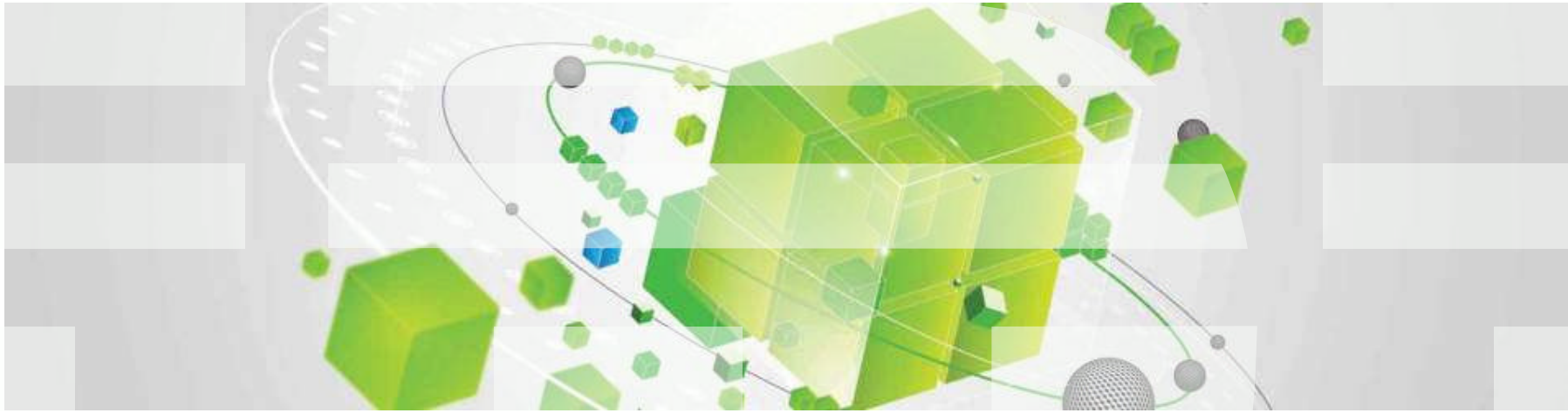
Increase System z storage visibility with OMEGAMON Monitoring

Sept. 13, 2012



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IBM Tivoli System z Storage Management Reduce Costs, Increase Productivity & Fosters Collaboration

Key Takeaways

1. Tivoli z/OS Storage portfolio brings together a rich set of z/OS Storage management capabilities together including hardware and software monitoring, HSM management, ICF Catalog management, Data Allocation & Tape management to prevent costly outages and reduce CPU and storage hardware costs
2. Common interfaces, standard methods of operation, built-in subject matter expertise, consolidated information views, intelligent alerting, and automation of routine tasks all combine to make users more efficient and reduce 24X7 reliance on subject matter “gurus”
3. Tivoli OMEGAMON XE for Storage on z/OS is the hub that integrates with an array of powerful specialty management components to break down organizational silos, share expertise and foster collaboration in solving problems and optimizing the environment .

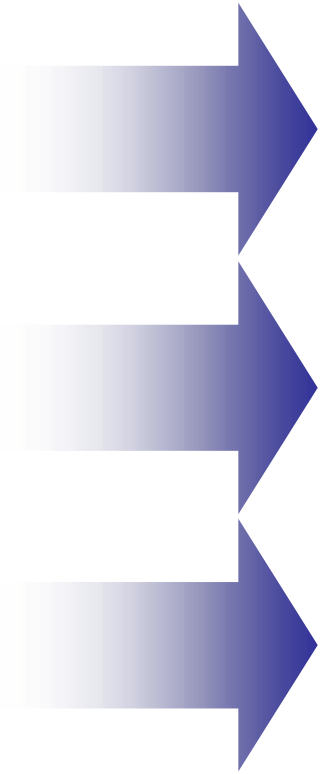
Tivoli Storage Management provides integrated end-to-end integration and simplification

- Issues in z/OS Storage management
- Tivoli z/OS Storage Management portfolio and value
- IBM Tivoli z/OS Storage Management enhancements
- IBM Tivoli OMEGAMON XE for Storage on z/OS Overview
- New OMEGAMON XE for Storage V5.1

Tivoli's z/OS Storage solution meets today's challenges

Customer Challenges

- ***Simplifying management of multi-vendor storage devices***
- ***Minimizing outages & managing changes in storage environment***
- ***Growning workloads vs. Tight staffs, skills & budgets***



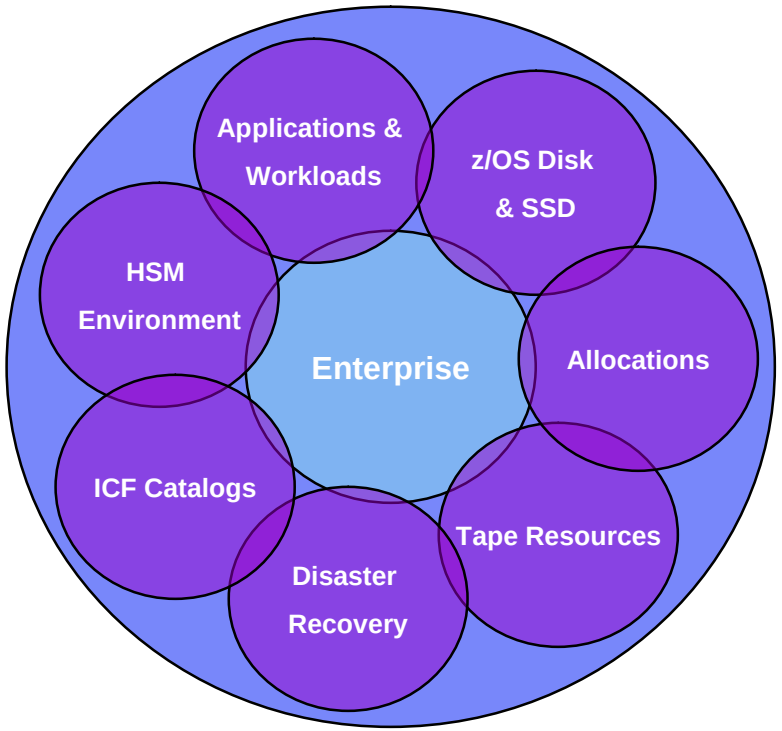
Overcoming Challenges

- ***Common set of tools across many storage systems***
- ***Tailored alerts and automation of tasks and preplanned corrective actions***
- ***Comprehensive, enterprise-wide view of storage infrastructure to support resource management, risk mitigation, cost savings and compliance***

