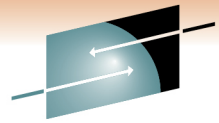


Replication Vendor Panel – IBM

Bob Kern (bobkern@us.ibm.com)
IBM Corporation

March 2, 2011
Session 9018

IBM DS8700/DS8800 / System z Synergy

- FICON Enhancements
- Extended Distance FICON
- Caching Algorithms – AMP, ARC, WOW, 4K Cache Blocking
- DFSMS Recognition of SSDs
- Easy Tier
- z/OS GM Multiple Reader Support
- SSDs + DFSMS + zHPF + HyperPAV + DB2
- I/O Priority over Ficon & within DS8K managed by WLM Service Class

Performance

- HyperPAV
- GDPS & GDOC Automation
- HyperSwap Technology
- Remote Pair FlashCopy
- zCDP for DB2, zCDP for IMS

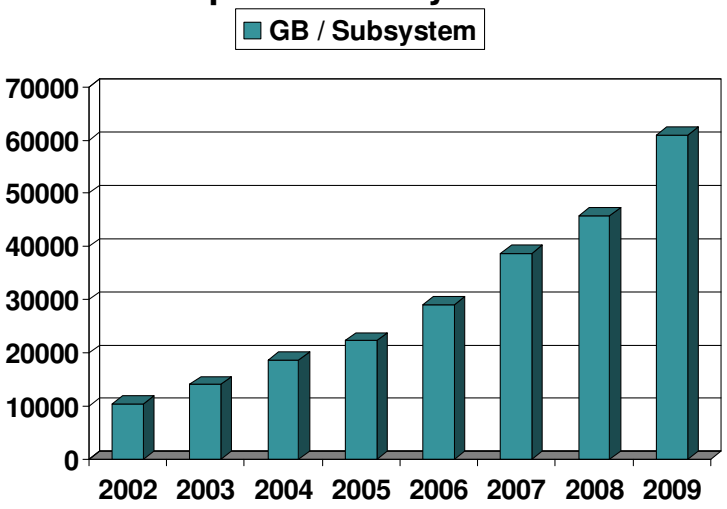
Availability

- EAV
- Dynamic Volume Expansion
- Space Efficient FlashCopy
- z/OS Distributed Data Backup
- System z Discovery & Automatic Configuration (zDAC)
- Alt Subchannel Exploitation
- Disk Encryption

