

z/OSMF Software Deployment User Experience



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Our z/OSMF History

- Ordered z/OSMF via base tape in May 2010.
- Had a lot of fun installing, setting it up, mainly SAF and WAS issues.
- Ordered z/OSMF again with the z/OS 1.12 upgrade in September, 2010.
- This time it went better, but there was new functionality that needed to be implemented as well
- Ordered z/OSMF again with the z/OS 1.13 upgrade, went VERY smoothly!
- After checking out the rest of z/OS 1.13, came back to Software Deployment to check it out.





Our environment

- Two Sysplexes, basically Prod and Test. Prod is an 8 way and test is a three way.
- DASD and UCATs shared across all systems (yes, this causes a problem for PDSe's)
- We run a lot of ISV's. Top Secret, FDR, etc.
- I consider myself a novice z/OSMF user. Relatively speaking, I've probably done more than most, but still feel rather new at it. I'm also not a Websphere guru.



Our environment: Software levels

- z/OS is at 1.13, as of January. PUT level is 1110.
- We are currently migrating PUT 1112 through our lpars.
- We put maintenance on bi-monthly, two PUTs back, plus any applicable hipers or special request PTFs.



Our Clone Process - z/OS



- Our clone process is pretty simple. For the RES:
 - Full volume restore of the SMPE pack (ZOST0D) to the Res pack (SYSR21)
 - Allocate a new VVDS
 - Copy/rename the target CSI: MVSSMP.ZOSTOD.CSI to MVSSMP.SYSR21.CSI

```
//DISK1 DD UNIT=SYSDA, VOL=SER=ZOSG0D, DISP=SHR
//TAPE1 DD UNIT=SYSDA, VOL=SER=ZOSG0D, DISP=SHR
COPY TYPE=DSF, DSNENQ=NONE
S DSG=MVSSMP.ZOST0D.CSI, NEWG=MVSSMP.SYSR21.CSI
```

- Rename the SMP zone:
 - DEL GLOBALZONE ZONEINDEX((SYSR21))ZONERENAME(ZOSTOD) TO(SYSR21) NEWDATASET(MVSSMP.SYSR21.CSI) .
- Edit the zone DDDEFS:

```
SET BDY(SYSR21).
ZONEEDIT DDDEF .
CHANGE VOLUME(ZOST0D,SYSR21) .
CHANGE PATH('/SERVZOS/ZOST0D'*,'/SYSR21'*).
ENDZONEEDIT .
```

There are some miscellaneous assemblies and copies, ROSCOE, OPS, Sysview, VPS assemblies (to SYS2.SYSR21.LINKLIB) and we copy some parmlib members (IPCS for Jes2 and MQ). We also update IPLtext.





Our Clone process: USS

- All of our SMPE ZFS's reside on one mod-54.
- Copy the ZFS/HFS datasets with rename:
 - COPY TYPE=DSF, DSNENQ=NONE, BYPASSSMS
 - SELECT DSG=OMVS.ZOST0D, NEWG=OMVS.SYSR21
- Mount the filesystems, do some chown/extattr/chmod's, linking:

```
MOUNT FILESYSTEM('OMVS.SYSR21.ROOT') +
```

- TYPE(ZFS) MODE(RDWR) SYSNAME(USCT) NOAUTOMOVE +
- MOUNTPOINT('/SYSR21')
- MOUNT FILESYSTEM('OMVS.SYSR21.SXMLHFS') +
- TYPE(ZFS) MODE(RDWR) SYSNAME(USCT) NOAUTOMOVE +
- MOUNTPOINT('/SYSR21/usr/lpp/ixm')
- MOUNT FILESYSTEM('OMVS.SYSR21.SAOPROOT') +
- TYPE(ZFS) MODE(RDWR) SYSNAME(USCT) NOAUTOMOVE +
- MOUNTPOINT('/SYSR21/usr/lpp/Printsrv')





Our Clone Process: USS (continued)

- Some examples of the root updates:
 - 'symlink \$SYSNAME/etc

'\$root'/etc'

- 'unlink '\$root'/opt/dfslocal'
- Finally, we DSS copy some old HFS's over:
 - An old MQV6 that they won't get rid of
 - An old java for one application



2012



Our clone process: Program Products

Usually each product has a \$BUILD job in its install library. This job FDR Copies selected datasets:

SELECT DSN=CASMP.CA1V126.SP00.CTAPMENU,
NEWNAME=TMS.V126SP00.CTAPMENU

SELECT DSN=CASMP.CA1V126.SP00.CTAPLINK,

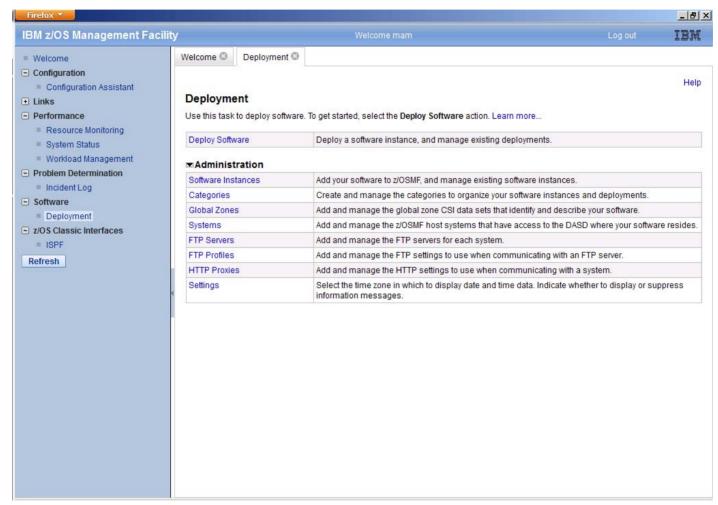
NEWNAME=TMSSYS.V126SP00.CTAPLINK

%MCATALL TMSSYS.V126SP00.CTAPLINK / SYS008

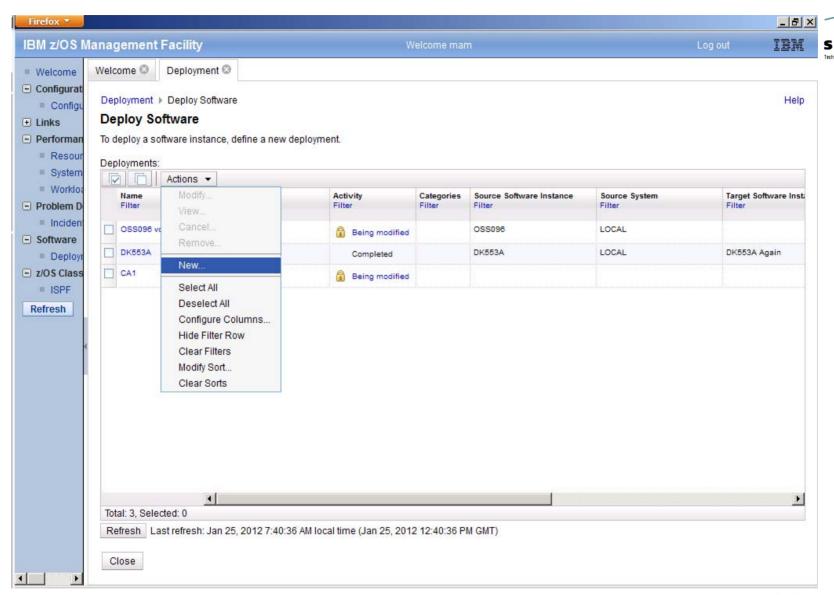