IBM Tivoli System z Storage Solution – Leading Edge

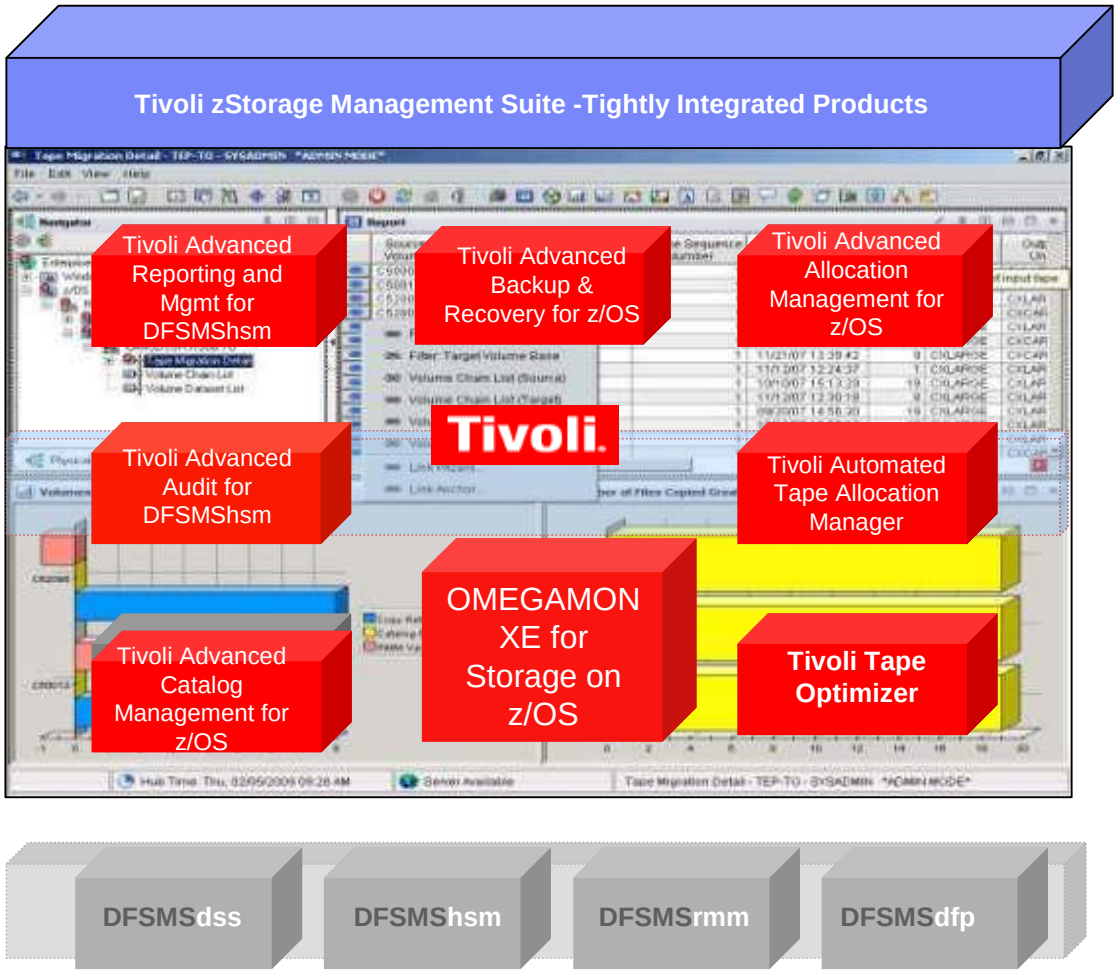
- Unmatched breadth and depth of z/OS storage management capability
- Powerful integrated storage monitoring
- Heterogeneous HW/SW environments
- Flexible reporting options & analytics
- Intelligent alerts & automated problem responses (manage by exception)
- Reduce resource consumption and cost
- Increases efficiency and staff productivity
- Reduce dependency on ‘gurus’
- Common interface and linkage to ISM components, breaks down silos, increases staff efficiency

Tivoli System z Storage Solutions address many key disciplines



Reduce Costs, Increase Productivity & Foster Collaboration

Tivoli zStorage Integration - Unmatched Capability



Differentiators

- Seamless Integration with other IBM/Tivoli management and automation offerings
- Application view of I/O Performance and Cross System support
- Deep availability & performance capability
- Situations – Manage by Exception
- Best in class HSM reporting, audit & error correction
- Allocation Management provides more preventive/corrective function
- IBM exclusive capability for fast replication in Backup & Recovery management
- Suite packaging and pricing advantages

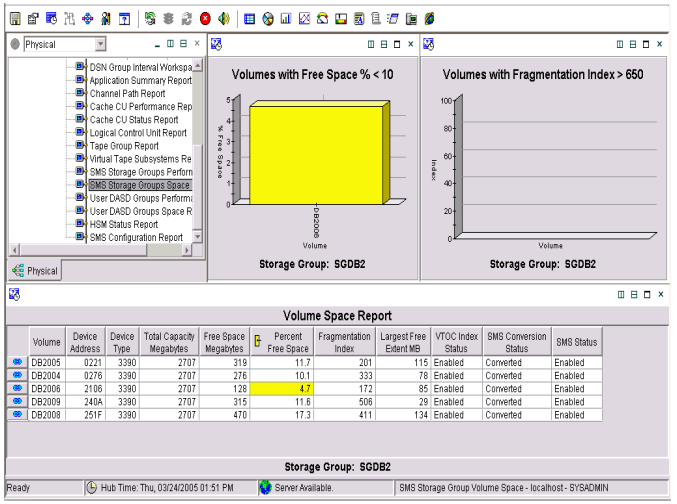
Tivoli z/OS Storage Updates: Continuing Drum Beat

