Advanced Technology Group

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Speaker: Randy Blea, IBM Copy Services Manager Architect





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- IBM Storage Point of View on Cyber Resiliency
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- ➤ IBM Storage Fusion

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TEST DRIVE / DEMO'S

- North America ATG Storage IBM Storage Scale and Storage Scale System GUI
- North America ATG Storage IBM Storage Virtualize Test Drive
- North America ATG Storage IBM DS8900F Storage Management Test Drive
- North America ATG Storage Managing Copy Services on the DS8000 Using IBM Copy Services Manager Test Drive
- North America ATG Storage IBM DS8900F Safeguarded Copy (SGC) Test Drive
- North America ATG Storage IBM Cloud Object Storage Test Drive (Appliance based)
- North America ATG Storage IBM Cloud Object Storage Test Drive (VMware based)
- North America ATG Storage IBM Storage Protect Live Test Drive
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Speaker: Randy Blea, IBM Copy Services Manager Architect





Meet the Speakers



Randy Blea is Senior Technical Staff Member and software architect at IBM with over 25 years of experience in the field of copy services. His responsibilities include setting the strategic vision and technical architecture for IBM Copy Services Manager, an enterprise data center management solution for copy services and disaster recovery management on IBM storage devices.

In his role, Randy has gained experience in the agile development of Enterprise products using Java and deploying solutions across multiple platforms, from Distributed Systems to z/OS Systems. Randy has promoted innovation throughout his technical career earning the title of IBM Master Inventor for his contributions to the IBM patent portfolio as well as his mentor ship of other IBM employees. Recently, Randy has taken on an additional role in helping to deliver automation solutions using python and Ansible RedHat for DS8000 and Copy Services Manager customers.



Session objectives

- Quick Product overview
- What's New in 6.3.6.0
- What's New in 6.3.7.0

IBM Copy Services Manager

Simplify Your Replication

Easy to install. Easy to Setup. Easy to Manage.

Provides Automation for Advanced Copy Services

Single Point of Control Across Environment

Designed to Scale For Thousands of Relationships

RPO Monitoring and Historical Reporting



One Step Recovery

Simplifies the recovery process in multi-site replication, protecting customer data while keeping costs down



Provides support for both distributed and mainframe data Supports DS8900F and Spectrum storage systems Installable across all major platforms:
Windows, Linux, AIX, z/OS, Linux for z Systems
And now pre-installed on the DS8000 HMC



Disaster Recovery and High Availability



Manages z Systems HyperSwap and

supports Power HA HyperSwap to create highly available solutions in Metro Mirror and Metro Global Mirror Environments

Advanced Built in Scheduler

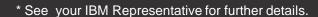


Schedule multiple actions across multiple sessions!! Advanced features such as checking RPO, waiting for states and now running External Scripts

Protect Your Data



Warning Prompts
User Roles
Site Awareness
Dynamic Images
Event and Threshold Alerts
Dual Control Support







What's New in IBM Copy Services Manager V6.3.6 and v6.3.7

v6.3.6

<u>IDEA CSM-I-78</u> – CSM Operator should be able to managed Scheduled Tasks

<u>IDEA CSM-I-85</u>— Enhancements to DS8000 path viewing in CSM GUI

<u>IDEA CSM-I-107</u> – Display number of good DS8000 paths on Topology Details panel

<u>IDEA CSM-I-115</u>— More granularity for email addresses on email events

REST API Support for adding/removing z/OS Host connections

Enhancements for Spectrum Virtualize Snapshot sessions

v6.3.7

<u>IDEA CSM-I-130</u>— New FlashCopy session options to better secure target data

<u>IDEA CSM-I-89</u>— New Dual Control mode for Safeguarded Copy operations

<u>IDEA CSM-I-74</u>— Define Operator roles with more action granularity

<u>IDEA CSM-I-120</u>— Support for z/OS PassTickets on CSM to z/OS Host Connection

<u>IDEA CSM-I-125</u>— New console message when FlashCopy background copy has completed