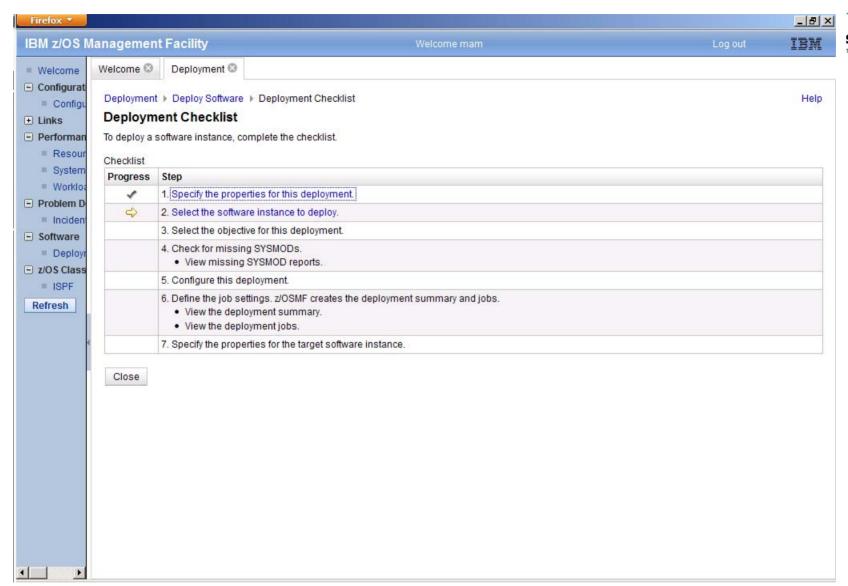
Software Deployment Function





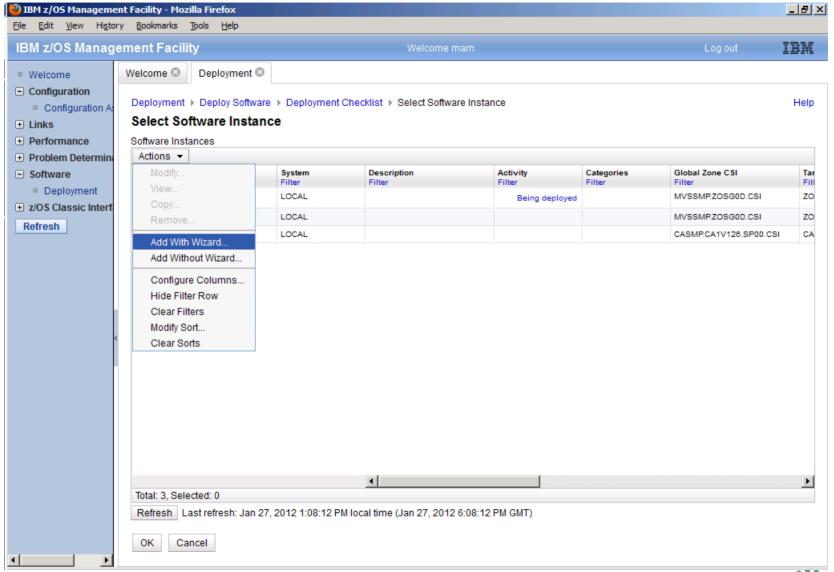




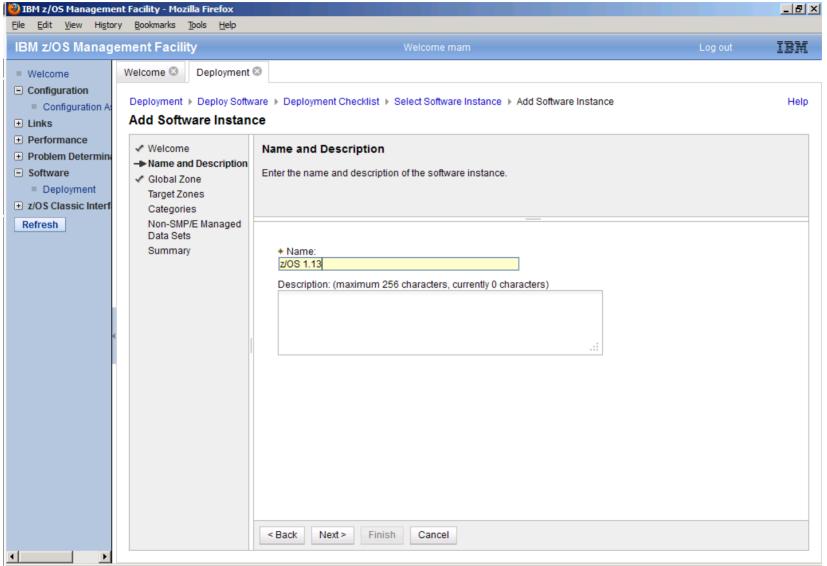


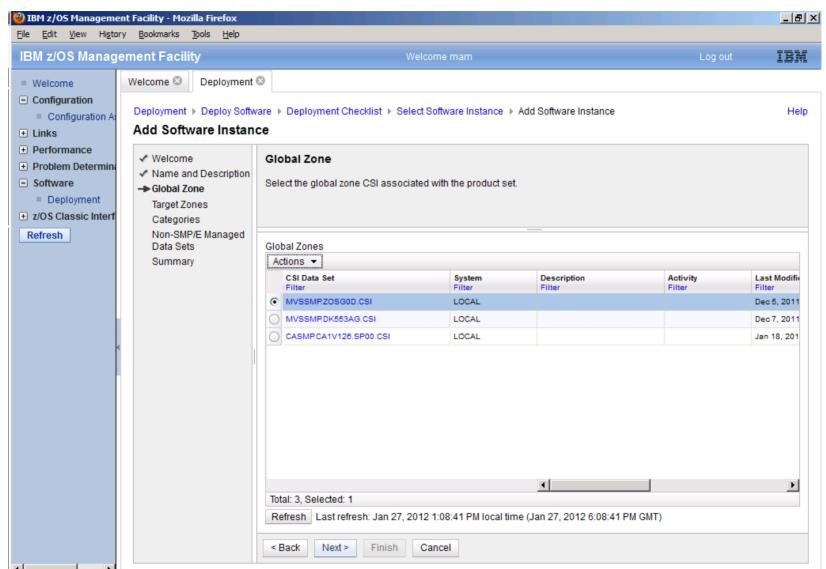






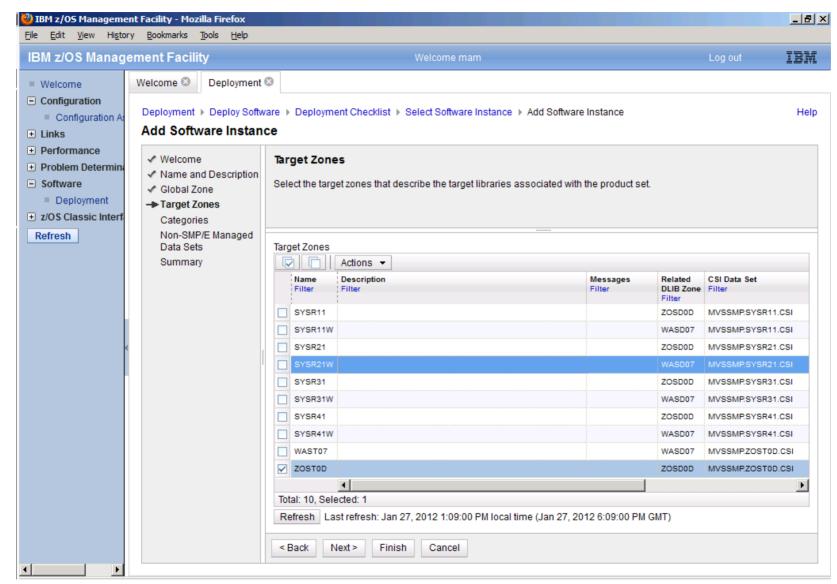






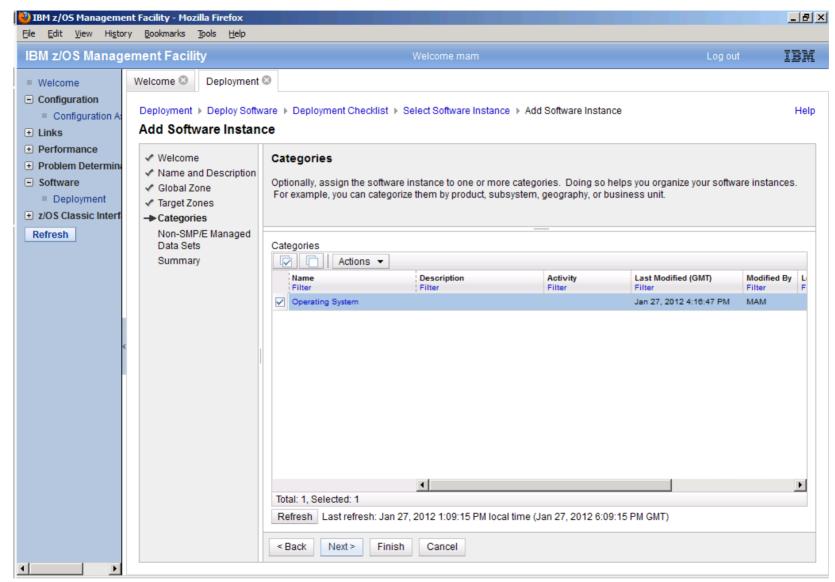




