

Bit Bucket x'3A'

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SHARE 133
Session 25752
Pittsburgh, PA
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Support Hose

(Ed Jaffe)

We Went "Off the (IBMLink) Grid" in January

- IBM withdrew our bare-bones S/390 Resolve offering, for which we paid relatively little on a month-to-month basis, and replaced it with z Systems Premier Software Care whose costs, even with the steepest available discounts and a pre-paid 5-year commitment, were more than double.
- We received help on IBM-MAIN from Timothy Sipples (IBM) in finding free alternatives that fit our modest needs, which are:
 - We want to be able to search for bugs already fixed
 - We want to be able to report new bugs not yet fixed
 - We want to be able to download software and bug fixes
- We don't need Q&A or one-hour SEV 1 response or similar.

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>

- **Service Request is freely-available**
- **ShopZ is freely-available**
- **APAR Search is freely-available**

My Take After Reviewing the Offerings

- See <http://www.vm.ibm.com/service/zmatrix.pdf>
- ETR - Replaced by Service Request
- 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 pay someone else to RTFM for you, don't expect a free replacement!

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

- 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 //SYSTSPT 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 MGCRC CMDAUTH=NOHCOPY 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 < .SYSTSPT> Dataset 1 of 1 Line 1 of 7

1APAR	Status	Closed	Modified	Synopsis
OA51751	CLOSED UR1	2017-01-06	2018-06-01	MGCRC CMDFLAG=NOHCOPY 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

Our "Off-Grid" Support Experience

- We canceled our support contract and Timothy's suggestions worked great. I reported this good news in Sacramento shortly after our contract officially lapsed.
- Six months later, I reported similar success in St Louis. We were happy as clams!
- But, apparently someone at IBM was not amused because shortly thereafter our Service Request screens were grayed out. We could open new PMRs, but could not update or even close them!
- Granular APAR Search for Z also began having issues such as null results to a legitimate search. We used the feedback more than once to get such issues fixed.
 - This function seems to be a bit fragile
 - It breaks for no obvious reason and needs repair
- ShopZ also has issues now and then, but what's new?

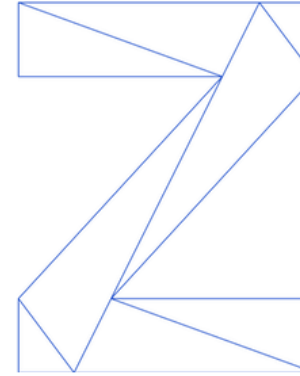
Frozen Service Request Screen

My software requests	My hardware requests	Work for my company	Work for my customers
<p>Service request number 44038,227,000</p> <p>Status <i>Open</i></p> <p>Product z/OS Version 2 Release 3 Component</p> <p>Knowledge Center for z/OS Agreement</p> <p>7121622 [United States] - PHOENIX SOFTWARE INTERNATIONAL INC</p>	<p>To utilize all of the features of SR for the System z software to which you are licensed, it is now necessary to have a System z software services contract for SoftwareXcel Enterprise Edition, SoftwareXcel Basic Edition or Resolve. Our information indicates that your ID is not associated with any of these contracts. To obtain one of these contracts, contact your local IBM representative, call 888-426-4343 or submit a request to EXPRESS@us.ibm.com. To continue with your service request at this time, call 800-IBM-SERV and provide your existing service request number. For any other assistance, contact the SR help desk at SRHelp@us.ibm.com</p> <p> Print a summary  Email  Export CSV file  Export text file</p> <h3>Problem description</h3> <p>Please complete the problem description information below. The fields indicated by an asterisk (<i>*</i>) are required to complete this transaction; other fields are optional. If you do not want to provide us with the required information, please use the Back button on your browser to return to the previous page, or close the window or browser session that is displaying this page.</p> <p>Before providing problem information and/or diagnostic attachments, please read and understand  Exchanging diagnostic data with IBM.</p> <hr/> <h3>Problem information</h3> <p>Title* KC4z search not working for non-IBM content after upload of IBF</p> <p>Problem description and business impact*  What is business impact?</p> <p>Hello,</p> <p>Phoenix Software creates and uploads its own content to KC4z on our z/OS 2.3 system. We used to be able to search</p>		

- Opening a PMR worked fine.
- After that, all fields were grayed out.
- We couldn't even press "Close!" LOL
- Uploading files continued to work, so we used that to communicate with Level 2.

Enter Salesforce and Cognitive Support Portal

- We heard about the transition from RETAIN to Salesforce and decided to take a wait-and-see approach before making any final determination about the usability of the “free” support offerings.
- The transition to Salesforce/CSP occurred July 27 for Sev 1 & Sev 2 PMRs and July 31 for Sev 3 & Sev 4 PMRs.



IBM is introducing a new Support site to replace the IBM Service Request Tool. IBM Z software products migrate to the new Support site on July 27, 2019. **Note:** IBM Z hardware products migrate later.

The new Support site provides you with:

- Improved product selection
- Simplified search
- Greater visibility into the status of your support cases

IBM will perform the migration. When the migration is complete, you will use the site at <http://www.ibm.com/mysupport> to create new cases, get updates on open cases, and look at past problems. You can look at the new Support site today.

Your action:

- Familiarize yourself with the new Support site
- Review the webinar replay: <http://ibm.biz/CSPRetainReplacement>
- Review the listed videos

Videos

- [Introducing the IBM Support Community | Open and manage cases](#)
- [Introducing the IBM Support Community | Search](#)
- [Introducing the IBM Support Community | Forums](#)
- [Requesting access to your company's IBM Support account](#)
- [Managing your IBM Customer Number \(ICN\)](#)

Our Service Requests Are Still Listed in SR

Read important information you need to know about the migration, and what it means to you.

1. 27 Nov 2017

IBM is launching a new Support Community:

Learn more about how we are enhancing your experience and what this means for you.

[+ Open a new service request](#)

- You can go into Service Request and still see your open PMRs.
- Clicking on any of them yields a 404 error!

To modify an open service request, select its service request number.

My recent open online service requests

Show entries

Search:

▲ Indicators	Service request #	Status	Sev.	Title	IBM customer number	Date modified	Date submitted	Print	Email
🕒	25535,227,000	Open (OP1L2)	4	NFS Diagnostic Information for...	7121622	2019/07/30 PDT	2019/07/12 PDT	🖨️	✉️
🕒	44763,227,000	Open (OP1L1)	3	TSO-REXX time-out when using I...	7121622	2019/07/30 PDT	2018/10/15 PDT	🖨️	✉️

Showing 1 to 2 of 2 entries

Previous Next

🕒 : Unread ⚠️ : Needs your attention 💬 : Technical support chat 🖨️ : Print details of this service request ✉️ : Email this service request

[→ View all my online service requests](#)

New Look and Feel Via IBM Support

- IMHO the new look and feel is superior to Service Request

IBM Marketplace

IBM Support Offerings Products **Cases** Forums FAQ Search support Open a case

All IBM Z product PMRs have migrated and can be accessed from the Cases menu. For help with this website or with issues opening cases click the link at the bottom of any page.

Cases

Filtered to 2 of 3 cases Number per page 20

Open (2) - Cases I own All accounts (2) All products (2) Search through filtered results

TITLE	STATUS	CASE NUMBER	SEVERITY	AGE	OWNER	UPDATED	PRODUCT	SOLUTION DATE
NFS Diagnostic Information for Charles Bryant	⚠ Awaiting your feedback	TS002534120	4	27 days	Edward Jaffe	31 Jul 2019 4:28 PM	z/OS	
TSO-REXX time-out when using ISPF services	IBM is working	TS002534110	3	298 days	Edward Jaffe	2 Aug 2019 4:07 PM	z/OS	

[Suggest an improvement or report a problem with this website.](#) [Chat with Support](#)

Updates Are Once Again Allowed!

[← Back to all cases](#)

Actions

NFS Diagnostic Information for Charles Bryant

Case number

TS002534120

Legacy problem number


25535,227,000

Description

*** Electronic submission by customer via SR tool, version 3.4.16d

*** Preferred contact method: Email-address. [\[More\]](#)

Status

 Awaiting your feedback

Close case

Product

z/OS

Product Area

* Product Version 

220

* Case Type

Defect

System Down 

Severity 

4 - Minimal impact (how-to questions, minor problems)

Created

 Chat w

Case history

B *I* U  

Re: the latest issue, we will try a full restart of all systems before we declare it not working...


Post comment

- Was able to post a comment via the "case history" entry field.


Updates Are Once Again Allowed!


Search case history

8 Aug 2019

 Edward Jaffe (Customer)
8 Aug 2019 10:59 PM
Re: the latest issue, we will try a full restart of all systems before we declare it not working...


31 Jul 2019


 31 Jul 2019 4:27 PM
George Martin (IBM) changed Status from *IBM is working* to *Awaiting your feedback*.

 George Martin (IBM)
31 Jul 2019 4:27 PM
Hello Ed,
I understand development is working with you, the last update I had from them was:

[\[More\]](#)

28 Jul 2019

 28 Jul 2019 6:01 PM
YKotov (IBM) changed Status from *New Case* to *IBM is working*.

 ECUREP (IBM)
28 Jul 2019 5:43 PM
data was migrated from PMR: 25535,227,000

Attachments

28 Jul 2019	25535.227.000.D190715
	.CPANDMV.MACOS.TRS
28 Jul 2019	25535.227.000.mvslogin
	nosaf.pcap
28 Jul 2019	25535.227.000.mvslogin
	saf.pcap
28 Jul 2019	25535.227.000.D190711
	.NOSAF.TRS
28 Jul 2019	25535.227.000.D190711
	.SAF.TRS

 Upload files


Before providing problem information and/or diagnostic attachments, please read and understand [Exchanging diagnostic data with IBM](#).

Customer

My account

IBM customer number

7121622

Client reference number 

Geography

 Chat with IBM

- Latest comment added to the case history just as one would expect

Cases Can Actually Be Closed!

[← Back to all cases](#)

Actions

TSO-REXX time-out when using ISPF services

Case number

TS002534110

Legacy problem number

44763,227,000

Description

*** Electronic submission by customer via SR tool, version 3.4.15d

*** Preferred contact method: IBM Service Request (SR) notification [\[More\]](#)

Status

Closed by Client

✓ Reopen case

Product

z/OS

Product Area

Product Version

230

Chat w

Case history

Case notifications

IBM Support

[TS002534110](#)

Closed

08 August 2019, 23:03 PM CDT

If you would like to see additional case detail information in your future emails, please **modify your notification settings**.

Modify notification settings

- I'll bet Level 2 is thrilled to get some of these old PMRs off their plate!
- I'm happy to see them go as well.
- Not being able to close a PMR makes no sense in any universe!

Leave Well Enough Alone

- Unless someone at IBM decides to put the kibosh on my positive Salesforce/CSP experience, all is well again!
- We can report problems to IBM like civilized human beings.
- z/OS customers are already paying exorbitant prices to run their hardware and software. Basic support should be included.
 - I think we can all agree that Q&A, fast/premium response, etc. should be fee-based offerings.
- The look and feel of the new interface seems better than Service Request which was better than the old IBMLink.
- I'll provide another update in Fort Worth.



Forget You, and Forget Your OOCoD/CBU Too!
(Tom Conley)

The Backstory

- This is the city, Pittsburgh, Pennsylvania
- The story you are about to hear is true
- The names have been changed to protect the guilty
- My name's Conley, I'm a sysprog
- I was working oncall, during month end...

