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GDPS® 3.9 Update

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From Microsoft Windows to UNIX to Linux to Mainframe development

Clusters, clusters, and more clusters

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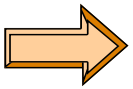
What's new in GDPS 3.9

- Announcement March 13, 2012
  - General Availability GDPS/'classic' V3.9, March 30, 2012
  - General Availability GDPS/A-A V1.2, April 30, 2012
- GDPS 3.8 SPEs
  - A number of new functions added late 3Q/4Q 2011
- Wealth of new, 3.9 exclusive functions addressing
  - Compatibility
  - Availability
  - Manageability
  - Reliability
  - Scalability
- GDPS 3.9 is the largest GDPS release to date
  - Large number of customer requirements addressed

Agenda

Evolution into an Enterprise Wide Solution

- **GDPS 3.9 Enhancements**



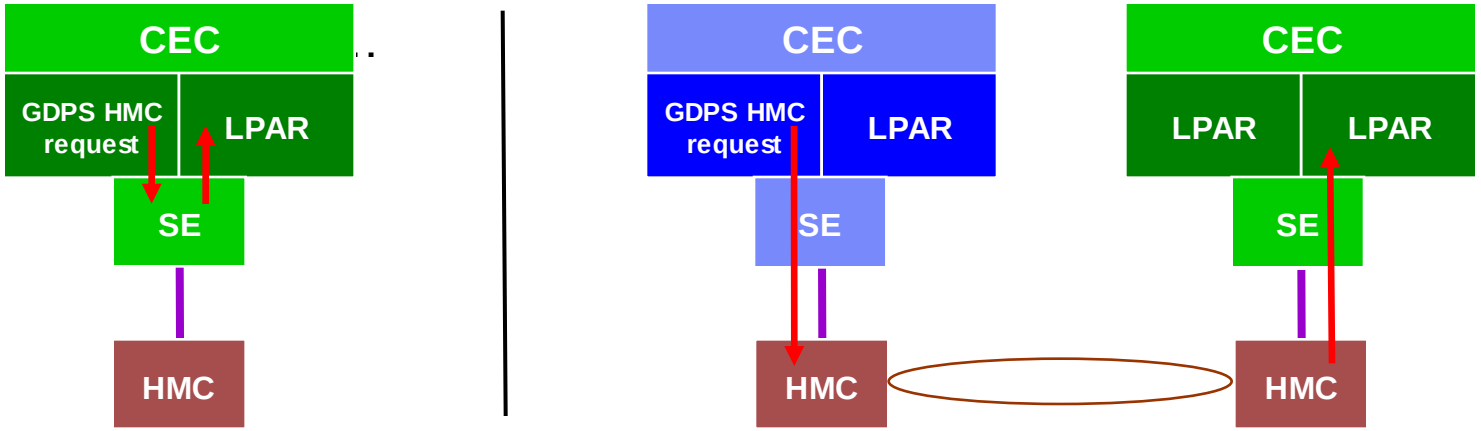
  - Systems Management
  - System z Exploitation
  - Heterogeneous Data Management
  - Availability (RAS)
  - Scalability

- Summary

LOAD & RESET extended to support CLEAR or NOCLEAR

GDPS/PPRC, GDPS/XRC, GDPS/GM, GDPS/A-A

- LOAD & RESET actions now support either CLEAR or NOCLEAR
  - Available via Standard Actions panel and SYSPLEX script statement
  - Defaults (LOAD CLEAR, RESET NOCLEAR) remain unchanged
    - Except LOAD default for REIPL or AUTOIPL changed to NOCLEAR
- Enables support for different operations and operational scenarios including
  - Stand Alone Dump
  - Dynamic Storage Reconfiguration



Communication to LPARs in the same CEC

HMC routing for communication to LPARs in remote CECs

Stand Alone Dump support added

GDPS/PPRC, GDPS/XRC, GDPS/A-A

- New Dump line command on the Standard Actions panel
  - Can take SA dump for System z operating systems that support SA Dump (against any System z operating system defined to GDPS, either a GDPS system or foreign system)
  - Can pre-define Dump Load Address and Load Parameters using Modify Standard Action

- Simplified SA dump handling
  - Eliminate/minimize necessity to use HMC
  - Manage Dump address/parm together with Load address/parm