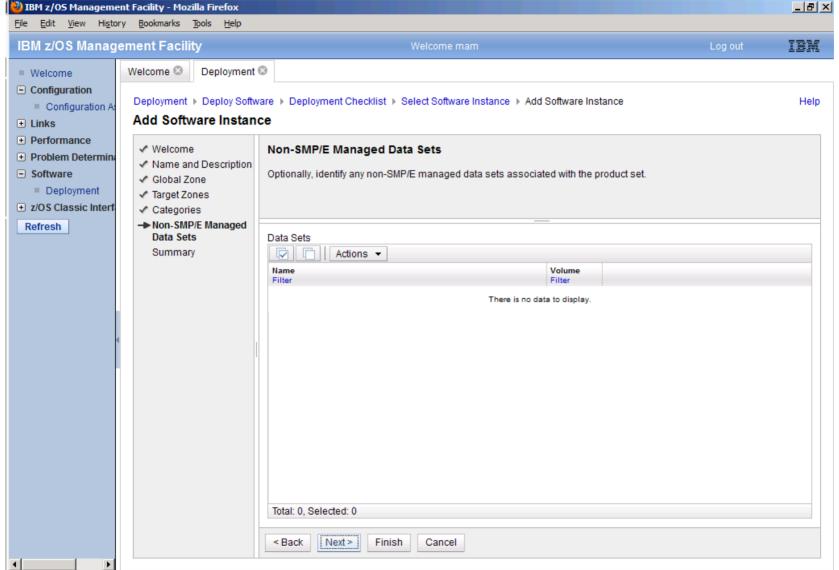








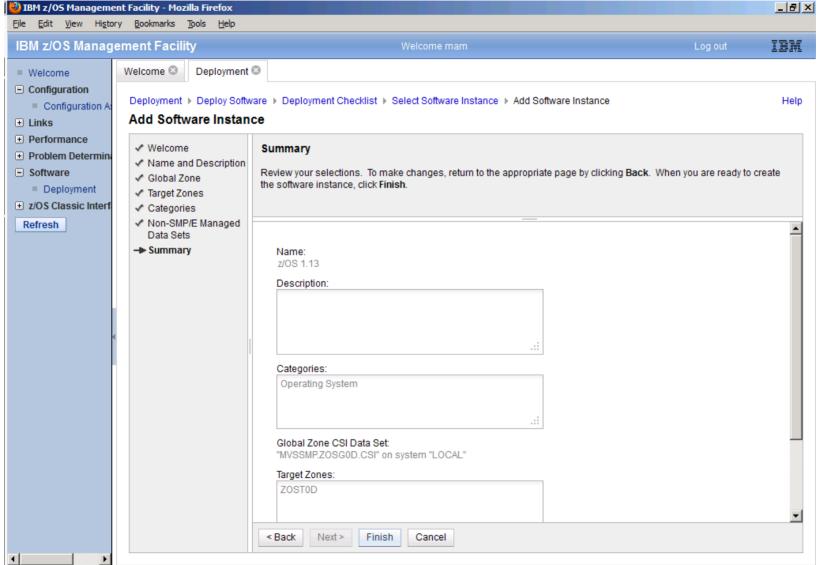






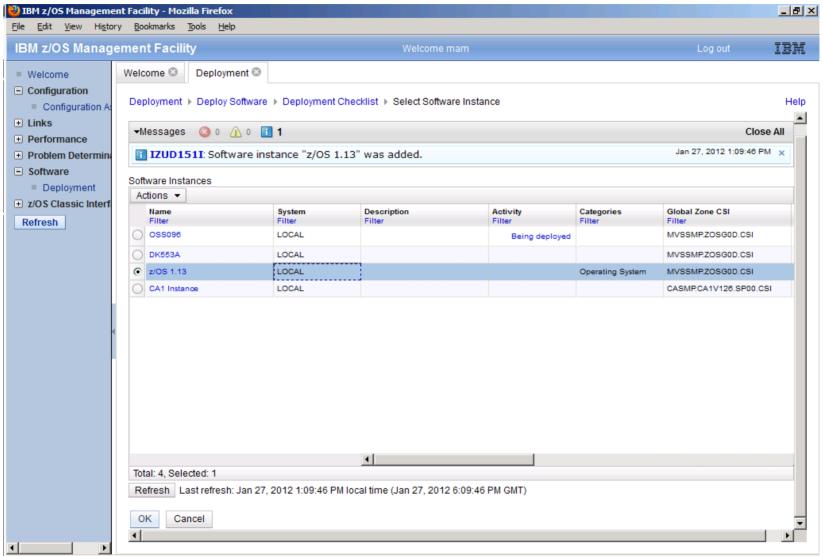




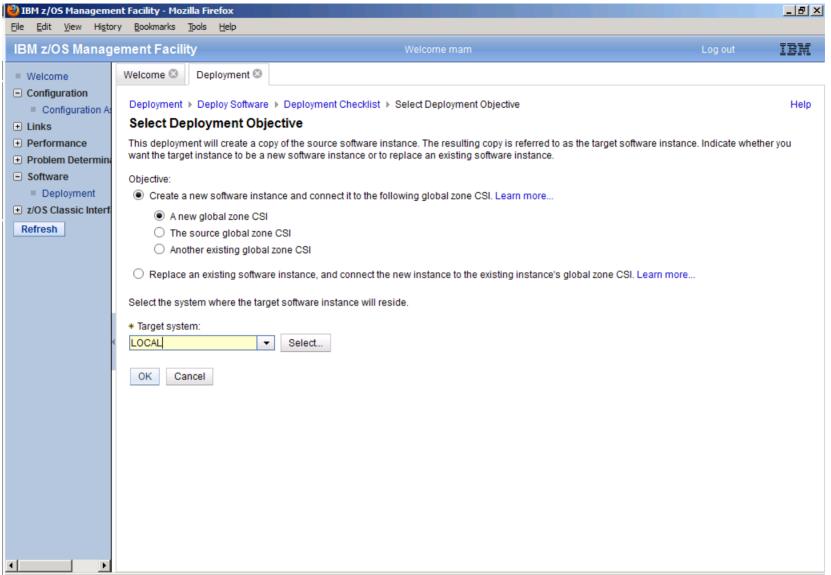






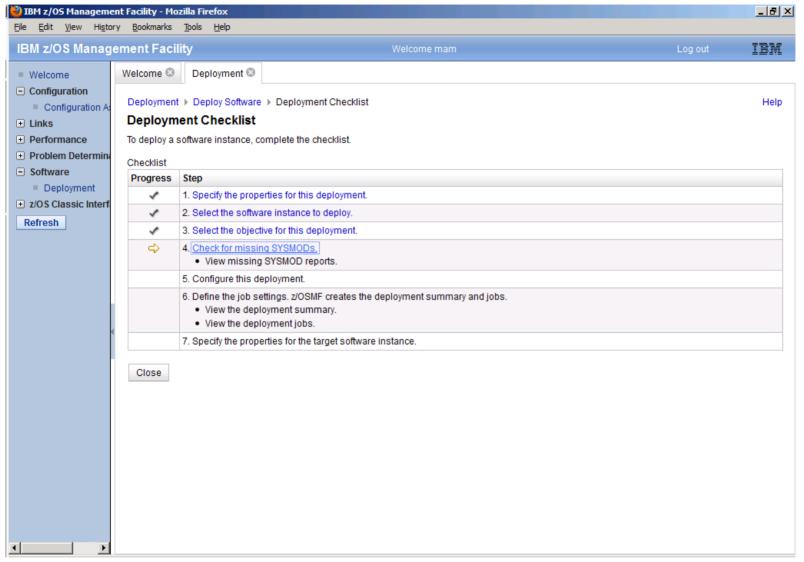




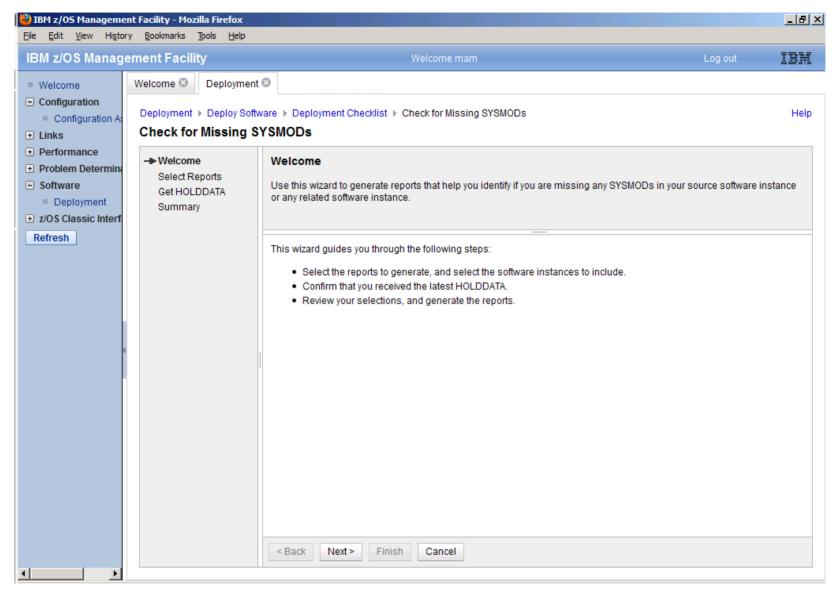