You Want Our Product to Run with OOCoD or CBU? (LOL)

- Acme Inc. has CPU capacity issue
- Enables On/Off Capacity on Demand (OOCoD) or Capacity Back Up to dynamically add CPU capacity to deal with issue
- Widgets Inc. vendor software at Acme fails after OOCoD/CBU
 - Widgets' software issue Informational level message only
 - No WTOR or highlighted messages appear
 - Widgets' software fails completely, no warning messages/grace period
 - Production jobs dependent on Widgets' software begin toabend
 - Production job failures exacerbate already tense CPU capacity situation
 - Due to I-level message only, it's unknown that Widgets' product failed
- Widgets Inc. does not support OOCoD/CBU
- After weeks of negotiation, Widgets provides OOCoD/CBU key

How Should OOCoD/CBU Work With Vendor Software?

- All other vendor software at Acme had no issues with OOCoD/CBU
- Many products issued grace period warning messages, others had no issues
- Only Widgets Inc. software failed outright
- So how does this work in real life?
- I contacted Ed Jaffe at Phoenix Software International for his take
 - How does Phoenix Software handle OOCoD/CBU?
 - Ed, of course, gave me chapter and verse

CSRSI, STSI, and Other <Stuff> I Never Heard of

- So Tom, when you call CSRSI, or issue STSI directly...
- Hold it Ed! You lost me at CS...
- CSRSI is an Authorized Assembler Service (I doxxed it [here](#))
 - System Information Service
 - CSRSI uses the STSI (Store System Information) instruction
- STSI presents system data described in SYS1.MACLIB(CSRSIIDF)
- For OOCoD/CBU, we're concerned with these 6 fields:
 - SI11V1CPCModelCapIdent ("Uncharacterized", for lack of a better term)
 - SI11V1CPCModelPermCapIdent
 - SI11V1CPCModelTempCapIdent
 - SI11V1CPCModelCapRating (also "Uncharacterized", in MSU's)
 - SI11V1CPCModelPermCapRating (MSU's)
 - SI11V1CPCModelTempCapRating (MSU's)

Uncharacterized, Perm, and Temp, Oh My!

- Comparing these values indicates normal, OOCoD, and CBU operation
- During normal operation, Uncharacterized, Permanent, and Temporary values are the same
- I can't say this any better, so I'll just quote Ed Jaffe:
 - "During a CBU event, the Temporary and Permanent model and capacity remain the same, but the uncharacterized model and capacity are increased"
 - "During an OOCoD event, the Temporary model and capacity increase along with the uncharacterized values"
 - "Knowing these rules, vendor code should be able to recognize the difference between normal operation, OOCoD and CBU and act accordingly to prevent outages"

OOCoD/CBU Support in World According to Conley, or WAC, View

- These are my opinions and mine alone, not my employers' or clients'
- More and more sites using OOCoD/CBU for capacity/disaster recovery
- z/OS provides a mechanism to determine if OOCoD/CBU is in effect
- Unacceptable for a product to simply fail due to OOCoD/CBU event
- Vendors should provide means to support OOCoD/CBU event
 - Grace period with appropriate warning messages or highlighted WTOR
 - Seems to be most popular and most preferable method
 - Balanced between protecting vendor's and customer's interests
 - Preloaded keys which will honor OOCoD/CBU
 - Less preferable, requires more planning
 - Still can create problems if future OOCoD/CBU models exceed key limits
 - Look at Permanent field values only, ignore transient OOCoD/CBU events
 - Likely limited to vendors/products not licensed by capacity

OOCoD/CBU Support in World According to Conley, or WAC, View

- Vendors, please support OOCoD/CBU without failing outright
- Customers, if vendor fails to meet your needs, find another vendor



SMP/E meets BLSR: A V8 Under the Hood

Bill Smith, Trident Services

bill_smith@triserv.com

"Never trust a computer you can throw out a window."

Attributions, Trade Marks, Service Marks

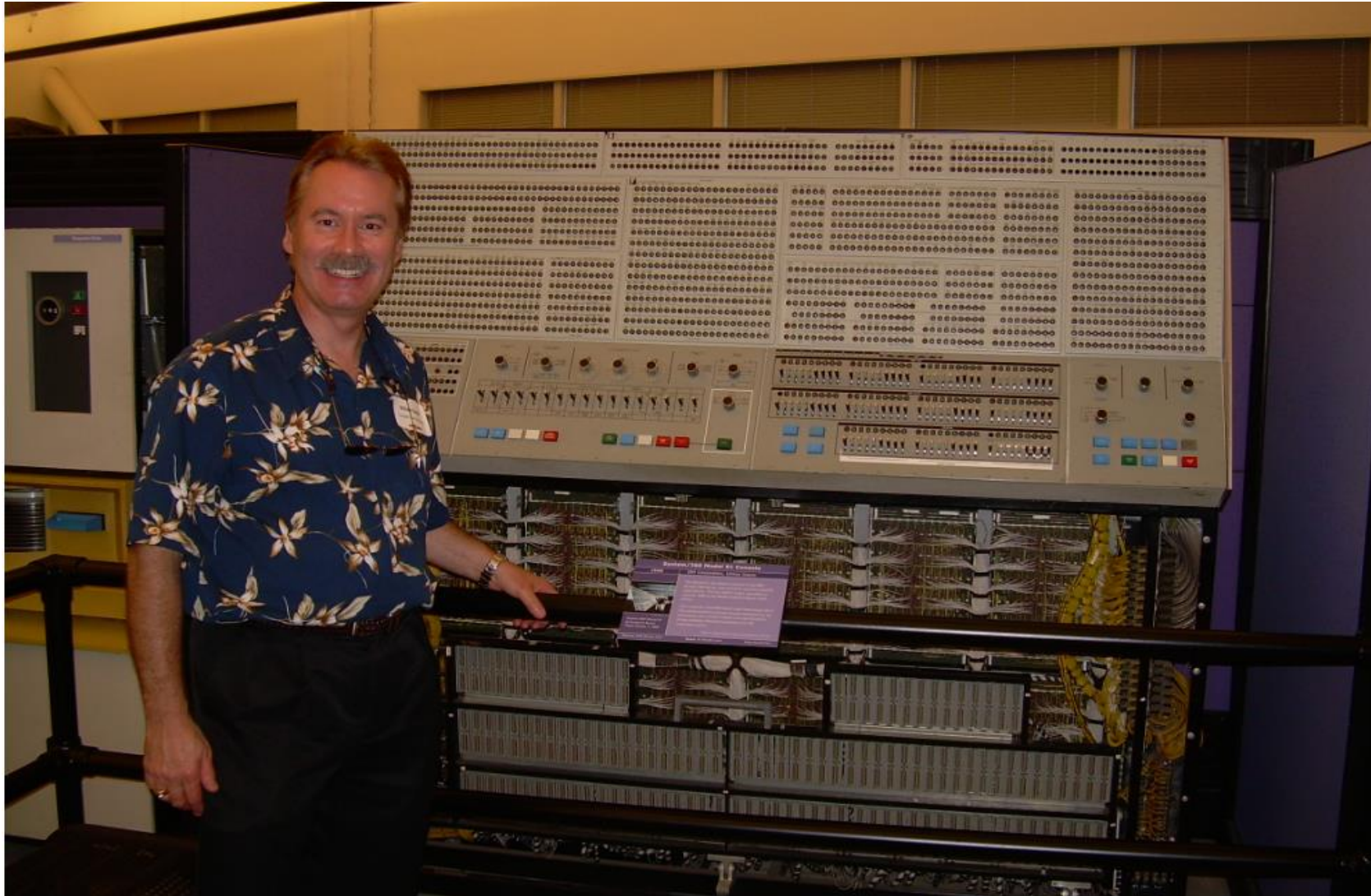


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Happy Birthday, System Modification Program

- SMP is 45! 🎂 📍 - the *gold standard* - software installation/service
- Introduced 1974 - distributed as an object deck by account PSR
 - System/360:
 - OS/MVT Release 21
 - System/370:
 - OS/VS 2 Release 1 - a.k.a. "SVS"
 - OS/VS 2 Release 2 - a.k.a. "MVS" (Yes! MVS is 45, too!)
- Q&A: Do you know the name of the *utility* program it replaced?
 - Answer: **IMAPTFLE. . . Got fiche? Early Warning?**
- **Extra credit:** Can a FUNCTION SYSMOD be installed without JCLIN? Why not or how? Answer: **End of presentation**

Master Console S/360 Model 91 - Computer History Museum



SMP's Early Days: Legacy and Implementation Shortfalls

- Slower than a river of molasses in the dead of winter
- Resource consumptive: "Give me more core!", S. M. Piggy"
- System meta data repository: 2 Partitioned Data Sets
 - CDS - Control Data Set
 - ACDS - Auxiliary Control Data Set
 - They used directory blocks: LOTS (gobs) of them
 - X'37' abends were as common as weeds in a spring meadow
- Introduced confusing, grossly misunderstood terminology: "JCLIN"
 - Output of a STAGE I operating system generation - SYSGEN
 - DD Statement: SMPJCLIN - read only input to SMP

Your Next Stop, The Global Zone!

- The CDS/ACDS replaced with VSAM in the '80s: Farewell SMP/4
- Consolidated Software Inventory: **CSI** - "The Master CSI"
 - VSAM Key-Sequenced Data Set - a.k.a. "The Global Zone"
 - SMP/E *automatically* uses VSAM *local shared resources* (LSR)

SMP/E z/OS Reference, SA23-2276-40, p. 121

"LSR reduces the number of times SMP/E must access data when it is reading CSI data sets. SMP/E performance is improved for commands such as APPLY, APPLY CHECK, ACCEPT, ACCEPT CHECK, and especially LIST."

Hidden Treasure: Using Batch Local Shared Resources - BLSR

SMP/E z/OS Reference, SA23-2276-40, p. 121

“CSI data sets should usually be allocated dynamically. However, you may want to use the **Batch Local Shared Resources (BLSR)** subsystem with expanded storage hiperspaces (instead of SMP/E’s implementation of LSR) *to improve SMP/E performance during APPLY and ACCEPT processing for a large number of [sic] changes.*”

Sadly ... BLSR used in tandem with SMP/E is rarely seen... 🤔 😞

BLSR... Largely Overlooked, Documentation Decades Old

- **GC28-1469-00 (IEA5J600)**
 - *MVS Programming: Batch Local Shared Resources Subsystem Guide*
 - 1st Edition, June, 1994 for MVS/ESA 5.1
 - Please, IBM, update BLSR and its surviving doc for KC and z/OS!
 - Relevant to end users, zPDT® clients, and z/OSMF product packagers
- The BLSR Subsystem must be active on the LPAR on which a BLSR enabled application executes. If not, all BLSR apps get JCL errors.
- BLSR is a RACF protected resource - authorization required
 - Activate the BLSR subsystem at IPL via IEFSSN PARMLIB entry, or...
 - *DYNAMICALLY* from the master console, SDSF, (E)JES®, et al.

BLSR... Turning the V8 Over and Kicking its Tires

- **Step 1 of 3**
 - RACF authorize use of the BLSR subsystem per installation conventions.
- **Step 2 of 3**
 - Add the following line to `SYS1.PARMLIB(IEFSSNxx)`:
 `ssnm,CSRBISUB` - `ssnm` = name of the batch LSR subsystem (I like BLSR.)
 Note: `IEFSSNxx` is identified on the `SSN` parameter in `IEASYSxx`.
- **Step 3 of 3**
 - Re-IPL or issue the following MVS command for dynamic activation:

 SETSSI ADD,SUBNAME=ssnm,INITRTN=CSRBISUB

 If the installation is successful, message `CSR002I` appears on the operator console, indicating that batch LSR initialization is complete.

