

What's new/changed in GDPS 4.2?

On March 26, 2019, IBM has announced Version 4 Release 2 of GDPS® Metro, GDPS Metro HyperSwap® Manager, GDPS Global - GM, and GDPS Global - XRC with General Availability on March 29, 2019.

In addition, GDPS Continuous Availability Version 2 Release 2 will be released on 29th March 2019.

This document describes at a high level:

- ▶ New function and changes in GDPS V4.2, including new function added in GDPS V4.1 via Small Programming Enhancement (SPE) APARs.
- ▶ New function and changes in GDPS Continuous Availability V2.2 plus significant new functions introduced in GDPS/A-A V2.1 via SPE APARs.
- ▶ Preview of items planned to be released via SPE APARs in the coming months.
- ▶ Any formal GDPS Statements of Direction beyond the preview of planned SPEs already mentioned.
- ▶ End of support information for GDPS and prerequisite products.

Restriction: GDPS 4.2 has a minimum software requirement for System Automation 4.1 +SPE APARs in order to run. GDPS will fail to initialize with System Automation 3.5 or lower. Refer to the GDPS PSP information for details on the required SPE APARs.

What's new or changed in GDPS Metro V4.2

The following new capabilities or procedures have been included in the GDPS Metro V4.2 solution or as small programming enhancements through the service stream since GDPS Metro 4.1 was made available:

- ▶ GDPS configuration options, previously stored in the System Automation policy in the GEOPLEX OPTIONS UET entry have been moved to a flat file in XML format.
- ▶ GDPS Scripts, previously stored in the System Automation policy in the CONTROL, TAKEOVER or BATCH UET entries have been moved to a flat file in XML format.
- ▶ The GDPSMIG utility has been extended to extract both the GEOPLEX OPTIONS and SCRIPTS from an existing GDPS environment and create the XML format flat files required for GDPS 4.2 to initialize.
- ▶ The GDPS GUI has delivered an enhanced XML editor for GEOPARM plus the configuration information held in GDPS OPTIONS and SCRIPTS.
- ▶ The SYSPLEX script statement and processing has been enhanced to increase parallelism and reduce overall execution time when handling multiple targets for commands such as LOAD, ACTIVATE, DEACTIVATE, and RESET.
- ▶ GDPS has introduced a RESTful API that is available to provide access to information held in GDPS and provide it to your own applications plus the ability to drive actions and understand their results in GDPS, programatically from outside GDPS itself. The intention is that the REST API will replace the GCI toolkit in a future release.
- ▶ GDPS Heat Map Transfer (HMT) has been updated to no longer require UID(0) for the user ID associated with the AUTETHM automation operator.
- ▶ GDPS LCP Manager has been enhanced with the following capabilities via new script statements:
 - LCP RESTORE to restore a copy of data back to the source from which it was originally taken
 - LCP RECOVER to cascade a point in time consistent copy onto an additional set of 'recovery' disks to enable further analysis or processing.
- ▶ DASD RESTORE script statement is introduced to enable a 'golden' FlashCopy taken to be restored back to the original source from which it was captured.
- ▶ A new GDPS Query Services option is provided. VPCEQUERY HC will return information about the CDSes and CFs that are defined to GDPS in the Sysplex Resource Management panels.
- ▶ A number of new capabilities have been added to GDPS health checks as follows:
 - A new health check GDPS_Check_REPORT is introduced. This check provides a formatted summary report of current exceptions detected, the maintenance level of the health checks, those exceptions and checks being bypassed.
 - New checks are added to GDPS_Check_XCF_CDS to raise an exception if the recommendation on handling the z/OS® System Logger ALLOWACCESS(NO) parameter is not being followed.
 - Verbose mode for health checks has been modified. You can now turn on/off verbose mode for any GDPS health check from the GDPS dialog (NetView® or GUI).
 - Debug mode for health checks has been extended. In GDPS 4.1, debug mode was introduced for the single point of failure checks. In GDPS 4.2, this is extended to all GDPS health checks. For activating debug mode for a specific health check, you can, like verbose mode use the GDPS panels (NetView or GUI) or, refer to *IBM® Health*

Checker for z/OS User's Guide for your release of z/OS on how to enable debug mode for health checks.