Active/Standby server improvements

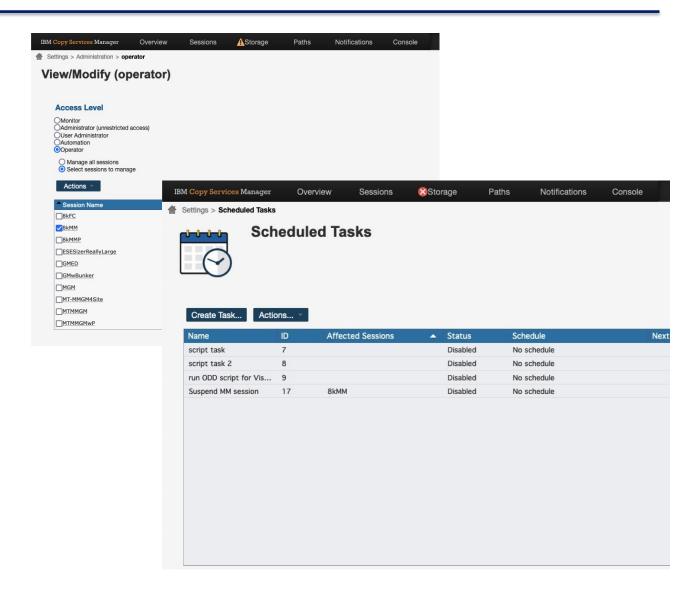
DS8000 Safeguarded Copy improvements

Add z/TPF connections to CSM for faster FlashCopy/SGC



IDEA CSM-I-78 – CSM Operator should be able to managed Scheduled Tasks

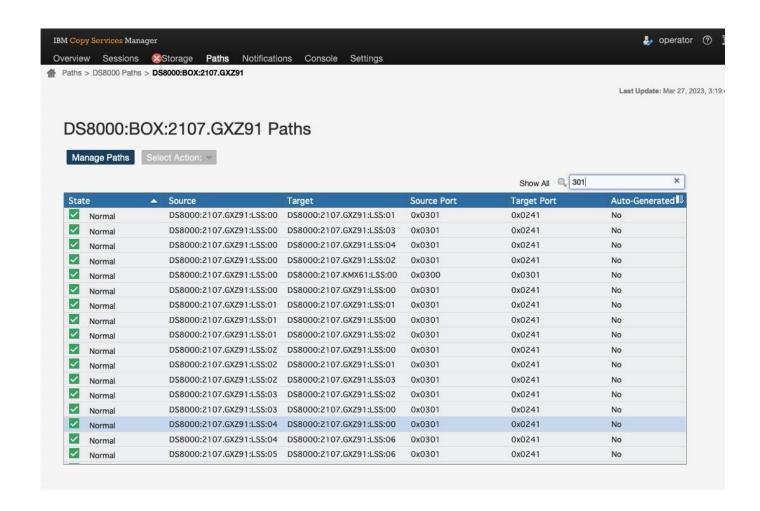
- In previous releases, only Administrators were allowed to create and modify Scheduled Tasks
- Starting in CSM 6.3.6, a user with the role of Session Operator can now create or modify Scheduled tasks for sessions they have authority to manage.
- The Operator can create a Scheduled task and choose an Action that is issued to a Session, but will only see those sessions they have access to
- If a Scheduled Task has actions tied to sessions that they do not have access to, the task will not be visible and cannot be modified
- Any actions such as Run External Script are not tied to a session and can be modifed by an Operator