Dynamically Adding the BLSR Subsystem

To dynamically ADD the BLSR subsystem, issue the system command **SETSSI** to activate it; use a **DISPLAY** command to view the status of the subsystem:

SETSSI ADD,S=BLSR,I=CSRBISUB

CSR002I BATCH LSR SUBSYSTEM BLSR INITIALIZATION COMPLETE.

IEFJ022I SETSSI ADD COMMAND FOR SUBSYSTEM BLSR COMPLETED SUCCESSFULLY


```
00000290 IEE252I MEMBER IEFSSNJ2 FOUND IN SYS1.TRIDENT.PARMLIB
INTERNAL 00000290 IEE252I MEMBER IEFSSN00 FOUND IN SYS1.TRIDENT.PARMLIB
00000290 START RACF, SUB=MSTR
00000090 IXG501I SYSTEM LOGGER SUBSYSTEM (LOGR) IS ACTIVE 558
00000090 CSR002I BATCH LSR SUBSYSTEM BLSR INITIALIZATION COMPLETE.
00000290 IEE252I MEMBER IEFSSN62 FOUND IN SYS1.TRIDENT.PARMLIB
00000090 FEMIPL056 FEMIPL STARTED
00000090 FEMIPL001 zOSEM VER 6.2.6 CVT SUCCESSFULLY CREATED (00CBC670)
```

Checking for BLSR Availability

D SSI,SUB=BLSR

```
IEFJ100I 16.50.19 SSI DISPLAY 517
SUBSYS=BLSR      HEX=C2D3E2D9
DYNAMIC=YES     STATUS=ACTIVE   COMMANDS=ACCEPT
```

```
00000290 D IPLINFO
00000090 IEE254I 16.18.15 IPLINFO DISPLAY 377
00000090 SYSTEM IPLED AT 07.14.08 ON 07/21/2019
00000090 RELEASE z/OS 02.04.00 LICENSE = z/OS
00000090 USED LOAD34 IN SYS1.IPLPARM ON 00A88
00000090 ARCHLVL = 2 MTLSHARE = N
00000090 IEASYM LIST = (34,04,L)
00000090 IEASYS LIST = (34) (OP)
00000090 IODF DEVICE: ORIGINAL(00A88) CURRENT(00A88)
00000090 IPL DEVICE: ORIGINAL(00A99) CURRENT(00A99) VOLUME(SYSR90)
00000290 D SSI,SUB=BLSR
00000090 IEFJ100I 16.18.19 SSI DISPLAY 379
00000090 SUBSYS=BLSR      HEX=C2D3E2D9
00000090 DYNAMIC=YES     STATUS=ACTIVE   COMMANDS=ACCEPT
TA *****
```



SMP/E with BLSR: JCL Changes - Global, Target, DLIB Zones

```
//SMPE      PROC DSNPFX='MVS$SMP',ZONE=,TARG=,DLIB=,
//          BUFD=100,BUFI=100
//SMPE      EXEC PGM=GIMSMP,REGION=0M      (no PARM)
//*
//*      When the application opens the Global, SMPTARG, and SMPDLIB
//*      access method control block (ACB), the batch LSR subsystem
//*      completes the conversion to VSAM LSR processing.
//*
//SMPCSI     DD  DISP=SHR,DSN=&DSNPFX..&ZONE..GLOBAL.CSI,
//          SUBSYS=(BLSR,'DDNAME=GLOBAL','HBUFND=&BUFD','HBUFNI=&BUFI')
//          'MSG=I')
//GLOBAL     DD  DISP=SHR,DSN=&DSNPFX..&ZONE..GLOBAL.CSI
//*
//TARGET     DD  DISP=SHR,DSN=&DSNPFX..&ZONE..&TARG..CSI,
//          SUBSYS=(BLSR,'DDNAME=SMPTARG','HBUFND=&BUFD','HBUFNI=&BUFI')
//SMPTARG    DD  DISP=SHR,DSN=&DSNPFX..&ZONE..&TARG..CSI
//*
//DLIB       DD  DISP=SHR,DSN=&DSNPFX..&ZONE..&DLIB..CSI,
//          SUBSYS=(BLSR,'DDNAME=SMPDLIB','HBUFND=&BUFD','HBUFNI=&BUFI')
//SMPDLIB    DD  DISP=SHR,DSN=&DSNPFX..&ZONE..&DLIB..CSI
//*
```

← # Hiperspace data/index buffers
range 0-32000; up to next 4K

← SMP/E for z/OS Reference - SMPCSI
SA23-2276-40, page 121,
"Using Data Sets and Files"

← enqueue, protect & trigger BLSR

← See BLSR manual for other values

← optional on SUBSYS for diagnostics

← open the zone's VSAM ACB

Caveats: Using SMP/E with BLSR

- As with any big block V8, your BLSR mileage will vary.
- SMP/E wall-clock times for HUGE APPLY jobs (1,500-3,000 PTFs) may drop **20-30%**! Profoundly significant on zPDT®.
- **Always** read the BLSR documentation and follow the guidelines!
- Thank you, Ray Mullins, Trident Services, Inc.:

“Old VSAM tuning trick: BUFNI is best when it is equal to the number of records in the index component.

And if a lot of insertions with wildly distributed keys are going on, set higher.”

Extra Credit Solution: Data Element MCS, The Secret Sauce

- **Answer:** Yes! A FUNCTION SYSMOD can be packaged for installation by SMP/E without using JCLIN.
- **Secret Sauce:** DATA ELEMENT MCS - there are ~28 types. Data element MCSs describe elements that are not macros, modules, or source. SMP can package and ship a VSAM catalog!
- IEBCOPY is typically invoked during processing through specification of DISTLIB and SYSLIB keyword operands: e.g. on a ++DATAx.
- **Bill's RFE #85804:** "SMP/E support of additional data element MCS types incorporating expanded use of NLS localization." PLEASE VOTE for it!
- Elements packaged with Data Element MCSs can only be replaced if subsequently serviced by SMP/E. JCLIN is required if an element is to be serviced at the CSECT level.

Reference Material

- My favorite SMP/E reference is not part of the SMP/E suite of publications!
 - *"Standard Packaging Rules for z/OS-Based Products"*, SC23-3695-10
 - A hard-core, deep dive discussion of how all products are packaged with SMP/E. The best resource for building RELFILEs, MCS, JCLIN.
- SHARE San Francisco, 2013
 - Session 12999, *"Buffering, RLS, and Performance Basics for VSAM Data Sets"*, Michael Friske
- SHARE Sacramento, 3/2018
 - Session 22296, *"SMP/E Basics for the Beginner"*, Session 22297, *"SMP/E Intermediate Topics for Beginning & Experienced Sysprogs"*, Tom Conley & Bill Smith



VIPA Demystified
(Aron Eisenpress)

VIPA Demystified - or fixing the OSA as a single point of failure

- You've got a second OSA as an alternate path? Great! But you still have a single point of failure, until you set up the configuration to support automatic failover.
- The failover "magic" is in the Comm Server VIPA support. But it was not very easy for me to find that out from the IBM doc.
- Hardware-wise, what you need is a second OSA on the same LPAR, connecting to the same subnet on the same network, but through a *different* network switch, and with network redundancy.
- All you need from your network folks are two more IP addresses for each pair of OSA's for each LPAR (making a total of 3 IP addresses for each LPAR for each connection). The rest of the setup is in your TCP/IP profile definition.

VIPA Demystified - or fixing the OSA as a single point of failure

- **A failure (a network switch reboot) without the VIPA in effect:**
 - EZZ4339I INTERFACE OSAL1000 FAILED - ADAPTER SIGNAL RECEIVED
 - ERROR E080 STARTING LAN ADAPTER FOR INTERFACE OSAL1000
 - And then, various error messages for connection failures...
- **A failure WITH the VIPA in effect:**
 - EZD0040I INTERFACE OSAL1001 HAS TAKEN OVER ARP RESPONSIBILITY FOR INTERFACE OSAL1000
 - EZZ4339I INTERFACE OSAL1000 FAILED - ADAPTER SIGNAL RECEIVED
 - NO error messages from applications or system services!

VIPA Demystified - or fixing the OSA as a single point of failure

- And then automatic recovery:
 - EZD0041I INTERFACE OSAL1000 HAS TAKEN BACK ARP RESPONSIBILITY FROM INTERFACE OSAL1001
 - EZZ4340I INITIALIZATION COMPLETE FOR INTERFACE OSAL1000
- For the details on how to set this up, a good reference is *Chapter 2 (Virtual IP addressing)* in the Redbook *z/OS V2R2 Communications Server TCP/IP Implementation Volume 3*.
- You could also set up a Dynamic VIPA (DVIPA) or Sysplex Distributor to move the VIPA between stacks or between sysplex members, but that's beyond the scope of this Bit.

VIPA Demystified - or fixing the OSA as a single point of failure

- Under-the-covers concepts:
 - You convert your existing IP address - the one that everyone uses - to a VIRTUAL interface (`INTERFACE aaaaaaaaa DEFINE VIRTUAL`). It has no hardware defined so it doesn't fail.
 - You add two real IP addresses, once for each OSA interface (`INTERFACE bbbbbbbb DEFINE IPAQENET SOURCEVIPA aaaaaaaaa IPADDR aa.bb.cc.dd/24`). `VMAC ROUTEALL` is also recommended. These provide the connections between the virtual address and the redundant real hardware paths and IP addresses.
 - On the `IPCONFIG` statement, add `SOURCEVIPA` and `MULTIPATH`.
 - Duplicate your outbound `ROUTE` statements, and put the alternate OSA interface name on the alternate `ROUTE` statements.

VIPA Demystified - or fixing the OSA as a single point of failure

- For inbound traffic, the `IPCONFIG SOURCEVIP` option sets up for ARP takeover failover, which reroutes packets to the other OSA.
- For outbound traffic, the `IPCONFIG MULTIPATH` option sends traffic via both interfaces, and it also takes care of error recovery.
- Verify your setup by doing a `D TCPIP,TCPIP,NET,DEV` command and looking at the very end of the output. You need to see

IPV4 LAN GROUP SUMMARY

LANGROUP: 00001

NAME	STATUS	ARPOWNER	VIPAOWNER
----	-----	-----	-----
OSAL1000	ACTIVE	OSAL1000	YES
OSAL1001	ACTIVE	OSAL1001	NO

- Both interfaces must be listed, or the ARP takeover won't happen.

VIPA Demystified - or fixing the OSA as a single point of failure

- Your network people might ask you about using link aggregation (or channel bonding). This is a mode where both interfaces become one logical device. z/OS does NOT support this mode, so don't use it. (z/VM does support it, but it requires a different network configuration, so you can't share a link between z/VM and z/OS.)
- z/VM does has a similar capability via a VSWITCH, which can be configured in a high-availability mode. This supports the same fail-over capabilities, and the OSA can be shared with z/OS.

VIPA Demystified - or fixing the OSA as a single point of failure

- For further details, take a look at the presentations from two sessions earlier in the week at this SHARE meeting:
 - *Session 25057, IP Routing on z/OS, Part 1: The Basics.* This presentation includes a very detailed discussion of equal-cost multipath routing and OSA redundancy and failover.
 - *Session 25303, The Evolution From VIPA (Virtual IP Address) to Dynamic VIPA to Sysplex Distributor.*



Getting the Runaround (Mary Anne Matyaz)

MSM After a z/OS 2.3 upgrade

- After z/OS 2.3 was getting MMI0095S - Loaded GIMAPI program of version 03060096096. Expecting version 03040023 or greater.
- Solution says: After applying the latest z/OS RSU which included SMPE maintenance (IO26243) CA Chorus Software Manager (CA CSM) fails to initialize CAGIMAPI address space due to unsuccessful version check.
- CIRCUMVENTION: Restore IBM maintenance number IO26243.
- Well H E double toothpicks

You can't get there from here...

