What’s new/changed in GDPS 3.14?


In addition, GDPS/Active-Active (GDPS/A-A) Version 1 Release 7 Modification 1 will be released on the same date.

This document describes at a high level:

- New function and changes in GDPS V3.14, including new function added in GDPS V3.13 via Small Programming Enhancement (SPE) APARs.
- New function and changes in GDPS/A-A V1.7.0 and V1.7.1 plus significant new functions introduced in GDPS/A-A V1.5.0 via SPE APARs.
- Information on GDPS functions that are planned to be discontinued in a future release.
- New GDPS tool.
- End of support information for GDPS prerequisite products.
What’s new or changed in GDPS/PPRC 3.14

The following new capabilities or procedures have been included in the GDPS/PPRC 3.14 solution or as small programming enhancements through the service stream since GDPS/PPRC 3.13 was made available:

- GDPS requires NetView for z/OS V6.2.1. When an earlier release of NetView is detected, GDPS initialization will fail. Furthermore, use is made of long common global names which results in the DSISVRT data set having to be reallocated with a new record size to support this capability. If the DSISVRT data set does not match the new requirements, GDPS initialization will fail.
- GDPS will display, when returned by the disk subsystem, the microcode bundle information on the Disk Subsystem List panel accessed from Option 31 - DSS list from the SSID pairs panel VPCCPSTC.
- Handling of the System Logger (LOGR) Couple Data Set (CDS) configuration, when excluded from GDPS management, has been enhanced. GDPS can now activate a new LOGR CDS configuration from a Controlling system, even when the LOGR CDS is not allocated in that system. The commands required are routed to a system where the LOGR CDS is allocated. This allows all CDS types to be configured from a single point of control.
- A number of reliability, availability and serviceability (RAS) enhancements have been made, including the following:
  - GDPS has optimized its use of NetView functions, and other internal processing, to deliver improved performance for key code paths, particularly in large configurations. Beneficial effects can be seen several areas such as shorter User Impact Time, improved panel display response, and reduced CPU utilization during monitoring.
  - GDPS handling of Storage Controller Health Events has been changed to prevent potential message flooding conditions.
  - GDPS communication of critical status information has been improved through the use of high-reliability z/OS cross memory services.
- The NetView Web Application-based GDPS graphical interface is no longer supported. You can use the Websphere Application Server-based GDPS GUI which was introduced in GDPS 3.13.
- GDPS will issue an SDF alert whenever a device cannot be varied online, when it results in an IEF359I RESERVED OR BROKEN DASD DEVICE dev NOT VARIED ONLINE message in z/OS.
- To aid in problem determination for possible control unit problems, GDPS will take a non-disruptive statesave (NDSS) when a significant number of IOS071I (MASTER START PENDING) messages are received for a GDPS-managed device.
- For clients using z/VM with xDR there is a new capability in GDPS to both define and automatically switch the VM dump data sets. This is introduced to reduce the risk that a VM restart dump may not be captured in the event of a system being reset during a HyperSwap.
- To further enhance the capture of diagnostic information in the event of a VM system being reset during a HyperSwap event, GDPS will automatically initiate the VM PSW restart dump after the system has been reset. This aims to ensure that the required information is available for IBM to diagnose the problem that led to the VM system failing to participate in the HyperSwap.
- Support is provided in GDPS/PPRC for managing LPARs running KVM on z Systems as foreign systems running on either ECKD or FB disk. Support is also provided for z/VM and guests running on FB disk.
- For clients exploiting GDPS xDR support, the handling for the phases of z/VM shutdown that exceed their expected duration has changed. Operators will be given the option to allow more time for the phase to complete successfully, skip the remainder of the current phase and proceed to the next, or terminate the shutdown request.

- A refresh of the GDPS Virtual Appliance, which is based on GDPS/PPRC 3.13 was made available in November 2016.

- GDPS SDF processing has been changed. Prior to this release, all alerts generated were sent to all systems in the GDPS sysplex. This has been changed such that SDF alerts are now only forwarded to the GDPS Controlling systems, thus cutting down on the time and resources spent sending all alerts to all systems. The messages will now only appear in the SYSLOG on the system generating the alert.