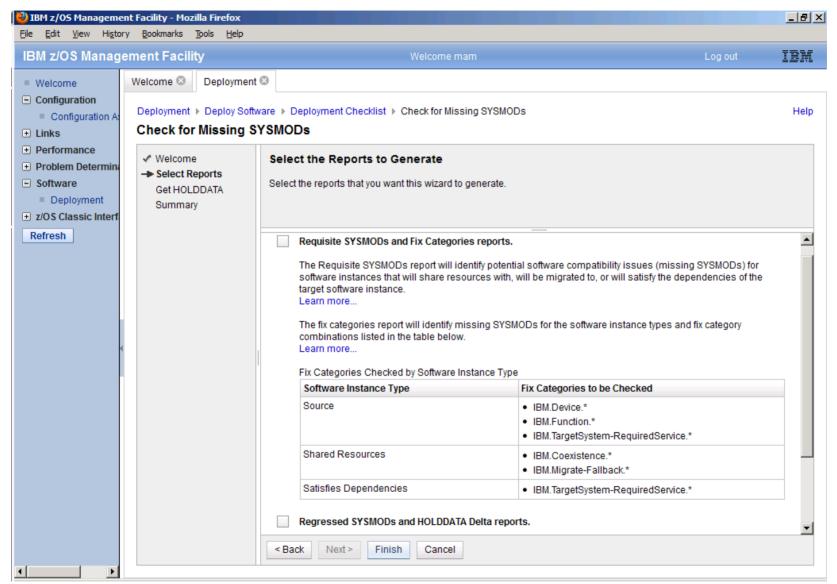




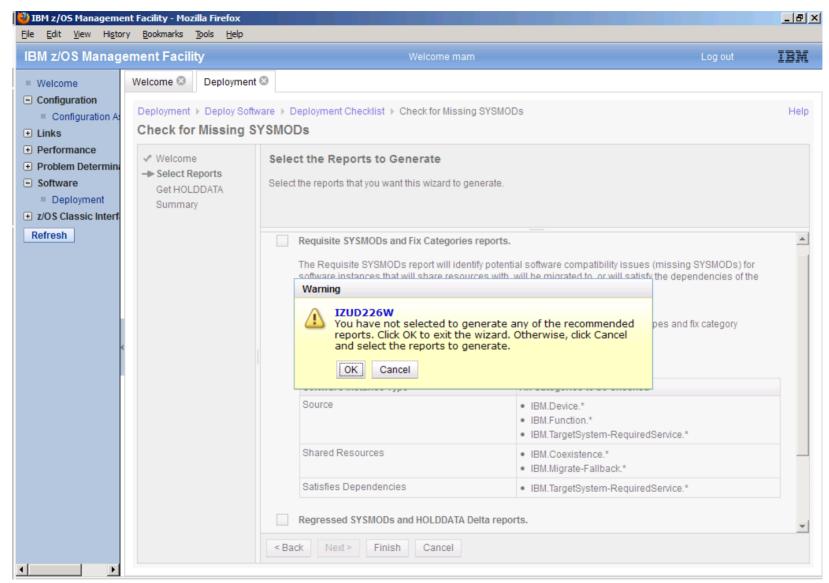










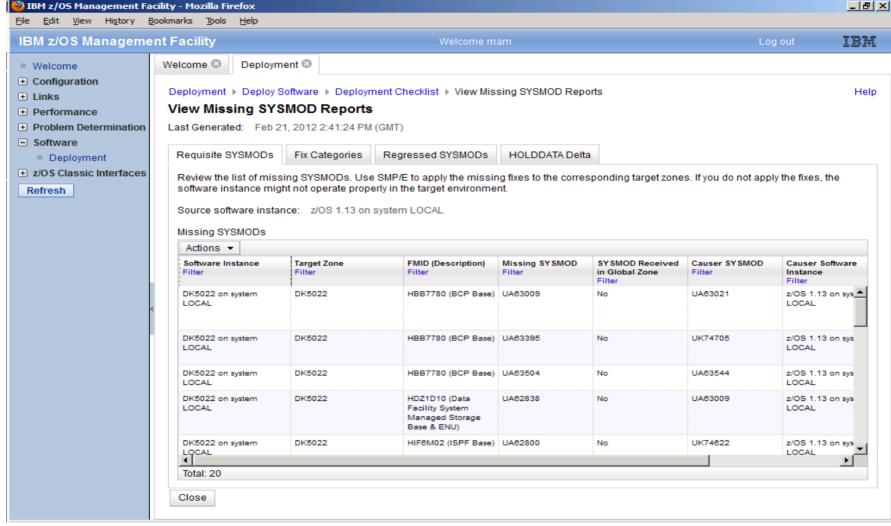




Missing Sysmod Reports



SHARE
Technology - Connections - Results



What we do for missing fixes and holddata...

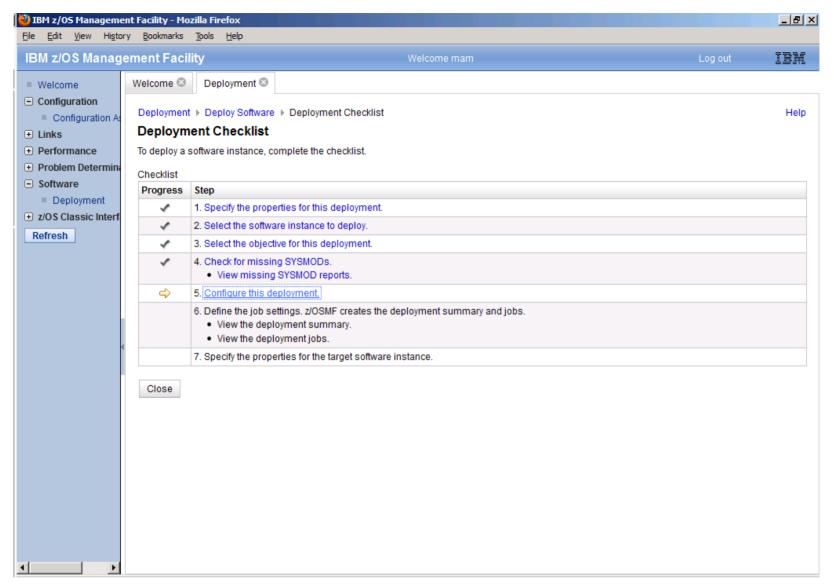


