Bit Bucket x'38'

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SHARE 131
Session 23506
St. Louis, MO
17 Aug 2018

O-S-P-R-O-T-E-C-T

Find Out What It Means to Me

(Tom Conley)

Meltdown Mainframe Fixes

- IBM released 3 PTF's on 07/23/2018 to address Meltdown
  - V2R1 - OA55240 (UA96468)
  - V2R2 - OA54807 (UA96477)
  - V2R3 - OA55233 (UA96475)
- On 07/25/2018, Ed Jaffe posted this on IBM-Main:
http://publibz.boulder.ibm.com/zoslib/pdf/OA54807.pdf
- Up until release, information was only on Security Portal
- These fixes are NOT marked INTEGRITY
- They're fully documented as NEW FUNCTION
- They also have the ATTENTION flag
- Kudos to IBM for making these fixes public!
- They're not HIPER, so you will need to grab them by name

What's in the PDF?

- Biggest takeaways from the PDF
- New IEASYSxx parameter OSPROTECT
- Default is SYSTEM, the way z/OS currently runs
- OSPROTECT=1 activates Mitigation Mode 1
- "…intended to help prevent unauthorized programs and users from being able to indirectly read restricted data."
- "Mitigation mode 1 may have a minor impact to system performance and/or workload execution."
- SMF 30 has been updated to reflect OSPROTECT flags
- Programming interface, RSM, system trace changes
- S0C4 abend information expanded
- New message IEA987I hints that MCLs are required
- MCL's not discussed in the PDF
- MCL information available via Resource Link:
  - https://www.ibm.com/servers/resourcelink/lib03020.nsf/pages/exceptionLetters

What's in the PDF?

- **New IEA987I message:**

IEA987I *parameter* **VALUE REQUIRES** *support* **THAT IS NOT PRESENT**

Explanation: The *parameter* **value requires** *support* **that is not available on the system.**

In the message text:

parameter **- Identifies the parmlib keyword.**

support **- Identifies the missing support.**

For example, when *parameter* **is OSPROTECT and** *support* **is FIRMWARE MCL, this refers to a MicroCode Load(MCL).**

System action: The system is unable to proceed with the specified *parameter* **value. The system will issue message**

IEA341A to prompt the operator for a new *parameter* **value.**

Source: Supervisor control

Module: IEAVNP09

Routing code: 2,10

Descriptor code: 12

Take Two Dumps

And Don't Call Me in the Morning

(Tom Conley)

OA55974 - Full Dump msg, Partial Dump Taken

- **Bill Smith clued me into this APAR OA55974 last week**
- **With no error message, you could get an incomplete dump**
- **Problem occurs because page tables are not available**
- **After the dump is taken, page tables refreshed**
- **Local fix is to take another dump**

```
LOCAL FIX:
   A 2nd dump can be taken immediately after the first (partial)
   dump.  The 1st dump causes the pageable page tables to be paged
   back in, and (unless they are paged back out again prior to the
   2nd dump) this should then allow RSM to avoid the Type0 segment
   path, thus allowing a complete dump to occur.   This will work
   in the majority of cases, unless real storage is tight.
```

- **For critical issues, TAKE TWO DUMPS!**
- **You don't have to call me in the morning ;-)**

OA55974 - IBM's Current Timetable for Fix

- John Shebey and Patty Little did some research for me
- They expect an APAR by end of next week (08/25/2018)
- PTF target date is 11/02/2018
- Let IBM know if you want/need the APAR
- Add OA55974 to your AST tracking list

Don't You Know That You Are a GRS Star?

(Tom Conley)

Displaying GRS ENQ Information

- Been doing a lot of work with GRS ENQs lately
- Using ISRDDN ENQ screen is nice but it has one flaw
- It doesn't display any cross-system ENQs
- You can't see if task on another system holds resource

ISRDDN ENQ Only Shows Current System

Command ===>   Scroll ===> PAGE

        Scroll LEFT or RIGHT to see type or system name.

Major name prefix . . . SYSDSN   (SYSDSN, SPFEDIT, etc)
Minor name prefix . . . SYS1.HELP   (dsn etc)
Address id prefix . . .   (Job name, User id, etc)
System prefix . . . . .   (System name)

```
   Major        Minor                                          Job Name    Type G R   Sys Name
+----------+-------------------------------------------------+----------+-----+-+--+----------+
| SYSDSN   | SYS1.HELP                                       | APPL1    | SYSS|G|  | SYSA     |
| SYSDSN   | SYS1.HELP                                       | SYSP1    | SYSS|G|  | SYSA     |
| SYSDSN   | SYS1.HELP                                       | SYSP2    | SYSS|G|  | SYSA     |
+----------+-------------------------------------------------+----------+-----+-+--+----------+
```

D GRS Command?

- You could use the D GRS operator command:

  `D GRS,RES=(<major>,<minor>)`

- Do you always remember the syntax?
- How about filtering by job or system name?
- There's a better way...

TASID to the Rescue!

- You can use TASID to display ENQs across the sysplex
  - There are "for sale" IBM and ISV products that can do this, but TASID does it for FREE!
- Download TASID from https://www-01.ibm.com/support/docview.wss?uid=swg24009131
- I recommend TASID0, with panels embedded in load module
- Runs a tad slower, but easier to install and run
- You can also create separate load and panel libraries

TASID to the Rescue!

```
 File   Navigate   Settings
------------------------------------------------------------------------
                          TASID option menu
Option  ===>


   Select one of the following options:                  Version 5.21
       1 - Address space list      5 - Miscellaneous displays
       2 - System ENQ contention   6 - Current dataset allocations
       3 - Total system ENQ status 7 - Storage View Facility
       4 - Initiator Status List   8 - Snapshot

                                                          More:      +

   +---------------------------------+----------------------------+
   |  Current time  03:00 on 2018/08/17 |  TSO users            6   |
   |  Last IPL time 14:19 on 2018/07/26 |  Started tasks       51   |
   |  IPL Parameters 7E0B S1 M 1        |  Jobs                20   |
   |  z/OS     02.03.00 JES version JES2 |  System addrs        37   |
   |  SMF ID    S1      JES level   2.3  |  Free initiators     41   |
   |  User ID   TCONLEY RACF level  7.79.1 |----------------------------|
   |  Node      N1      TSO version 4.03.0 |  Total              155   |
   |  VTAM Adr TCPS117  VTAM Level  6.2    |----------------------------|
   |  ProcStep BASICER  DFSMS level 2.03.0 |  CPU utilization 54%      |
   |  Region   500M                        |  CPU 3906-M05  ( 8 CPUs) |
```

TASID to the Rescue!

- **Go to Settings in the TASID menu bar**
- **Enter 1. TASID Settings**

```
File   Navigate   Settings
-------------- +------------------------+ --------------------------------
               | 1  1. TASID Settings... | menu
Option  ===>   |    2. Reset to defaults |
               +------------------------+

   Select one of the following options:              Version 5.21
        1 - Address space list      5 - Miscellaneous displays
        2 - System ENQ contention   6 - Current dataset allocations
        3 - Total system ENQ status 7 - Storage View Facility
        4 - Initiator Status List   8 - Snapshot
                                                        More:      +

   +-------------------------------------+-----------------------------+
   |    Current time  03:00 on 2018/08/17 |  TSO users          6     |
   |    Last IPL time 14:19 on 2018/07/26 |  Started tasks      51    |
   |    IPL Parameters 7E0B S1 M 1        |  Jobs               20    |
   |    z/OS      02.03.00 JES version JES2 |  System addrs       37    |
   |    SMF ID   S1       JES level   2.3  |  Free initiators    41    |
```

TASID to the Rescue!