- **Article title: Build 152 for 6.0 or 93 for 6.1 is needed but CA CSM not allowing it/GIMAPI ERROR after z/OS 2.3**
- Article Id: 124412
- Status: Published
- Created Time: 02-05-2019 19:07
- Updated Time: 02-05-2019 10:10
- Products: CA Mainframe Software Manager (Chorus Software Manager)
- **Issue/Introduction:**
- **CA CSM fails while applying maintenance with GIMAPI ERROR**
Additional Diagnostic Data: Serious error occurred during initialization of remote GIMAPI extractor. Attached Internal Log: MMI0095S - Loaded GIMAPI program of version 03060096096. Expecting version 03040023 or greater. MMI0084S - Initialization of CAGIMAPI address space failed. This occurs after upgrading to z/OS 2.3 before applying SO05054 or SO05100.
- **The solution is to apply SO05054 for build 152 of 6.0 or SO05100 for build 93 of 6.1. CA CSM**

You can't get there from here...



- 03060096096. Expecting version 03040023 or greater
- 03060096096. 03040023
- Is 03060096096 greater than 03040023?
 - 03060096096
 - 03040023
- 03060096096
- 03040023

You can't get there from here...

- Resolution: Download attached file libGIMAPI03040026.so and copy it to your /msmroot/msmruntime/tomcat/lib directory.
- Verify that the extended attributes are -ps-
- Do do this type the folowing in OMVS and hit enter:
- cd /msmroot/msmruntime/tomcat/lib
- ls -E libGIMAPI03040026.so
- It should return:
- -rwxrwxrwx -ps- 1 userid groupid libGIMAPI03040026.so
- If it does not show the p and s attributes use these commands in OMVS and hit enter:
- extattr +p libGIMAPI03040026.so
- extattr +s libGIMAPI03040026.so
-
- Recycle MSMTCC then apply and deploy the PTF for your release of CA CSM.

Deploy! - Nope!



- **PROBLEM DESCRIPTION:**
- **MSMDEPLY job fails to deploy CA Chorus Software Manager (CA CSM) from target zone. The MSMDeployLog contains exception that libMsmsetupMvsutil.so library cannot be found. This is due to invalid detection of Java addressing mode (AMODE) because IBM modified the string returned from java.vm.info property.**
- **This change can be observed in java version 1.8.0_171.**

Deploy! - Nope!

- **SYMPTOMS:** Following exception occurs in MSMDeployLog:

Exception in thread "main"
java.lang.UnsatisfiedLinkError:

libMsmsetupMvsutil.so (Not found in
java.library.path)

- **IMPACT:** A CSM administrator cannot deploy newer version of CSM from target libraries.
- **CIRCUMVENTION:** Use older version of java. Version 1.8.0_151 should work as expected.
- Wha? Do I just keep java's in my back pocket?
- I tried Java 7. It worked!

Java

```
DEV1 E      /DVRs1A/usr/lpp/java/J8.0_64/release
```

```
Command ==>
```

```
***** Top of Data **
```

```
JAVA_VERSION="1.8.0_201"
```

```
OS_NAME=""
```

```
OS_VERSION=""
```

```
OS_ARCH="s390x"
```

```
SOURCE=""
```

```
DEV1      /CAinc/csm61/msm/CEGPHFS/MSMSetupOptionsFile.pr
```

```
Command ==>
```

```
***** Top of Data *****
```

```
000001 MSMPProdPaxPath=/CAinc/csm61/MSMProduct
```

```
000002 JAVAPATH=/usr/lpp/java/J7.1_64
```

```
000003 CSIDLQ=SYST.CA#CSM
```

```
000004 TargetHLQ=SYST.CA#CSM
```

```
000005 TargetZoneName=CSMT
```

```
000006 DlibHLQ=SYST.CA#CSM
```

```
000007 DlibZoneName=CSMD
```

```
000008 MSMPATH=/CAinc/csm61/msm
```

MSM Happy Again

The screenshot displays the CA Chorus Software Manager interface. At the top, the browser address bar shows the URL: 10.31.1.150:22120/MSM/#Open/tom-master-taskTree/265. The application header includes the CA Technologies logo and the text "CA Chorus™ Software Manager". Below the header, a notification states: "The task list was refreshed at 8/8/2019 03:31:17PM".

The main content area features a filter bar with the following settings: "Show: My tasks", "All types", "All status", and a checkbox for "Start Time". Below the filter bar, there is a "Select and: Delete Tasks" section with a pagination indicator "1 - 25 of 159".

The central part of the interface is a table listing tasks. Each row includes a "Select" checkbox, "Owner", "Name", "Type", "Status", "Message", "Progress", "Start Time", "Task ID", and "Actions". All tasks listed are in a "Succeeded" state with 100% progress.

Select	Owner	Name	Type	Status	Message	Progress	Start Time	Task ID	Actions
<input type="checkbox"/>	SYPGMM1	Receive Applicable Maintenance	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/2/2019 01:06:03PM	264	Delete Task
<input type="checkbox"/>	SYPGMM1	Update Maintenance for SYST.CA#CSM.SMPCSI.CSI	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/2/2019 01:03:42PM	263	Delete Task
<input type="checkbox"/>	SYPGMM1	Receive HOLDDATA	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/2/2019 12:59:18PM	262	Delete Task
<input type="checkbox"/>	SYPGMM1	Update HOLDDATA	Product Acquisition	✓ Succeeded	Succeeded	100 %	8/2/2019 12:58:59PM	261	Delete Task
<input type="checkbox"/>	SYPGMM1	Receive Applicable Maintenance	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/2/2019 12:56:36PM	259	Delete Task
<input type="checkbox"/>	SYPGMM1	Update Maintenance for SYST.CA#CSM.SMPCSI.CSI	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/2/2019 12:54:14PM	258	Delete Task
<input type="checkbox"/>	SYPGMM1	Receive HOLDDATA	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/2/2019 12:48:55PM	257	Delete Task
<input type="checkbox"/>	SYPGMM1	Update HOLDDATA	Product Acquisition	✓ Succeeded	Succeeded	100 %	8/2/2019 12:48:33PM	256	Delete Task
<input type="checkbox"/>	SYPGMM1	Receive Applicable Maintenance	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/2/2019 09:31:51AM	254	Delete Task
<input type="checkbox"/>	SYPGMM1	Update Maintenance for SYST.CA#CSM.SMPCSI.CSI	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/2/2019 09:29:31AM	253	Delete Task
<input type="checkbox"/>	SYPGMM1	Receive HOLDDATA	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/2/2019 09:28:38AM	252	Delete Task
<input type="checkbox"/>	SYPGMM1	Update HOLDDATA	Product Acquisition	✓ Succeeded	Succeeded	100 %	8/2/2019 09:28:18AM	251	Delete Task
<input type="checkbox"/>	SYPGMM1	Receive Applicable Maintenance	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/1/2019 02:44:26PM	250	Delete Task
<input type="checkbox"/>	SYPGMM1	Update Maintenance for SYST.CA#CSM.SMPCSI.CSI	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/1/2019 02:42:05PM	249	Delete Task
<input type="checkbox"/>	SYPGMM1	Receive HOLDDATA	Install Maintenance	✓ Succeeded	Succeeded	100 %	8/1/2019 02:41:31PM	248	Delete Task

At the bottom of the page, there is a copyright notice: "Copyright © 2014 CA. All rights reserved." and links for "Feedback" and "About".

Wrapup/Overview



- Wanted to put PTFs on
- MMI0095S - Loaded GIMAPI program of version 03060096096
- Restore IBM maintenance number IO26243.
NO.
- Download attached file libGIMAPI03040026.so
- Use older version of java. Version 1.8.0_151 should work as expected.
- Got my fix on SO05100
- Forgot why I was doing all this.
- Oh yes. CSM maintenance. Went ahead and put all the outstanding PTFs on.

Just some slides about applying maintenance through MSM

- What maintenance do I have available?

The screenshot displays the CA Chorus Software Manager interface. The main window shows the 'Maintenance Packages' section for 'CA Datacom/AD - MVS > 15.0'. The interface includes a search bar, a filter section, and a table of maintenance packages. The table columns are: Select, Fix #, Description, Confirmed Date, Type, Installed, and Actions. The table lists 12 maintenance packages, each with a checkbox for selection, a fix number, a description, a confirmed date, a type (PTF or HIPER PTF), an installed status (e.g., 'All zones (1)' or 'No (0/1)'), and an 'Actions' button.

Select	Fix #	Description	Confirmed Date	Type	Installed	Actions
<input type="checkbox"/>	SO08666	(ENH)MF: IMPROVE CONNECTION OPEN PROCESSING	2019 Jul 18	PTF	All zones (1)	Actions
<input checked="" type="checkbox"/>	SO07559	ABEND IN DBIDXPX AFTER RETURN FROM SORT WHEN UNIT=TAPE/CART	2019 Jul 12	PTF	No (0/1)	Actions
<input checked="" type="checkbox"/>	SO09210	TABLE ALTER PRODUCES ERRONEOUS PRECISION VALUE	2019 Jul 11	PTF	No (0/1)	Actions
<input checked="" type="checkbox"/>	SO09035	ENSURE DBCGSPR GENERATES THE XFERCMD FOR SC00TRAN	2019 Jun 28	PTF	No (0/1)	Actions
<input checked="" type="checkbox"/>	SO08505	VLS MEMBER NAME INCORRECT IN VPE TRACE	2019 Jun 12	PTF	No (0/1)	Actions
<input checked="" type="checkbox"/>	SO08486	BA24 MESSAGE DB02835W ISSUED ON 15.0 MUF IN ERROR	2019 Jun 10	PTF	No (0/1)	Actions
<input type="checkbox"/>	SO08110	MF: S0C4 OCCURS WHEN SVCOMPR CMD DB_THREADS ISSUED	2019 Jun 3	PTF	All zones (1)	Actions
<input type="checkbox"/>	SO08375	POSSIBLE RC 07 (DATA AREA FULL) IN ERROR AFTER RETIX	2019 May 30	PTF	All zones (1)	Actions
<input type="checkbox"/>	SO07658	RARE INTEGRITY PROBLEMS AFTER RESTART WITH MOVED ROWS	2019 May 9	HIPER PTF	All zones (1)	Actions
<input type="checkbox"/>	SO07902	DELIVER NEW DATACOM SERVER STARTUP JCL - ADYTSTR/ADYTSTRC	2019 May 7	PTF	All zones (1)	Actions
<input type="checkbox"/>	SO08186	RESTORE DDRTVCAT ABILITY TO SUPPORT MULTIPLE DBID'S	2019 Apr 29	PTF	All zones (1)	Actions
<input type="checkbox"/>	SO07533	USS: UNABLE TO CONNECT IF HOSTNAME > 20 CHARS LONG	2019 Apr 15	PTF	No CSI available	Actions

Just some slides about applying maintenance through MSM

- Getting fresh holddata...

CA Chorus™ Software Manager

Software Status | **Products** | SMP/E Environments | Deployments | Configurations | System Register | Tasks | Settings

Search for: []
Search in: Products [v] Search

Actions

- Update Complete Product List
- Show License Keys
- Add Product
- Install External Package
- Add CA RS File
- Update HOLDDATA
- Show Hidden Products

Filter

Show: All [v] Edit

Available Products

- Products
- CA
 - CA 1 Tape Management MIPS - MVS
 - CA 1 TAPE MANAGEMENT MIPS - MVS
 - CA ACF2 for z/OS MIPS - MVS
 - CA CA-EZ/Key CICS for OS/MVS - MVS

Maintenance Installation in SYST.CA#DCOM.R15.CSI

1 Introduction | 2 Select Maintenance | 3 Finalize | 4 Summary

This wizard guides you through maintenance installation. By default, the wizard runs in online mode and GROUP mode: CA CSM checks CA Support Online for the latest updates and maintenance, downloads them, and applies the selected maintenance and all its requisites. To change the default behavior, review and adjust the options on this step.