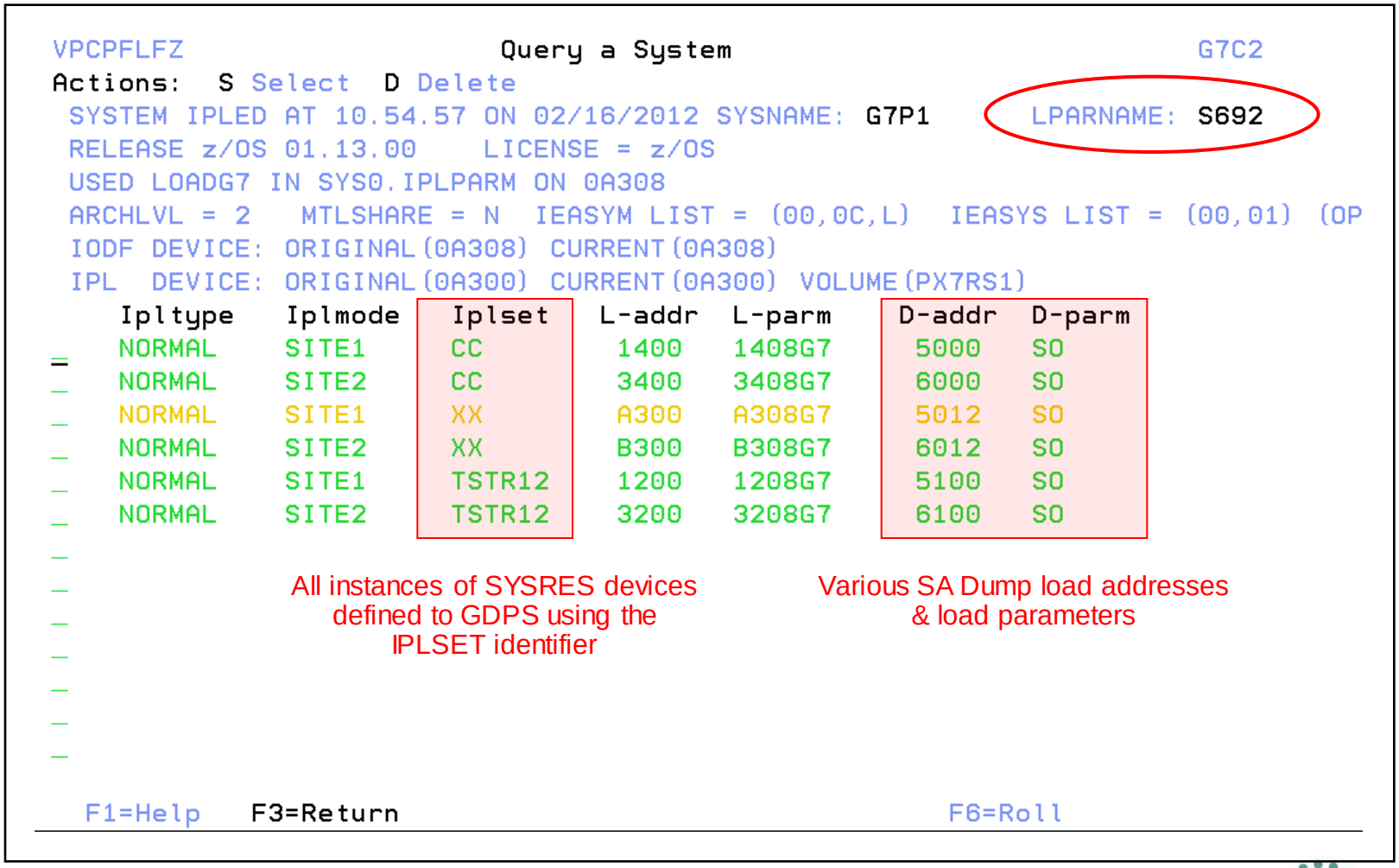
More automation options

Alternate SYSRES (IPLSET) management
GDPS/PPRC

- **New IPLSET construct** in addition to existing IPLTYPE/IPLMODE
  - Defines which SYSRES 'set' a selected entry belongs to
    - Defined using Modify in Load table
    - Can be used for any type of GDPS system, z/OS, z/VM or zLinux
- **GDPS automatically switches IPL pointers** after disk switch/recovery
  - Must use SITE1/SITE2 as IPLMODE
- IPLSET exploitation requires **GDPS 3.9 on all systems**
- **GDPS operations for managing alternate SYSRES greatly simplified**
  - Easy to see in Load table which SYSRES is currently in use
  - No need for additional manual interaction
  - No need for follow on action to switch IPL pointers after disk switch/recovery

GDPS Modify Load/Dump information

GDPS/PPRC



GEO112E Takeover Prompt extended

GDPS/PPRC, GDPS/XRC

```
STATUS:
z/OS SYSTEMS: UP(<n>) DOWN(<n>) FAILING(<n>)
z/VM SYSTEMS: UP(<n>) DOWN(<n>) UNKNOWN(<n>)
Linux for System z SYSTEMS: UP(<n>) DOWN(<n>) UNKNOWN(<n>)

An asterisk following a (<n>) indicates that the number has changed
since the last Takeover prompt was issued.
```

New status information included on GEO112E for *GDPS systems*:

- z/OS systems in the GDPS sysplex
- xDR z/VM systems
- xDR native Linux systems

Aids situation analysis if takeover prompt occurs

GDPS Initialization changes

GDPS/PPRC, GDPS/HM, GDPS/XRC, GDPS/GM

- **GDPS Initialization rewritten**
  - Some changes to initialization messages in NetLog
  - Solution vitality / house cleaning / more modular

- **GEOOPER, GEOOPER1 - GEOOPER6 and GEOGEX1 operators mandatory**

- **New Initialization user exit GEOUXII1**
  - Sample provided in SGDPSAMP
  - Driven (if found in DSICLD) for every GDPS initialization in parallel with successful completion of GDPS Initialization
  - No need to capture message to perform

Other message enhancements
GDPS/PPRC, GDPS/HM

New messages issued in GDPS 3.9

- To signal the **start/end of GDPS monitors**
  - End message additionally provides information on duration of monitor run

- During GDPS Config processing
  - At **start / end of Config processing**
  - End message indicates whether or not operation was successful
  - To provide information on production systems' **Config**

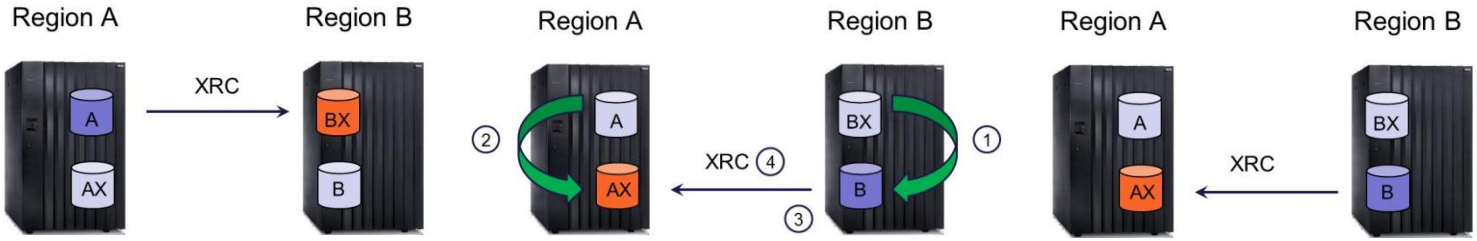
Enhanced problem determination

GDPS/XRC Region switch / Return home

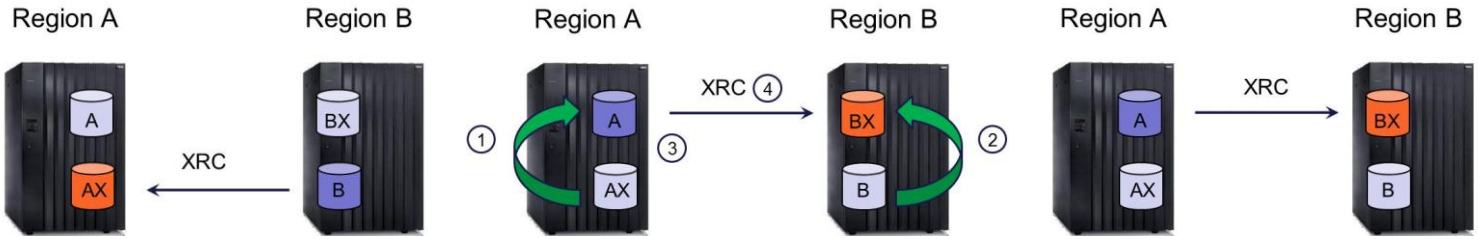
- **Defined procedure for planned region switch**
  - Eliminates the need to develop/maintain own automation and procedures
  - Based on starting GDPS & SDMs in 'other region' and reversing the XRC configuration
- **New GDPS extensions to facilitate switch procedure**
  - **Ability to define configuration for both regions** - Region A to Region B and Region B to Region A, **in a single GEOXPARM file**
  - **Ability to identify 'current region'** using GEOPLEX OPTIONS (GDPS selects GEOXPARM statements using new region identifier based on current region)
  - **'Reverse' flashcopy** script statement to flash tertiary back to secondary (facilitates recovering on tertiary while making secondary the primary to reverse XRC)
  - **FlashCopy Monitor and 'FlashCopy wait'** script

GDPS/XRC Region Switch / Return Home (cont)

Start State | Actions | End State



1. FlashCopy BX to B [incremental]
2. FlashCopy A to AX [incremental]
3. Recover B controlling
4. Start B to AX NoCopy



1. FlashCopy AX to A [incremental]
2. FlashCopy B to BX [incremental]
3. Recover A controlling
4. Start A to BX NoCopy

Procedure requires FlashCopy in both regions

Current support restricted to 2-site implementations

New GDPS/XRC script statements

- Added for Region Switch - planned site toggle or return home to the original Application Site after an unplanned recovery in the Recovery Site, but can be for any purpose as appropriate
  - **XRC ADDPAIR NOCOPY** is similar to XRC ADDPAIR VOLUMES, however, no data is copied from the source to the target disks
  - **XRC FCESTABLISH | FCWITHDRAW REVERSE** is similar to the same statement with the SECONDARY operand except the FC source and target disks are reversed
  - **XRC FCWAIT SECONDARY | REVERSE** starts the FlashCopy monitor which provides a pause point in the script until all background copy processing associated with a FC is complete
  - **XRC SETVOL PRI | SEC VOLID=***volmask* clips the specified set of volumes using a volume mask