- Enter a "/" next to "Enable GRS Star Support"

```
 File   Navigate   Settings
+----------------------------- TASID Settings -----------------------------+
|                         General TASID Settings                           |
|                                                                          |
|                                                                          |
| Initial display                  Enter "/" to select option             |
| 0  0. TASID Option Menu          /   Return to main menu on END          |
|     1. Address space list            Refresh screen during AUTO mode     |
|     2. System ENQ contention         Don't confirm Linklist and LPA scan |
|     3. General ENQ display           Add date.time to snapshot dsname    |
|     4. Initiator display         /   Use Graphic Escape when possible    |
|     5. Miscellaneous displays    /   Enable GRS Star support             |
|     6. Current DD allocations        Enq Limit 10779525                  |
|     7. Storage View Facility     Snapshot data set                       |
|     8. Snapshot                      Data Set name . . TASID.SNAPSHOT    |
|                                                                          |
| Miscellaneous settings                                                   |
| Option 5 Viewer      TSO Messages during AUTO    Title information       |
| 1  1. Browse         3  1. Suppress Messages     2  1. None              |
|     2. Edit             2. Allow Messages           2. CPU Util          |
```

TASID to the Rescue!

```
 System ENQ Status                                          Row 1 of 7
Command ===>                                            Scroll ===> PAGE

        Scroll LEFT or RIGHT to see type or system name.

Major name prefix . . . SYSDSN      (SYSDSN, SPFEDIT, etc)
Minor name prefix . . . SYS1.HELP                            (dsn etc)
Address id prefix . . .          (Job name, User id, etc)
System prefix . . . . .          (System name)
  Major       Minor                                      Job Name   Type G R   Sys Name
+----------+------------------------------------------------+----------+-----+-+--+----------+
| SYSDSN   | SYS1.HELP                                      | APPL1    | SYSS|G|  | SYSA     |
| SYSDSN   | SYS1.HELP                                      | APPL1    | SYSS|G|  | SYSC     |
| SYSDSN   | SYS1.HELP                                      | APPL2    | SYSS|G|  | SYSB     |
| SYSDSN   | SYS1.HELP                                      | APPL2    | SYSS|G|  | SYSC     |
| SYSDSN   | SYS1.HELP                                      | SYSP1    | SYSS|G|  | SYSA     |
| SYSDSN   | SYS1.HELP                                      | SYSP2    | SYSS|G|  | SYSA     |
| SYSDSN   | SYS1.HELP                                      | SYSP2    | SYSS|G|  | SYSB     |
+----------+------------------------------------------------+----------+-----+-+--+----------+
```

z14 ZR1 really is skinny!

(Keith Sisson)

Compuware's 2 new z14 ZR1 systems

z14 ZR1 adjacent to z14

Z14 ZR1

- **Required current maintenance (RSU1805+)**

- **Flash Express has changed; now referred to as Virtual Flash (still pretty much defined same way)**

- **Crypto cards reconfigured from scratch**

- **New version of ICSF had to be installed on all LPARs (CSFM640I ICSF RELEASE FMID=HCR77C1)**

- **z/OS IEAOPTxx keyword HIPERDISPATCH defaults to YES; If HIPERDISPATCH=NO is specified, specification will be honored**

- **ZR1 has 16U of available rack space!**

- **z13s zIIP is 1430 and z14 ZR1 zIIP is about 1570**

- **Had to be at zVM 6.4 (for z14 support)**

Z14 ZR1

- **Internal CF processors/LPARs were migrating to new z14(s)**

- **Parallel Sysplex couple datasets had to be deleted and rebuilt
  to clear out all residual information**

- **New CRFM policy created to define new LPARs**

- **Confirm CFRM policies have been updated to use correct Partition Identifier as specified in image profile of HMC, machine ID and serial number**

Z14 ZR1

- **STP "only" (not mixed) CTN environment had to be built / setup**

- **New CTN environment can be created, and new CECs can be added as PTS/BTS in minutes**

  - **Issue when STP timer cables were connected**

  - **Both CECs were already powered up**

  - **Connection showed as "in error/configuration required"**

  - **Solution:**

    - **POR both z14 CECs**

    - **Delete and rebuild CTN using HMC "Manage System Time" dialog/wizard (again did not take much time)**

Z14 ZR1

New HMC Sysplex Timer setup functionality (HMC wizard/screens) has been greatly improved

IBM **Hardware Management Console**

Home | Manage System Time - C...

CTN ID	MFSTP
Membership	Unrestricted CTN

STRATUM 1

CPCDEV — PTS CTS

STRATUM 2

CPCPROD — BTS

EXTERNAL TIME SOURCE — NTP 192.168.99.70

STRATUM 1 — PTS CTS CPCDEV

STRATUM 2 — BTS CPCPROD

STRATUM 3

STP ACTIONS

Add systems to CTN
Configure External Time Source
Deconfigure CTN
Export CTN data (.xls)
Modify assigned server roles
Remove systems from CTN
Set CTN member restriction
Setup new CTN

Simply select and configure!

Set CTN member restrictions (if you have two or less CECs) to save configuration across power on reset(s)

Helpful HMC feature

(if you have new system/support element)

System Management

System | Topology

Select	Name / ID	Status	CP Status	Channel Status	Crypto Status	Activation Profile	Last Used Profile
☑	CPCDEV	Operating	Operating	Exceptions	Channel acceptable	A0	A0

Max Page Size: 500   Total: 1 Filtered: 1 Selected: 1

Copy IMAGE and IPL profiles from an old HMC to a new one
- ✓ Logon to the HMC.
- ✓ Go into "Single Object Operations" on the desired CEC.
- ✓ Click radio button on CEC in "Systems Management"
- ✓ Click on Export/Import Profile Data"
- ✓ Select the export/import option:
  - ✓ Export/import profiles to/from hard drive.
  - ✓ Export/import profiles to/from removable media.
- ✓ Click OK.

Note: If you are using a USB flash memory drive, plug it into the console and then wait for the console to beep three times. This indicates that the device is ready and can be accessed. If it does not beep three times, unplug the device and try again. See the USB flash memory drive information. to beep three times. This indicates that the device is ready and can be accessed. If it does not beep three times, unplug the device and try again. See the USB flash memory drive information.

Tasks: CPCDEV

System Details
Toggle Lock

Daily
Activate
Deactivate
Grouping
Hardware Messages
Operating System Messages

Recovery
Power-on Reset
Start All Processors
Stop All Processors

Service
Checkout Tests
Delete LPAR Dump Data
Dump LPAR Data
Offload Problem Analysis Data to HMC Removable Med
Perform Problem Analysis
Redundant I/O Interconnect Status and Control
Report a Problem
Service Status
Transmit Service Data
View PMV Records
View Service History

Change Management
Alternate Support Element
Authorize Internal Code Changes
Check Dependencies
Define Clonable Internal Code Levels
Force Channel Internal Code Change
Manage PCI System Services
Query Channel/Crypto Configure Off/On Pending
Query Coupling Facility Reactivations
Query Internal Code Changes Pending Power-on Reset
Selective Channel Patch Controls
Specify Concurrent Upgrade Sync Point
System Information
Update PCI Adapter Internal Code
View Internal Code Changes Summary

Remote Customization
Customer Information
Remote Service

Operational Customization
Automatic Activation
Change LPAR Controls
Change LPAR Group Controls
Change LPAR I/O Priority Queuing
Change LPAR Security
Change Mirror Time
Customize/Delete Activation Profiles
Customize Scheduled Operations
Enable/Disable Dynamic Channel Subsystem
Enable I/O Priority Queuing
Export/Import Profile Data
Storage Information
View Activation Profiles
View LPAR Cryptographic Controls

Configuration
Channel PCHID Assignment
Cleanup Discontinuance
Cryptographic Configuration
Cryptographic Management
Display Adapter ID
FCP Configuration
Input/output (I/O) Configuration
Perform Model Conversion

Spectre Meltdown

- ## Hardware MCLs are required.
  - ### IEA987I parameter VALUE REQUIRES support THAT IS NOT PRESENT
  - ### The system will not proceed and the operator will be prompted to enter a new parameter for the OSPROTECT.