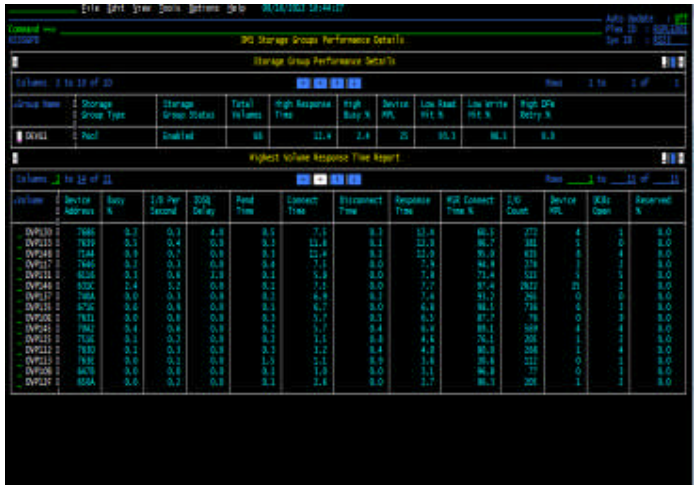
Within the last 18 months:

- Advanced Reporting & Mgmt V2.4
  - –Detailed cost of HSM workload
  - –Reduce downtime by maintaining HSM CDS while HSM active
- Advanced Catalog V2.4
  - –Expanded tracking of catalogs backed up by different tools
- Advanced Backup & Recovery V2.3:
  - –Uses storage controller fast replication, eliminating CPU overhead
    - • Make backups instantaneous.
    - • Frequent backups and faster recovery
  - –Additional backup utilities supported
- Advanced Allocation Mgmt V3.2
  - –New ease of use and flexibility enhancements with additional filtering
- Advanced Audit for DFSMShsm V2.4
  - – Enhanced reporting of HSM
  - – Rebuild HSM managed tape data
  - – New HSM auditing reports
- OMEGAMON XE for Storage on z/OS
  - – New Actioning capabilities
  - – Expanded hardware support
- IBM Tivoli Advanced Storage Management Suite for z/OS V1.1
- Advanced Allocation Mgmt V3.2
  - – Additional filtering capability
- **OMEGAMON XE for Storage on z/OS v5.1.0 (GA – Sept. 14th)**

OMEGAMON XE for Storage on z/OS V5.1 - Overview

- Mainframe storage monitor, real-time and historical
- Powerful alerting and “Take Action” capability
- Daily Storage management capability
- Wide range of mainframe storage info:
  - Space and Performance management
  - Tape / VTS
  - Channels (FICON), Control Units, CACHE
  - DFSMShsm support
  - DFSMShsm / DFSMSdss / ICKDSF / IDCAMS online toolkit
  - Batch JCL creation from toolkit – any JCL
  - Ability to see all logical volumes on a physical disk
  - Powerful applications and data views
  - Integration capabilities from TEP interface
  - DFSMSrmm reporting and toolkit functions





Cornerstone for every z/OS Storage management Tool box!

Key Enhancements to OMEGAMON V5.1

OMEGAMON v5.1 enhancements that provide more *cost savings, efficiency and collaboration*

- Self Describing Agent & Parmgen technology
- Dynamic dataset attribute groups
- Dynamic DASD user groups
- Additional historical reporting enabled for TDW
- DFSMShsm common recall queue support
- Define application groups via menu
- Execute storage toolkit requests from situation
- Support for Hitachi Data Systems storage facilities
- Initial support for STK (Oracle) tape devices
- New ***e3270*** User Interface

Enhanced Install, Configuration and Maintenance capability with Self-Describing Agents

Faster, easier, less error-prone for improved reliability and productivity

- Eliminate monitoring outages caused by ITM Server recycles
  - Product upgrades/maintenance requires agent or RTEMS recycles only
- Eliminate maintenance upgrade errors:
  - Applies to new installs, staged upgrades, and maintenance
  - Crosschecks and validates version with installed data and framework
  - Avoids inconsistent application data in ITM framework layers
- Self-describing framework extensible to new capabilities
- Eliminates application data DVDs and CDs:
  - No extra distributed installs or upgrades for mainframe-centric customers

- Moving from 40 hours a week to 4 hours a week maintenance
- 80% improvement in time for installation and maintenance
- 30% improvement in time to configure post installation

Customer Driven improvements simplify Installation and Configuration using Parmgen

Removal of ICAT as primary way to install and configure

*Before -145 ICAT **product-centric** jobs to configure 38 components for 1 LPAR RTE*
*Today – 8 Parmgen **function-centric** jobs to configure components for 1 LPAR RTE*
Customers experiencing over 35% improvement in install and configuration time

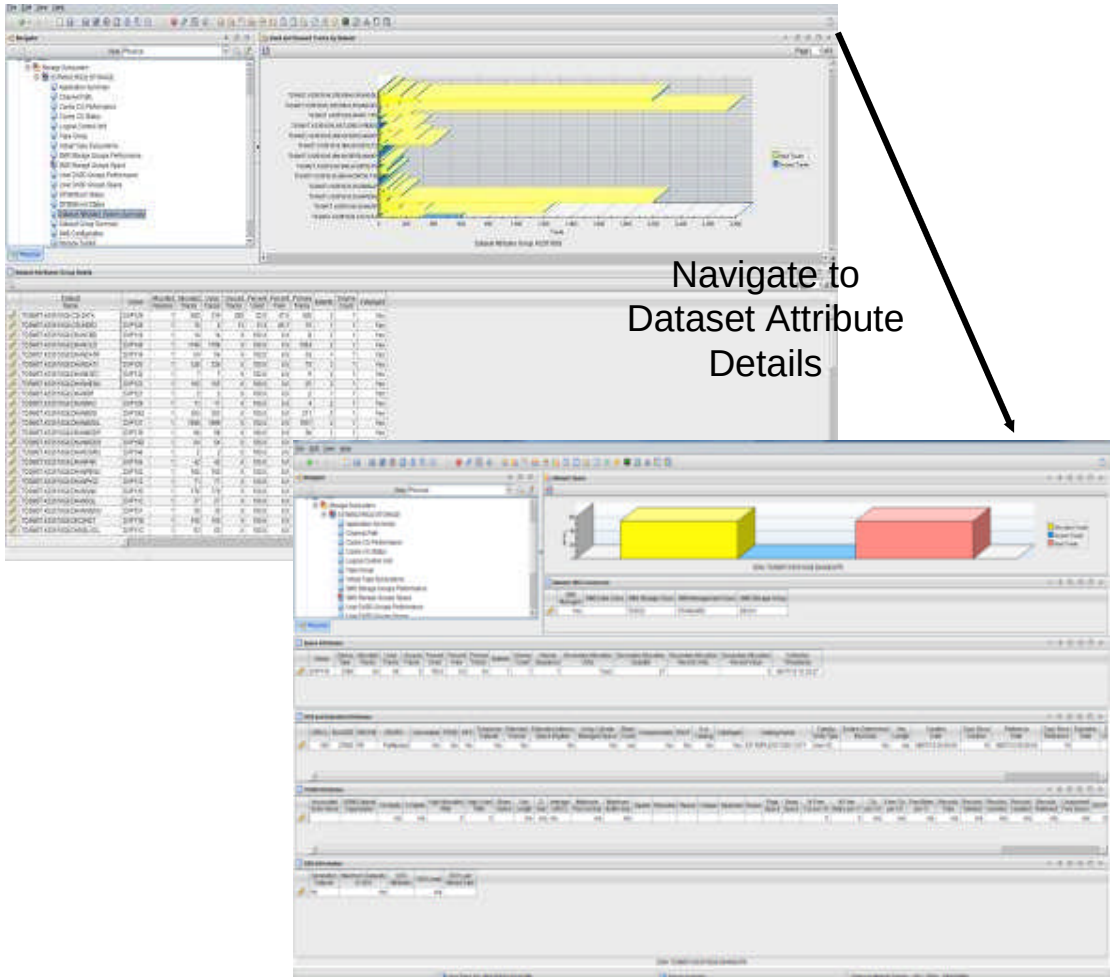
- Install without requirement of distributed server
- Easy to walkthrough steps to complete configuration and customize profile
- Automatically updates hundreds of configuration artifacts according to profile, including auto-discovery of system values