Assist with and simplify the procedural aspects of a Site Switch or Return Home operation

GDPS/XRC Query Services

- Ability to query value of GDPS internal variables
  - Extend/augment GDPS automation with RYO
  - Tools
- Query Services already available for GDPS/PPRC, GDPS/HM, GDPS/GM
- Query Services provided in GDPS/XRC 3.9
  - ENVIRONMENT
  - MONITORS
  - XDASD
  - ALL

Allows customer to extend GDPS automation with their own

GDPS/GM enhanced – "Intelligent" GDASD script statements

- **INITIALIZE constructs the GM mirror**
  - Previously required 'virgin' environment with all devices in simplex
- **CLEANUP tears down the GM mirror**
  - Previously required a fully constructed environment
- **INITIALIZE/CLEANUP enhanced** to function if executed when environment is partially initialized/cleaned up
  - Facilitates using INITIALIZE to add new devices to a running mirror
    - Instead of using manual actions from the GM panels
  - Facilitates rerun of the script statement
- **START SECONDARY RESYNC enhanced**
  - Devices already in expected state no longer cause failure
  - Statement restartable
- **Simplified GM management**
  - Reduced need to use panels to complete failed script actions

Agenda

- **GDPS 3.9 Enhancements**
  - Systems Management

  - Heterogeneous Data Management
  - Availability (RAS)
  - Scalability
- Summary

Managing temporary capacity with GDPS 3.9

GDPS/PPRC, GDPS/XRC, GDPS/GM

- **Adding/removing capacity for GDPS-managed CECs**
  - GDPS already supports activation of a specific OOCoD LIC record
  - Only supports activation of the “default” CPU record
- **CBU and OOCOD activation status tracked at CEC level**
  - New panel to view installed temporary capacity records
  - New panel to define named profiles for full or partial activation
  - CAPACITY script statement enhanced with extensive support for full and partial record activation/removal – all engine types (CP, ICF, IFL, zIIP, zAAP, SAP) are now supported
- **CBU multiple LIC record support**
  - Activate a specific LIC record for CBU without requiring operator intervention at the HMC to mark the desired LIC record as being the default

Finer control over the resources needed and flexibility to activate the full record or a partial record

Managing temporary capacity with GDPS 3.9 (cont)
GDPS/PPRC, GDPS/XRC

- **Adding/removing capacity for GDPS systems and CFs**
  - At IPL time for a GDPS z/OS system (during GDPS initialization)
  - Based on GDPS CBU/OOCoD status of CEC where system is IPLed
  - Based on LPAR profile or all available reserved engines (all applicable types – CP, zIIP, zAAP)

- **Using CAPACITY CONFIGON/CONFIGOFF script statement**
  - z/OS systems, xDR z/VM systems, GDPS-managed CFs
  - Partial or full capacity addition/removal based on predefined profile
  - All applicable engine types

Numerous flexible options for planned / unplanned temporary capacity management

Note: z10 and later processor required for new 'CAPACITY' functions

Capacity records for a Server (CP23)

```
VPCPCOPR              Capacity Record Query                          G7C2

CPC            : CP23        Type : 2097-E26    Serial : 000020040164
Software model: 722
Engines        : CP(22) zAAP(0) zIIP(1) IFL(0) ICF(0) SAP(6) - Available(3)
Last refresh   : 13 Feb 2012 10:07:08

                 Software-Model     Special Engines status      Record-Status
  ReciD    Type  Tgt    CLI CP    zAAP  zIIP  IFL   ICF   SAP   CEC        GDPS
 ---------------------------------------------------------------------------
 CR8L9G4Q OOCOD 725   0/0 0/3   0/0   0/0   0/0   0/0   0/0   None
 CR8LGJ3E OOCOD 722   0/0 2/2   0/0   0/0   0/0   0/0   0/0   Real       REAL
 CR8LGJ5K OOCOD 724   0/0 0/2   0/0   0/0   0/0   0/0   0/0   None
 CR8LFK3F OOCOD 722   0/0 0/0   0/1   0/1   0/0   0/0   0/0   None
 CR8LGJNN OOCOD 724   0/0 0/2   0/2   0/2   0/0   0/0   0/0   None
 CR8LGJP5 OOCOD 724   0/0 0/2   0/2   0/2   0/0   0/0   0/0   None
 CR8LGJ7R OOCOD 724   0/0 0/2   0/0   0/0   0/0   0/0   0/0   None
 CB8LEJ3S CBU   724   0/0 0/2   0/0   0/0   0/0   0/0   0/0   None

Selection ===> _
  F1=Help           F3=Return  F5=Refresh  F6=Roll
```

Viewing installed temporary capacity upgrade records and the activation status

Capacity profiles defined for CP23

```
VPCPCOPC            Capacity profile record management            X2C1
                              for CPC CP23

Line commands:  D Delete
                          Target          Tgt  Tgt          Tgt Engines
     Profile        Recid or System      Swmdl lvl   CP   zAAP zIIP IFL  ICF  SAP
    ------------------------------------------------------------------------
_   CP2ZIP1ZAP1    CR8LGJ3E                        2     1    1
_   CP5            CR8L9G4Q                        5
_   DR             CB8LEJ3S                        5     1    1    2    2
_   MONTHEND       CR8LGJ5K                        2
_   YE2011         CR8LFK3F                        3
_   ZG2P1                     G2P1                 2
_   ZG2P2                     G2P2                 2
_   ZOTHERSYS                 *
_
_
_
_
_
_
_

Selection ===> _                                  Use cancel to abort.
  F1=Help           F3=Return                F6=Roll          F8=Down
```

Defining activation profiles for temporary capacity upgrades

‘Legacy’ CBU/OOCoD ACTIVATE/UNDO

- Legacy CBU/OOCoD ACTIVATE works in GDPS 3.9 as previously
  - Must use legacy script statements for pre-z10 CECs
  - Full record is activated
  - However … activation is now tracked at CEC level

- Bringing engines online to GDPS managed systems
  - Only done if CBU/OOCoD activated for CEC where system is IPLed
  - All reserved engines configured online

- For any given CEC, can either use new ‘CAPACITY … d or legacy method.
  - Can not mix and match

GDPS Coupling Facility management

- **GDPS/PPRC & GDPS/XRC**
  - CFRM 'policy switching' no longer supported
  - Ability is provided to switch to a new, 'normal' policy
  - **GDPS/PPRC customers** must move to 'single policy' prior to introducing 3.9 systems into the sysplex.
  - **GDPS/XRC customers** using 'normal' & 'alternate' policy must make some operational changes

- **GDPS/PPRC (3.8 SPE APAR)**
  - XCF REALLOCATE together with Maintenance Mode used
    - ENABLE/DRAIN/POPULATE still available for single CFs
  - Support for REALLOCATE TEST and REALLOCATE REPORT added