- GDPS HMT function has introduced improved panels and panel flow to simplify HMT customization and manual operation tasks. Messages presented in the panels have also been enhanced and HMT help panels have been revised.

- Continuing the standardization of how messages are issued by GDPS, in response to client requirements, a significant number of GDPS messages have been changed to now be issued using the z/OS Write-to-Operator macro rather than alternative NetView functions and they will appear in SYSLOG.

- Instrumentation for GDPS Freeze and HyperSwap processing has been enhanced and additionally includes a message providing a calculation of the User Impact Time (UIT) for any Freeze or HyperSwap event, either planned or unplanned.

- GDPS has been updated to support new function in System Automation for z/OS 4.1. This is limited to providing a new parameter (SUS) on the OVERRIDE keyword when stopping systems to prevent resources that are currently suspended from automation control from preventing a GDPS shutdown of a system.
What’s new or changed in GDPS/HM 3.14

The following new capabilities or procedures have been included in the GDPS/PPRC HyperSwap Manager 3.14 solution or as small programming enhancements through the service stream since GDPS/PPRC HM 3.13 was made available:

- GDPS requires NetView for z/OS V6.2.1. When an earlier release of NetView is detected, GDPS initialization will fail. Furthermore, use is made of long common global names which results in the DSISVRT data set having to be reallocated with a new record size to support this capability. If the DSISVRT data set does not match the new requirements, GDPS initialization will fail.

- GDPS will display, when returned by the disk subsystem, the microcode bundle information on the Disk Subsystem List panel accessed from Option 31 - DSS list from the SSID pairs panel VPCPQSTC.

- A number of reliability, availability and serviceability (RAS) enhancements have been made, including the following:
  - GDPS has optimized its use of NetView functions, and other internal processing, to deliver improved performance for key code paths, particularly in large configurations. Beneficial effects can be seen several areas such as shorter User Impact Time, improved panel display response, and reduced CPU utilization during monitoring.
  - GDPS handling of Storage Controller Health Events has been changed to prevent potential message flooding conditions.
  - GDPS communication of critical status information has been improved through the use of high-reliability z/OS cross memory services.

- The NetView Web Application-based GDPS graphical interface is no longer supported. You can use the Websphere Application Server-based GDPS GUI which was introduced in GDPS 3.13.

- GDPS will issue an SDF alert whenever a device cannot be varied online, when it results in an IEF359I RESERVED OR BROKEN DASD DEVICE dev NOT VARIED ONLINE message in z/OS.

- To aid in problem determination for possible control unit problems, GDPS will take a non-disruptive statesave (NDSS) when a significant number of IOS071I (MASTER START PENDING) messages are received for a GDPS-managed device.

- GDPS SDF processing has been changed. Prior to this release, all alerts generated were sent to all systems in the GDPS sysplex. This has been changed such that SDF alerts are now only forwarded to the GDPS Controlling systems, thus cutting down on the time and resources spent sending all alerts to all systems. The messages will now only appear in the SYSLOG on the system generating the alert.

- GDPS HMT function has introduced improved panels and panel flow to simplify HMT customization and manual operation tasks. Messages presented in the panels have also been enhanced and HMT help panels have been revised.

- Continuing the standardization of how messages are issued by GDPS, in response to client requirements, a significant number of GDPS messages have been changed to now be issued using the z/OS Write-to-Operator macro rather than alternative NetView functions and they will appear in SYSLOG.

- Instrumentation for GDPS Freeze and HyperSwap processing has been enhanced and additionally includes a message providing a calculation of the User Impact Time (UIT) for any Freeze or HyperSwap event, either planned or unplanned.
What’s new or changed in GDPS/MTMM 3.14

The following new capabilities or procedures have been included in the GDPS/MTMM 3.14 solution or as small programming enhancements through the service stream since GDPS/MTMM 3.13 was made available:

- GDPS requires NetView for z/OS V6.2.1. When an earlier release of NetView is detected, GDPS initialization will fail. Furthermore, use is made of long common global names which results in the DSISVRT data set having to be reallocated with a new record size to support this capability. If the DSISVRT data set does not match the new requirements, GDPS initialization will fail.