The SMP/E environment global zone may get updated with new HOLDDATA and maintenance packages during your progress through the wizard. Exiting the wizard before you start the task does not cancel these updates.

Downloading HOLDDATA

Optional Installation Modes
Selecting these overrides the default behavior.

- GROUPEXTEND
CA CSM automatically applies all selected maintenance and all their requisites, and verifies whether a superseding maintenance package is available for any unsatisfied (not received, or held in error) requisite.
- Offline
CA CSM does not connect to CA Support Online and only uses the maintenance that is currently available in the software catalog. No updates or maintenance are downloaded.

CA CSM generates a flat file based on the maintenance that

Back Next Check Only Check and Apply Exit Help

Type	Installed	Actions
PTF	All zones (1)	Actions
PTF	No (0/1)	Actions
PTF	No (0/1)	Actions
PTF	No (0/1)	Actions
PTF	No (0/1)	Actions
PTF	No (0/1)	Actions
PTF	All zones (1)	Actions
PTF	All zones (1)	Actions
HIPER PTF	All zones (1)	Actions
PTF	All zones (1)	Actions
PTF	All zones (1)	Actions
PTF	No CSI available	Actions

1 - 25 of 1275

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Just some slides about applying maintenance through MSM

- Which ptf's am I applying ...

CA Chorus™ Software Manager

Search for:

Search in: Products

Actions

- Update Complete Product List
- Show License Keys
- Add Product
- Install External Package
- Add CA RS File
- Update HOLDDATA
- Show Hidden Products

Filter

Show: All

Available Products

- Products
 - CA
 - CA 1 Tape Management MIPS - MVS
 - CA 1 TAPE MANAGEMENT MIPS - MVS
 - CA ACF2 for z/OS MIPS - MVS
 - CA CA-EZ/Key CICS for OS/MVS - MVS

Maintenance Installation in SYST.CA#DCOM.R15.CSI

1 Introduction 2 **Select Maintenance** 3 Finalize 4 Summary

Select Maintenance

Review the maintenance that is not installed in the selected target zones. When you click Next, CA CSM will receive applicable maintenance that is not yet received into the SMP/E environment. Some non-installable maintenance may not be displayed. Click Export to open a list of the selected maintenance packages in a separate browser window.

All Maintenance to Install

CAIT0

All Maintenance to Install

Maintenance Package Number	Maintenance Package Description
SO07559	ABEND IN DBIDXPB AFTER RETURN FROM SORT WHEN UNIT=TAPE/CART
SO08486	BA24 MESSAGE DB02835W ISSUED ON 15.0 MUF IN ERROR
SO08505	VLS MEMBER NAME INCORRECT IN VPE TRACE
SO09035	ENSURE DBCGSPR GENERATES THE XFERCMD FOR SC00TRAN
SO09210	TABLE ALTER PRODUCES ERRONEOUS PRECISION VALUE

Type	Installed	Actions
PTF	All zones (1)	Actions
PTF	No (0/1)	Actions
PTF	No (0/1)	Actions
PTF	No (0/1)	Actions
PTF	No (0/1)	Actions
PTF	No (0/1)	Actions
PTF	All zones (1)	Actions
PTF	All zones (1)	Actions
HIPER PTF	All zones (1)	Actions
PTF	All zones (1)	Actions
PTF	All zones (1)	Actions
PTF	No CSI available	Actions

1 - 25 of 1275

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Just some slides about applying maintenance through MSM

- The final countdown, ie, are you sure?

The screenshot displays the CA Chorus Software Manager interface. A modal dialog box titled "Maintenance Installation in SYST.CA#DCOM.R15.CSI" is open, showing a progress bar with four steps: 1. Introduction, 2. Select Maintenance, 3. Finalize (1/1), and 4. Summary (highlighted). The "Summary" step is active, displaying the following information:

Summary

Review the summary.
Click Check Only to verify that the maintenance can be applied to the selected target zones. Click Check and Apply to verify and apply the maintenance to the selected target zones.

Selected Mode:
GROUPEXTEND

The maintenance will be applied to the SMP/E environment:

AD 15

SYST.CA#DCOM.R15.CSI

- Maintenance That Will Be Applied (5 in total)
- Maintenance That Will Not Be Applied (None)
- Selected Target Zones

Buttons at the bottom of the dialog include: Back, Next, Check Only, Check and Apply, Exit, Help.

The background interface shows the "Products" tab selected. The "Available Products" list includes:

- CA
- CA 1 Tape Management MIPS - MVS
- CA 1 TAPE MANAGEMENT MIPS - MVS
- CA ACF2 for z/OS MIPS - MVS
- CA CA-EZ/Key CICS for OS/MVS - MVS

On the right side, a table lists installed and available products:

Type	Installed	Actions
PTF	<input checked="" type="checkbox"/> All zones (1)	Actions
PTF	<input type="checkbox"/> No (0/1)	Actions
PTF	<input type="checkbox"/> No (0/1)	Actions
PTF	<input type="checkbox"/> No (0/1)	Actions
PTF	<input type="checkbox"/> No (0/1)	Actions
PTF	<input type="checkbox"/> No (0/1)	Actions
PTF	<input checked="" type="checkbox"/> All zones (1)	Actions
PTF	<input checked="" type="checkbox"/> All zones (1)	Actions
HIPER PTF	<input checked="" type="checkbox"/> All zones (1)	Actions
PTF	<input checked="" type="checkbox"/> All zones (1)	Actions
PTF	<input checked="" type="checkbox"/> All zones (1)	Actions
PTF	No CSI available	Actions

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Just some slides about applying maintenance through MSM

- And you're done...

The screenshot displays the CA Chorus Software Manager interface. A modal dialog box titled "Maintenance Processing for SYST.CA#DC..." is centered on the screen, showing a progress bar at 100% and the status "Succeeded". Below the progress bar, the dialog has tabs for "General" and "Progress". The "General" tab is active, displaying the following information:

- Name: Maintenance Processing for SYST.CA#DCOM.R15.CSI
- Task ID: 194
- User ID: SYPGMM1
- Status: Succeeded
- Status Message: Succeeded

At the bottom of the dialog are "Hide" and "Help" buttons. In the background, the software manager interface is visible, showing a list of products under the "CA" category. The list includes items like "CA 1 Tape Management MIPS - MVS" and "CA ACF2 for z/OS MIPS - MVS". A table of maintenance actions is also visible, with columns for "Confirmed Date", "Type", "Installed", and "Actions".

Confirmed Date	Type	Installed	Actions
2019 Jul 18	PTF	All zones (1)	Actions
2019 Jul 12	PTF	No (0/1)	Actions
2019 Jul 11	PTF	No (0/1)	Actions
2019 Jun 28	PTF	No (0/1)	Actions
2019 Jun 12	PTF	No (0/1)	Actions
2019 Jun 10	PTF	No (0/1)	Actions
2019 Jun 3	PTF	All zones (1)	Actions
2019 May 30	PTF	All zones (1)	Actions
2019 May 9	HIPER PTF	All zones (1)	Actions
2019 May 7	PTF	All zones (1)	Actions
2019 Apr 29	PTF	All zones (1)	Actions
2019 Apr 15	PTF	No CSI available	Actions

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Just some slides about applying maintenance through MSM

- Look at your output...looks familiar doesn't it?...

The screenshot displays the CA Chorus Software Manager interface. The main window shows the title 'SMPRPT' and a breadcrumb trail: 'Maintenance Processing for SYST.CA#DCOM.R15.CSI > Applying maintenance to zone CAIT0 > SMPRPT'. Below this, there is a search bar and a table of maintenance elements. The table has columns for ELEMENT ID, STATUS, PTF, and various alphanumeric codes. Below the table, there is a section titled 'ELEMENT SUMMARY REPORT FOR APPLY PROCESSING' with a detailed table of element types, names, statuses, and current/future IDs.

Search: << < Page: 2 / 5

ELEMENT	STATUS	PTF	CA	PRE	R067423	R072197	R072240	R078206	R081127	R085366
S007559	APPLIED	PTF	CABDF00	PRE	R067423	R072197	R072240	R078206	R081127	R085366
					R088293	R092700	R095091	S006244		
S008486	APPLIED	PTF	CABDF00	PRE	R072240	R072571	R073777	R077658	R088868	R090877
S008505	APPLIED	PTF	CAVQF00							
S009035	APPLIED	PTF	CABDF00	PRE	R091393					
S009210	APPLIED	PTF	CAADF00							

IPAGE 0004 - NOW SET TO TARGET ZONE CAIT0 DATE 07/19/19 TIME 08:23:29 SMP/E 36.101 SMPRPT OUTPUT

ELEMENT SUMMARY REPORT FOR APPLY PROCESSING


ELEMENT TYPE	ELEMENT NAME	ELEMENT STATUS	CURRENT FMID	CURRENT RHID	DISTLIB LIBRARY	SYSLIB LIBRARY	ASSEM NAMES	LOAD MODULE	LMOD SYSLIB	SYSMOD NAME	SYSMOD STATUS
MOD	DBCAPPR	APPLIED	CABDF00	S008486	AABDMOD0			DBCAPPR	CABDLOAD	S008486	APPLIED
MOD	DBCSPR	APPLIED	CABDF00	S009035	AABDMOD0			DBCSPR	CABDLOAD	S009035	APPLIED
MOD	DBFSBPR	APPLIED	CABDF00	S007559	AABDMOD0			DBFSBPR	CABDLOAD	S007559	APPLIED
MOD	DBFSXPR	APPLIED	CABDF00	S007559	AABDMOD0			DBFSXPR	CABDLOAD	S007559	APPLIED

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Just some slides about applying maintenance through MSM

- A closeup

SMRPT												
Maintenance Processing for SYST.CA#DCOM.R15.CSI > Applying maintenance to zone CAIT0 > SMRPT												
										Search:	<input type="text"/>	Search
S007559	APPLIED	PTF	CABDF00	PRE	R067423	R072197	R072240	R078206	R081127	R085366		
					R088293	R092700	R095091	S006244				
S008486	APPLIED	PTF	CABDF00	PRE	R072240	R072571	R073777	R077658	R088868	R090877		
S008505	APPLIED	PTF	CAVQF00									
S009035	APPLIED	PTF	CABDF00	PRE	R091393							
S009210	APPLIED	PTF	CAADF00									
1PAGE 0004 - NOW SET TO TARGET ZONE CAIT0 DATE 07/19/19 TIME 08:23:29 SMP/E 36.101 SMRPT OUTPUT												
ELEMENT SUMMARY REPORT FOR APPLY PROCESSING												
ELEMENT TYPE	ELEMENT NAME	ELEMENT STATUS	CURRENT FMID	CURRENT RMID	DISTLIB LIBRARY	SYSLIB LIBRARY	ASSEM NAMES	LOAD MODULE	LMOD SYSLIB	SYSMOD NAME	SYSMOD STATUS	
MOD	DBCAPPR	APPLIED	CABDF00	S008486	AABDMOD0			DBCAPPR	CABDLOAD	S008486	APPLIED	
MOD	DBCSPR	APPLIED	CABDF00	S009035	AABDMOD0			DBCSPR	CABDLOAD	S009035	APPLIED	
MOD	DBFSBPR	APPLIED	CABDF00	S007559	AABDMOD0			DBFSBPR	CABDLOAD	S007559	APPLIED	
MOD	DBFSXPR	APPLIED	CABDF00	S007559	AABDMOD0			DBFSXPR	CABDLOAD	S007559	APPLIED	



Let My Cert Open the Door
To Your Device
(James Lund)

Don't Wanna Do You Cert Work... No More

- As shipped, most all our network-attached hardware comes loaded with an IBM-installed local certificate
 - Great for local access, but...
- "I need to get to my mainframe devices..."
 - Out of pocket
 - Out of country
 - Out of luck
- Is VPN enough?
 - ...but what about the "bad actors" inside my company?
 - Mark Wilson
 - Already mandated by customer for Managed Services

"I want YOU... to Want a Signed Cert!"