single reference book for upgrade guidance

"I like using the Parmgen approach better than CICAT/ICAT.
I find it much easier to make things repeatable...
I like the fact that Parmgen does not overwrite my running members"
Typical quotes from early adopters program

Save hours of research and problem correction effort with enhanced Dynamic Dataset Attribute & DASD User Groups

- Ability to define a group of datasets & DASD based on almost any attribute group that is tracked
- Datasets & DASD in the group change dynamically based on the attribute values at time of collection
- May issue storage toolkit requests against the group



Enhanced historical reporting adds new data to the Tivoli Data Warehouse (TDW)

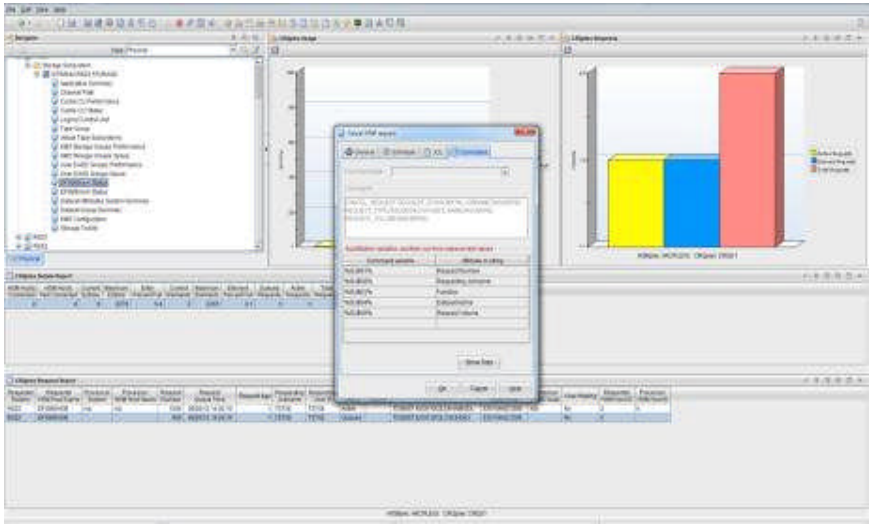
- Allows summarization of historical data
- Collection of historical data supported via TEP GUI interface
- Data is collected on the RMF interval
  - Written to PDS and TDW on interval set in TEP GUI
  - Never more often than RMF interval
- “NEW” key attribute groups enabled:
- Trend analysis supports better capacity planning

S3_Cache_Control_Unit	S3_Cache_Devices
S3_Channel_Path	S3_DASD_Volume_Performance
S3_DASD_Volume_Space	S3_Volume_Group_Summary
S3_DASD_Group_Vol_Perform	S3_DASD_Group_Vol_Space
S3_Logical_Control_Unit	

DFSMShsm Common Recall Queue updates

For Common Recall Queue Problems, OM Storage can reduce CRQ problem determination by 70% to 90%

- Monitors the health of HSM CRQ
- Cancel tasks via Storage Toolkit
  - Tasks waiting for execution
  - Executing and ‘presumably hung’ tasks
- See status of all HSM hosts in CRQplex
- See requests waiting and executing on CRQ

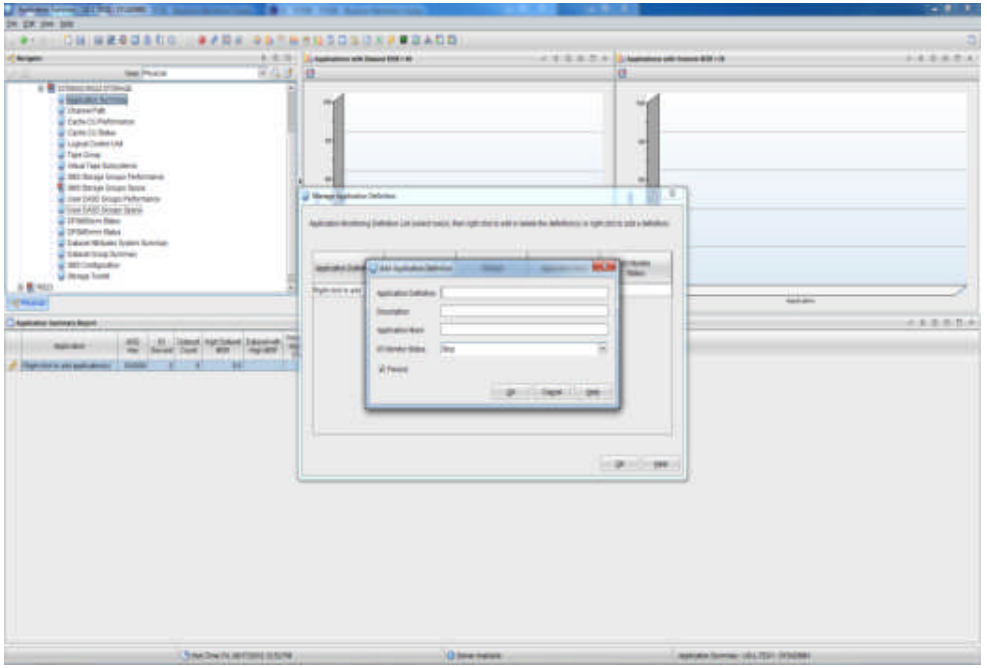


Select the request to be cancelled, right click, and invoke the cancel dialog. Cancel request will be routed to the appropriate HSM host for processing.