- ## The OSPROTECT APAR
  - ### for z/OS 2.2: OA54807
  - ### for z/OS 2.3: OA55233
  - ### Related APARs (also required)
    - OA55261, OA55268 and OA55767

- ### PTFs UA96752,UA96488,UA96475

Spectre/Meltdown

SYS1.PARMLIB (IEASYS00) parameter

- OSPROTECT=SYSTEM is the default
- OSPROTECT=1 is on

Display command for OSPROTECT

- D IPLINFO,OSPROTECT
- IEE255I SYSTEM PARAMETER 'OSPROTECT': 1

Documentation for needed PARMLIB updates:
http://publibz.boulder.ibm.com/zoslib/pdf/OA54807.pdf

May be some sort of overhead, we have not noticed any impact

Moral Support Continued

(Ed Jaffe)

Mainframe Support Offerings in 2018

- **IBM Services Announcement 617-002, from Aug 8, 2017, announced significant changes!**

Overview

Effective November 16, 2017, IBM will withdraw the following service products from marketing.

Withdrawn products

Withdrawn product	Withdrawal from marketing date
SoftwareXcel enterprise edition for zSeries (6942-77E)	November 16, 2017
SoftwareXcel basic edition for zSeries (6942-77G)	November 16, 2017
Alert for zSeries (6942-16D)	November 16, 2017
Resolve for zSeries (6942-23D)	November 16, 2017

Replacement products

Withdrawn product	Replacement product	For information
SoftwareXcel enterprise edition for zSeries (6942-77E)	z Systems Premier Software Care (6950-07W)	See Services Announcement 617-002, dated August 8, 2017.
SoftwareXcel basic edition for zSeries (6942-77G)	z Systems Premier Software Care (6950-07W)	See Services Announcement 617-002, dated August 8, 2017.
Alert for zSeries (6942-16D)	z Systems Premier Software Care - alert and resolve for z Systems (6948-53Z)	See Services Announcement 617-002, dated August 8, 2017.
Resolve for zSeries (6942-23D)	z Systems Premier Software Care - alert and resolve for z Systems (6948-53Z)	See Services Announcement 617-002, dated August 8, 2017.

Mainframe Support Offerings in 2018

- Existing contracts continue to be honored until they come up for renewal. So, these changes might not have affected you yet.

- We had "Resolve for zSeries" for which we were paying only $262 per month.

- Our contract was up for renewal Jan 27, 2018! I asked for a quote and was told that IBM would not quote the replacement offering until our contract was nearing expiration. No sooner than Jan 1, 2018.

- Meanwhile I discussed this issue on IBM-MAIN. As you might imagine, I am fundamentally opposed to customers paying additional fees for the "privilege" of reporting bugs and downloading fixes to software for which hefty license fees are already being paid.

My Needs are Simple; I'm Easily Amused ☺

- A long, long time ago in a galaxy far, far away if you didn't have at least SoftwareXcel Basic Edition, you could not search for fixes, you could not open PMRs electronically (you had L1 voice only), and you could not download PTFs electronically (you had tape only).

- I knew APAR search was possible through Google and other Internet-based search engines. However:
  - RFE 95334 "Public Internet Search Access to Open APARs," submitted by Brian Petersen as a SHARE requirement in October 2016, ranked 31st on SHARE's Top 80 Requirements list at the end of 2016.
  - It was declined (rejected) by IBM last year!

- I was concerned the other two features we want might be unavailable without a support contract.

- On IBM-MAIN, Timothy Sipples (IBM) asserted that all three features are now freely available.

IBM-MAIN Suggestions from Timothy Sipples

<Sipples Suggestions>
You wrote that it's important to be able to report bugs. IBM agrees. SoftwareXcel has never been required to open PMRs by telephone (or fax), to my knowledge. Moreover, you should be able to open PMRs electronically (if you prefer) from this Web page, also at no additional charge:

https://www.ibm.com/support/servicerequest/

Click on the "New service request" button to get started. Please give it a try, stopping short of actual submission if you don't have a real PMR, and please correct me if I'm mistaken. It's working for me, though. Moreover, in some countries it's possible to open PMRs via e-mail. (I don't recommend e-mail, though, especially for higher severity issues, since you can't easily check whether and when IBM received your e-mail. But it's available in some countries, with that understanding.)

ShopZ is available at no additional charge for electronic PTF and new release/update deliveries. Electronic delivery is the preferred option. (Earlier this year IBM eliminated the Single Version Charge (SVC) limitation, in favor of Multi-Version Measurement (MVM). In short, that means you should electronically order new versions and releases. You shouldn't even have to think about it.)

You can search for APARs here:

https://www.ibm.com/support/customercare/psearch/search?domain=gapar

This search interface ("Granular APAR Search for Z") was first introduced in 2014.
</Sipples Suggestions>

Comparison of Existing Support Offerings

OFFERING ELEMENT	SoftwareXcel enterprise edition	SoftwareXcel basic edition	Resolve for zSeries	Alert for zSeries
Voice "usage" Q&A (Question and Answer) – prime shift	Optional feature			
Voice "usage" Q&A (Question and Answer) – full shift	Optional feature			
Electronic Technical Response (ETR)	X	X	X	
Electronic "usage" Q&A with Severity	X	X		
Defect Problem submission	X	X	X	
Voice Contact request "defect only"	X	X	X	
Problem Listing by Account	X	X	X	
Premium Response (1-hr Response for defect calls during prime shift)	X			
Alerts- PEs/HIPERs/PE Fixes via ASAP (Automatic Software Alert Process)	X			X
HOLDDATA History	X			X
Report on Products tracked	X			X
Enhanced HOLDDATA	X			X

Comparison of Existing Support Offerings

OFFERING ELEMENT	SoftwareXcel enterprise edition	SoftwareXcel basic edition	Resolve for zSeries	Alert for zSeries
Notification by hardware device - 2105 Enterprise Storage Server (Shark)	X			X
Automatic Status Tracking (AST)	X	X	X	
Notification Reason	X	X	X	
Database Query via SIS (Search Information Service)	X	X	X	
Hardware Microcode Library	X	X	X	
APAR (Authorized Problem Analysis Report) Libraries	X	X	X	
PTF (Program Temporary Fix) Libraries	X	X	X	
eSupport Knowledge Base, includes Redbooks, Newsletters, Technotes, and white papers	X	X	X	
Q&A Library	X	X	X	
PDDB (Problem Diagnosis Data Base) Library	X	X	X	
Preventive Service Planning (PSP)	X	X	X	X
Installation Product Planning Info	X	X	X	X