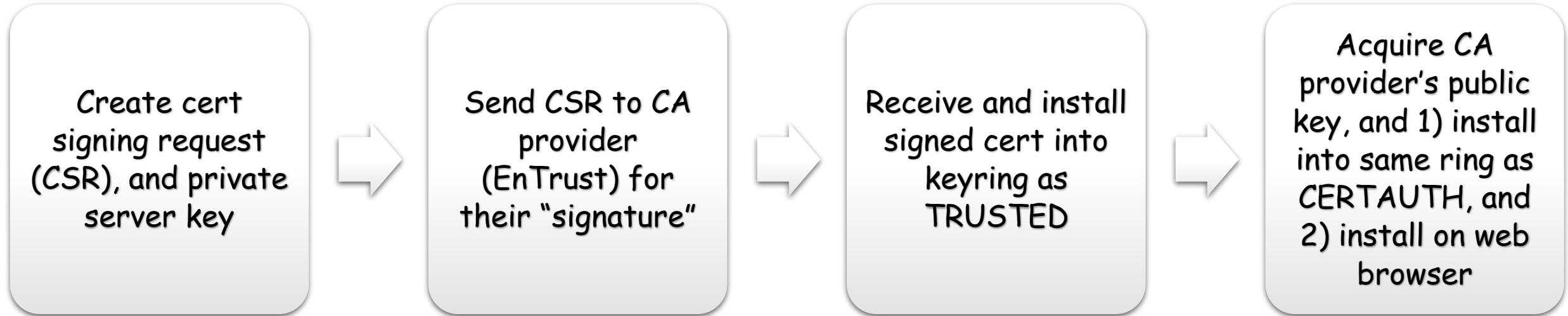


What did we do?

We replace locally-signed certificates with ones from trusted certificate authority (CA), signed to allow access with integrity from anywhere, especially Managed Services!

Each device is behind a firewall, with VPN access.

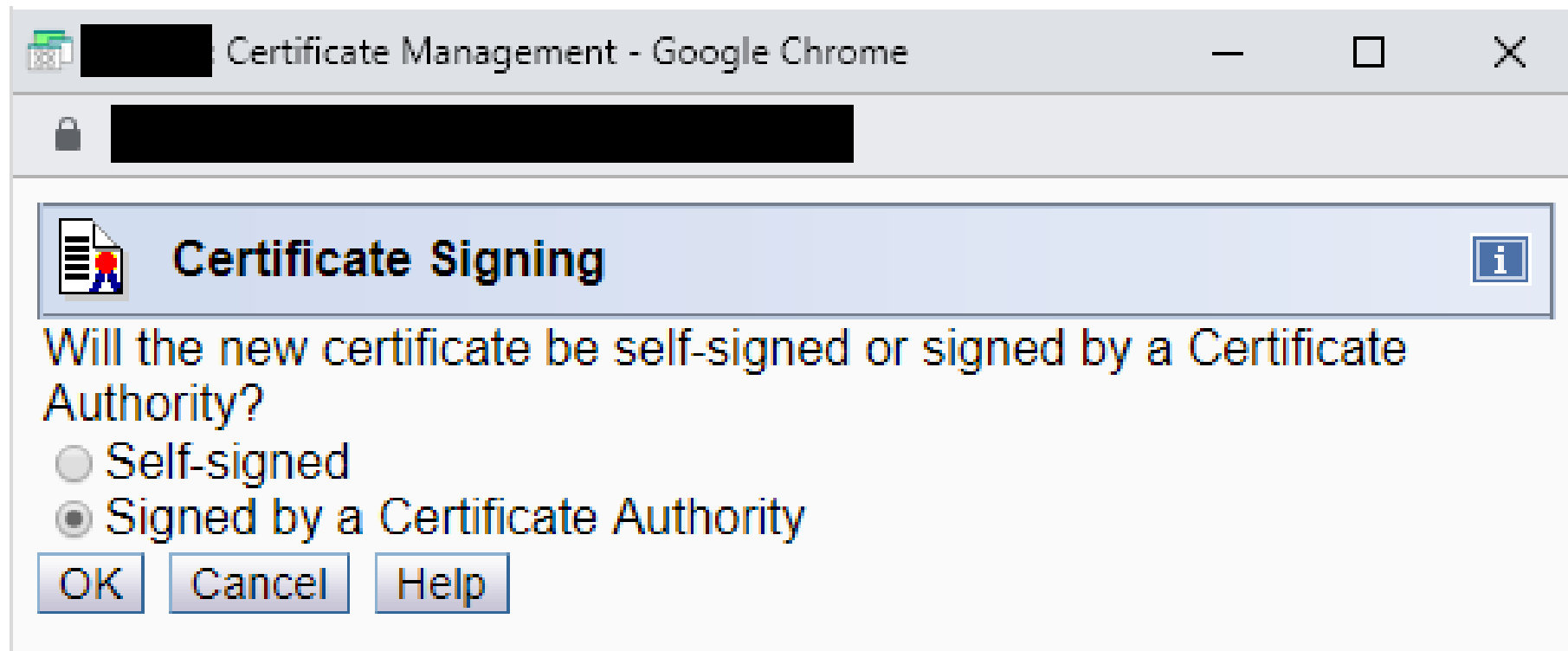
Signed CA Cert Process and Use



Securing Public Access to Mainframe Hardware

- For us, three devices need securing -
 - Hardware Management Console
 - HMC Management - Certificate Management - Create - New Certificate
 - Virtual Tape Libraries
 - Local and a hosted DR location in MD
 - Access - SSL Certificates
 - Disk Subsystem
 - (for another time)

HMC Certificate Signing Request (CSR)



HMC Certificate Signing Request (cont.)

██████████: Certificate Management - Google Chrome

██████████

New Certificate i

Enter the following information for the certificate signing request to be created:

Common name:	* ██████████
Organization:	<input type="text"/>
Organization unit:	<input type="text"/>
Country or region:	US - United States (of America) ▼
State or province:	Texas ▼
Locality:	<input type="text"/>
Number of days until expiration:	* 3653
Email address:	<input type="text"/>
Subject alternative names:	██████████ Edit

HMC CSR

-----BEGIN CERTIFICATE REQUEST-----

MIIDLjCCAhyCAQAwgb8xCzAJBgNVBAYTAIVTMQ4wDAYDVQQIDAVUZXhhczEYMBYG
A1UEBwwPQ29sbGVnZSBTdGF0aW9uMR0wGwYDVQQKDBRUZXhhcyBBJk0gVW5pdmVy
c2l0eTEqMCgGA1UECwwhQ29tcHV0aW5nIGFuZCBJbmZvcmlhdGluIFNlcnZpY2Vz
MSIwIAYJKoZIhvcNAQkBFhNqYW1lcy1sdW5kQHRhbXUuZWZWR1MRcwFQYDVQQDDA5a
SE1DMS50YW11LmVkdTCCASiWdQYJKoZIhvcNAQEBBQADggEPADCCAQoCggEBALoF
nTSXonOOLV+C++17LUnp91imTvSWqINBp6uYM/zPX5xbyqUgdBL2bAf1Hc8J0xcB
utvqUA2i9Cm1N6EZIO3ZxTWnMf6+ZhtiKYsf09pAVrMVQD8p914klWjsymGPb/Fc
1qXE5Xal3ilWOYBL87PdXDLVe7SrIYRybqtrAtBzB7z5LynPQM1wMC5NA7YJp859
yVjyufLYTKYZEgPb2oIqMsQIe98G9O5mvzieZLfTU+xaypPIz+Hy367cH1i8sjgW
/aX5PTb3/0+fwhW68SGQ0hTGAn95CDBpkls8IQGtxSHCASQVpm4PES5FGSr351Rg
pn1wU/Dyxo96TyNwMr8CAwEAaAaApMCCGCSqGSIb3DQEJdjaMBgwCQYDVR0TBAlw
ADALBgNVHQ8EBAMCBeAwDQYJKoZIhvcNAQELBQADggEBAIBakqiI1r4X8sq+WroR
Sy0/zbJ86Q4O3RFpSb0dVJ3LZW09u/hamceChnWpaI1I8Ix8Jq250pWyioHdRjAh
CXnfvwTJ/nefe1IRETCRk9eiI+pC3uexj8SaYpEpRK6QwJwZ/V2nPqJ+DugXoIOs
q/jp/QsQumiiELXtWC8/RWjuRkXYcdJI1EDe/OOf2JGuwipvit6Hxt8WPfbANbDY
vqRIIBhk1apGMQbLyYLXPxfxo5o0PeFhnr1CqCwJU8/x+UTkK9k808/8aPm8HEiP
+xz+WMLSpi6m07Ne5SIET71I0wSNSstI3U8LzxkUTW7IzvS1F+9sPmdtN1lxQBzI8
XXXX

-----END CERTIFICATE REQUEST-----

HMC Import Signed Certificate

Certificate Management - Google Chrome

Certificate Management

Create Selected Advanced

Delete and Archive Certificate
Work with Archived Certificate
Import Server Certificate
Export Server Certificate
Manage Trusted Signing Certificates
View Issuer Certificate
Configure SSL Cipher Suites

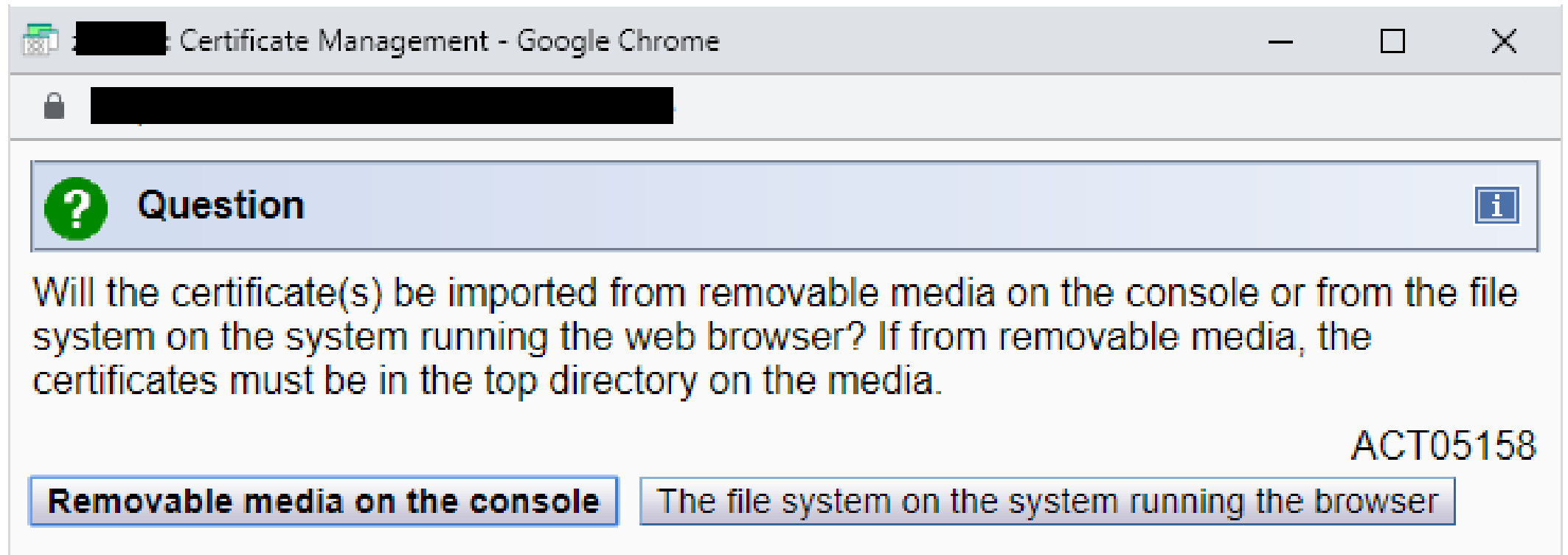
Certificate for this console:

Select	Property
<input type="radio"/>	Version
<input type="radio"/>	Serial Number
<input type="radio"/>	Issuer
<input type="radio"/>	Valid From
<input type="radio"/>	Valid Until
<input type="radio"/>	Subject
<input type="radio"/>	Subject Alternative Names
<input type="radio"/>	SHA-1 Fingerprint
<input type="radio"/>	SHA-256 Fingerprint

Apply Cancel Help

javascript:menuItemLaunchAction();

HMC Import Signed Certificate (cont.)