CF management simplified, more reliable and provides added functionality

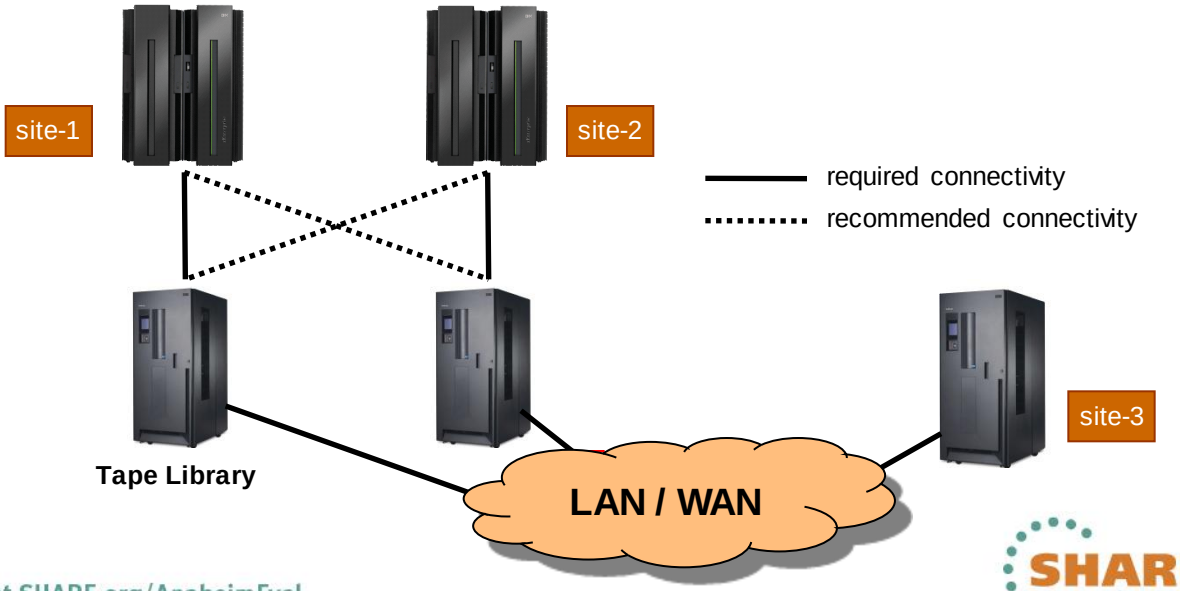
GDPS/PPRC CF management panel

```
VPCPSPM5          Sysplex Resource Management                    G7C2

            Active CFRM Policy:       POLAB
            Normal CFRM Policy:       POLAB


Actions: R ebuild  D rain  E nable  P opulate  M aintenance  Q uery

         Site1 CFs                          Site2 CFs
_   CF1      Working  000000015F4A     _   CF2      Working  000000040164
_   -                                   _   -
_   -                                   _   -
_   -                                   _   -
_   -                                   _   -
_   -                                   _   -

1  Use Only Site1        2  Use only Site2        3  Use Normal
4  Reallocate            5  Reallocate Test       6  Reallocate Report
7  Switch CFRM Policy
 CF-Names/CFRM Policy names changed
Selection ===> _
  F1=Help          F3=Return                          F6=Roll
```

TS7700 Grid Management
GDPS/PPRC

- Provide TS7700 configuration and status on GDPS panels
- Monitoring of TS7700 replication within GDPS and alerts
- Control TS7700 replication from GDPS scripts and panels
  - TAPE ENABLE/DISABLE by library, grid or site

- Mutually exclusive with legacy PtPVTS



GDPS TS7700 Tape Status panel

```
VPCPVT71  Tape Replication Status =  NOK   Monitor2 time: 13:37:50  G2C3
                                  Config time: 2012-02-11  11:50:16

Grid/Library actions: Q uery Lib   S Query SMS    D isable Copy   E nable Copy


    Grid      Site     State HCopy Immed-Def Owner  Link  RunQ DefQ
     Library  Location       Enb   No     MB TakeO  state No   No
_   LIBVTS
_    LIBVTS0  SITE1    ON    N     2     248   '-'   A     0       3
_    LIBVTS1  SITE2    ON    Y     13   1613   '-'   A     0      13









All libraries:      3 Disable Copy  4 Enable Copy  5 Monitor2  6 Query

Selection ===>
  F1=Help          F3=Return                              F6=Roll
```

Support for new z/OS capabilities

GDPS/PPRC, GDPS/HM

- **Reserve Storage Pool (RSP)**
  - New type of resource introduced with z/OS 1.13
    - Can simplify management of defined but unused volumes
  - Support added to GDPS for including Reserved Storage Pool (RSP) volumes in the GDPS-managed PPRC configuration
    - Will be retrofitted to GDPS 3.7 & 3.8

- **MSS1 Support** - Alternate subchannel set support extended
  - PPRC secondary of IPL, IODF and Standalone Dump devices for z/OS systems in the GDPS sysplex can be defined in MSS1
    - New support available in z/OS 1.12 (or 1.11 with SPE APAR)
    - Delivered as SPE on GDPS 3.8
    - Prereqs zEnterprise z196 or z114 at GA2 MCL level

Agenda

- **GDPS 3.9 Enhancements**
  - Systems Management
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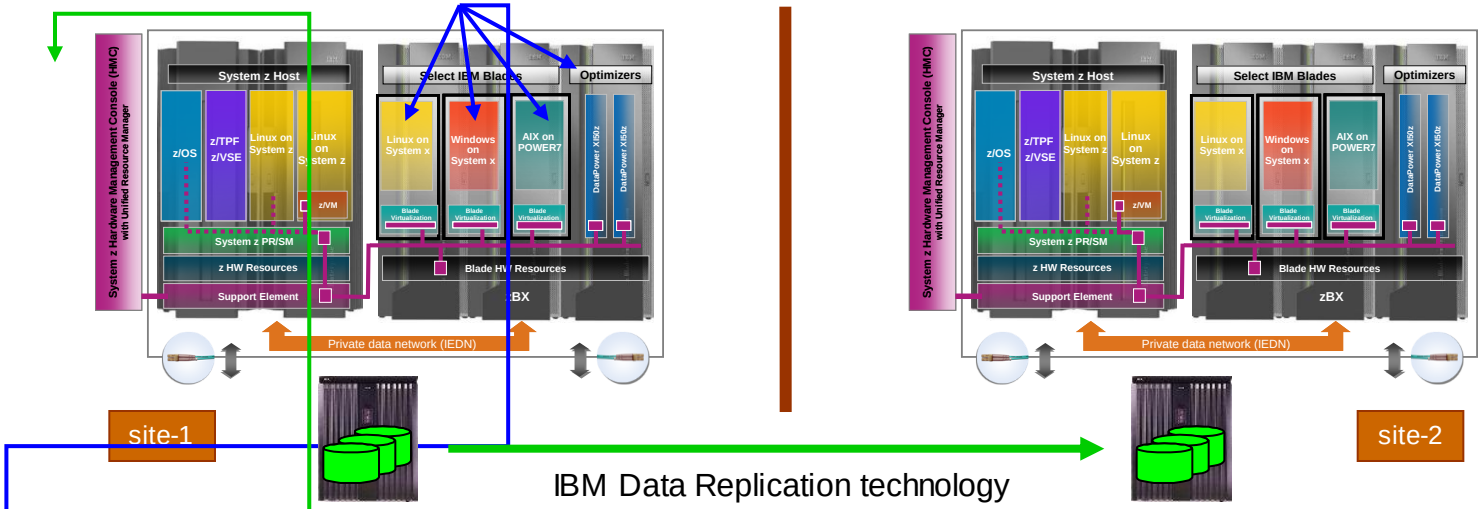
GDPS Capabilities using zEnterprise Business Continuity
GDPS/PPRC, GDPS/XRC, GDPS/GM