Simplify definition of workload for tracking

70% improvement in defining Workload tracking via Tivoli Enterprise Portal User Interface

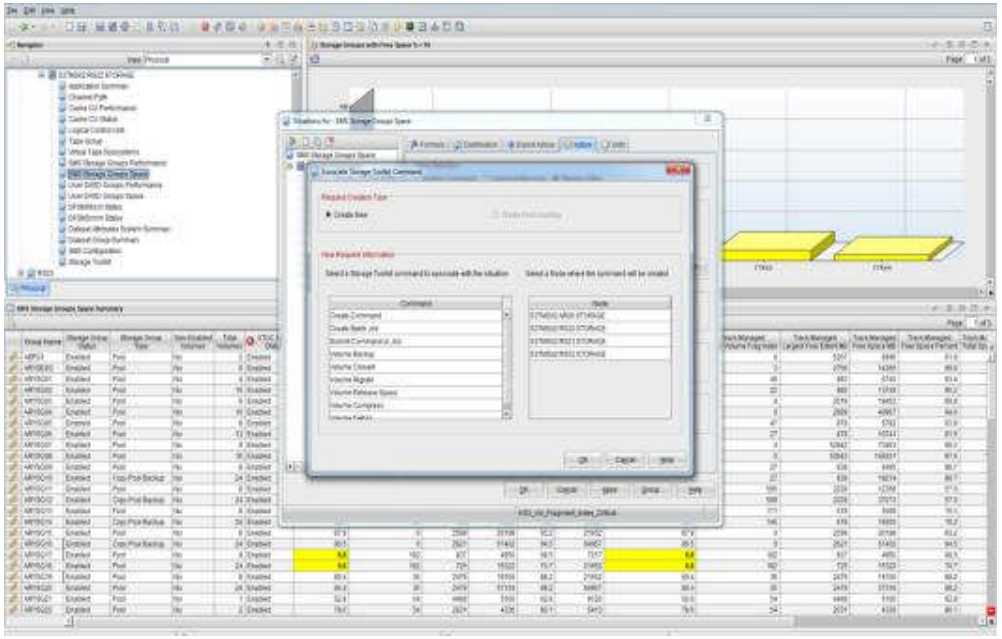
- Set of menus to define applications to monitor
- Replaces original ‘situation’ method to define an application
  - Situation method still supported
- Ability to delete applications
- Ability to alter application masks



Easily Automate Responses to Common Problems

Stronger problem resolution capabilities can save you 80% in setup effort for automated actions to address problems

- Situation editor now has Storage Toolkit option as part of Take Action
- Menu interface from Situation Editor to build Storage Toolkit requests
- Requests execute under z/OS id of last modifier of situation
- Requests and results are visible in the Storage Toolkit leaf

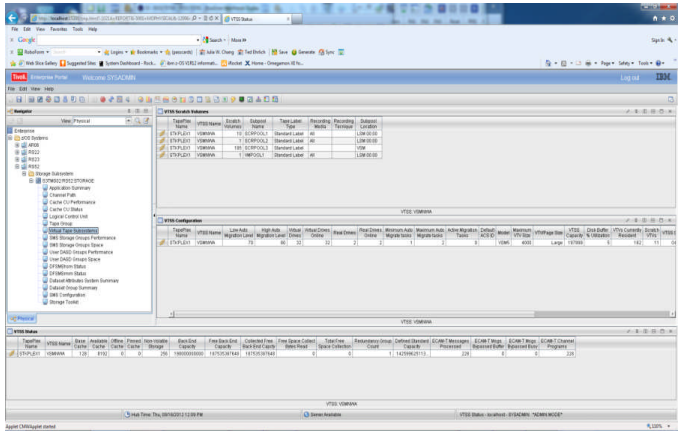


Expanded support for HDS and STK storage hardware

In addition to IBM and EMC physical device support, now include HDS and STK, for a full range of hardware views

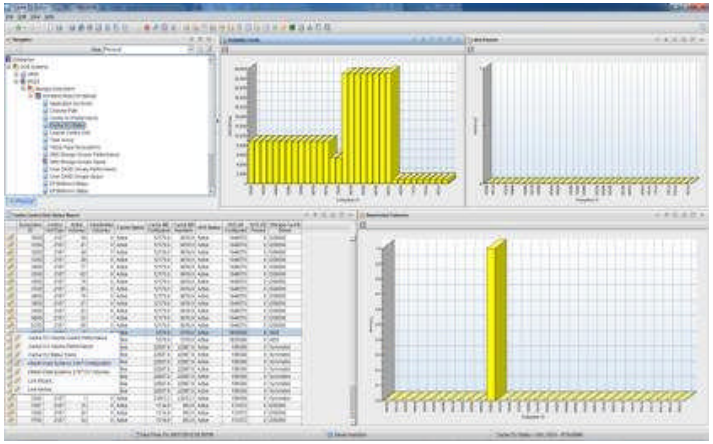
Full HDS physical disk support

- Workspace structure similar to that of TotalStorage DS
- Uses same attribute groups as TotalStorage support
- Navigation from Cache CU Performance and Status workspaces