IDEA CSM-I-85 - Enhancements to DS8000 path viewing in CSM GUI

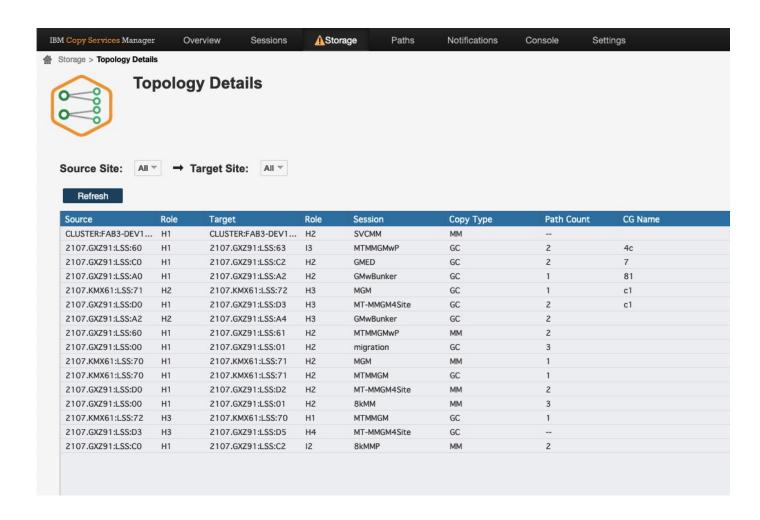
- DS8000 path management requires creating logical paths between all the necessary LSS to LSS mappings. This can be difficult to manage
- CSM 6.3.6 adds a few enhancements to the CSM GUI to make management easier
 - Filtering capabilities on the path table
 - Customize columns and column orders
 - Extended table to fix entire screen in order to see more paths without scrolling
 - Table Export to csv





IDEA CSM-I-107 – Display number of good DS8000 paths on Topology Details panel

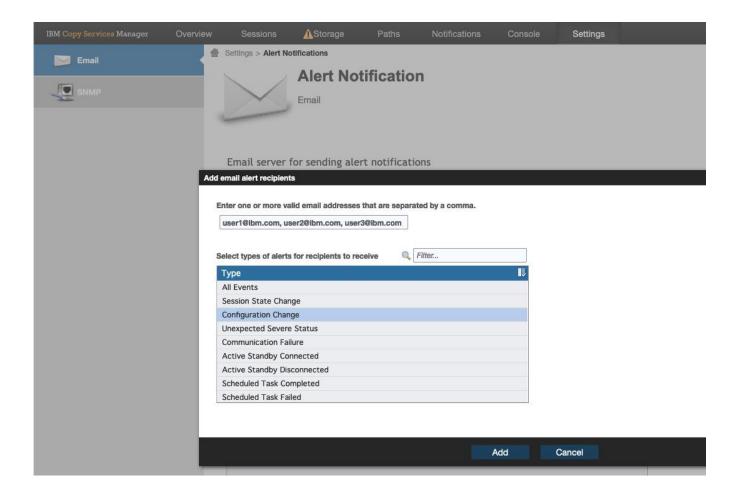
- Clicking on Storage -> Topology
 Details will take you to a view of all role to role mappings defined by sessions managed on the CSM server
- Starting with CSM 6.3.6 a new column titled "Path Count" has been added to display the number of good paths currently established between two DS8000 LSS pairings
- This provides an at a glance view for customers to help them ensure that their replication has been setup with the expected number of logical paths





<u>IDEA CSM-I-115</u>— More granularity for email addresses on email events

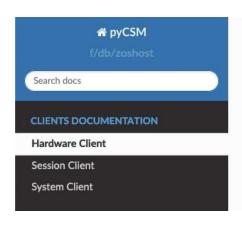
- CSM has the ability to define email alerts for different categories to multiple users.
- In previous releases, for each event, a single group email would be sent containing all email addresses to be alerted.
- An RFE was opened indicating that the "group" email was preventing them from performing some of their automation based off a single email user.
- Starting with CSM 6.3.6, an individual email notification will be sent for each alert thus allowing for automation

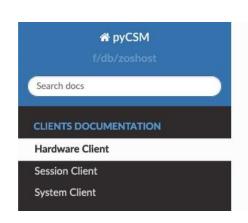




REST API Support for adding/removing z/OS Host connections

- Starting with the CSM 6.3.6 release you can now use the REST API to add and remove z/OS Host Connections
- This is also available in the pyCSM python library as well as the CSM Ansible Collection
- In CSM 6.3.7, we have also added a get_zos_candidate (retrieves all storage systems seen through the z/OS Host connection and an add_zos_device (adds that storage system for CSM to manage through the z/OS host connection)





add_zos_host(host_ip, password, username, host_port)

This method will create a zos connection to the current IP

Parameters:

• host_ip (str) - Primary IP address for the zos system.