Comparison of Existing Support Offerings

OFFERING ELEMENT	SoftwareXcel enterprise edition	SoftwareXcel basic edition	Resolve for zSeries	Alert for zSeries
Order all PTFs listed in subset	X	X	X	X
Product Cross Reference (PCR)	X	X	X	X
Fix Delivery via SRD (Service Request and Delivery)	X	X	X	X
Electronic Delivery - Multiple PTFs	X	X	X	X
Inclusion of Pre/CO Reqs/PE fixes	X	X	X	X
Inclusion of If Reqs and Supersedes	X	X	X	X
Ordering of ESO/RSU (Expanded Service Option or Recommended Service Update	X			X
Ordering of customized preventive package on installed fix inventory	X			
Ordering of customized PTF package based on installed fix inventory	X			
Ordering of toleration/coexistence service	X			
HIPER/PE (High Impact or Pervasive APAR/ PTF in error) check on installed service inventory	X			
Request physical media delivery	X	X	X	X
Inquiry of PTF requisite list	X	X	X	X

Comparison of Existing Support Offerings

OFFERING ELEMENT	SoftwareXcel enterprise edition	SoftwareXcel basic edition	Resolve for zSeries	Alert for zSeries
Health Check on currency	X			
Electronic Package limit	10 Meg 5G - Web	10 Meg 5G - Web	10 Meg 5G - Web	10 Meg 5G - Web
Monthly Management Reports	X			
Remote Screen Viewing (RSV)	X			
AOS	X			
RSV-XCEL (requires lease line)	X			

My Take After Reviewing the Offerings

- See http://www.vm.ibm.com/service/zmatrix.pdf
- ETR – Replaced by SR
- SIS – replaced by Granular APAR Search for Z and ordinary Internet search (Google et al)
- AST – No free replacement, but easy to roll your own
- PSP – Only really needed for CBPDO orders, which will be completely gone soon. For driving systems, we have FIXCATs, Migration Health Checks, etc.
- PCR – never used that in my life.
- SRD – Replaced by ShopZ and SMP/E RECEIVE ORDER
- Q&A – I've always been okay with RTFM. If you routinely use Q&A (voice or electronic) to have someone else RTFM for you, don't expect a free replacement!

Customers That Might Still Need Paid Support

- **SoftwareXcel Basic and Enterprise Editions Only**
  - **Electronic "usage" Q&A**
  - **Marg Bennett of IBM says this is the most compelling reason customers use to justify paying for SoftwareXcel**
- **SoftwareXcel Enterprise Edition and Alert Only**
  - **Alerts – these days HOLDDATA can be RECEIVED daily**
  - **There are also free Red Alerts for serious problems**
- **SoftwareXcel Enterprise Edition Only**
  - **Voice "usage" Q&A is an optional priced feature**
    - **Different charge structure for prime shift vs full shift**
  - **Premium (one-hour) response to defects during prime shift**
  - **Monthly Management Reports**
  - **Remote Screen Viewing (RSV)**
- **Whatever else your IBM salesperson might promise you "above and beyond" normal requirements...**
  - **Perhaps IBM has developed a drone that hovers above your operators' shoulders and helps them do things properly ;-)**

My Subsequent Response to our Account Rep

Brian,

I have been discussing this issue on IBM-MAIN.

It used to be (back in the "day") that if you didn't have at least SoftwareXcel Basic Edition, you could not search for fixes, you could not open PMRs electronically (you had L1 voice only), and you could not download PTFs electronically (you had tape only).

I have been advised on IBM-MAIN by Timothy Sipples of IBM that all three of these features now exist for free (no additional subscription necessary) and he provided URLs to the various services that I would use to perform these three functions.

I tried them and they seem to work, but I remain somewhat skeptical, thinking that once our Resolve for zSeries entitlement goes away some of the behaviors could change. We shall see.

What I want to do is let our Resolve for zSeries contract expire in January and not replace it with anything. Then try for a few months to use the free services Timothy claims exist for mainframe customers. If it becomes too painful, then obviously we'll be forced to subscribe to the new "Software Care" service if it's priced reasonably.

It sure would be great if we could get out from under IBM's "thumb" on this (hopefully now historical) requirement to pay for the privilege of electronically reporting and tracking IBM bugs.

If it works, it will make a great Bit Bucket segment for SHARE in Sacramento or St. Louis!

If it fails, it will make a great Bit Bucket segment for SHARE in Sacramento or St. Louis!

Thanks,

Ed Jaffe

Sticker Shock and Progress Report

- On January 2nd they finally gave us the quote we asked for back in September: a "deeply discounted" price of only $30K if we pre-pay through Sep 2022.

- Needless to say we prefer the "free" options.

- We have seen no disruption or problems with our weekly RECEIVE ORDER jobs for z/OS service.

- I successfully ordered the z/VM base and some accompanying products using ShopZ.

- I've opened many SRs since Jan 27 and have seen no change at all from previous experiences.

- I have searched for APARs using both the Granular APAR Search for Z and Google search. Both work great, however the IBM search has the filtering I'm used to seeing on IBMLink.

Granular APAR Search for Z

Granular APAR search
for System z

Search for: [   ] [Search]

Sort by:
[Newest first ▾]

Hits per doc type:
[10]

→ Search tips   → Start a new search

— Document types

[ ] All

[ ] PE
[ ] Hiper
[ ] NEW FUNCTION
[ ] INFO

[ ] Open
[ ] Closed

Create date:
From: [To:]   [   ]
📅   📅

Last updated date:
From: [To:]   [   ]
📅   📅

External symptom code: [   ]   Release: [   ] ⓘ
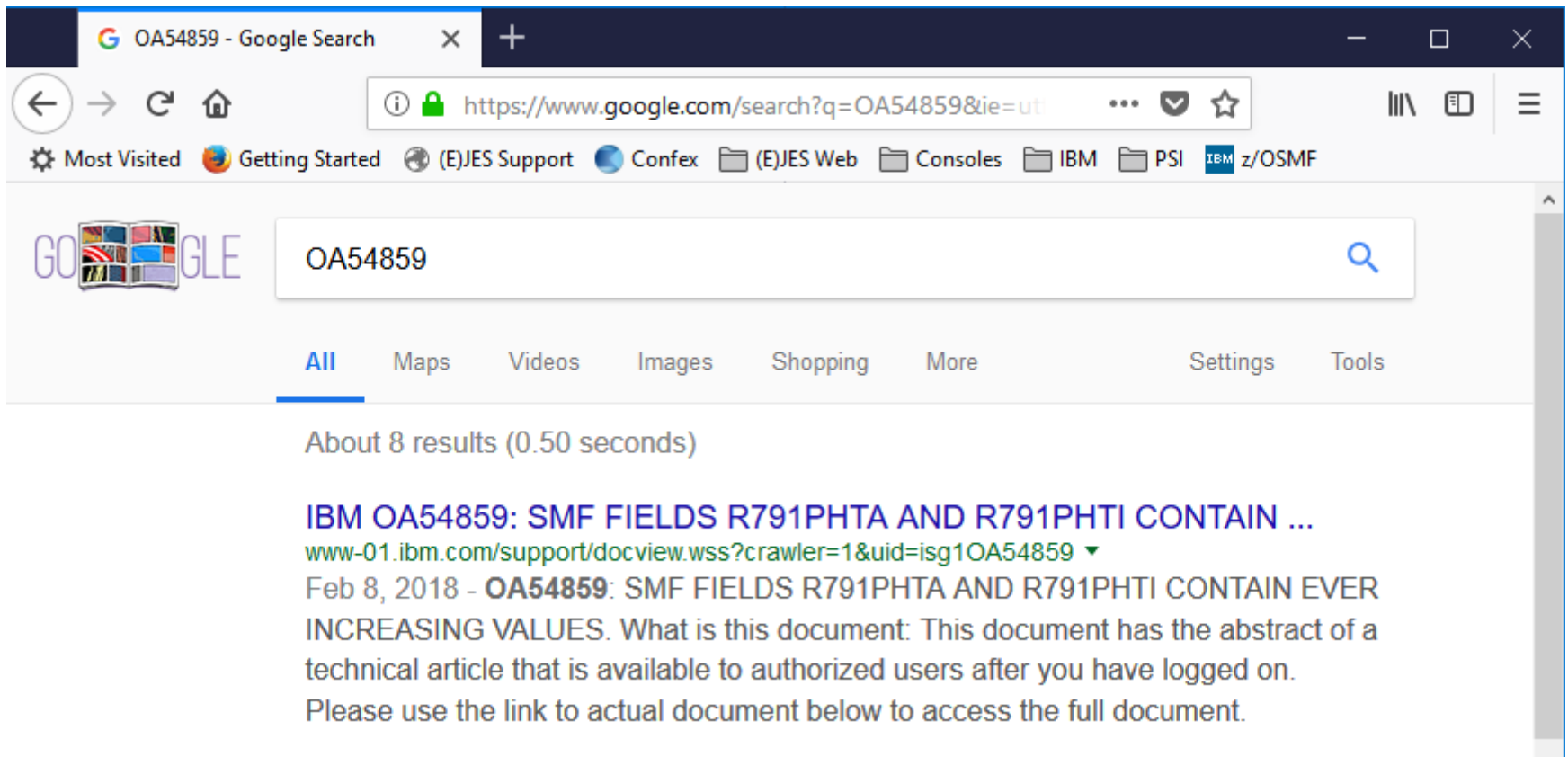
Both open and closed APARs are supported!