- SET BDY(GLOBAL)
 REPORT MISSINGFIX ZONES(ZOSTOD) FIXCAT(*).
- SET BDY(GLOBAL)

 REPORT SYSMODS INZONE(ZOSTOD)

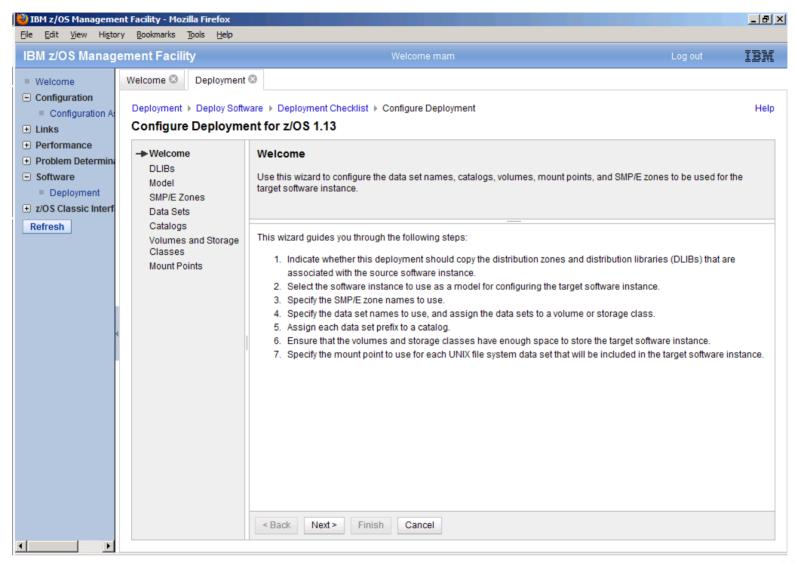
 COMPAREDTO(SYSR21).
- By the time we are cloning, we are far past the actual SMPE work. But a double check here doesn't hurt.