• password (str) - Password for the zos system connection

• username (str) - Username for the zos system connection

• host_port (str) - Port for the zos system

Returns:

JSON String representing the result of the command. 'I' = successful, 'W' = warning, 'E' = error.

warning, 'E' = error.

remove_zos_host(host_ip, host_port)

This method will create a zos connection to the current IP

Parameters: • host_ip (str) - Primary IP address for the zos system.

host_port (str) - Port for the zos system

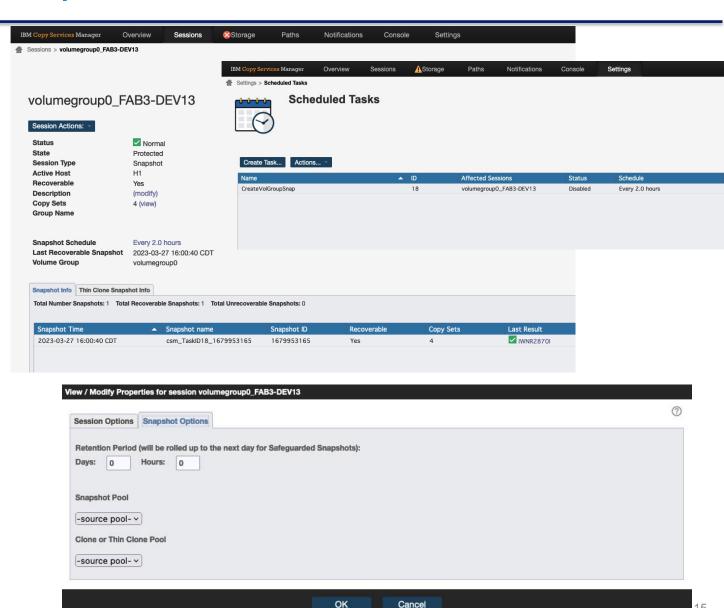
Returns: JSON String representing the result of the command. 'I' = successful, 'W' =

warning, 'E' = error.



Enhancements for Spectrum Virtualize Snapshot sessions

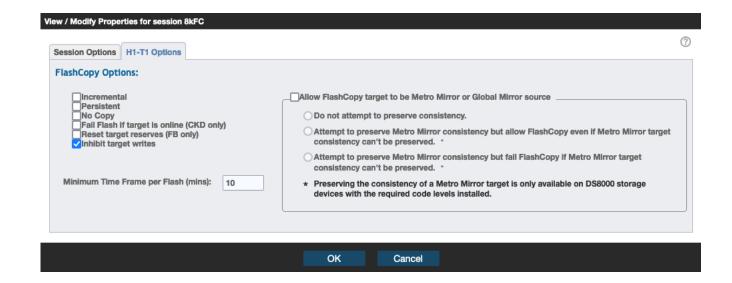
- A couple of enhancements were made to CSM 6.3.6 for Spectrum Virtualize Snapshot sessions
- When a Scheduled task create a Snapshot, the task ID or task name will be used as part of the snapshot name created. This allows customers to easily distinguish which CSM scheduled task created the snapshot if multiple tasks were created to provide snaps at different frequencies, retentions or Safeguarded state.
- Customers can now specify the Snapshot pool to use when creating a snapshot in the Session properties