The screenshot shows a Google Chrome browser window titled "Certificate Management - Google Chrome". The address bar is redacted with a black bar. Below the address bar, there is a light blue notification box with a green question mark icon and the word "Question". The text of the question asks whether certificates will be imported from removable media on the console or from the file system on the system running the web browser. The question specifies that if imported from removable media, certificates must be in the top directory. The ID "ACT05158" is displayed in the bottom right corner of the notification box. At the bottom of the notification box, there are two radio button options: "Removable media on the console" and "The file system on the system running the browser".

Question

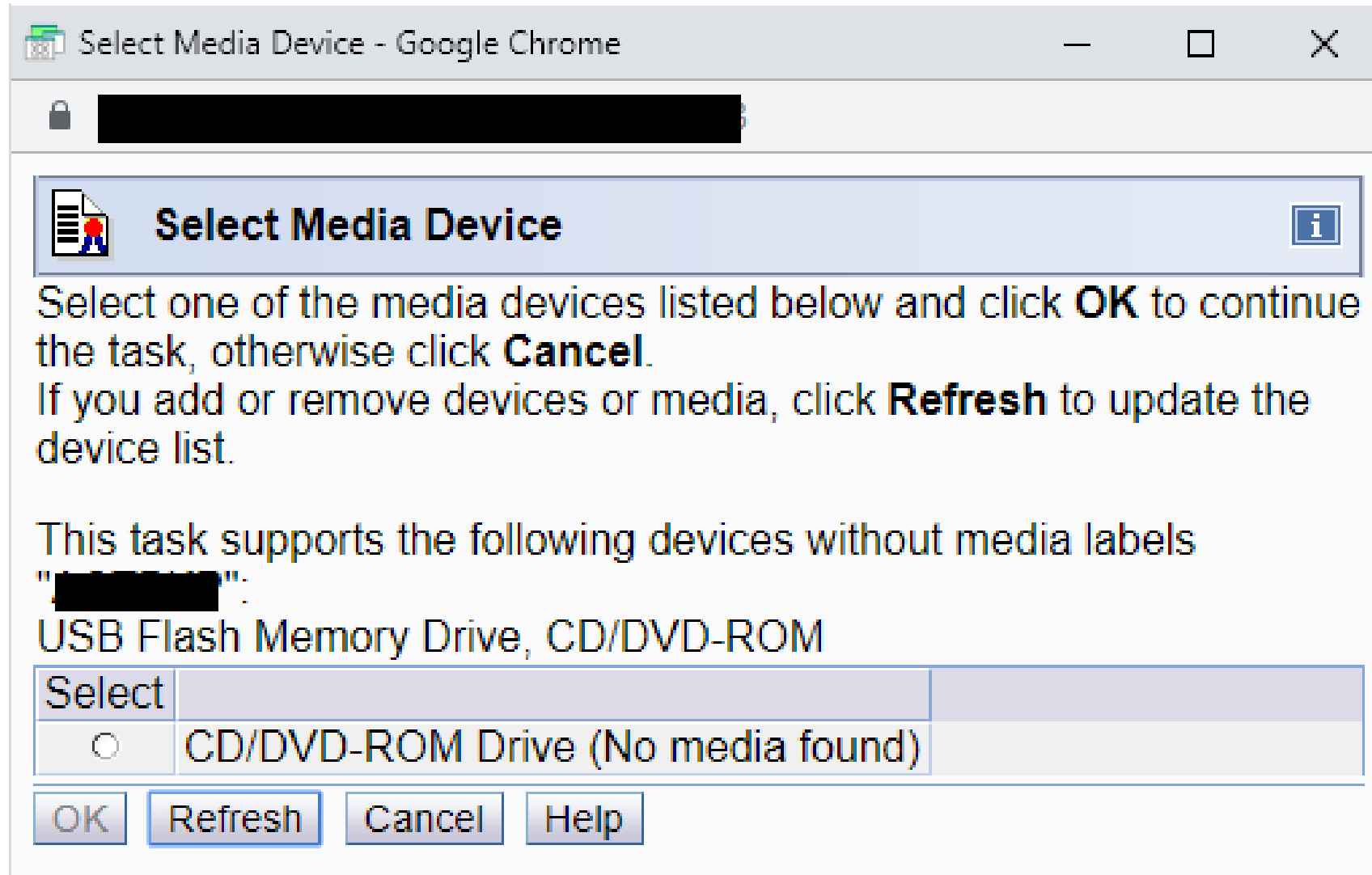
Will the certificate(s) be imported from removable media on the console or from the file system on the system running the web browser? If from removable media, the certificates must be in the top directory on the media.

ACT05158

Removable media on the console

The file system on the system running the browser

HMC Import Signed Certificate (cont.)



New HMC CA Certificate Loaded and Ready!

██████████: Certificate Management - Google Chrome

██████████

Certificate Management

Create ▾ Selected ▾ Advanced ▾

New Certificate

Certificate for this console:

Select	Property	Value
<input type="radio"/>	Version	██████████
<input type="radio"/>	Serial Number	██████████
<input type="radio"/>	Issuer	██████████
<input type="radio"/>	Valid From	██████████
<input type="radio"/>	Valid Until	██████████
<input type="radio"/>	Subject	OU=Texas A&M IT, O=Texas A & M University, L=College Station, ST=TX, C=US
<input type="radio"/>	Subject Alternative Names	██████████
<input type="radio"/>	SHA-1 Fingerprint	██████████
<input type="radio"/>	SHA-256 Fingerprint	██████████

Apply Cancel Help

javascript:menuitemLaunchAction();

Certificates...No Static At All!



- Driving left on Sunset to the sea... drinking kirschwasser from a shell... with the HMC
- Good so far, but what about the next hurdle...
 - VTL Management Interface
 - Access - SSL Certificates - New Certificate

Create New VTL Certificate?

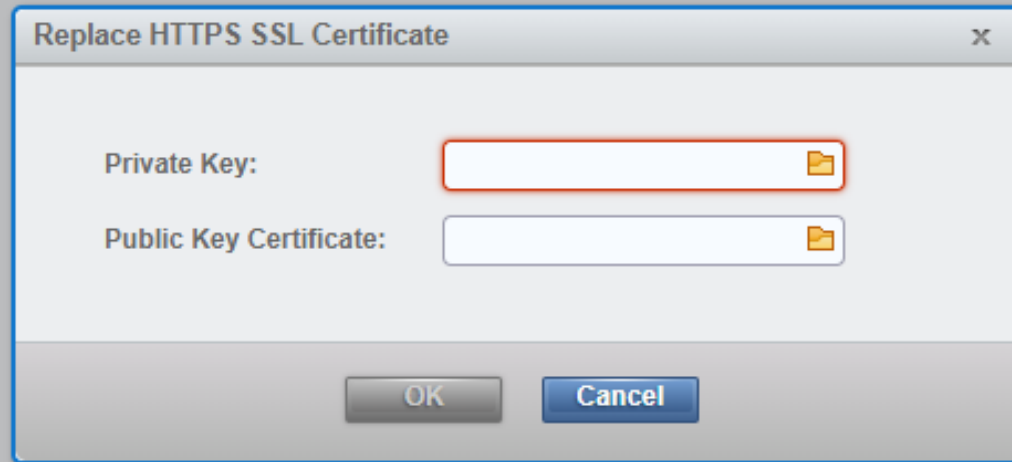
The screenshot shows a web-based interface for managing certificates. At the top, there is a navigation bar with a '+ New Certificate' button circled in red. Below this is a table with columns for 'Name', 'Type', 'Issued To', 'Issued By', 'Fingerprint (SHA Dige...', and 'Expiration'. A single certificate entry is visible with the following details:

Name	Type	Issued To	Issued By	Fingerprint (SHA Dige...	Expiration
lwiks	HTTPS	CN=[REDACTED] OU=Texas A&M IT, O=Texas A ...	CN=InCommon RSA Server CA, OU=InCommon, O=Internet2, L=Ann Arbor, ST=MI...	[REDACTED]	[REDACTED]

In the foreground, a 'Retrieve Certificate' dialog box is open. It has a title bar with a close button (x). The dialog contains a sidebar on the left with a radio button selected for 'Retrieve Signer Information' and a button labeled 'Add Certificate'. The main area is titled 'Retrieve Signer Information' and contains two input fields: 'Host:' and 'Port:'. The 'Host' field is empty and has a red border, with a tooltip that says 'This value is required.' The 'Port' field contains the value '443'. At the bottom of the dialog, there are three buttons: 'Back', 'Next', and 'Cancel'.

Replace Existing VTL Certificate.. What a Minute! What?

Going back and right-clicking the existing cert, I get "REPLACE" or "PROPERTIES"



Stuck in the Middle with Certs

- What am I gonna do?
 - I need a CSR to sign
 - Could easily create with mainframe SAF (RACDCERT)
 - Separate private key is tempermental
 - Even after I get a CSR, I need a way to create a private key, matched with a CA-signed cert public key
- OpenSSL!
 - PC implementation
 - Command-line driven
 - Config file as input to define CN, OU, O, etc.
 - Can create separate pub/priv key files
 - EUREKA!