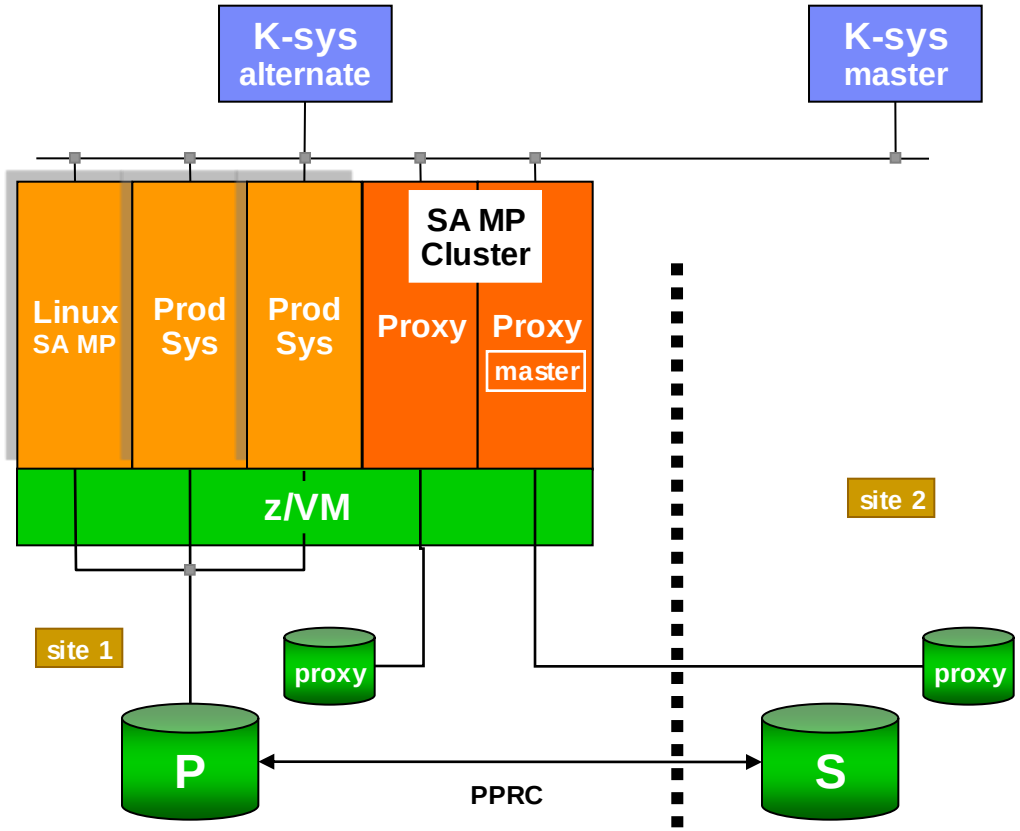


- **Management of Metro Mirror or Global Mirror remote copy configurations (Open LUN)** – *Data consistency across System z (z/OS, z/VM, & zLinux) and distributed systems running in zBX*
- **Infrastructure management solution for z/OS and Linux applications on System z (xDR)** – *Data consistency, HyperSwap, Infrastructure planned/unplanned site switches across System z and distributed systems running in zBX*
- **Application management and coordination of planned and unplanned outages (DCM)** – *Application planned/unplanned site switches across System z and distributed systems running in zBX*

xDR High Availability dual Proxy configuration

GDPS/PPRC xDR guest

- Dual proxy cluster
  - One proxy on Site1 disk
  - One proxy on Site2 disk
- Master Proxy on disk alongside PPRC secondary disk
  - Automatic proxy switch
- High Availability configuration
  - Proxy & Proxy disk no longer a single point of failure
- Requires SA MP 3.2.2.2

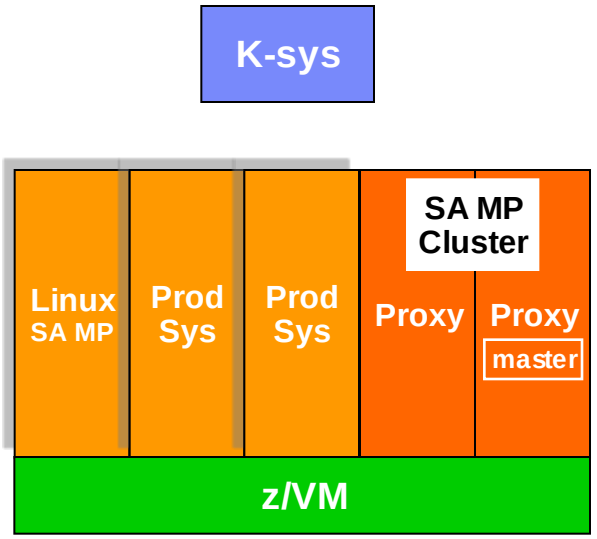


Proxy Master role is switched automatically when PPRC disk is switched (or recovered) or when the Master proxy fails

xDR z/VM 'orderly shutdown' extensions

GDPS/PPRC xDR guest

- GDPS STOP action performs z/VM orderly shutdown
- **Shutdown occurs in 3 phases**
  1. zLinux guest cluster/nodes managed by SA MP
  2. Other guests that support SIGNAL SHUTDOWN *all stopped in parallel*
     - *Full parallel action can impact resource constrained environments*
     - *Phase has a fixed timeout to complete*
  3. All others
- **Phase 2 shutdown enhanced**
  - Option to provide a VM script to define shutdown sequence
  - Improved algorithm to determine duration for Phase 2 shutdown



requires SA MP 3.2.2.2

Improved manageability for z/VM and guests

xDR 3.9 only supports enhanced SOCKET protocol

- **SOCKET protocol available since GDPS 3.7**
  - REXEC no longer supported in GDPS 3.9 for xDR Guest
  - Basic SOCKET no longer supported in GDPS 3.9 for xDR Native
  - xDR Guest and Native environments must be on ***enhanced SOCKET protocol*** *prior to migrating* to GDPS 3.9
  - SA MP 3.2 is minimum prereq release for SOCKET support

- **Two Ksys GDPS environments**
  - xDR must be 'enabled' for communicating to two Ksys
  - Running xDR proxy not enabled for two Ksys communication is no longer supported on GDPS 3.9

xDR odds & ends

- **z/VM 6.2 compatibility**
  - GDPS 3.9 supports LOAD of z/VM 6.2 systems
    - z/VM 6.2 systems require a 'PARMDISK' in addition to the IPL device
    - GDPS xDR extended to support LOAD of z/VM 6.2 systems
    - Requires z/VM APAR VM65080