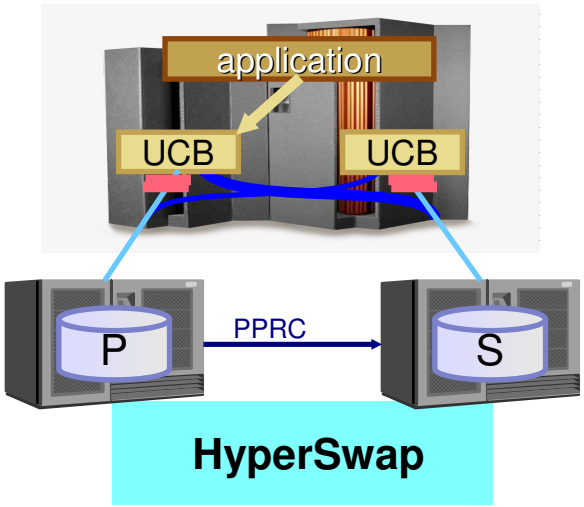
Management/Growth

IBM HyperSwap: Near Continuous Data Availability

Business impact of subsystem failure



Source: IBM Market Intelligence



- ✓ **Designed to Provide Continuous Availability of Data for System z & AIX**
  - ✓ Facilitated by new PPRC microcode functionality and z/OS® IOS code
  - ✓ z/OS Basic HyperSwap
  - ✓ TPC-R Full Function HyperSwap
  - ✓ GDPS/PPRC HyperSwap Manager
  - ✓ GDPS/PPRC HyperSwap
- ✓ **IBM HyperSwap™ is:**
  - ✓ Integration of very fast swapping of PPRC'd disk subsystems with z/OS, zVM and zLinux managed by GDPS
  - ✓ Integrated w/AIX 5.3+, managed by TPC-R
  - ✓ Switching to alternate copy of data can be accomplished in seconds to minutes
  - ✓ Supported on Synchronous PPRC
  - ✓ Exploits Alternate Subchannel Sets on z9, z10 & z196.
  - ✓ Remote Pair FlashCopy – ensures HS Active
- ✓ **Intended Benefits:**
  - ✓ Designed to offer continuous availability of data
    - ✓ Disk Maintenance
    - ✓ Site Maintenance
    - ✓ Data Migration
    - ✓ Disk Failure
    - ✓ Site Failure
  - ✓ Fast and Scalable System z Enterprise Data Center swap: scales to very large configurations
  - ✓ Repeatable, reliable, confident recovery: No operator interaction, GDPS automation managed

The right level of business continuity protection for your business – *GDPS family of offerings*

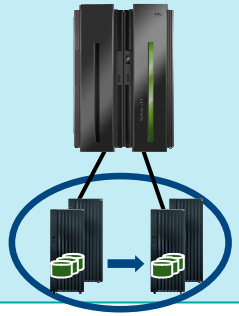
SHARE
Technology · Connections · Results

- *GDPS®* : An end-to-end disaster recovery solution to enable:
- Automated recovery removes people as Single Point of Failure
- A single point of control across enterprise

Continuous Availability of Data Within a Data Center

Single Data Center Applications remain active

Near-continuous availability to data

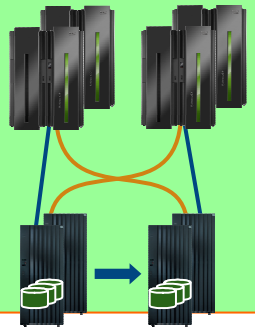


GDPS/PPRC HM

Continuous Availability / Disaster Recovery Metropolitan Region

Two Data Centers Systems remain active

Automated D/R across site or storage failure No data loss

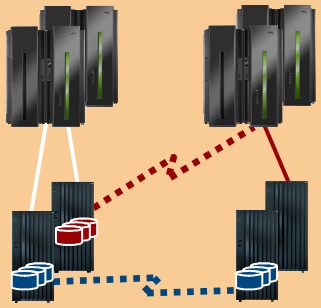


GDPS/ PPRC HM
GDPS/PPRC

Disaster Recovery at Extended Distance

Two Data Centers

Automated Disaster Recovery "seconds" of Data Loss

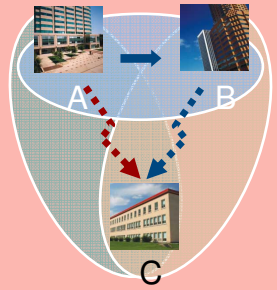


GDPS/GM
GDPS/XRC

Continuous Availability Regionally and Disaster Recovery Extended Distance

Three Data Centers

Data availability No data loss Extended distances

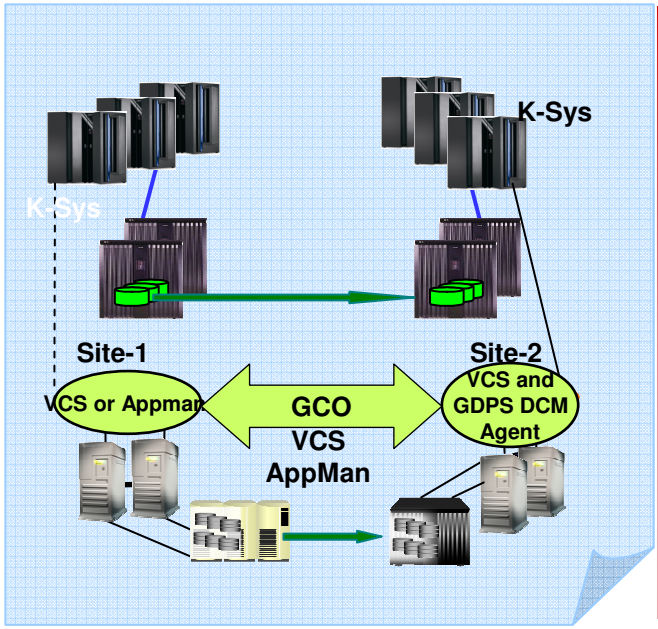


GDPS/MGM
GDPS/MzGM

GDPS Distributed Cluster Manager (DCM)