So much for rejection of Brian Petersen's SHARE requirement! LOL

Reminds me of when IBM declined SSMVSE11008 requesting large screen support in OSA-ICC. The support was already there, but didn't work in some configurations due to a trivial bug that I got them to fix via PMH.
(See Bit Bucket x'35')

Granular APAR Search for Z

- **One of my open SRs resulted in FIN APAR OA54859 against RMF.**
- **While it was open, I successfully located the APAR using both Granular APAR Search for Z and Google search! ☺**

Granular APAR Search for Z

IBM Support

My support ∨   Downloads ∨   Documents ∨   Tickets ∨   Communities ∨   Training ∨   Other ∨

IBM Support

➕ What's new?

Search support or find a product   🔍

OA54859: SMF FIELDS R791PHTA AND R791PHTI CONTAIN EVER INCREASING VALUES.

APAR status

OPEN

Error description

SMF fields R791PHTA and R791PHTI contain ever increasing values.
This is the zAAP and zIIP only equivalent time from
ASSB_IFA_PHTM and ASSB_zIIP_PHTM.

.

The R791PHTM field is the standard CPU time consumed but this
field has the time only for the current RMF interval.

.

This APAR is to have R791PHTA and R791PHTI to behave like
R791PHTM and have only the current interval time.

Local fix

Problem summary

Rate this page

⭐ ⭐ ⭐ ⭐ ⭐

Average rating (0 users)

Document information

More support for: z/OS family

Software version: 7B0

Operating system(s): MVS, z/OS

Reference #: OA54859

Modified date: 08 February 2018

AST (APAR Tracking): The Only Missing Thing

- We wrote a node.js script called APARTRAK to provide this function.
  - If you haven't licensed IBM's node.js yet, now is your chance. IT'S HIGHLY USEFUL!!!
- If you would like a copy of APARTRAK, feel free to download ftp://ftp.phoenixsoftware.com/pub/demo/apartrak.zip
  - The zip contains two BINARY files (I don't trust ASCII)
  - One is called apartrak.rexx – a RECFM=FB LRECL=80 REXX exec that invokes the APARTRAK node.js script from MVS
  - The other is apartrak.nodejs which should be uploaded to a z/OS UNIX file. We put it in /local/bin/apartrak
- APARTRAK reads the APAR tracking list from the file designated in the 'dsn' variable and generates a report for each of the APARs listed (using Granular APAR Search for Z)

AST (APAR Tracking): The Only Missing Thing

```
          Menu   Utilities   Compilers   Help

    BROWSE      SYS2.REXXPROC(APARTRAK) - 01.02          Line 0000000000 Col 001 080
    Command ===>                                          Scroll ===> CSR
    ******************************** Top of Data ********************************
    /* REXX */

    stdin.0 = 0

    rc = syscalls("ON")
    rc = bpxwunix("/local/bin/apartrak","stdin.","stdout.","stderr.")

    do i = 1 to stderr.0 ; say stderr.i ; end
    do i = 1 to stdout.0 ; say stdout.i ; end
    ******************************** Bottom of Data *****************************

        F1=Help      F3=Exit      F5=Rfind   F12=Cancel
```

```
    Menu   Utilities   Compilers   Help

    BROWSE    /local/bin/apartrak                          Line 0000000000 Col 001 109
    Command ===>                                           Scroll ===> CSR
    ******************************** Top of Data ********************************
    #!/usr/lpp/IBM/cnj/IBM/node-v6.11.4-os390-s390x/bin/node

    const dsn = "//'phoenix.parmlib(apartrak)'"
    const chp = require('child_process');
    const https = require('https')

    function pad(obj,len,def) {
      var padding = new Array(len+1).join(typeof obj == 'string' && obj == '-' ? '-' : ' ')
      if ( typeof obj != 'string' ) obj = (obj ? obj[1] : (def ? def : ''))
      return (obj+padding).substr(0,len)+' '
    }

    chp.exec('cat "'+dsn+'"', (error, stdout, stderr) => {
      var  args = [ ], results = [ ], total = 0
      if (error) { console.error(`exec error: ${error}`); return; }
      let lines = stdout.split('\n')
      lines.forEach((line,index) => {
        if ( line.trim().length > 0 )
          args.push(line.trim().split(' ')[0])
      })
      if ( args.length > 0 ) {
        console.log(pad('APAR',8)+pad('Status',16)+pad('Closed',11)+pad('Modified',11)+pad('Synopsis',9).trim())
        console.log(pad('-',8)+pad('-',16)+pad('-',11)+pad('-',11)+pad('-',80).trim())
        args.forEach((val,index) => {
          var apar, closed, data = '', mod, state, title
          apar = val.toUpperCase()
          https.get('https://www-01.ibm.com/support/docview.wss?uid=isg1'+apar, (resp) => {
            resp.on('data', (chunk) => { data += chunk; })
            resp.on('end', () => {
              title = data.match(/<h1[^>]*>[^:]+: *([^<]+)<\/h1>/i)
              state = data.match(/<h3>Status<\/h3><p>([^<]+)<\/p>/i)
              closed = data.match(/<h3>Closed date<\/h3><p>([^<]+)<\/p>/i)
              mod = data.match(/<h3>Last modified date<\/h3><p>([^<]+)<\/p>/i)
              results.push(pad(apar,8)+pad(state,16,'Not found')+pad(closed,11)+pad(mod,11)+pad(title,80).trim())
              ++total == args.length && results.sort().forEach((result) => { console.log(result) })
            })
          })
          .on('error', (e) => { console.log(apar+' fatal: '+e.message) })
        })
      }
    });
    ******************************** Bottom of Data *****************************

     F1=Help      F3=Exit      F5=Rfind   F12=Cancel
```

Change this!