- ▶ Support is provided for the IBM Db2® Analytics Accelerator (IDAA) running in a Secure Service Container.
- ▶ DASD script statements are no longer supported for execution in your Production systems.
- ▶ The use of Product Entitlement services in GDPS for separately licensed features is extended. The MM_Dual_Leg feature is added for those wanting to exploit multi-target PPRC with two synchronous replication legs. This is a priced feature of GDPS and is available for short term rental to facilitate disk migration scenarios.
- ▶ The GDPS GUI delivers an IVP command to check the environment is set up correctly for GDPS GUI operation.
- ▶ Security changes have been made in the GDPS GUI to exploit the angel process in Liberty WebSphere® to allow use of z/OS authorized services. This has led to a number of installation changes for the GDPS GUI.
- ▶ Support is provided to allow metro mirror (PPRC) replication from a fully provisioned primary device to a thinly provisioned secondary device. This support is rolled back to all supported GDPS releases.
- ▶ z/OS Proxy-managed systems will now have a wait state loaded when such a system is the target of a RESET action.
- ▶ A new command MODIFY QUERY LEVEL is available for the z/OS Proxy server tasks running to return the level of the code running.
- ▶ The usage of buffers for transferring information to z/OS Proxy-managed systems has been improved to deliver performance enhancements especially when transferring large amounts of configuration data.
- ▶ The restriction on use of the BTRFS file system is lifted for GDPS xDR-managed Linux® systems.
- ▶ GEOGROUP is now a required file for all GDPS solutions. The GDPSMIG command is updated for all supported releases to prepare a GEOGROUP member based on the current environment.
- ▶ The message automation table members, INGMSGGP, INGMSGU1 and INGMSGU2, previously delivered as part of System Automation for z/OS is now provided by GDPS and is replaced by GEOMSG01, GEOMSGU1 and GEOMSGU2 respectively.

What's new or changed in GDPS Metro HM V4.2

The following new capabilities or procedures have been included in the GDPS Metro HyperSwap Manager V4.2 solution or as small programming enhancements through the service stream since GDPS Metro HM V4.1 was made available:

- ▶ GDPS configuration options, previously stored in the System Automation policy in the GEOPLEX OPTIONS UET entry have been moved to a flat file in XML format.
- ▶ The GDPSMIG utility has been extended to extract the GEOPLEX OPTIONS from an existing GDPS environment and create the XML format flat file required for GDPS 4.2 to initialize.
- ▶ The GDPS GUI has delivered an enhanced XML editor for GEOPARM plus the configuration information held in GDPS OPTIONS.
- ▶ GDPS has introduced a RESTful API that is available to provide access to information held in GDPS and provide it to your own applications plus the ability to drive actions and understand their results in GDPS, programatically from outside GDPS itself.
- ▶ GDPS Heat Map Transfer (HMT) has been updated to no longer require UID(0) for the user ID associated with the AUTETHM automation operator.
- ▶ A number of new capabilities have been added to GDPS health checks as follows:
 - A new health check GDPS_Check_REPORT is introduced. This check provides a formatted report of current exceptions detected, the maintenance level of the health checks, those exceptions and checks being bypassed..
 - Verbose mode for health checks has been modified. You can now turn on/off verbose mode for any GDPS health check from the GDPS dialog (NetView or GUI).
 - Debug mode for health checks has been extended. In GDPS 4.1, debug mode was introduced for the single point of failure checks. In GDPS 4.2, this is extended to all GDPS health checks. For activating debug mode for a specific health check, you can, like verbose mode use the GDPS panels (NetView or GUI) or, refer to *IBM Health Checker for z/OS User's Guide* for your release of z/OS on how to enable debug mode for health checks.
- ▶ The GDPS GUI delivers an IVP command to check the environment is set up correctly for GDPS GUI operation.
- ▶ Security changes have been made in the GDPS GUI to exploit the angel process in Liberty WebSphere to allow use of z/OS authorized services. This has led to a number of installation changes for the GDPS GUI.
- ▶ Support is provided to allow metro mirror (PPRC) replication from a fully provisioned primary device to a thinly provisioned secondary device. This support is rolled back to all supported GDPS releases.
- ▶ The message automation table members, INGMSGGP, INGMSGU1 and INGMSGU2, previously delivered as part of System Automation for z/OS is now provided by GDPS and is replaced by GEOMSG01, GEOMSGU1 and GEOMSGU2 respectively.
- ▶ GEOGROUP is now a required file for all GDPS solutions. The GDPSMIG command is updated for all supported releases to prepare a GEOGROUP member based on the current environment.