CA* / DR within a metropolitan region

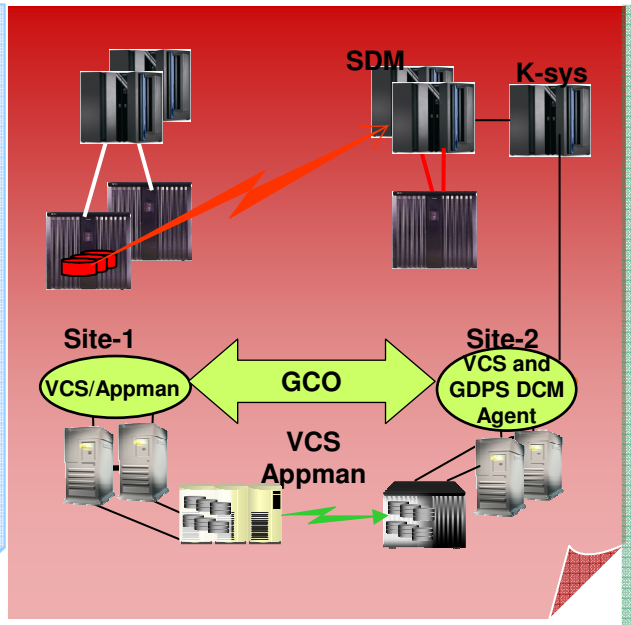
Two data centers - systems remain active; designed to provide no data loss



➢ GDPS/PPRC +GCO VCS-managed synch replication for distributed servers or Tivoli AppMan w/TPC-R

DR at extended distance

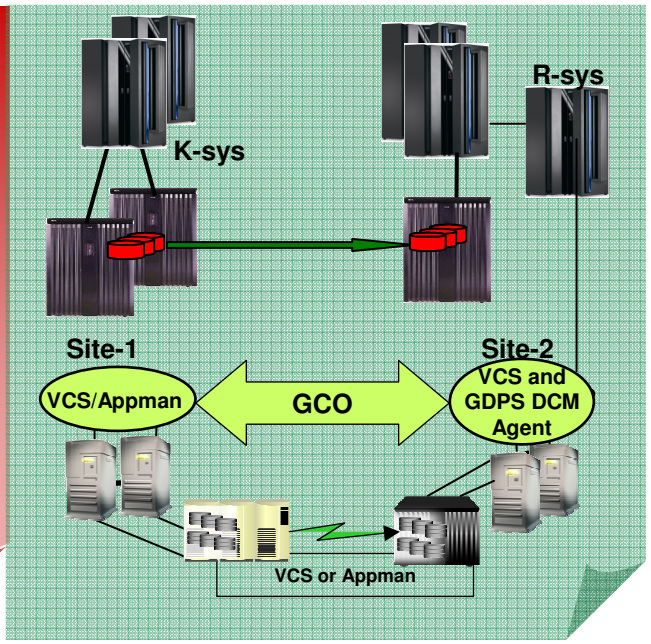
Rapid systems recovery with only 'seconds" of data loss



✓GDPS/XRC + GCO VCS-managed async replication for distributed servers or Tivoli AppMan w/TPC-R

