:
  - GDPS/PPRC xDR (also known as Multiplatform Resilience for System z®) support for SCSI-attached Fixed Block Architecture (FB) devices - xDR for native Linux® environments is extended in GDPS V3.8 to include support for managing PPRC, data consistency, and HyperSwap for SCSI attached FB disks. This provides near-continuous disk availability for the Linux environment when Linux is running native in a System z LPAR.
  - GDPS/PPRC xDR extended monitoring - GDPS monitors native or guest xDR environments for conditions that would prevent a HyperSwap from succeeding and raises alerts allowing you to fix a problem before it can impact a swap.
  - XRC time stamping support for z/VM® - Time stamping support allows z/VM systems' data to be managed by multiple coupled SDMs, providing support for large z/VM environments. Additionally, it allows for consistency across z/VM and z/OS® data in environments where applications may update data on both z/VM and z/OS requiring cross-platform consistency.

- Availability and scalability:
  - GDPS/HM IPL protection (new) and GDPS/PPRC IPL protection (extended)
    - Prior to GDPS V3.8, GDPS/PPRC provided IPL protection early in the IPL process, during initialization of GDPS, by not allowing a system IPLed on the wrong set of disks to continue running. This protection already available to GDPS/PPRC is now being extended to GDPS/HM with GDPS V3.8. Additionally with GDPS V3.8, the protection for GDPS/PPRC is being extended. If an IPL is attempted using GDPS against the incorrect set of disks, GDPS will reject the IPL.
  - SNA communications limitation - The number of nodes that can be defined to the GDPS/MzGM SNA communication facility has been increased from 10 to 15. By increasing this you can now define up to seven GDPS/PPRC environments, each with two control systems to be managed by a single GDPS/XRC environment.
  - GDPS/PPRC and GDPS/HM reduce impact of false freezes - GDPS V3.8 and the DS8000™ disk subsystems, at the prerequisite levels of microcode, provide synergistic function to reduce the impact of false freeze events. The new function provides GDPS with the ability to query the secondary disk subsystem in order to understand what caused the freeze and take the appropriate action.

- GDPS/XRC UCB constraint relief for large XRC configurations - With GDPS V3.8, the restriction that all devices in a GDPS/XRC configuration be defined and identified with unique device addresses has been relaxed and GDPS can optionally bypass the checking it performs to ensure that device addresses are unique. Bypassing the checking allows duplicate device addresses to be used across SDM systems, effectively increasing the number of devices that can be managed in a GDPS/XRC configuration. GDPS V3.8 is also adding two new options for the FlashCopy® target device definitions which can provide further UCB constraint relief in a GDPS/XRC environment. The first option allows the FlashCopy target devices to be defined only in the GDPS Controlling system but not to be defined in the SDM systems. The second option provides support for a 'no UCB FlashCopy' where the FlashCopy targets need not be defined to any systems in GDPS.
  - Enhancements for Server Time Protocol (STP), Sysplex Timer® recovery, network management for GDPS/PPRC, and GDPS/PPRC HM:
    - GDPS will automatically reply to the ETR or STP based WTORs posted by z/OS GDPS production systems running on a server that has become unsynchronized. By automating the response to the WTORs, potential time outs of subsystems and applications in your enterprise may be averted, thus potentially preventing a production outage.
-- GDPS takeover and control scripts have been enhanced to have the capability to reconfigure an STP Coordinated Timing Network (CTN). Control scripts can be executed before a planned action such as a deactivate of the server that is providing the clock source. Takeover scripts can be executed to force a server to become the clock source after an unplanned outage if the servers in the disaster recovery site do not have a usable clock source. By automating the reassignment of these special roles, recovery time can be improved and system management of the CTN is simplified.

-- GDPS takeover scripts have been enhanced with the capability to respond to the WTORs posted by production systems which improves recovery times and simplifies operations.