- **Sharing LSS between PPRCed xDR z/VM and GDPS z/OS disks is now allowed**
  - LSS can be shared however, any given disk can not be shared
  - GEOPARM definitions to accomplish this is documented in GDPS 3.9
  - Can also be used in pre-GDPS 3.9 environments

GDPS Distributed Cluster Management

- **GDPS/PPRC DCM for Tivoli System Automation Application Manager**
  - Replication of distributed data managed by GDPS (Open LUN support)
  - Clusters on distributed servers and/or zEnterprise z/BX blades
  - Maximum distance supported extended from 200 to 300 km
    - Distance between AppMan server and AppMan managed cluster
    - Distance between AppMan server and GDPS Ksystems
  - Delivered as SPE on GDPS 3.8

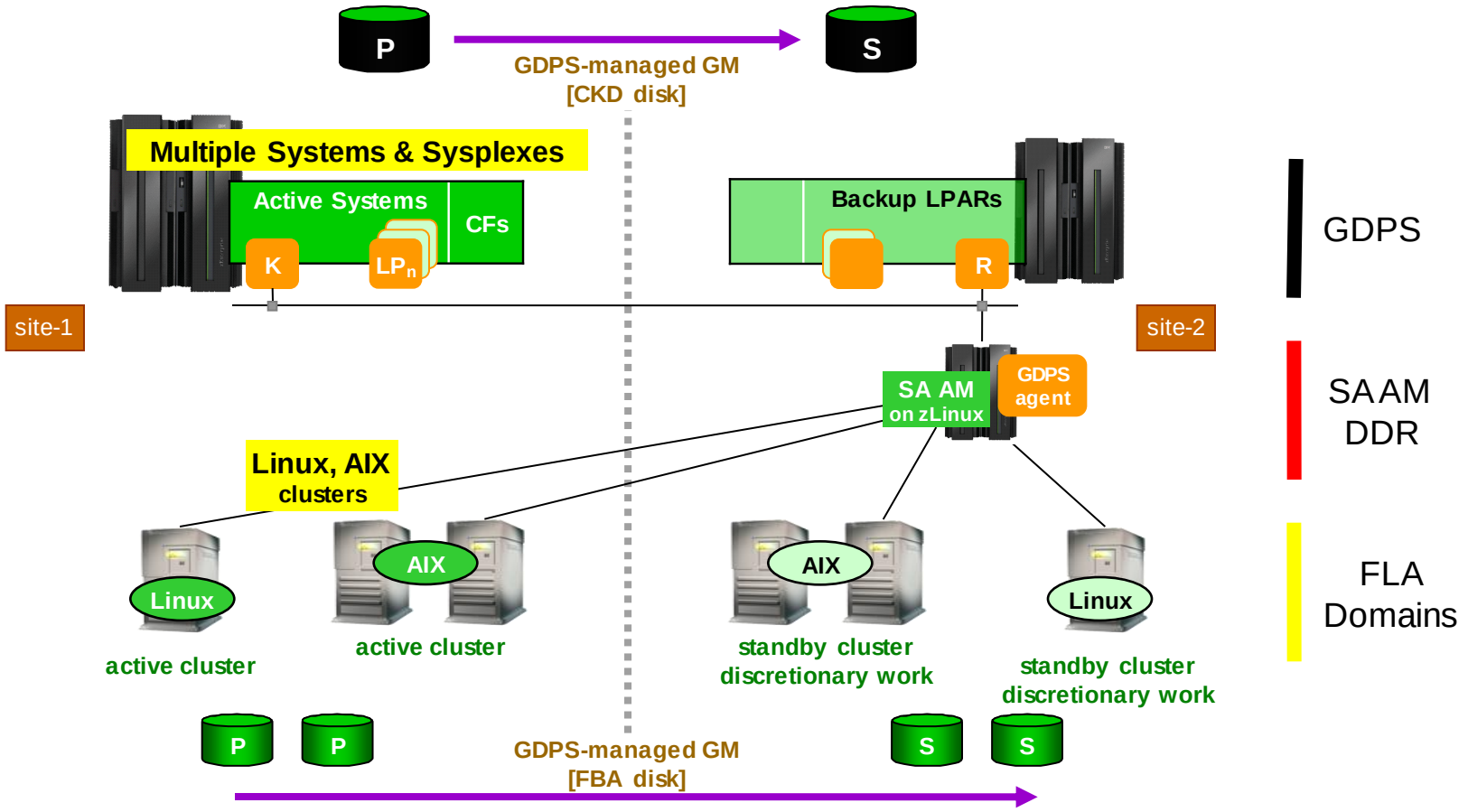
GDPS Distributed Cluster Management – Extension

- ***New with GDPS 3.9:*** GDPS/GM DCM support for SA AppMan
  - Replication of distributed data managed by GDPS
    - Distributed data in same session as System z data or independent GM session(s)
  - Clusters on distributed servers and/or zEnterprise z/BX blades
  - Virtually unlimited distance (AppMan server to cluster & Appman server to Rsys)

- **SOD:** DCM AppMan support will be extended to standalone systems
  - Also known as 'agentless adapter' (or ALA)
  - Removes requirement to install heavy-weight software prereqs for AppMan on single-node servers
  - GDPS/PPRC & GDPS/GM

Simple integration of single node-servers into configurations managed by GDPS DCM and SA AppMan

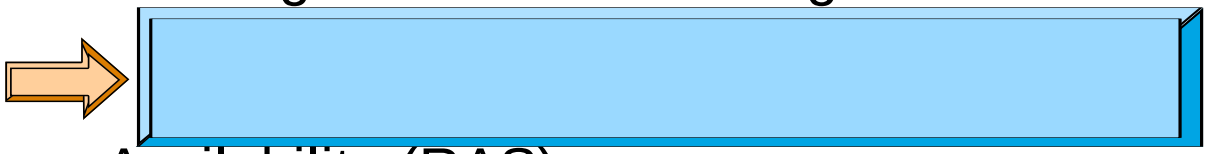
GDPS/GM DCM for SA AppMan



GDPS/GM DCM management for SA AppMan clusters

Replication management and coordinated recovery for distributed clusters

Agenda

- **GDPS 3.9 Enhancements**
  - Systems Management
  - System z Exploitation
  - Heterogeneous Data Management
  - 
  - Availability (RAS)
  - Scalability
- Summary

GDPS/XRC – The need for FlashCopy protection

- **Scenario**
  1. XRC session is duplex
  2. XRC session suspends
  3. You run your standard script to Flash and Resynch
     - Tertiaries are ‘good’
  4. While resynching, before session reaches duplex, XRC suspends again
  5. You run your standard script to Flash and Resynch
     - You overwrite ‘good’ tertiaries with ‘bad’ FlashCopy
     - You are exposed until session reaches duplex state

- **Bottomline**
  - It is only safe to take a FlashCopy if the session represents a ‘recoverable point in time’
  - You needed to understand whether it is safe to take a FlashCopy