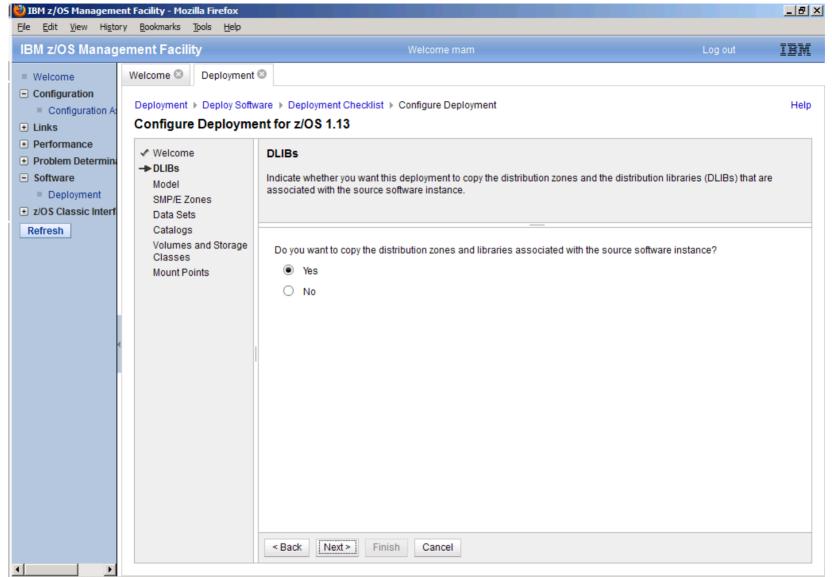




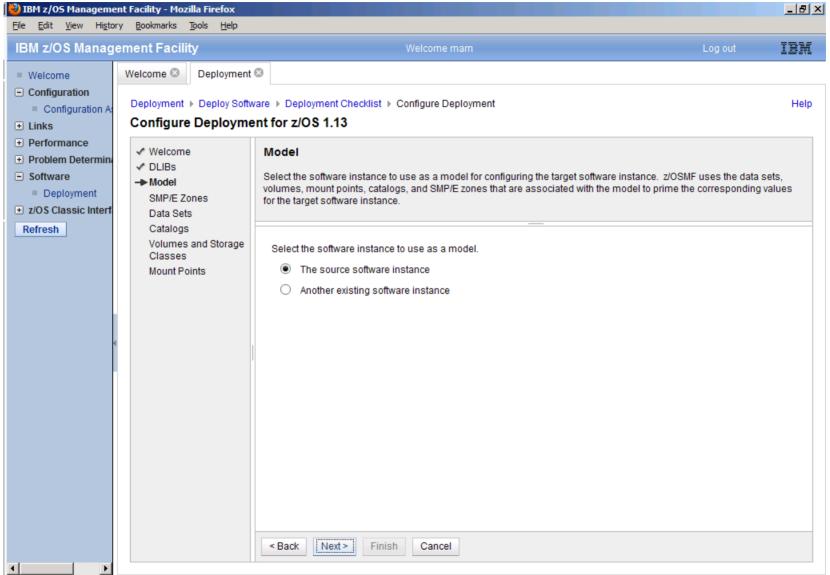






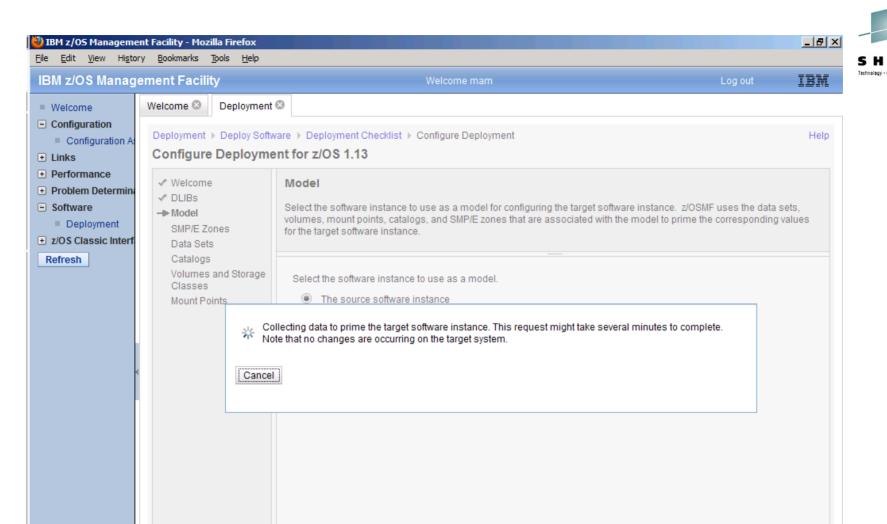












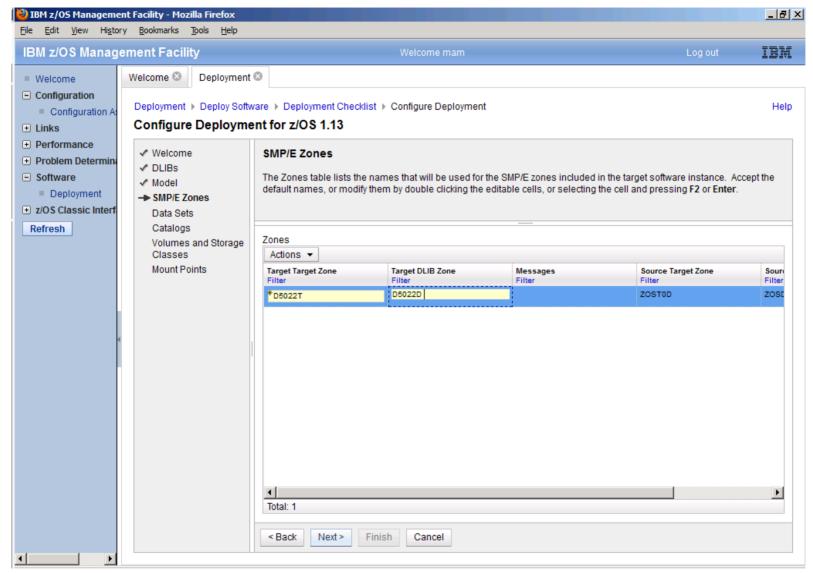


< Back