• Simplified systems management:
  - GDPS/PPRC xDR installation health checker - GDPS/PPRC V3.8 supplies an xDR Installation Health Checker program which performs a number of checks on the setup of the xDR environment to ensure that required installation and customization tasks have been performed and that they have been performed correctly. It is available for both xDR Native Linux and Guest Linux on System z environments.
  - GDPS/PPRC and GDPS/HM concurrent copy session cleanup - Automates cleanup of control information pertaining to concurrent copy operations on the former primary disks. Cleanup of this information is required before PPRC mirror can be established as the target.
  - GDPS CPC and LPAR awareness for z/OS and xDR systems - Enables GDPS to track the CPC and LPAR locations where GDPS systems are running, allowing GDPS to better control recovery situations.
  - Split freeze and swap policy specifications for GDPS/PPRC and GDPS/HM - GDPS V3.8 provides two separate options which can be used in place of the previous combined, single policy option. The first option describes what GDPS should do for a PPRC mirroring failure event and the second option describes what GDPS should do for a primary device failure. Splitting of the policy allows for different combinations of options that can be specified which were not previously possible with a single option.
  - GDPS/PPRC and GDPS/HM persistent reserve cleanup on Open LUNs - Persistent reserves prevent resynchronization of PPRC when these disks are the secondary target devices for PPRC. GDPS will now optionally reset any persistent reserve on Open LUN (FB) target devices when a PPRC resynchronization is performed. This helps simplify the removal of persistent reserves.
  - GDPS zero suspend FlashCopy support for persistent/incremental FlashCopy - GDPS/XRC zero suspend FlashCopy support is being extended to include the ability to take persistent/incremental FlashCopies for selected disks in the GDPS-managed XRC configuration. With incremental FlashCopy, changes that occur to the source disks since the last incremental copy are tracked and only the information that has been changed is copied when the next incremental FlashCopy is taken.
  - GDPS query services extended to GDPS/GM - GDPS query services is a facility that allows user-written REXX™ programs running under NetView® to query and obtain the value for some GDPS variables. This allows you to augment and complement GDPS automation with your own automation REXX code for various purposes such as reporting, monitoring, or problem determination.
  - Global Mirror Monitor for GDPS/GM - Prior to GDPS V3.8, a Global Mirror Monitor tool was supplied to Global Mirror clients on an as-is basis. GDPS V3.8 will provide a Global Mirror Monitor as an integrated and supported component of GDPS/GM. Integration of the monitor, together with exploiting the alerting and autonomic capabilities of GDPS, will help provide operational simplicity and high GDPS/GM value.
  - GDPS/GM support for 'copy once' volumes - GDPS, in recovery scenarios, performs restarts of systems using the mirrored copy of the disks in a recovery site. Certain volumes such as paging or work volumes need to exist in the recovery site, however, the content is of temporary nature and is not reused and therefore does not need to be up to date and be continually copied to the recovery site. It is sufficient to copy such devices once to establish the
volume contents as a template. Once this copy is complete, the mirroring of this volume can be stopped. GDPS/GM V3.8 provides new function to allow identification of the copy once devices in the configuration and to automate management of the mirroring and subsequently stopping of the mirroring of these volumes. This new capability automates and simplifies operational tasks relating to managing copy once devices in a GDPS/GM environment.

- New GDPS tools and GDPS tool extensions:
  - Preserve Mirror Tool (PMT) extended to support alternate subchannel set - The PMT simplifies adding new devices into an already running GDPS configuration. The tool performs the necessary steps and monitors progress while bringing the new devices to a duplex state before they are added into the GDPS configuration. The tool is extended to support adding new secondary devices that are defined in an alternate subchannel set.
  - GDPS/PPRC configuration checker tool - This tool identifies devices that are defined in production systems that are not under GDPS management control. Devices may be accidentally left out from the GDPS configuration so regularly running this tool would help installations to catch and correct such errors. This tool supports 2-site GDPS/PPRC and GDPS/HM configurations as well as GDPS/PPRC and GDPS/HM that are running as part of a 3-site GDPS/MzGM or GDPS/MGM configuration.
  - GDPS Console Interface Tool (GCI) - Allows GDPS scripts or individual GDPS script statements to be executed from the MVS system console. The tool provides installations with an additional alternative allowing you to select the most appropriate method when performing GDPS operations.
  - MGM Incremental Resynchronization (IR) tool - The MGM IR tool will be shipped with GDPS V3.8 as a supported tool and will support the following new capabilities:
    -- Reintroduction of the intermediate disk, also known as "B" disk.
    -- Planned "toggle" using HyperSwap between "local" disk, also known as "A" disk, and intermediate B disk with incremental resynchronization of the GM session using the GDPS/MGM IR Tool to the "remote" disk, also known as "C" disk. This is also known as the ABC to BAC transformation.
    -- "Go Home" after recovery on the "remote" disk. If both the local A and intermediate B disks are unavailable, recovery can be initiated and restarted on the C disk. When the A and B disks are restored, the Go Home process incrementally re-synchronizes changes that have occurred on the C disk back to the A and B disk and goes back to an ABC configuration.

The following functions were removed in GDPS Version 3.8:

- P/DAS support in GDPS PPRC and RCMF.
- Support for the GDPS network management functions for SNA.
- Support for the ACTIVATE command to IPL systems. LOAD is the only supported method to IPL systems.

**Prices**

For pricing information, contact your IBM representative.

**LA distribution**

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