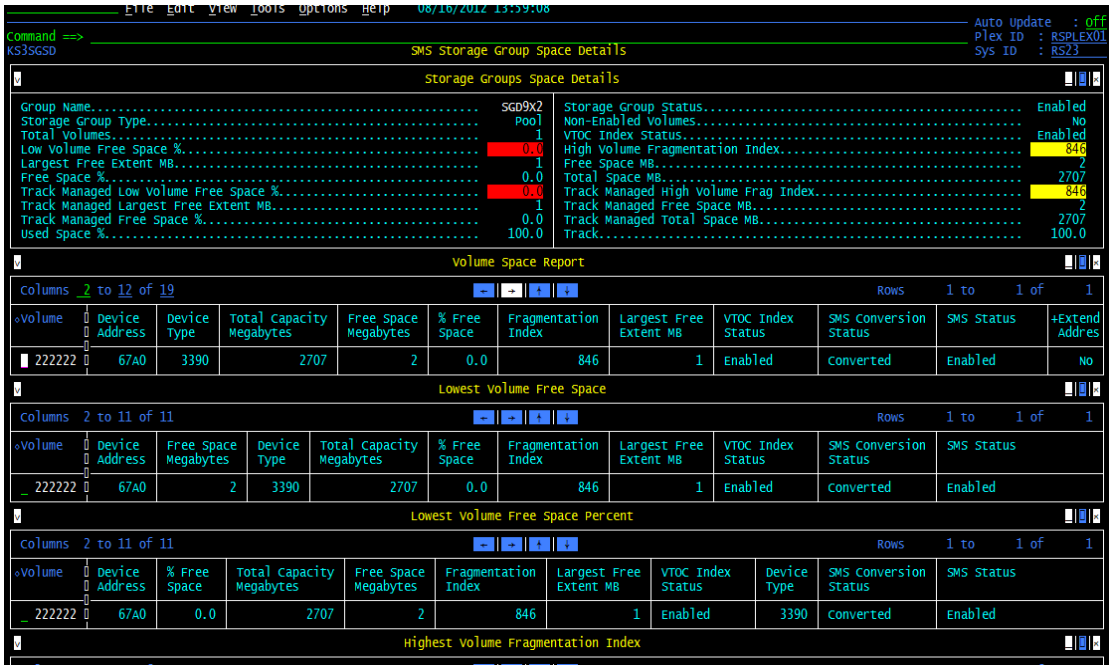


Full STK physical tape support

- STK tape libraries (virtual and real) appear in existing workspaces
- STK linklib must be in a linklisted dataset (part of STK standard install)
- Tape Groups
- Standard navigation to tape drive workspace



Redesigned and simplified e3270 UI in OMEGAMON v5.1

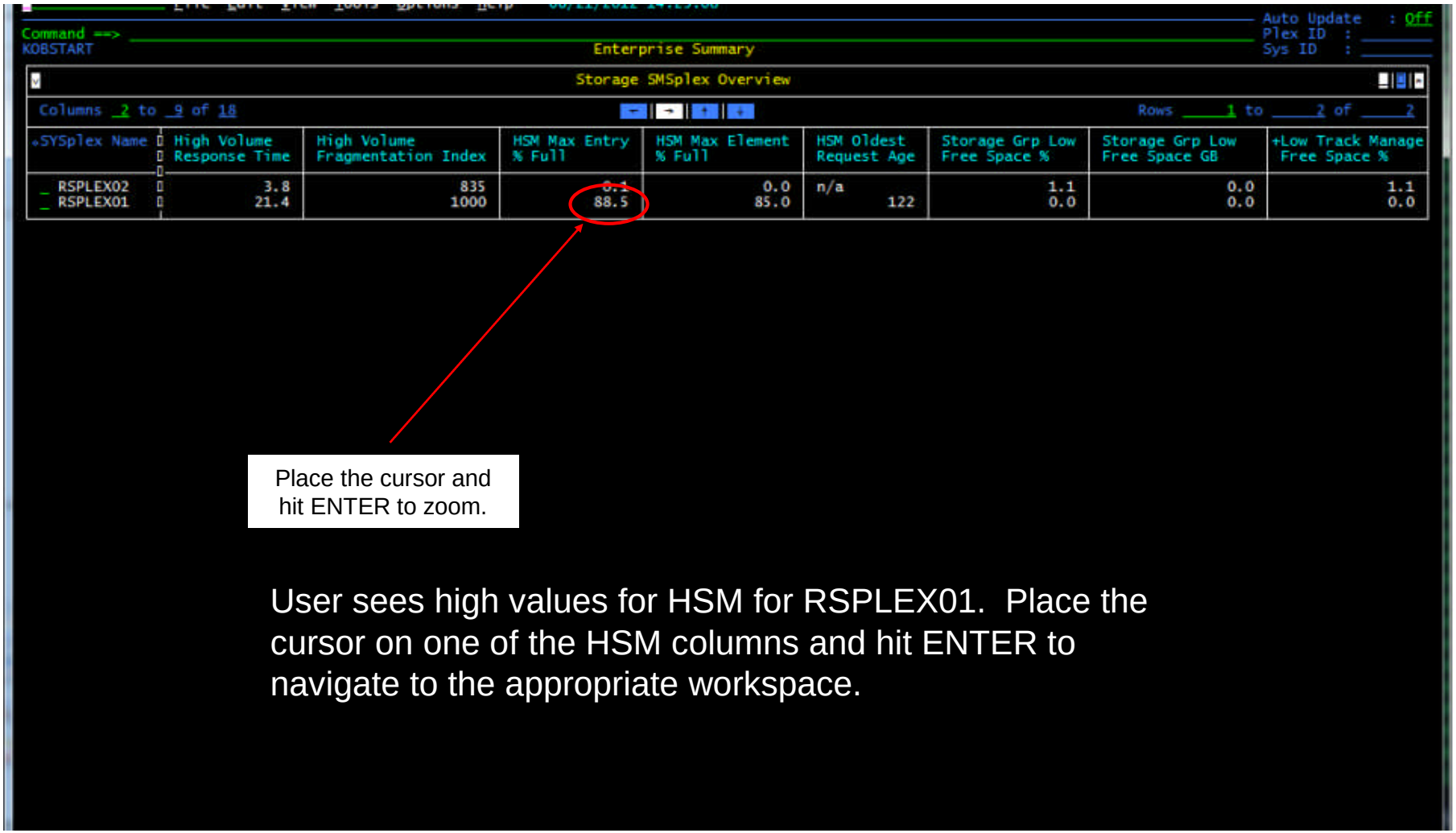


Enhanced 3270 user interface for SMEs – Leverage valuable information

- Built-in Problem Solving Scenarios
- Increased availability via faster problem resolution
- Improved Productivity through integration
- Customizable / Flexibility