AST (APAR Tracking): The Only Missing Thing

- **Update your APARTRAK member with your list of publicly-available APARs and submit APARTRAK job**

```
 File   Edit   Edit_Settings   Menu   Utilities   Compilers   Test   Help

EDIT          EDJXADM.A.CNTL(APARTRAK)  -  01.04          Columns 00001 00080
Command ===>                                              Scroll ===> CSR
****** ***************************** Top of Data *********************************
000001 //APARTRAK JOB 1,JAFFE,CLASS=A,MSGCLASS=T,NOTIFY=&SYSUID
000002 // EXEC PGM=IKJEFT01,REGIONX=(,1G),PARM='APARTRAK'
000003 //SYSEXEC   DD DSN=SYS2.REXXPROC,DISP=SHR
000004 //SYSTSPRT  DD SYSOUT=*
000005 //SYSTSIN   DD DUMMY
```

```
 File   Edit   Edit_Settings   Menu   Utilities   Compilers   Test   Help

EDIT          PHOENIX.PARMLIB(APARTRAK)  -  01.04       Member APARTRAK saved
Command ===>                                              Scroll ===> CSR
****** ***************************** Top of Data *********************************
000001 OA51751   MGCRE CMDAUTH=NOHCPY propagated to all systems
000002 OA54859   Problem with values returned by R791PHTI and R791PHTA
000003 OA55461   Abend associated with ISITMGD macro
****** ***************************** Bottom of Data ******************************
```

| Jobs ▾ | JES ▾ | System ▾ | Tools ▾ | View ▾ | Options ▾ | Help ▾ | Logout | (E)JES® |

APARTRAK J0218264   <   .   .SYSTSPRT> Dataset 1 of 1   Line 1 of 7

```
1APAR     Status            Closed      Modified     Synopsis
-------   ----------------  ----------  ----------   --------
OA51751   CLOSED UR1        2017-01-06  2018-06-01   MGCRE CMDFLAG=NOHCPY FUNCTION (SUPPRESS COMMAND FROM HARDCOPY) DOES NOT SCOPE TO
OA54859   CLOSED FIN        2018-04-03  2018-04-03   SMF FIELDS R791PHTA AND R791PHTI CONTAIN EVER INCREASING VALUES.
OA55461   CLOSED PER        2018-05-18  2018-07-02   ISITMGD MACRO CALL FAILS WITH AN ABEND0C4 PIC11 IN IGWDARDA+2ECE @ HDZ2230 BASE
READY
END
```

Bottom of Data

My 2018 Mainframe Support Experiences

- **IBM is finally providing its mainframe customers with viable support that doesn't cost anything beyond the software license fees.**

- **So far, I see no degradation whatsoever in the quality of the functions we use most:**
  - **Ordering products and service**
  - **Searching the APAR data base**
  - **Reporting software problems**
  - **Tracking APARs (with our nifty node.js script)**

- **I haven't used IBMLink in over eight months and I really don't miss it at all. NOT ONE BIT!**

- **I confirmed from the IBM presenters that the upcoming move of support functions from in-house-written code to Salesforce introduces no additional fees or subscriptions.**
  - **Session 22945 "Are You Curious About SR Changes and the New Support Experience?"**

To Serve Man

(Ed Jaffe)

IBM SOD Regarding DFS/SMB Server

- I proudly wear the "mainframe bigot" label
  - However, I'm also okay with "mainframe advocate" ;-)
- I prefer to see z/OS as the center of the "universe" in a heterogeneous set of connected systems.
- Our corporate file server has been on the mainframe for decades – since long before z/OS was called z/OS. We started with LANRES (when we used Netware), then SAMBA for OS/390, and finally DFS/SMB. All of these solutions worked well.
- During all that time, NFS was available on MVS but was never considered a viable candidate to fulfill this role

IBM SOD Regarding DFS/SMB Server

- **SMB is a Microsoft file sharing protocol that grew from IBM's NetBIOS. The current protocol version is 3.0. It is secure, highly functional, and provides the basis for CIFS – the Common Internet File System.**

- **Originally Apple didn't support it, but eventually changed their mind. Mac OS now fully supports current SMB and CIFS protocols.**

- **Linux fully supports SMB via SAMBA/CIFS at the latest protocol levels.**

- **The z/OS SMB server is (IMHO) one of IBM's best efforts, but it was never updated to protocol levels beyond SMB 1.0.**

- **Recently, SMB 1.0 was found to have some serious vulnerabilities and was quickly deprecated by Microsoft.**
  - **The Windows client even unilaterally uninstalls itself if not used for two weeks! They *really* want this thing GONE!**

IBM SOD Regarding DFS/SMB Server

- **Part of the infamous July 17, 2017 U.S. Announcement Letter 217-246**

"Network File System (NFS) is the strategic file sharing protocol for z/OS. The DFS/SMB (Distributed File System / Server Message Block) functionality has been stabilized. DFS/SMB is expected to continue shipping as part of the operating system and will be supported in accordance with the terms of a customer's applicable support agreement. IBM intends to continue enhancing the NFS functionality, including RAS and performance capabilities, in future z/OS releases. All requirements for file sharing with z/OS are expected to be addressed in the context of NFS only."

IBM SOD Regarding DFS/SMB Server

- For the record, I *totally* disagree with IBM's direction here. NFS was never designed to be an end-user file server. It was originally designed for server level remote mounts only. For this reason, it had no support for individual authentication, access control lists, etc. until just recently with NFS v4.

- The most popular desktop operating system in the world supports only NFS v3. That's a *huge* problem for IBM's strategy. SMB works "out of the box" for Windows 10, Mac, and Linux clients. IMHO, what IBM *should* do is upgrade its DFS/SMB server to support the SMB 3.0 protocol.

- Kershaw Mehta promised me IBM would make NFS work "out of the box" for Windows 10 clients so, despite my skepticism, I offered to help out as a "sponsor user" and try to implement NFS in our environment. You can too!

Access z/OS NFS Server from Windows 10

- **Enable the Windows 10 NFS client if not already enabled**

- **Open a z/OS UNIX command prompt (OMVS, SSH, etc.)**

- **Issue the id –g command to display your numeric Group ID**

- **Issue the id -u command to display your numeric User ID**

- **Using REGEDIT, navigate to HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\ClientForNFS\CurrentVersion\Default**