IDEA CSM-I-130 – New FlashCopy session options to better secure target data

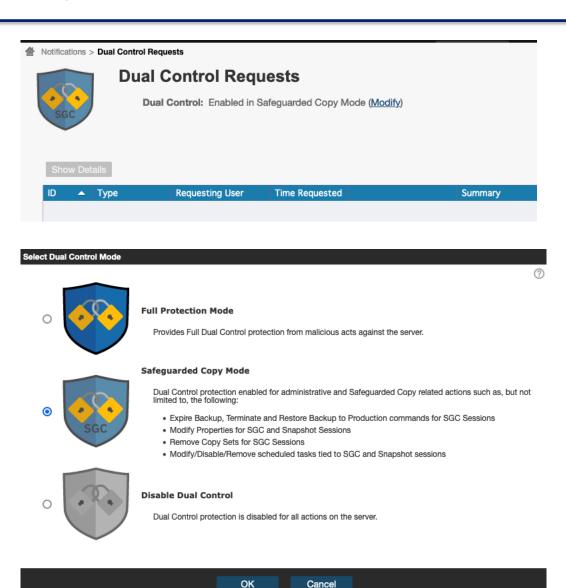
- In CSM 6.3.7 a couple of new options are now provided on the H1-T1 Options tab for FlashCopy session properties.
- "Inhibit target writes" If this option is selected, on the next Flash, the session will tell the DS8000 storage system that the target of the FlashCopy should not allow writes. This prevents any manipulation of the data on the target volume.
- "Minimum Time Frame per Flash (mins)" This option is similar to the option on Safeguarded Copy sessions in that it sets a minimum amount of time between Flash commands. This prevents a malicious or accidental overwrite of the target data.
 - NOTE: This option only prevents the Flash command issued to CSM. Pairs can still be flashed through native DS8000 interfaces.





<u>IDEA CSM-I-89</u> – New Dual Control mode for Safeguarded Copy operations

- Dual Control mode was added to CSM with Safeguarded Copy support in order to lock down and require two users to approve any action that could be malicious, but customers have stated that they would like to primarily lock down Safeguarded Copy actions.
- CSM 6.3.7 introduces a new Safeguarded Copy
 Dual Control mode. This solution locks down any
 potentially malicious actions against Safeguarded
 Copy sessions, while leaving all other session
 types in a normal single user mode.
- After choosing Safeguarded Copy Dual Control mode two users are required for actions such as:
 - Expire Backup
 - Recover/Restore backup
 - Modify Properties
 - Modify Scheduled tasks related to the session

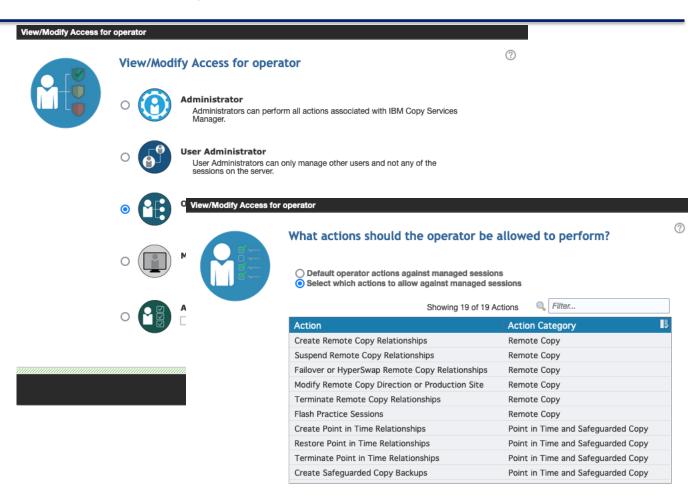




Close

<u>IDEA CSM-I-74</u> – Define Operator roles with more action granularity

- In previous releases, a Session Operator could be defined granting users access only to certain session managed on the CSM server.
- Starting with CSM 6.3.7 you will now be able to define not only which sessions an Operator can manage but choose what actions on those sessions the user can perform.
- Choices for actions are broken down in three categories: Remote Copy sessions, Point in Time or Safeguarded Copy sessions or Misc.
- This granularity varies from the ability to Start sessions to the ability to suspend or terminate sessions.
- An example of usage might be to allow a user to create a Safeguarded Copy backup but deny them the authority to Expire a backup.