Quickly find and repair DFSMShsm CRQ Problems

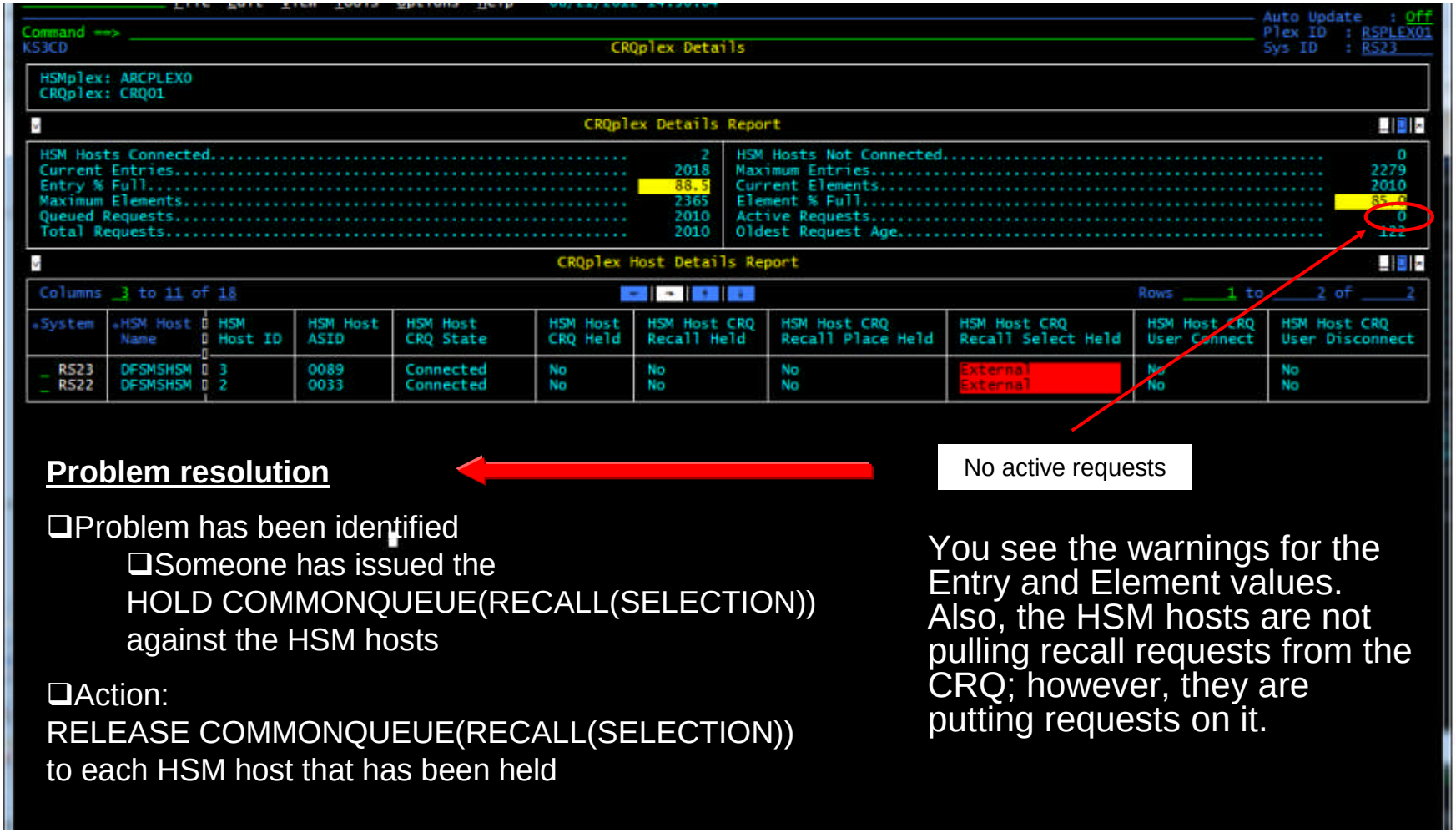
Storage SMSplex Overview
(Proactive – Reducing time and costs)



User sees high values for HSM for RSPLEX01. Place the cursor on one of the HSM columns and hit ENTER to navigate to the appropriate workspace.