- Handling of the LOGR CDS configuration, when excluded from GDPS management, has been enhanced. GDPS can now activate a new LOGR CDS configuration from a Controlling system, even when the LOGR CDS is not allocated in that system. The commands required are routed to a system where the LOGR CDS is allocated. This allows all CDS types to be configured from a single point of control.

- GDPS/MTMM provides support, when used in conjunction with GDPS/Active-Active 1.7 for a zero data loss configuration.

- GDPS/MTMM provides support, when used in conjunction with GDPS/GM 3.14, a 3-site MGM with Multi-target support solution.

- A number of reliability, availability and serviceability (RAS) enhancements have been made, including the following:
  - GDPS has optimized its use of NetView functions, and other internal processing, to deliver improved performance for key code paths, particularly in large configurations. Beneficial effects can be seen several areas such as shorter User Impact Time, improved panel display response, and reduced CPU utilization during monitoring.
  - GDPS handling of Storage Controller Health Events has been changed to prevent potential message flooding conditions.
  - GDPS communication of critical status information has been improved through the use of high-reliability z/OS cross memory services.

- GDPS will display, when returned by the disk subsystem, the microcode bundle information on the Disk Subsystem List panel accessed from Option 31 - DSS list from the SSID pairs panel VPCPQSTE.

- GDPS will issue an SDF alert whenever a device cannot be varied online, when it results in an IEF359I RESERVED OR BROKEN DASD DEVICE dev NOT VARIED ONLINE message in z/OS.

- To aid in problem determination for possible control unit problems, GDPS will take a non-disruptive statesave (NDSS) when a significant number of IOS071I (MASTER START PENDING) messages are received for a GDPS-managed device.

- For clients using z/VM with xDR there is a new capability in GDPS to both define and automatically switch the VM dump data sets. This is introduced to reduce the risk that a VM restart dump may not be captured in the event of a system being reset during a HyperSwap.

- To further enhance the capture of diagnostic information in the event of a VM system being reset during a HyperSwap event, GDPS will automatically initiate the VM restart dump after the system has been reset. This aims to ensure that the required information is available for IBM to diagnose the problem that led to the VM system failing to participate in the HyperSwap.

- For clients exploiting GDPS xDR support, the handling for the phases of z/VM shutdown that exceed their expected duration has changed. Operators will be given the option to
allow more time for the phase to complete successfully, skip the remainder of the current phase and proceed to the next, or terminate the shutdown request.

- GDPS SDF processing has been changed. Prior to this release, all alerts generated were sent to all systems in the GDPS sysplex. This has been changed such that SDF alerts are now only forwarded to the GDPS Controlling systems, thus cutting down on the time and resources spent sending all alerts to all systems. The messages will now only appear in the SYSLOG on the system generating the alert.

- GDPS HMT function has introduced improved panels and panel flow to simplify HMT customization and manual operation tasks. Messages presented in the panels have also been enhanced and HMT help panels have been revised.

- Continuing the standardization of how messages are issued by GDPS, in response to client requirements, a significant number of GDPS messages have been changed to now be issued using the z/OS Write-to-Operator macro rather than alternative NetView functions and they will appear in SYSLOG.

- Instrumentation for GDPS Freeze and HyperSwap processing has been enhanced and additionally includes a message providing a calculation of the User Impact Time (UIT) for any Freeze or HyperSwap event, either planned or unplanned.

- GDPS has been updated to support new function in System Automation for z/OS 4.1. This is limited to providing a new parameter (SUS) on the OVERRIDE keyword when stopping systems to prevent resources that are currently suspended from automation control from preventing a GDPS shutdown of a system.
What’s new or changed in GDPS/XRC 3.14

The following new capabilities or procedures have been included in the GDPS/XRC 3.14 solution or as small programming enhancements through the service stream since GDPS/XRC 3.13 was made available:

- GDPS requires NetView for z/OS V6.2.1. When an earlier release of NetView is detected, GDPS initialization will fail. Furthermore, use is made of long common global names which results in the DSISVRT data set having to be reallocated with a new record size to support this capability. If the DSISVRT data set does not match the new requirements, GDPS initialization will fail.