DR at extended distance

Rapid systems recovery with only "seconds" of data loss

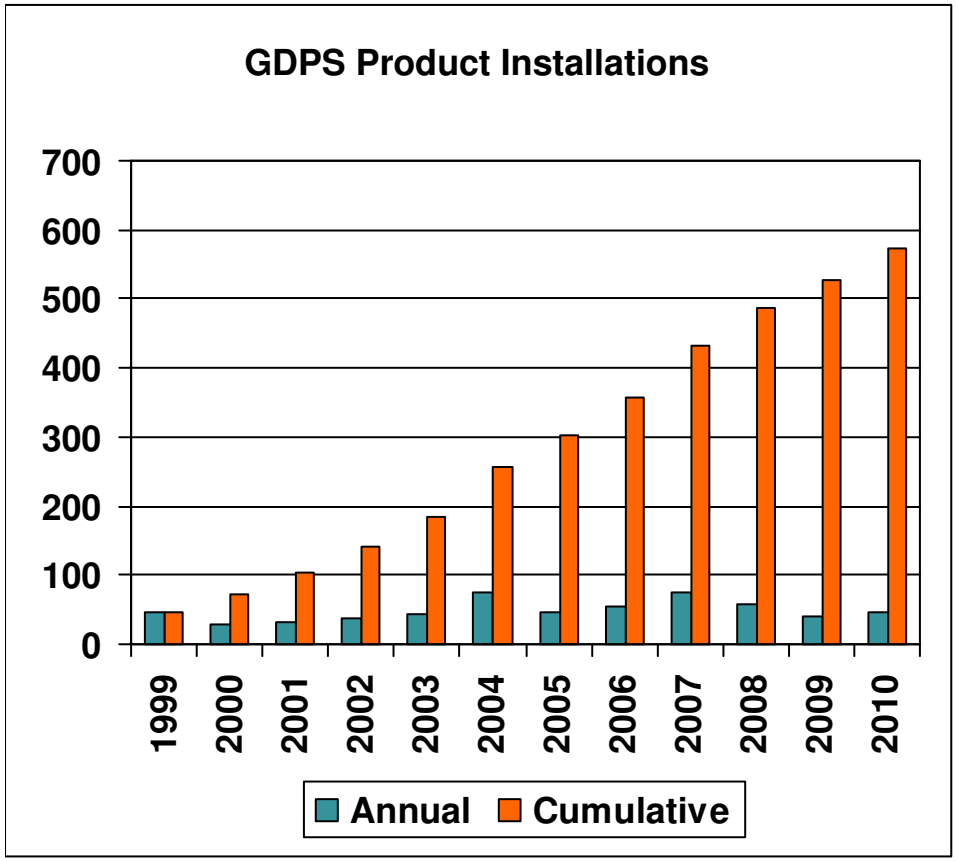


✓GDPS/GM + GCO VCS-managed async replication for distributed servers or Tiv Appman w/TPC-R

✓Enables cross platform communications between System z & Non-System z systems (IBM AIX, SUN-Solaris, HP-UX, Linux, VMWare, Windows)

✓Coordinated Planned & Unplanned Site Switch based on GDPS Policy & detected failure scenarios.

GDPS Demographics (thru YE10)



One or two site GDPS installations by product type

RCMF/PPRC	52	9.1%
RCMF/XRC	16	2.8%
GDPS/PPRC HM	75	13.1%
GDPS/PPRC	292	51.0%
GDPS/XRC	92	16.1%
GDPS/GM	45	7.9%
Totals	572	100.0%

Three site GDPS installations by product type

GDPS/MzGM *	36
GDPS/MGM **	27

GDPS solution by Industry sector

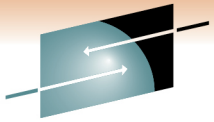
Communications	36	6.3%
Distribution	26	4.5%
Finance	418	73.1%
Industrial	29	5.1%
Public	49	8.6%
Internal IBM	10	1.7%
SMB	4	0.7%
Total	572	100.0%

GDPS solution by geography

AG	147	25.7%
AP	66	11.5%
EMEA	359	62.8%
Totals	572	100.0%

*** GDPS/MzGM consists of GDPS/PPRC HM or GDPS/PPRC and GDPS/XRC. 22 of 37 have PPRC in the same site. the licenses are counted in the prior table**

**** GDPS/MGM consists of GDPS/PPRC HM or GDPS/PPRC and GDPS/GM. 12 of 27 have PPRC in the same site. the licenses are counted in the prior table**



Thank you

Merci