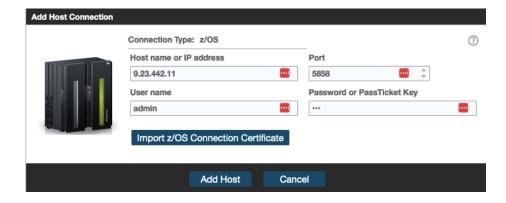
■ Back

Next ▶



IDEA CSM-I-120 - Support for z/OS PassTickets on CSM to z/OS Host Connection

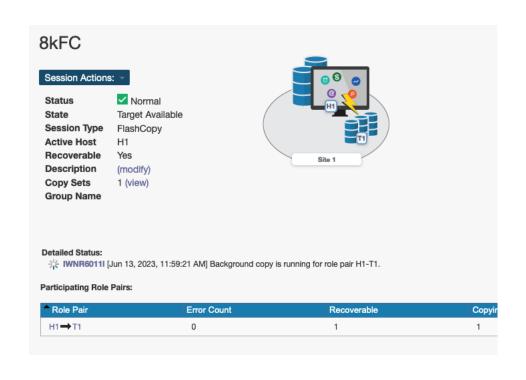
- CSM allows customers to create an IP connection from the CSM server to a z/OS system.
- In previous releases this required both a username and password, however, customers with strict security rules must modify passwords after x days causing them to also have to modify the value in the CSM connection.
- In 6.3.7, CSM will now support z/OS
 PassTickets for the IP to z/OS connection.
- With PassTickets, a "key" is created for a RACF user on z/OS which can be input into CSM instead of the password. Every time that CSM attempts to connect to z/OS a new PassTicket is generated using the key which is used by RACF for authentication.





<u>IDEA CSM-I-125</u> – New console message when FlashCopy background copy has completed

- For FlashCopy relationships the target data is available immediately after the Flash, however, the data is only hardened on the target if full copy was set on the session, or an Initiate Background Copy command was issued.
- CSM provides a Status message on the session indicating when the background copy is running on an FlashCopy pair in a FlashCopy session, Practice session or SGC recovery relationship. However, when the copy completes the message simply goes away and there's no history indicating when it completed.
- Starting with 6.3.7 a new IWNR2772I message will be issued to the console when the background copy completes. This can be used by remote syslog processing to help determine when the data is fully hardened on the target.

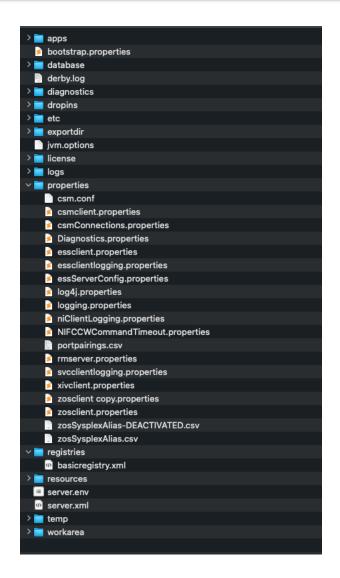


✓ Jun 13, 2023, 11:59:19 AM: csmadmin: IWNR1028I: The Initiate Background Copy command in the 8kFC session was Issued.
✓ Jun 13, 2023, 11:59:19 AM: csmadmin: IWNR601II: Background copy is running for role pair H1-T1.
✓ Jun 13, 2023, 11:59:19 AM: csmadmin: IWNR1026I: The Initiate Background Copy command in the 8kFC session completed.
✓ Jun 13, 2023, 11:59:49 AM: Server: IWNR2772I: The background copy for role pair H1-T1 in session 8kFC has completed.