What's new or changed in GDPS Global - XRC V4.2

The following new capabilities or procedures have been included in the GDPS Global - XRC V4.2 solution or as small programming enhancements through the service stream since GDPS XRC V4.1 was made available:

- ▶ GDPS configuration options, previously stored in the System Automation policy in the GEOPLEX OPTIONS UET entry have been moved to a flat file in XML format.
- ▶ GDPS Scripts, previously stored in the System Automation policy in the CONTROL, TAKEOVER or BATCH UET entries have been moved to a flat file in XML format.
- ▶ The GDPSMIG utility has been extended to extract both the GEOPLEX OPTIONS and SCRIPTS from an existing GDPS environment and create the XML format flat files required for GDPS 4.2 to initialize.
- ▶ The SYSPLEX script statement and processing has been enhanced to increase parallelism and reduce overall execution time when handling multiple targets for commands such as LOAD, ACTIVATE, DEACTIVATE, and RESET.
- ▶ GDPS Heat Map Transfer (HMT) has been updated to no longer require UID(0) for the user ID associated with the AUTETHM automation operator.
- ▶ GDPS HMT has been simplified and enhanced
 - Setup for SDMs has been removed
 - Session specific queries have been removed
- ▶ A new GDPS Query Services option is provided. VPCEQUERY HC will return information about the CDSes and CFs that are defined to GDPS in the Sysplex Resource Management panels.
- ▶ A number of new capabilities have been added to GDPS health checks as follows:
 - A new health check GDPS_Check_REPORT is introduced. This check provides a formatted report of current exceptions detected, the maintenance level of the health checks, those exceptions and checks being bypassed.
 - New checks are added to GDPS_Check_XCF_CDS to raise an exception if the recommendation on handling the z/OS System Logger ALLOWACCESS(NO) parameter is not being followed.
 - Verbose mode for health checks has been modified. You can now turn on/off verbose mode for any GDPS health check from the GDPS dialog (NetView or GUI).
 - Debug mode for health checks has been extended. In GDPS 4.1, debug mode was introduced for the single point of failure checks. In GDPS 4.2, this is extended to all GDPS health checks. For activating debug mode for a specific health check, you can, like verbose mode use the GDPS panels (NetView or GUI) or, refer to *IBM Health Checker for z/OS User's Guide* for your release of z/OS on how to enable debug mode for health checks.
- ▶ A REFRESHS command has been introduced both in panels and scripts to update or refresh the XRC secondary disk information. This support can be leveraged during hardware refresh of XRC secondary disk subsystems.
- ▶ The message automation table members, INGMSGGP, INGMSGU1 and INGMSGU2, previously delivered as part of System Automation for z/OS is now provided by GDPS and is replaced by GEOMSG01, GEOMSGU1 and GEOMSGU2 respectively.
- ▶ Support is provided to allow the XRC recovery of devices that are defined in an alternate subchannel set, more specifically, support is for FlashCopy® targets defined in subchannel set 2.

- ▶ GEOGROUP is now a required file for all GDPS solutions. The GDPSMIG command is updated for all supported releases to prepare a GEOGROUP member based on the current environment.

What's new or changed in GDPS Global - GM V4.2

The following new capabilities or procedures have been included in the GDPS Global - GM V4.2 solution or as small programming enhancements through the service stream since GDPS GM V4.1 was made available:

- ▶ GDPS configuration options, previously stored in the System Automation policy in the GEOPLEX OPTIONS UET entry have been moved to a flat file in XML format.
- ▶ GDPS Scripts, previously stored in the System Automation policy in the CONTROL, TAKEOVER or BATCH UET entries have been moved to a flat file in XML format.
- ▶ The GDPSMIG utility has been extended to extract both the GEOPLEX OPTIONS and SCRIPTS from an existing GDPS environment and create the XML format flat files required for GDPS 4.2 to initialize.
- ▶ The GDPS GUI has delivered an enhanced XML editor for GEOPARM plus the configuration information held in GDPS OPTIONS.
- ▶ The SYSPLEX script statement and processing has been enhanced to increase parallelism and reduce overall execution time when handling multiple targets for commands such as LOAD, ACTIVATE, DEACTIVATE, and RESET.
- ▶ GDPS Heat Map Transfer (HMT) has been updated to no longer require UID(0) for the user ID associated with the AUTETHM automation operator.
- ▶ A number of new capabilities have been added to GDPS health checks as follows:
 - A new health check GDPS_Check_REPORT is introduced. This check provides a formatted report of current exceptions detected, the maintenance level of the health checks, those exceptions and checks being bypassed.
 - Verbose mode for health checks has been modified. You can now turn on/off verbose mode for any GDPS health check from the GDPS dialog (NetView or GUI).
 - Debug mode for health checks has been extended. In GDPS 4.1, debug mode was introduced for the single point of failure checks. In GDPS 4.2, this is extended to all GDPS health checks. For activating debug mode for a specific health check, you can, like verbose mode use the GDPS panels (NetView or GUI) or, refer to *IBM Health Checker for z/OS User's Guide* for your release of z/OS on how to enable debug mode for health checks.
- ▶ Support is introduced for specifying GM2SITE MTFO(YES) in a GDPS GM environment to provide the ability to have GDPS be aware of, and indeed manage a GM leg off a GDPS Metro primary or secondary.
- ▶ The GDPS Procedure Handler has been ported to the GDPS GM 2-site environment, at this time for specific LCP Manager use cases.
- ▶ Support is provided to allow both Kg and Kr NetView subsystems to reside in the same z/OS LPAR. This is primarily in preparation for LCP Manager-specific use cases, not for general DR provision. In such a configuration, the single z/OS image must have FICON® connectivity to both the primary and secondary disks.
- ▶ SDF trace reporting has been improved for specific replication related error events to avoid flooding.
- ▶ The GDPS GUI delivers an IVP command to check the environment is set up correctly for GDPS GUI operation.
- ▶ Security changes have been made in the GDPS GUI to exploit the angel process in Liberty WebSphere to allow use of z/OS authorized services. This has led to a number of installation changes for the GDPS GUI.

- ▶ The message automation table members, INGMSGGP, INGMSGU1 and INGMSGU2, previously delivered as part of System Automation for z/OS is now provided by GDPS and is replaced by GEOMSG01, GEOMSGU1 and GEOMSGU2 respectively.
- ▶ GEOGROUP is now a required file for all GDPS solutions. The GDPSMIG command is updated for all supported releases to prepare a GEOGROUP member based on the current environment.

What's new or changed in GDPS Metro Global - XRC V4.2

In addition to the new functions provided in the individual products that constitute the GDPS Metro Global - XRC offering, the following new capabilities or procedures have been included in the GDPS Metro Global - XRC V4.2 solution or as small programming enhancements through the service stream since GDPS MzGM 4.1 was made available:

- ▶ HMT processing has been enhanced to support HyperSwap in the Metro Mirror configuration in the production region.
- ▶ GDPS monitoring has been changed to minimize the XRC IR monitoring during a mirroring resynchronization event.

What's new or changed in GDPS Metro Global - GM 4.2

In addition to the new functions provided in the individual products that constitute the GDPS Metro Global - GM offering, the following new capabilities or procedures have been included in the GDPS Metro Global - GM v4.2 solution or as small programming enhancements through the service stream since GDPS MGM V4.1 was made available:

- ▶ There are no specific GDPS MGM functions delivered in the GA level of GDPS MGM 4.2.

What's new or changed in GDPS Continuous Availability 2.2

The following new capabilities or procedures have been included in the GDPS Continuous Availability 2.2 solution and enhancements delivered as small programming enhancements through the service stream for GDPS CA 2.1:

- ▶ GDPS configuration options, previously stored in the System Automation policy in the GEOPLEX OPTIONS UET entry have been moved to a flat file in XML format.
- ▶ GDPS workload definitions, previously stored in the System Automation policy in WKLOADDESC UET entries have been moved to a flat file in XML format.
- ▶ GDPS Scripts, previously stored in the System Automation policy in the CONTROL, TAKEOVER or BATCH UET entries have been moved to a flat file in XML format.
- ▶ The GDPSMIG utility has been extended to extract both the GEOPLEX OPTIONS, WKLOADDESC and SCRIPTS from an existing GDPS environment and create the XML format flat files required for GDPS 4.2 to initialize.
- ▶ The SYSPLEX script statement and processing has been enhanced to increase parallelism and reduce overall execution time when handling multiple targets for commands such as LOAD, ACTIVATE, DEACTIVATE, and RESET.
- ▶ The GDPS GUI delivers an IVP command to check the environment is set up correctly for GDPS GUI operation.
- ▶ Security changes have been made in the GDPS GUI to exploit the angel process in Liberty WebSphere to allow use of z/OS authorized services. This has led to a number of installation changes for the GDPS GUI.
- ▶ Support is introduced for a cryptographic workload to replicate the critical VSAM data sets required by ICSF between two regions in a GDPS CA environment.

Functions to be removed in the next release of GDPS

The following items are planned to be removed in the next release of GDPS:

- ▶ Support for the GDPS interface with the Discovery Library Adapter.
- ▶ Support for the use of just sysname with the SYSPLEX script statement. This has been replaced by SYSTEM(list of sysnames). You should update your scripts to the new format while on the current release.
- ▶ The ability for GDPS to include management of the LOGR CDS. This will result in the LOGR CDSes always being excluded from GDPS control.

GDPS Statements of direction

There are no formal GDPS statements of direction at this time. For your planning purposes, “GDPS Small Programming Enhancements (SPE) Preview” includes a number of specific enhancements that are expected to be released within the coming months.

GDPS Small Programming Enhancements (SPE) Preview

The following SPEs are currently planned to be release in the coming months through the GDPS service stream:

- ▶ GDPS Security Enhancements. This will provide exploitation of a new XFACILIT SAF profile to deliver the first iteration of role based security within GDPS. This first iteration will be focused on security around GDPS Standard Actions. The support will be delivered *disabled* and thus will require client action to enable this support. Further documentation will be provided at the time of release.
- ▶ GDPS Logical Corruption Protection (LCP) Manager will be enhanced in the following ways via SPE APARs:
 - LCP Management Profiles to define characteristics associated with different point-in-time consistent captures, such as retention period, devices within the capture and such like.
 - Support for DS8000® SafeGuarded Copy function
 - Support for a GDPS Metro Physical Isolation topology for LCP Management.
- ▶ A new option is planned to be introduced on the SYSPLEX script statement to allow you to take a stand alone dump via a GDPS script.
- ▶ Extension of the GDPS RESTful API to other GDPS solutions
- ▶ GDPS Procedure Handler extension to provide an exception report to highlight any anomalies in the GDPS environment prior to execution of procedures such as those required for a region switch.
- ▶ GDPS XRC and GDPS MzGM High Availability enhancements are planned as follows:
 - Extend the XRC support for recovery of devices in alternate subchannel sets to include the XRC secondary devices in subchannel set 1.
 - XRC High Availability support in MzGM 4-site configurations (also referred to as HyperSwap support for the XRC secondary devices).
 - Support for dual master controlling systems in an MzGM 4-site configuration
 - Automated REFRESHS performed to ensure SDM pointers are updated to the swapped-to disk
 - Redirection of SNA communication

End of support

- ▶ In accordance with the GDPS “n, n-2” support policy, support for GDPS V3.13 will be discontinued on March 31, 2019 and also note that support will be discontinued for GDPS V3.14 on March 31, 2020.
- ▶ IBM Support for System Automation for z/OS V3.5 will be discontinued on September 30, 2019. After this date, you must be running System Automation for z/OS V4.1 or higher for continued support on any supported GDPS release even those prior to GDPS 4.2. Be aware that GDPS 4.2 has a hard pre-requisite of System Automation V4.1 as a standalone product or through the IBM Service Management Suite for z/OS V1.4.2 (or higher) in order to run.
- ▶ The only supported release of NetView when running with GDPS V4.2 or GDPS Continuous Availability V2.2 is Tivoli® NetView V6.2.1 (or higher) or through IBM Service Management Suite for z/OS V1.4.2 (or higher). Support for all prior releases is no longer provided as new functions only available in this release of NetView are being exploited by GDPS.
- ▶ Support for the Distributed Cluster Manager (DCM) feature within GDPS is withdrawn with immediate effect. This includes support for both the IBM Tivoli System Automation Application Manager and the Veritas Infoscale Availability solutions.



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