GDPS/XRC FlashCopy protection

- FlashCopy protection enabled via new GEOXPARM setting
  - Helps to protect your recovery position with tertiary devices
  - Applicable to all XRC sessions defined
- GDPS-managed FlashCopy protection (aka Integrity Locking)
- For any GDPS FlashCopy request, explicit or implicit
  - If source devices represent a valid, recoverable point in time - establish the FlashCopy
  - Else, fail the request to take a FlashCopy
- Ensures any FlashCopy taken by GDPS will be 'good'
- Ensures a previous 'good' FC is not overwritten with a new 'bad' one
- User-managed FlashCopy locking
  - Via new XRC SETLOCK script statement or SetLock (SL) line command on panel
  - Prevent GDPS from taking/withdrawing a FlashCopy, for example, during D/R testing or while dumping tertiary to tape

GDPS FlashCopy support is significantly enhanced

GDPS HyperSwap extensions
GDPS/PPRC, GDPS/HM

- GDPS 3.9 exploits **dedicated XCF signalling buffers** for HyperSwap
  - Exploited on z/OS 1.12 (and higher) systems automatically
    - Mixed environment with pre-1.12 and pre-3.9 systems is supported
    - Highest degree of resiliency when sending and receiving systems at supported levels
  - Together with enabling XCF *CRITICALPAGING*
- Dedicated XCF buffers for communications between master Ksystem and production systems when coordinated HyperSwap actions

Greatly improves HyperSwap Resiliency

GDPS HyperSwap extensions 3.8 SPEs
GDPS/PPRC, GDPS/HM

- **New '*proactive*' unplanned HyperSwap trigger**
  - Disk subsystem notifies z/OS which notifies GDPS to swap for '*acute*' error conditions
    - Systems continue to run on swapped-to disk and not impacted by error recovery
    - Prereqs z/OS 1.13 and new IBM DS8700/DS8800 u-code in support of the Storage Controller Health Message function
- **Additional protection for xDR (z/VM or native Linux)**
  - If z/VM or Linux system must be reset during a planned/unplanned HyperSwap
    - Load waitstate in addition to resetting LPAR
  - Ensures that system does not continue to run and update the former primary disks
- **Reserve/Release support with xDR for z/VM and it's guests using minidisks**
  - Allows disk sharing between xDR managed z/VM systems and amongst guests, for example, RACF database

GDPS/PPRC & GDPS/HM Health Check extensions

- **New Health Checks**
  - GDPS_Check_SPOF (new) checks that
    - A number of conditions in the PPRC environment that would constitute a SPOF
  - GDPS_Check_GRS (new) checks that
    - GRS related best practices are observed
  - GDPS_Check_XCF (new) checks that
    - XCF CRITICALPAGING function is enabled
    - XCF transport class setup for GDPS adheres to recommendations
  - GDPS_Check_Config (new) checks that
    - Environment is configured with 2 Ksys
    - Sufficient REXX environment blocks defined to NetView
    - Production catalogs not connected to Controlling system master catalog

- **Sample HZSPRMxx policy** provided to resolve conflicts
  - Some GDPS Health Checks conflict with z/OS (e.g., SYSZRACF EXCL RNL on Ksys)
  - With sample policy, GDPS checks override z/OS checks

Improved Availability

GDPS/PPRC new 'Environment Information' panel

- **Reached via PF11 from Standard Actions panel**
- **Consolidated info**
  - HyperSwap status
  - Config TimeStamp
  - GDPS Release level
  - Debug status
- **Ability to initiate Mon1 or Mon3 in any system**
  - Without having to logon to that system
  - Mon2 can be initiated on the current Master system

```
VPCPSTA1              GDPS Environment Information                    G6C2

System Actions:    A  Mon1/Mon3  B  Mon2  Primary Dasd = OK    SITE1   MAYOTTE

   Sysname   Status   Hyperswap DASD-Config          GDPS-lvl   Debug
_  SITE1     MAYOTTE
_  VM61006   XDR-A    DISABLED  2012-02-07 14:08:31  V3.R9.M0   ON IP
_  VM62S003  XDR-A    ENABLED   2012-02-07 14:08:31  V3.R9.M0   ON IP
_  VM62S004  XDR-A    ENABLED   2012-02-07 14:08:31  V3.R9.M0   ON IP
_  S110CKD0  LNX-A    ENABLED   2012-02-07 14:08:31  V3.R9.M0   ON IP
_  G6C1      ACTIVE   ENABLED   2012-02-07 14:08:31  V3.R9.M0   ON
_  G6P1      ????     --        --                   --         --
_  CF1       MANUAL   --        --                   --         --
_  SITE2     ANJOUAN
_  S111SCS0  RESET    --        --                   --         --
_  VM62S001  XDR-A    ENABLED   2012-02-07 14:08:31  V3.R9.M0   ON IP
_  VM62S002  XDR-A    DISABLED  2012-02-07 14:08:31  V3.R9.M0   ON IP
_  G6P2      RESET    --        --                   --         --
_  G6C2      MASTER   ENABLED   2012-02-07 14:08:31  V3.R9.M0   ON
_  CF2       MANUAL   --        --                   --         --


Selection ===> _
  F1=Help     F3=Return  F5=Refresh     F6=Roll                  F10=Left
```

Consolidated Information in one View

for all GDPS z/OS and xDR systems in the configuration

New 'FLSHCOPY' Command
GDPS/HM 3.8 SPE

- **New NetView command 'FLSHCOPY'** supports taking a FlashCopy of the GDPS-managed secondary disks
  - Using the COPY or NOCOPY option
  - Supports the NOCOPY2COPY option to convert an existing FC taken with NOPCOPY to COPY
  - For only CHK disks in the configuration

- FLSHCOPY DASD [FCESTABLISH|FCWITHDRAW] SECONDARY [COPY|NOCOPY|NOCOPY2COPY]

- Ability to integrate GDPS FlashCopy actions into customer written REXX programs
  - For example, freeze + flash + resync

GDPS maintenance now available via RSU

- All flavors

- As of RSU/1106, *all GDPS PTFs* are officially integrated into the Recommended Service Update (RSU) process
  - Marked with SOURCEID(RSUyynn) in Enhanced HOLDDATA.
    - Some PTFs have been marked with 1103, 1104, and 1105, and the remainder of the historic PTFs are marked with 1106
    - Since 1106 normal marking process is in effect

End of Service (EOS)

- When GDPS 3.9 is GA, support for GDPS 3.6 will be discontinued
  - In accordance with GDPS n,n-2 support policy

- Support for Tivoli NetView for z/OS V5.1 & V5.2 will be discontinued on March 30, 2012
  - NetView 5.1 & 5.2 are no longer valid prerequisite levels for GDPS/PPRC, GDPS/HM, GDPS/XRC, GDPS/GM products

For GDPS/HM:

- If you are using Tivoli System Automation for GDPS/PPRC HM with NetView, V1.1.3 is the minimum supported prerequisite level
- If you are using Tivoli System Automation for GDPS/PPRC HM, V1.1.2 is the minimum supported prerequisite level

Agenda

- **GDPS 3.9 Enhancements**
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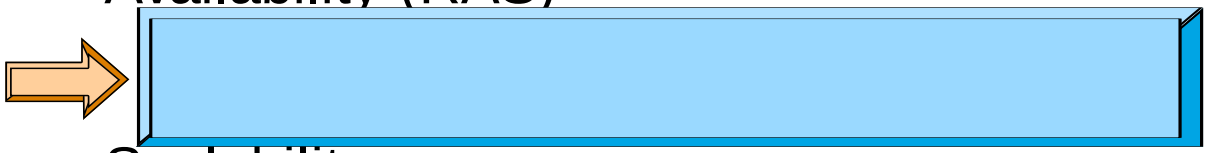
  - Availability (RAS)