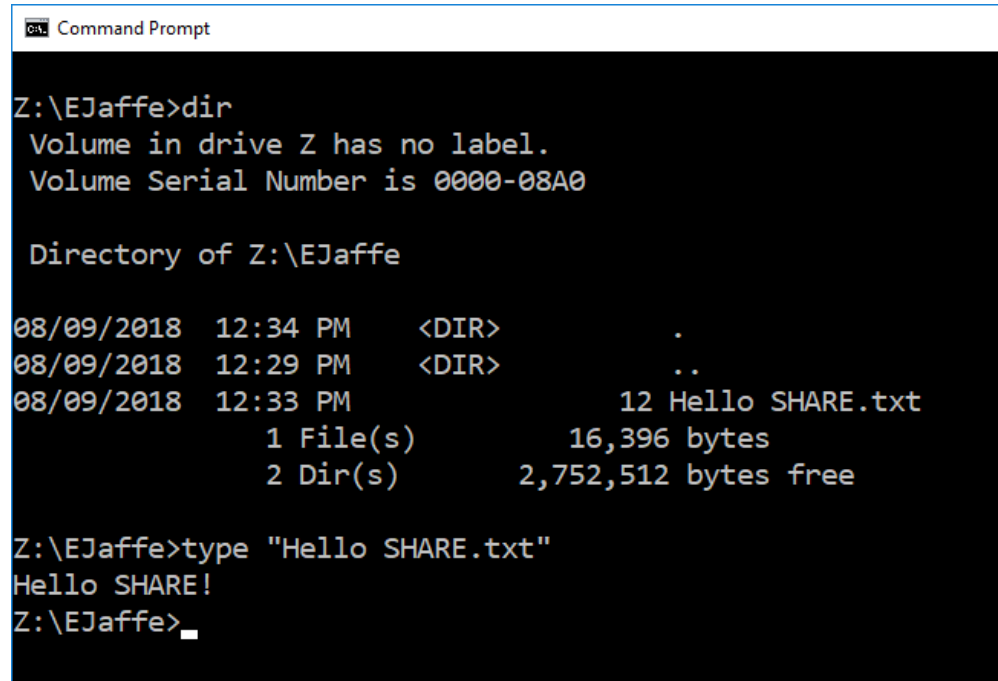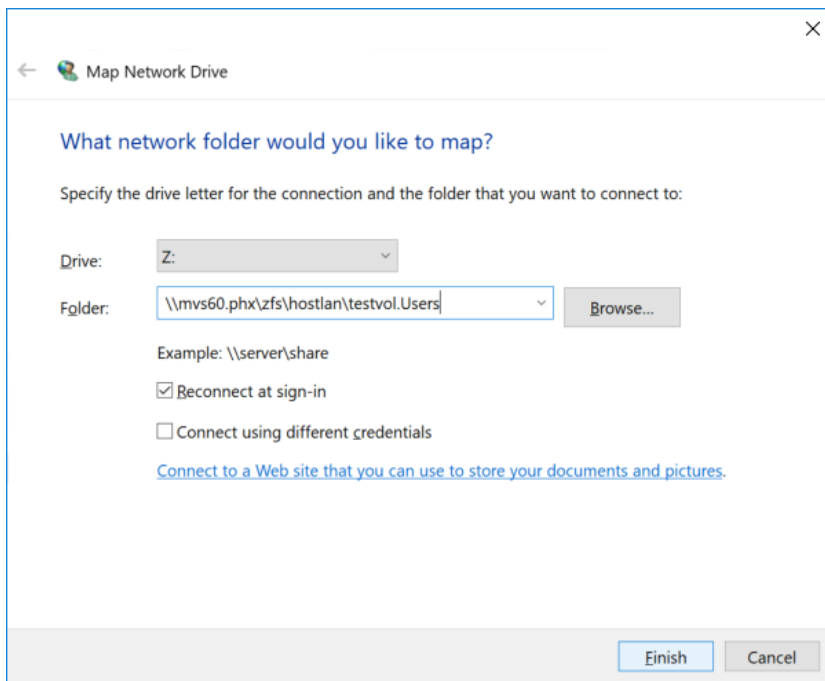- **Create AnonymousGid and AnonymousUid DWORD variables with those values**
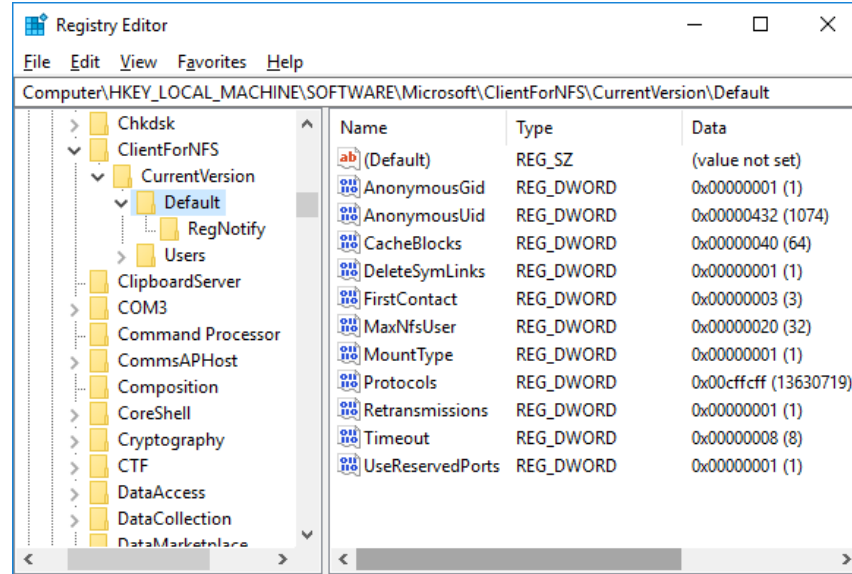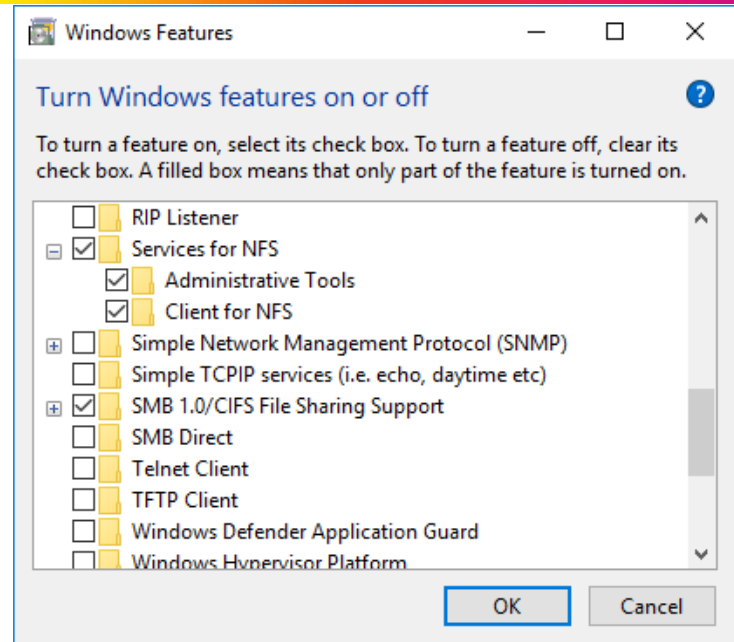
Access z/OS NFS Server from Windows 10

- **Add your zFS to your NFS EXPORTS member**
- **Note: We specify hfsprefix(/zfs) in NFSATTR**

```
/zfs/hostlan/testvol.Users<nosaf>              -symresolve
/zfs/hostlan/testvol.Documentation<nosaf>  -symresolve
```

- **Map the Drives From Your Windows 10 Machines**

Map Network Drive

What network folder would you like to map?

Specify the drive letter for the connection and the folder that you want to connect to:

Drive: Z:

Folder: \\mvs60.phx\zfs\hostlan\testvol.Users   Browse...

Example: \\server\share

☑ Reconnect at sign-in

☐ Connect using different credentials

Connect to a Web site that you can use to store your documents and pictures.

Finish   Cancel


```
Command Prompt

Z:\EJaffe>dir
 Volume in drive Z has no label.
 Volume Serial Number is 0000-08A0

 Directory of Z:\EJaffe

08/09/2018  12:34 PM    <DIR>          .
08/09/2018  12:29 PM    <DIR>          ..
08/09/2018  12:33 PM                12 Hello SHARE.txt
               1 File(s)         16,396 bytes
               2 Dir(s)      2,752,512 bytes free

Z:\EJaffe>type "Hello SHARE.txt"
Hello SHARE!
Z:\EJaffe>
```

Differences Between z/OS NFS and DFS/SMB

- **NFS:**
  - 🚫 Does not support cascading mounts
  - 🚫 Does not support individual user authentication (SAF) for NFS v3 and lower clients
  - 🚫 Does not support ACLs for NFS v3 and lower clients
  - 🚫 Does not support mnemonic path names using symbolic substitution (eg, "MYHOME")
  - ✅ Supports encrypted zFS

- **DFS/SMB:**
  - ✅ Fully supports cascading mounts
  - ✅ Fully supports individual user authentication (SAF) for all clients.
  - ✅ Fully supports ACLs for all clients.
  - ✅ Fully supports mnemonic path names using symbolic substitution (eg "MYHOME")
  - 🚫 Does not support encrypted zFS

- These are the things we discovered in our environment.
- There could be more issues and you can help find them.