- GDPS/XRC tool enhancement - the GDPS/XRC Performance Toolkit Write Pacing Monitor has been enhanced to provide the following:
  - more accurate displays of Volser for offline and relabeled devices
  - more reliable statistics retrieval and pacing score reporting

- GDPS now displays, when returned by the disk subsystem, the microcode bundle information on the Disk Subsystem List panel accessed from Option 31 - DSS list from the Session Status panel VPCPX00L.

- GDPS has optimized its use of NetView functions, and other internal processing, to deliver improved performance for key code paths, particularly in large configurations. Beneficial effects can be seen several areas such as improved panel display response, and reduced CPU utilization during monitoring.

- GDPS provides details on managing recovery for z/VM systems and data in a GDPS/XRC environment, including considerations for restart of your z/VM systems.

- GDPS HMT function has introduced improved panels and panel flow to simplify HMT customization and manual operation tasks. Messages presented in the panels have also been enhanced and HMT help panels have been revised.

- GDPS SDF processing has been changed. Prior to this release, all alerts generated were sent to all systems in the GDPS sysplex. This has been changed such that SDF alerts are now only forwarded to the GDPS Controlling systems, thus cutting down on the time and resources spent sending all alerts to all systems. The messages will now only appear in the SYSLOG on the system generating the alert.

- Continuing the standardization of how messages are issued by GDPS, in response to client requirements, a significant number of GDPS messages have been changed to now be issued using the z/OS Write-to-Operator macro rather than alternative NetView functions and they will appear in SYSLOG.

- GDPS has been updated to support new function in System Automation for z/OS 4.1. This is limited to providing a new parameter (SUS) on the OVERRIDE keyword when stopping systems to prevent resources that are currently suspended from automation control from preventing a GDPS shutdown of a system.
What’s new or changed in GDPS/GM 3.14

The following new capabilities or procedures have been included in the GDPS/GM 3.14 solution or as small programming enhancements through the service stream since GDPS/GM 3.13 was made available:

- GDPS requires NetView for z/OS V6.2.1. When an earlier release of NetView is detected, GDPS initialization will fail. Furthermore, use is made of long common global names which results in the DSISVRT data set having to be reallocated with a new record size to support this capability. If the DSISVRT data set does not match the new requirements, GDPS initialization will fail.

- GDPS has optimized its use of NetView functions, and other internal processing, to deliver improved performance for key code paths, particularly in large configurations. Beneficial effects can be seen several areas such as improved panel display response, and reduced CPU utilization during monitoring.

- GDPS has been enhanced to automatically restart the collection of SMF105 records if a problem is detected trying to write to SMF.

- GDPS has been updated to display, when returned by the disk subsystem, the microcode bundle information on the Disk Subsystem List panel accessed from Option 31 - DSS list from the Session Status panel VPCPMST0s.

- GDPS/GM has been enhanced to support, when used in conjunction with GDPS/MTMM 3.14, a 3-site MGM with Multi-target support solution. More details are provided in the GDPS/MGM section that follows.

- GDPS now provides documented and supported procedures for performing a region switch to your recovery region and then return home to your production region in a 2-site GDPS/GM environment.

- GDPS now provides details on managing recovery for z/VM systems and data in a GDPS/GM environment, including considerations for restart of your z/VM systems.

- GDPS HMT function has introduced improved panels and panel flow to simplify HMT customization and manual operation tasks. Messages presented in the panels have also been enhanced and HMT help panels have been revised.

- Continuing the standardization of how messages are issued by GDPS, in response to client requirements, a significant number of GDPS messages have been changed to now be issued using the z/OS Write-to-Operator macro rather than alternative NetView functions and they will appear in SYSLOG.
What’s new or changed in GDPS/MzGM 3.14

In addition to the new functions provided in the individual products that constitute the GDPS/MzGM offering, the following new capabilities or procedures have been included in the GDPS/MzGM 3.14 solution or as small programming enhancements through the service stream since GDPS/MzGM 3.13 was made available:

- The GDPS Graphical User Interface (GUI) has been enhanced to support being used in the GDPS/PPRC part of a GDPS/MzGM 3-site or 4-site environment. New functions provided in the GDPS GUI in support of this include management of the SNA Communications and GEOGROUP management in addition to displaying the additional device status information returned when querying devices.
What’s new or changed in GDPS/MGM 3.14

In addition to the new functions provided in the individual products that constitute the GDPS/MGM offering, the following new capabilities or procedures have been included in the GDPS/MGM 3.14 solution or as small programming enhancements through the service stream since GDPS/MGM 3.13 was made available:

▶ The GDPS replication management capabilities for GDPS/MGM 3-site configurations are enriched to exploit the Multi-Target PPRC (MT-PPRC) architecture of the DS8000 disk subsystems. Exploitation of Multi-target PPRC provides an improved HA position and/or DR RPO for selected 3-site processing scenarios when compared to the same scenario for a cascade-only MGM configuration.

– The GDPS/MGM 3-site solution exploiting MT-PPRC capabilities is based on GDPS/MTMM to manage a single Metro Mirror (PPRC) leg within the application region and GDPS/GM across regions.

– This new MGM configuration that exploits MT-PPRC is detailed in, GDPS/MGM with Multi-Target Failover Planning and Implementation Guide, ZG24-7400.

▶ GDPS procedure MGM_RESTORE_ABC has been replaced with an updated, generic procedure MGM_RESTORE that also now supports the ‘reintroduction of A-disk’ when there is an intermediate box failure when running in a BAC configuration, not just when running ABC. GDPS will determine the state prior to the outage and invoke the appropriate procedure to return the environment to the original configuration.

▶ New procedures have been provided to prepare the environment to go home, and to perform the go home action following a DR invocation on the C-disk, when only one of the original site disk copies are available.
What’s new or changed in GDPS/Active-Active 1.7

The following new capabilities or procedures have been included in the GDPS/Active-Active 1.7 solution:

- The ROUTING SWITCH capability, available through the GDPS panels or script statement, has been extended to support switching IMS-based workloads.

- A new configuration has been introduced to allow GDPS to manage a second sysplex in each of the Active/Active sites. This configuration, known as two sysplexes per site (2SPS), is initially limited to toleration and simple systems management actions (such as STOP and IPL).

- A new configuration has been introduced for GDPS/Active-Active, called, the zero data loss (ZDL) configuration. This new configuration places the DB2 replication capture process in the standby site, reading from a copy of the DB2 logs that are being synchronously replicated from the active site by PPRC. This ensures that the latest committed transactions are logged in the standby site in case of an outage in the active site.

- The LOAD process in GDPS has been changed. The LOAD for a system is now considered complete once the BCPii has completed the LOAD action. The progress of the IPL is still tracked by GDPS, but another LOAD action can take place while this tracking is taking place. This will speed up the time taken to LOAD multiple systems as the tracking is performed in parallel for systems being loaded.

- GDPS also now provides the ability to specify a list of systems to LOAD on the SYSPLEX LOAD script statement. This function is not available through GDPS Standard Actions.

- The ROUTING SWITCH script statement has been updated with a FORCE option. This new option will allow a ROUTING SWITCH that would otherwise fail for a ‘soft’ reason to continue and complete.

- The support for other automation products managing the automation of workloads has been extended with the introduction of logical grouping of started tasks that make up a workload and the ability to set availability targets for members of these logical groups.

- GDPS has introduced two levels of debug messages with the aim to reduce the number of debug messages written to the Netlog when debug level 1 is selected and to avoid having to manually set cglobals under the direction of GDPS support.

- A number of new or changed messages are provided by the GDPS Query Services interface to support the zero data loss (ZDL) and two sysplexes per site (2SPS) configurations.

- WTORs presented in the GDPS User Interface are now prefixed with a timestamp containing the time at which the WTOR was issued. This is to aid problem determination as the time of the message can help pinpoint other messages or events in the log.

- GDPS makes use of NetView GLOBALV AUTO functions. You must ensure that you do not turn off this capability for common global variables.

- GDPS, through support in IBM Multi-site Workload Lifeline V2.5, now supports inclusion of an application tier running on Linux on z Systems as guests under VM as part of your workload. There are no GDPS definitions required to exploit this, however there are definitions required in the IBM Multi-site Workload Lifeline configuration.