Active/Standby server improvements

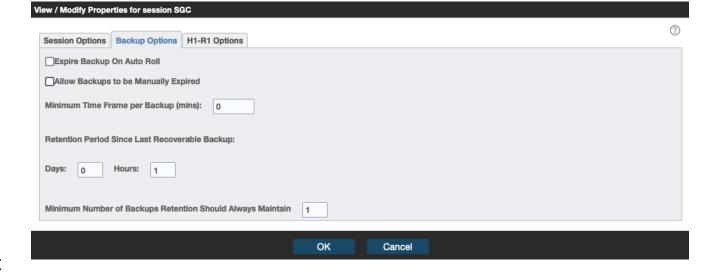
- The 6.3.7 release brings significant improvements for active/standby configurations between two Distributed servers or CSM HMC installations.
- In previous releases, session and storage system connection information was all that got transferred to the standby server. Users, properties and csv changes all had to be manually updated on the standby server.
- With CSM 6.3.7 the following files will be included in the transfer to the standby server:
 - All files under csmServer/properties
 - All basic and LDAP user registries and definitions
 - All certificates
- NOTE: If either the active or standby server is running on z/OS, then the behavior will be the same as in pre 6.3.7 releases.





DS8000 Safeguarded Copy improvements

- The 6.3.7 release provides a couple new options for added security on DS8000 Safeguarded Copy sessions.
- "Allow Backups to be Manually Expired" –
 This option will be unchecked by default. When
 unchecked, even if Dual Control is enabled and
 two people approve the expire, the expire will
 fail.
- "Minimum Number of Backups Retention Should Always Maintain" – This option provides the customer the option to set a number of backups they must always maintain. If a backup is older than the retention period, but expiring the backup would put the customer below that number, the expire will not be performed.





Add z/TPF connections to CSM for faster Flashcopy/SGC

- In 4Q 2021 CSM and z/OS released a solution to provide faster FlashCopy and Safeguarded Copy backups for mainframe environments. This is documented in the following Hot Topic. https://zos-hot-topics.com/2021/improving-protection-against-logical-data-corruption/
- This support is now available for customers in a zTPF environment as well.
- This requires the zTPF APAR and an IP connection from CSM to the zTPF system.
 When setup, the Flash or Backup for a FlashCopy or Safeguarded Copy session will provide less application impact than CSM management through the DS8000 HMC.



By: Randy Blea, Tariq Hanif, Tabor Powelson, Bill Rooney Published: November 2nd, 2021 Read time: 5 minutes

The demand for storage continues to increase—but with this increase comes an increased risk of a cyber-attack. The news is full of stories about data corruption incidents, which range from ransomware attacks to internal malicious users corrupting data. When data is corrupted, multi-site disaster recovery and high-availability solutions may end up not providing protection because the corrupted data is copied to all of the sites. And while traditional backup solutions, such as point-in-time replication or backing up to tape, offer some protection against data corruption, those



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IBM System Storage Ideas Portal!!! -> New RFE Portal for CSM

https://ibm-sys-storage.ideas.ibm.com/ideas?project=CSM

- The CSM RFE process has been converted to the new IBM System Storage Ideas Portal.
- With the change, IBM is moving to a more common Aha! based process for customers to submit ideas across all IBM products.
- All existing RFEs have been converted to Ideas. When you visit an RFE for status it will direct you to the Idea for that RFE in the Idea Portal.

IBM System Storage Ideas Portal

Shape the future of IBM!

We invite you to shape the future of IBM, including product roadmaps, by submitting ideas that matter to you the most. Here's how it works:

Post your ideas

Start by posting ideas and requests to enhance a product or service. Take a look at ideas others have posted and upvote them if they matter to you,

1. Post an idea

irm

- 2. Upvote ideas that matter most to you
- 3. Get feedback from the IBM team to refine your idea

Help IBM prioritize your ideas and requests

The IBM team may need your help to refine the ideas so they may ask for more information or feedback. The offering manager team will then decide if they can begin working on your idea. If they can start during the next development cycle, they will put the idea on the priority list. Each team at IBM works on a different schedule, where some ideas can be implemented right away, others may be placed on a different schedule.

Receive notification on the decision

Some ideas can be implemented at IBM, while others may not fit within the development plans for the product. In either case, the team will let you know as soon as possible. In some cases, we may be able to find alternatives for ideas which cannot be implemented in a reasonable time.



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