IBM SOD Regarding DFS/SMB Server

- Clearly, IBM has a LOT of work to do if they expect NFS to provide SMB-equivalent function in z/OS v2.4. My fingers are crossed, but I am not hopeful.
- IBM got lazy in their support of SMB protocols and was then blindsided by a vulnerability. Not Microsoft's fault.
- IBM's stated direction is to cast aside SMB, just as other platforms are finally embracing it, and make NFS the "strategic" z/OS file sharing server going forward.
  - I speculate this decision is more about programming resource shortages than about a "best of breed" technology assessment.
- Your assistance is needed. Together we can help IBM either succeed at making NFS a viable corporate file server and replacement for SMB or discover enough NFS obstacles to make them rethink their strategy.

Sittin on the Doc of the Bay

(Skip Robinson)

Sittin on the Doc of the Bay

- Something breaks
- Support Center needs doc to help you solve the problem
- Logs, job output, dumps up to and including standalone
- All can be shipped these days via the internet
- Primary mechanism is FTP with 'some kind of packaging'
- For many years we've used IBM's PUTDOC to package doc
- A line-mode CLIST that prompts for parameters
- Component/destination, PMR number, type of data, file descriptor
- PUTDOC generates a single job with multiple steps as needed
- Compression (AMATERSE), formatting, segmentation as needed

Sittin on the Doc of the Bay

- Segmentation was originally needed for really large doc
- E.g. standalone dump can be ginormous
- Years ago corporate networks were slower and flakier
- FTP of huge data chunks was dicey at best
- PUTDOC broke up large output into more digestible chunks
- Segments were reassembled at Support Center into original form
- Accomplished without user intercession

Sittin on the Doc of the Bay

- I recently sent a very large dump for an abend
- PUTDOC segmented the compressed dump into three chunks
- Level 2 could not get the dump reassembled into one
- They informed me that PUTDOC was obsolete (RIP)
- Pointed me to 'Problem Documentation Upload Utility' (PDUU)
- Modern IBM packaging facility for sending doc to Support Center

PDUU

- PDUU is way smarter than PUTDOC
- Uses a single step job for any size doc
- Does not execute AMATERSE explicitly
- Allows for multi-threaded FTP process automatically
- User sets various maximum parameters
- PDUU controls degree of parellelism
- Doc is reconstituted at Support Center automatically

PDUU

- `//DOCPDUU  EXEC PGM=AMAPDUPL <-- Download from IBM`
- `//SYSPRINT  DD SYSOUT=*`
- `//SYSUT1    DD DISP=SHR,`
- `//          DSN=doc-dsn   <-- Source DSN`
- `//SYSIN     DD *`

PDUU

- USERID=anonymous@testcase.software.ibm.com
- PASSWORD=email-id@your-company.com
- TARGET_SYS=company-proxy   <-- If proxy needed
- TARGET_DSN=something-that-makes-sense
- WORK_DSN=your-choice   <-- Prefix for work data sets
- CC_FTP=03   <-- Parallel limit
- WORK_DSN_SIZE=500   <-- Work DSN size
- DIRECTORY=/toibm/mvs/   <-- May vary by component
- PMR=ppppp.iii.ccc   <-- SR number

- https://www.ibm.com/support/knowledgecenter/en/SSLTBW_2.3.0/com.ibm.zos.v2r3.ieav100/pftp.htm

Hold the Presses!

- **The IBM SR process is undergoing changes**
- **One of them is replacement of SR number with 'CASE'**
- **CASE number will have a different structure**
- **Doc mechanism(s) must accommodate CASE number**
- **AMAPDUPL keyword PMR= to be replaced by CASE=**
- **Some APARs will need to be installed**
  - **OA54086 for AMAPDUPL**
  - **OA55502 for CIM**
  - **PI96024 for z/OSMF**
- **I don't have these on, but timing may be crucial**
- **See session 22945 Wed 13:45 for more detail**

Tell Me Why You're IPLing

(Skip Robinson)

Tell Me Why You're IPLing

- *nn IFB010D ENTER 'IPL REASON,SUBSYSTEM ID' OR 'U'
- This IPL time WTOR has been around forever
- Occurs very early in NIP
- No chance for automation software to reply
- Hangs around 'forever' until replied to
- Seems to have no impact on the system if left outstanding

Tell Me Why You're IPLing

- I recently noticed that some of our systems issue this WTOR
- Others do not
- Poked around KC, finally found the answer
- WTOR is issued by 'Reliability Data Extractor' (RDE)
- I've worked in several different shops
- NEVER was the RDE reply used for anything at all
- It was always SOP to reply 'U' and move on

Tell Me Why You're IPLing

- RDE is controlled by a keyword in SYS1.PARMLIB IEASYSxx
- RDE=YES|NO
- Default is NO, i.e. do not issue WTOR
- On a few of our systems, we had coded RDE=YES
- Old systems, creators long gone, residual value a mystery
- Unless you plan to utilize RDE reply, just turn it off in PARMLIB

You Doesn't Hasta Call Me Johnson

(Skip Robinson)

You Doesn't Hasta Call Me Johnson

- MVS allows a PDS(E) member to be assigned an alias
- Member can generally be referenced by main name or by alias
- For non-load libraries, little/no difference in effect
- For a load module, result can be quite different
- Consider this load module named CANINE with two aliases

- NAME   DATA/MSG ALIASOF   MAIN   ENTRY
- CANINE   0000
- DOGGIE   *ALIAS   CANINE 0000
- BEAGLE   *ALIAS   CANINE 2000

You Doesn't Hasta Call Me Johnson

- When alias DOGGIE is assigned, entry point defaults to 0000
- Within CANINE is an external symbol BEAGLE at offset 2000
- When alias BEAGLE is assigned, entry matches external reference
- So actual execution depends on which name is used in EXEC PGM=
- EP 2000 may behave quite differently from EP 0000
- Now suppose you 'need' to add alias FIDO to member CANINE
- And suppose you 'need' behavior same as PGM=BEAGLE
- Binder assigns EP only to main EP or to EP with matching EXTRN
- How to get PGM=FIDO to execute with EP 2000?
- Only solution I know is to use STARTOOL(R)

You Doesn't Hasta Call Me Johnson

- Command: ALIAS BEAGLE   FIDO

- NAME   DATA/MSG ALIASOF MAIN   ENTRY
- FIDO   *ALIAS   BEAGLE   2000

- In other words, you assign an alias to an alias
- Result is same EP as existing alias

- I have not explored with CBT PDS command
- I did try with IDCAMS: RENAME LOAD(BEAGLE) (FIDO)
- Command does not fail, but EP is 0000, not 2000

Acknowledgments Both Knowing and Unknowing

- Patty Little (IBM)
- John Shebey (IBM)
- Ed Jaffe (Phoenix Software International)
- Bill Smith (Trident Services)
- Timothy Sipples (IBM)
- Peter Relson (IBM)
- Marg Bennett (IBM)
- Kershaw Mehta (IBM)
- Charles Bryant (IBM)
- Paul Scott (Phoenix Software International)

See You in

Phoenix