- The syntax for the CONSISTENCY_GROUP definition in the WKLOADDESC definition has been extended to allow the specification of the schema name on this definition. Specifying the schema name is optional with this release, but is planned to be mandatory in the next release of GDPS/A-A. Specifying the schema name ensures that GDPS will at all times have this information which was not previously the case. We strongly recommend...
you add the schema name to any CONSISTENCY_GROUP definitions you may have for your workloads using DB2 data.

- GDPS co-operation support has been extended to include GDPS/MTMM running in either of the Active/Active sites in addition to GDPS/PPRC that was previously supported.

- On the production systems, GDPS/Active-Active now runs an initialization routine. This, among other things allows the exploitation of System Automation functions to dynamically define the required number of some automation operators. This simplifies the SA policy definitions required.

- GDPS Monitoring now runs, in part, on the production systems. Also introduced is the concept of a production master system. To avoid duplicate and hence redundant monitoring, one system in each production sysplex is declared the production ‘master’. This will be the system that is also running the System Automation primary automation manager (PAM). Workloads status checks are only performed on the production master system.

- GDPS requires NetView for z/OS V6.2.1. When an earlier release of NetView is detected, GDPS initialization will fail. Furthermore, use is made of long common global names which results in the DSISVRT data set having to be reallocated with a new record size to support this capability. If the DSISVRT data set does not match the new requirements, GDPS initialization will fail.
New GDPS Tool

The following new tool is available to ease migration to the new GDPS/MGM Multi-target solutions.

- The GDPS/MGM XML Conversion Toolkit is a Windows-based tool to assist in conversion from old format GEOPARM and GEOMPARM to the new XML-based GEOPARM format required for the GDPS/MGM with Multi-target solutions. This tool is being made available for migration to a GDPS/MGM Multi-target 3-site environment.
Functions to be removed in the next release of GDPS

- GDPS 3.14 is planned to be the last release to support the SWITCH DELPAIR script statement available in GDPS/PPRC to perform a disruptive switch of the PPRC disk between sites. This function has been replaced by GDPS HyperSwap that provides the equivalent capability, but does so non-disruptively.

  If necessary, the planned HyperSwap with the RESYNCH option can be executed when all productions systems are down.

- This is the last GDPS/Active-Active release to support what is referred to as a single consistency group (SCG) DB2 workload. In the next release, any workload that only requires a single consistency group (only one qmap) will need to be defined as a multiple consistency group (MCG) with only one qmap defined.

- This is the last GDPS/Active-Active release that supports defining consistency groups without specifying the DB2 schema name.

- All remaining instances of the GDPS Web Application that is based on the IBM Tivoli NetView Web Application Server will be removed and replaced by the new GDPS GUI based on IBM Websphere Liberty Profile in the next releases of the following products:
  - GDPS/GM
  - GDPS/Active-Active

- GDPS 3.14 is planned to be the last release to support the THREESITE keyword in GEOPLEX OPTIONS. This will be replaced for all solutions by the TOPOLOGY keyword.
End of support

- In accordance with the GDPS “n, n-2” support policy, support for GDPS V3.11 will be discontinued on March 31, 2017.
- Support for System Automation for z/OS V3.4 will be discontinued on September 30, 2017. After this date, you must be running System Automation for z/OS V3.5 or higher for continued support.
- The only supported release of NetView when running with GDPS 3.14 is Tivoli NetView V6.2.1 (or higher) or though IBM Service Management Suite for z/OS V1.2 (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 z/VM V6.2 will be discontinued on June 30, 2017 and support for both z/VM V5.4 and V6.3 will be discontinued on December 31, 2017. After these dates any clients using xDR must be running on a generally supported release for continued support.
- Support for System Automation for Multiplatforms V3.2 was discontinued on September 30, 2016. Any clients using xDR must be running System Automation for Multiplatforms V4.1 or higher for continued support.
- Support for System Automation Application Manager V3.2 was discontinued on September 30, 2016. Any clients using DCM with System Automation Application Manager must be running with V4.1 or higher for continued support.