  - Scalability
- Summary

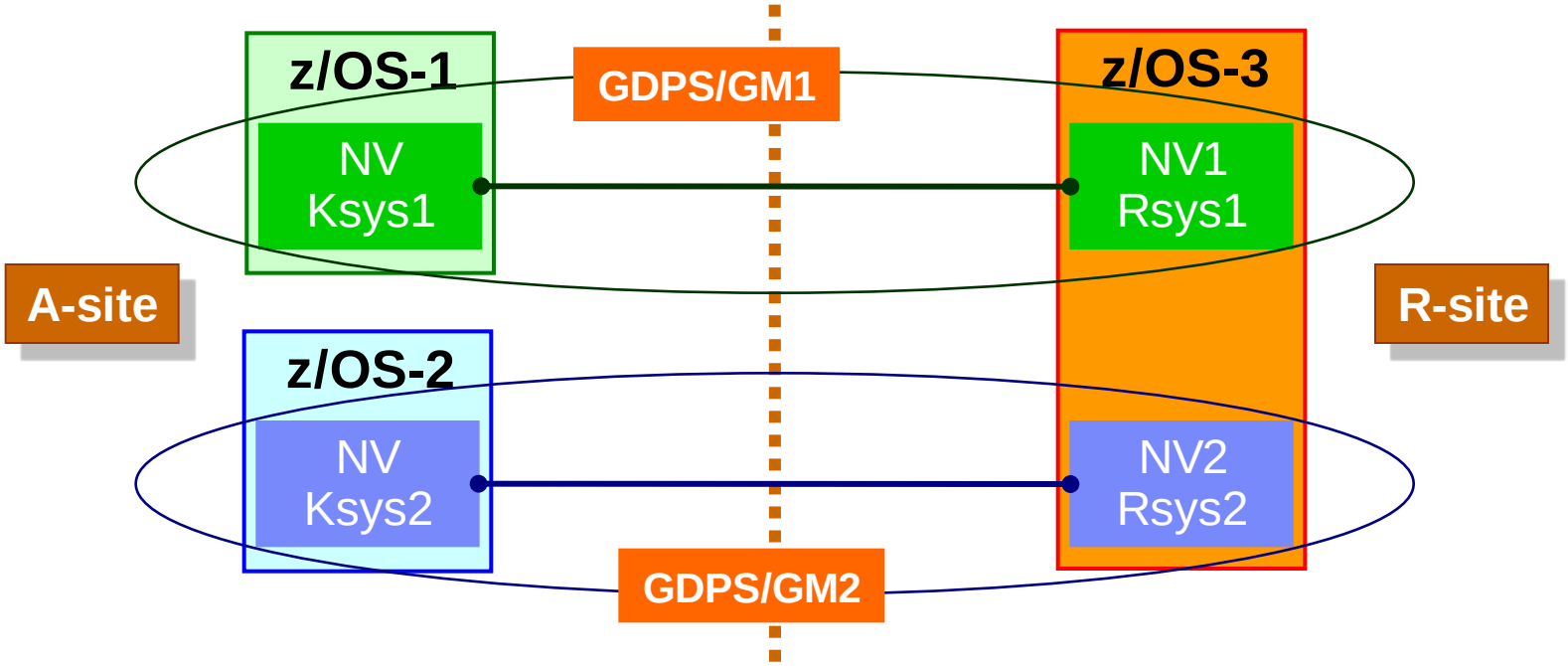
Vary After Clip (VAC) processing
GDPS/XRC 3.8 SPE

For customers that keep primary devices online in SDM systems

- SDM
  - Detects primary device is clipped
  - Issues message
- GDPS
  - Re-varies clipped device online
  - Schedules VOLREFR config
- Ensures VOLSER info is correct in SDM UCB and in GDPS config
  - Avoids errors that can result from having incorrect VOLSER in SDM system and/or GDPS config

Improves manageability, especially in large configurations

GDPS/GM Rsys consolidation



- Can consolidate multiple Rsys instances in single z/OS image
- Each R-sys runs in a separate NetView in same z/OS
- Cannot run scripts in multiple Rsys NetViews concurrently
- Can also consolidate R-systems in an MGM environment

Reduced GDPS Controlling system z/OS images

Agenda

- GDPS 3.9 Enhancements
  - Systems Management
  - System z Exploitation
  - Heterogeneous Data Management
  - Availability (RAS)
  - Scalability

- **Summary**

A very big, function rich release – GDPS 3.9

- **Systems Management**
  - CLEAR / NOCLEAR at IPL
  - Alternate SYSRES
  - Takeover prompt extended
  - "Region Switch" (XRC)
  - Query Services (XRC)

- **System z Exploitation**
  - Capacity on Demand
  - CFRM management
  - z/OS exploitation
  - TS7700 tape management

- **Heterogeneous Data Management**
  - Support for zEnterprise
  - DCM enhancements
  - xDR enhancements

- **Availability (RAS)**
  - Stand-Alone Dump
  - HyperSwap
  - FlashCopy protection (XRC)
  - Health Checks
  - Environment Panel
  - RSU

- **Scalability**
  - Multiple Rsys consolidation
  - Vary After Clip (XRC)
  - PPRCSUM

Additional Information

- **Web sites:**

GDPS	**www.ibm.com/systems/z/gdps**
Parallel Sysplex	**www.ibm.com/systems/z/pso**
Bus Resiliency z	**www.ibm.com/systems/z/resiliency**
Bus Resiliency	**www.ibm.com/systems/business_resiliency**

- System z **www.ibm.com/systems/z/hardware**
  Storage **www.ibm.com/systems/storage**
  Redbooks® GDPS Family: An Introduction to Concepts and Capabilities

www.redbooks.ibm.com/abstracts/sg246374.html?Open

- **GDPS Web Site White Papers and Presentations**
  - GDPS: The Enterprise Continuous Availability / Disaster Recovery Solution
  - GDPS Business Continuity Solutions
  - Consistency Groups in a Nutshell
  - DS6000™ / DS8000™ Data Replication
  - GDPS Solutions
- **e-mail:** **gdps@us.ibm.com**

Related Sessions

Tuesday, 3pm in Salon D – Session 11662

- **GDPS End to End Support (xDR and DCM)**

Wednesday, 8am in Salon H – Session 11663

- **GDPS Active/Active Sites Update**

Friday, 11am in Salon H – Session 11661

- **GDPS 3.9 Update**

Session Survey

- Session 11662
- QR code or Paper

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Dank u
Dutch

Merci
French

Спасибо
Russian

Gracias
Spanish

شكراً
Arabic

감사합니다
Korean

Tack så mycket
Swedish

धन्यवाद
Hindi

תודה רבה
Hebrew

Obrigado
Brazilian Portuguese

谢谢
Chinese

Dankon
Esperanto

Thank You

ありがとうございます
Japanese

Trugarez
Breton

Tak
Danish

Danke
German

Grazie
Italian

நன்றி
Tamil

děkuji
Czech

ขอบคุณ
Thai

go raibh maith agat
Gaelic