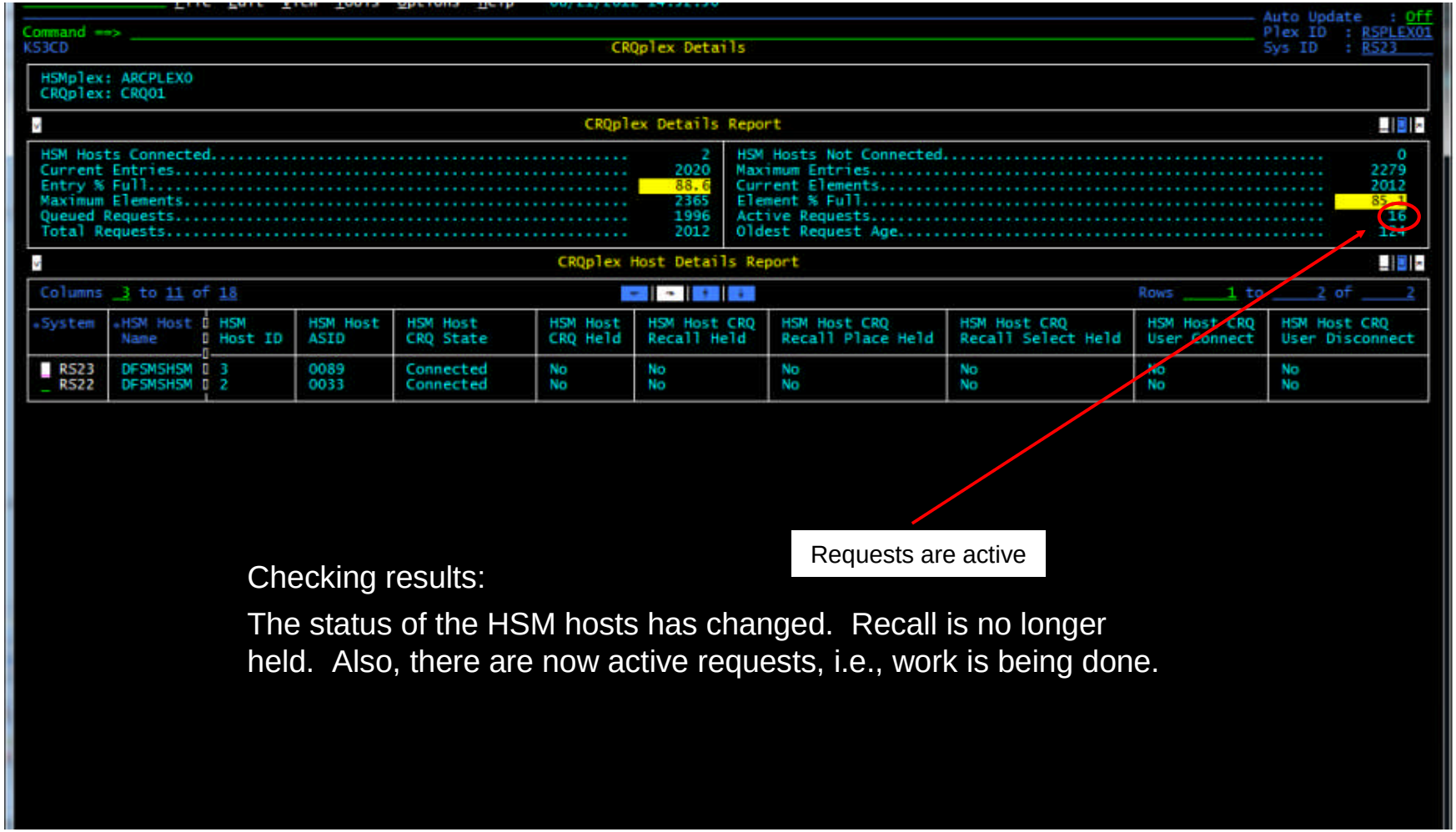
Gain insight into DFSMShsm CRQ Problem

CRQplex Details Workspace



Checking your Results

Updated CRQplex Details Workspace

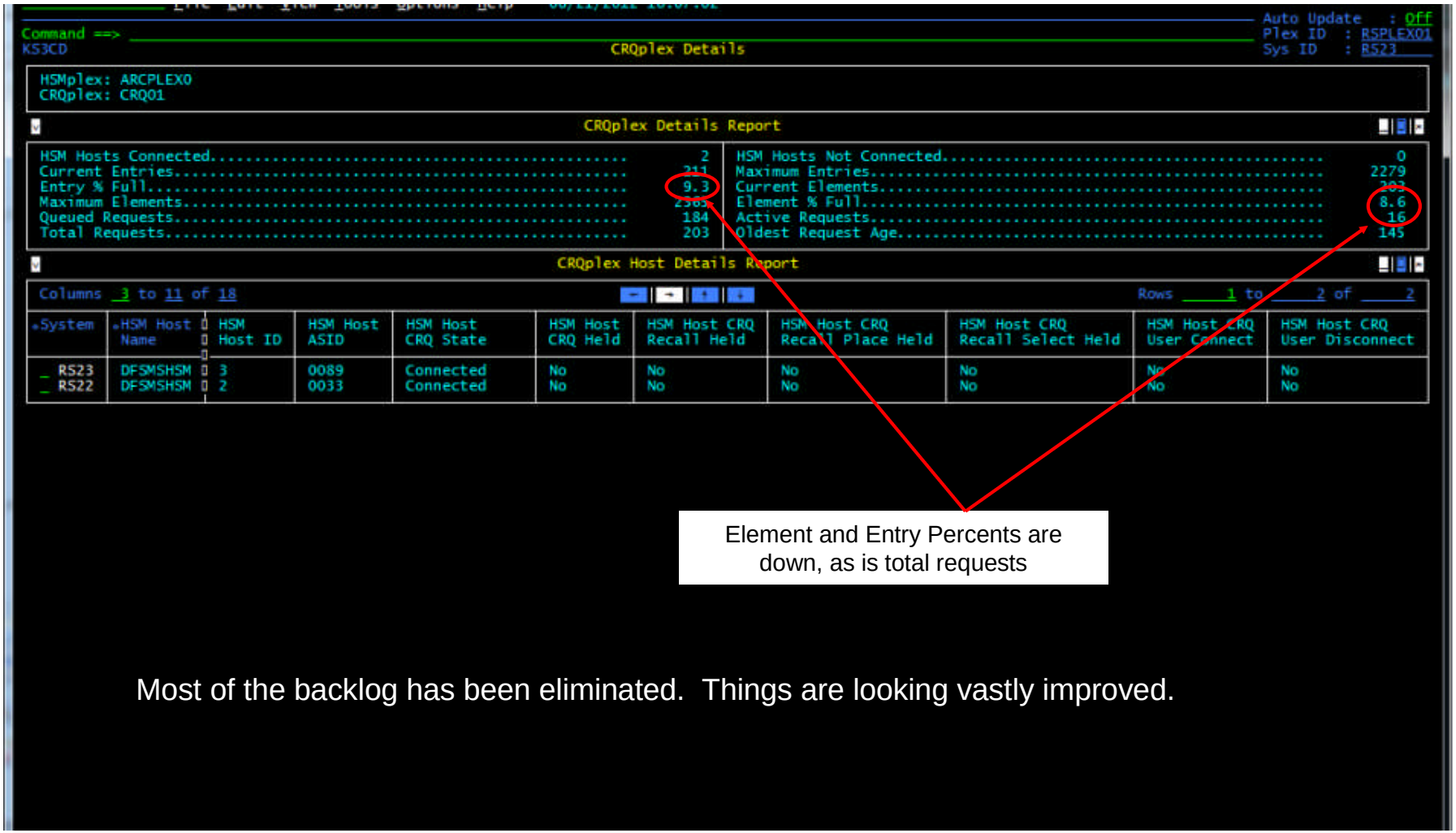


Checking results:

The status of the HSM hosts has changed. Recall is no longer held. Also, there are now active requests, i.e., work is being done.

Monitor results DFSMShsm CRQ Problem

CRQplex Details Improving



Most of the backlog has been eliminated. Things are looking vastly improved.

Business Leaders Depend on IT to Enable Business Agility with:

VISIBILITY

CONTROL

AUTOMATION

React with agility to diverse IT landscape

Execute with reduced risk & cost

Achieve desired business outcomes

Tivoli z/OS Storage Management portfolio working with IT to drive improved visibility

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Key Takeaways

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