OpenSSL Line Command

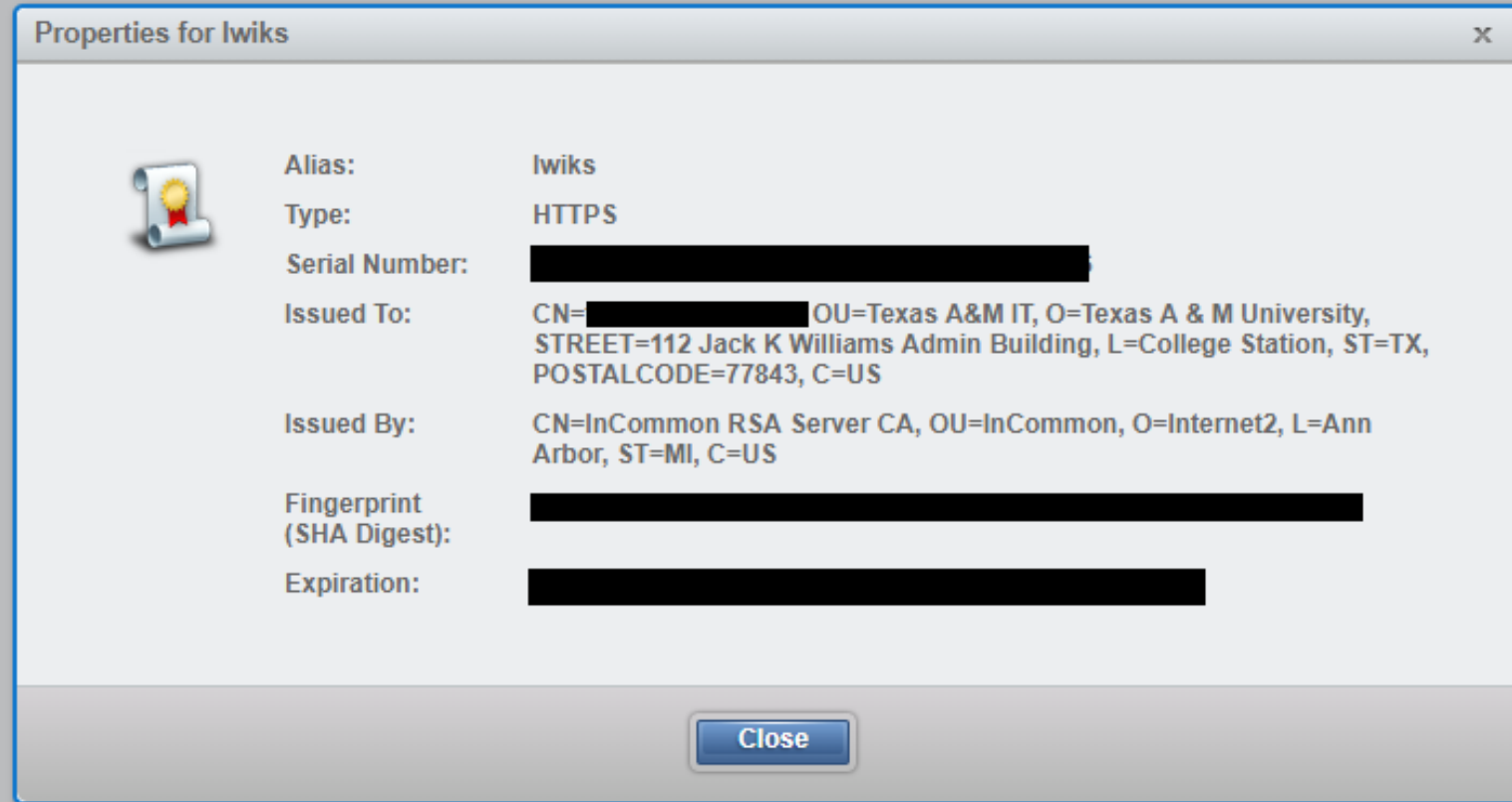
```
openssl req -out vtl.csr -new -newkey rsa:2048 -nodes -keyout  
vtl.key -config vtl.cfg
```

Creates CSR and KEY files

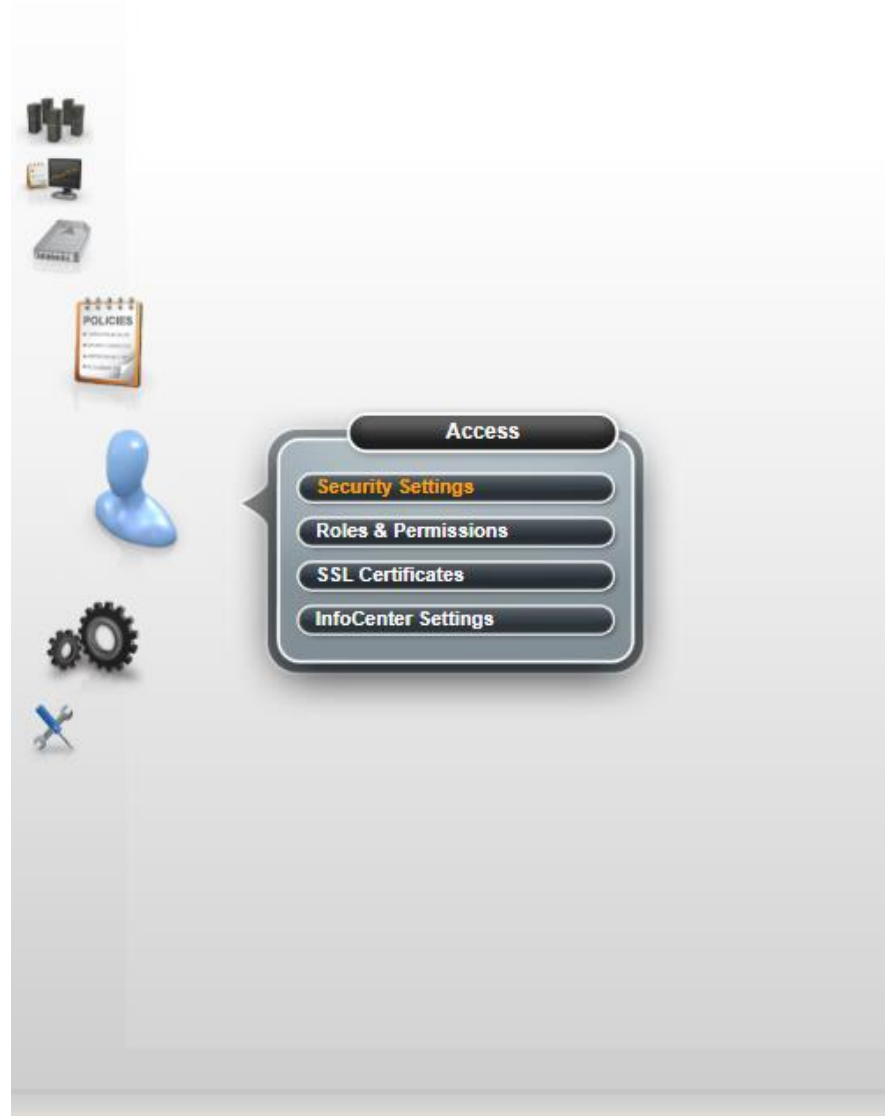
Sent CSR to be signed and got a CER file back (included Intermediate and Base public key for CA)

Time to get down to business...

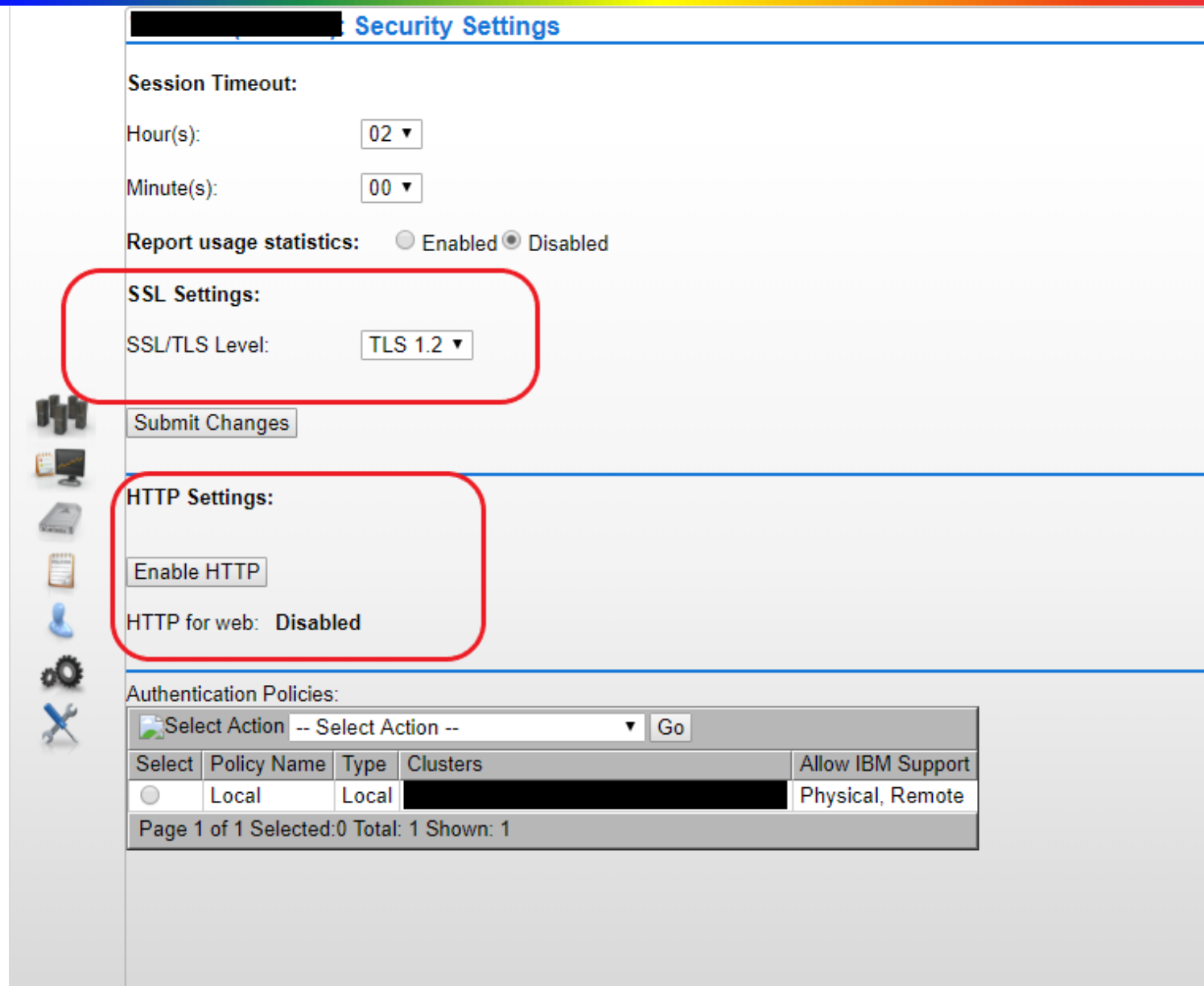
VTL Signed and Installed Certificate



Setting Up for Secure VTL Connections



Setting Up for Secure VTL Connections (cont.)



The screenshot shows a web interface for configuring security settings. The page title is "Security Settings". Under "Session Timeout", the "Hour(s)" is set to 02 and "Minute(s)" is set to 00. "Report usage statistics" is set to "Disabled". The "SSL Settings" section is highlighted with a red rounded rectangle, showing "SSL/TLS Level" set to "TLS 1.2". Below this is a "Submit Changes" button. The "HTTP Settings" section is also highlighted with a red rounded rectangle, showing an "Enable HTTP" button and "HTTP for web" set to "Disabled". At the bottom, the "Authentication Policies" section includes a "Select Action" dropdown menu and a table with one row: "Local" policy, "Local" type, and "Physical, Remote" clusters. A sidebar on the left contains icons for various system functions.

Security Settings

Session Timeout:

Hour(s): 02 ▾

Minute(s): 00 ▾

Report usage statistics: Enabled Disabled

SSL Settings:

SSL/TLS Level: TLS 1.2 ▾

Submit Changes

HTTP Settings:

Enable HTTP

HTTP for web: Disabled

Authentication Policies:

Select Action -- Select Action -- ▾ Go

Select	Policy Name	Type	Clusters	Allow IBM Support
<input type="radio"/>	Local	Local	[REDACTED]	Physical, Remote

Page 1 of 1 Selected:0 Total: 1 Shown: 1

Acknowledgements (Knowing and Unknowing)



- Ed Jaffe, Phoenix Software International
- Ray Mullins, Trident Services
- Tom Conley, Pinnacle Consulting
- Michael Friske, Fidelity Investments



See You in
Fort Worth