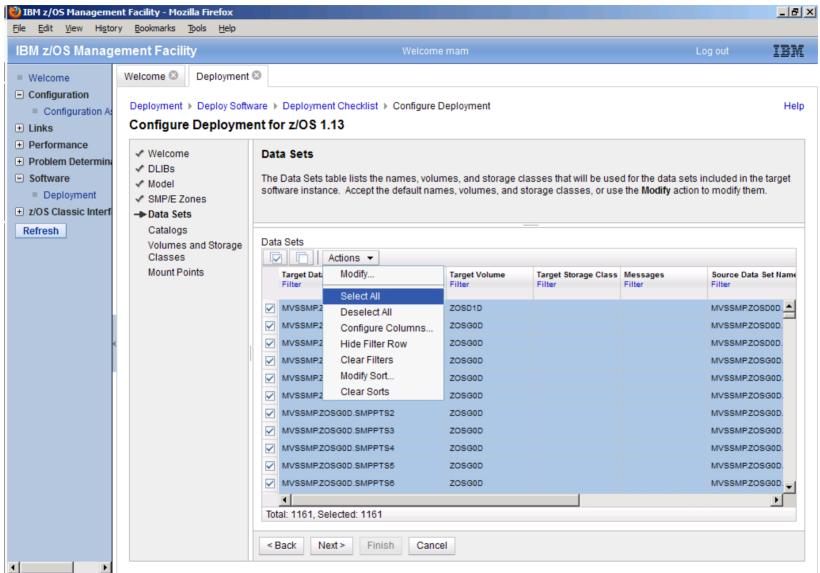
Next > Finish

Cancel





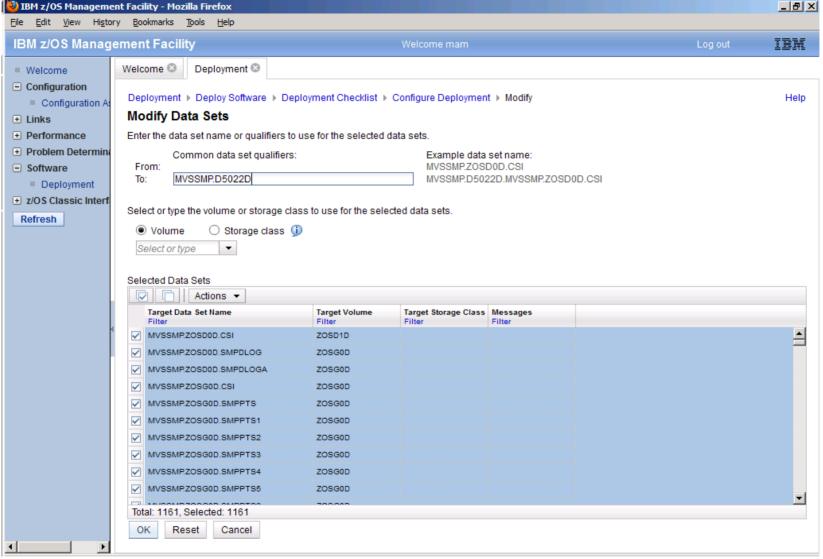




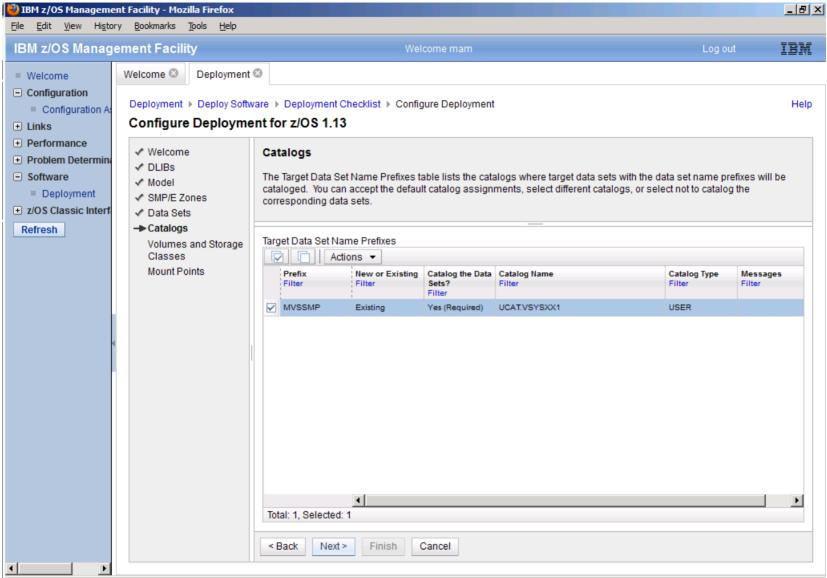






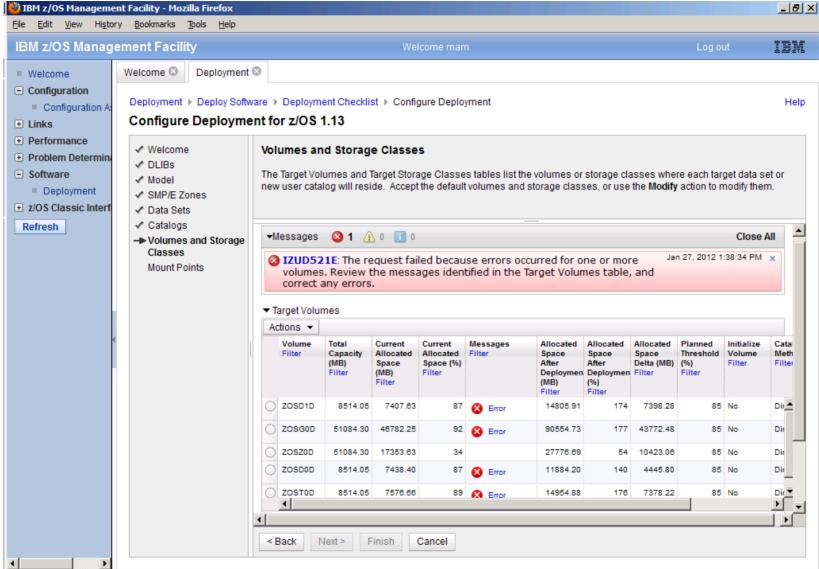






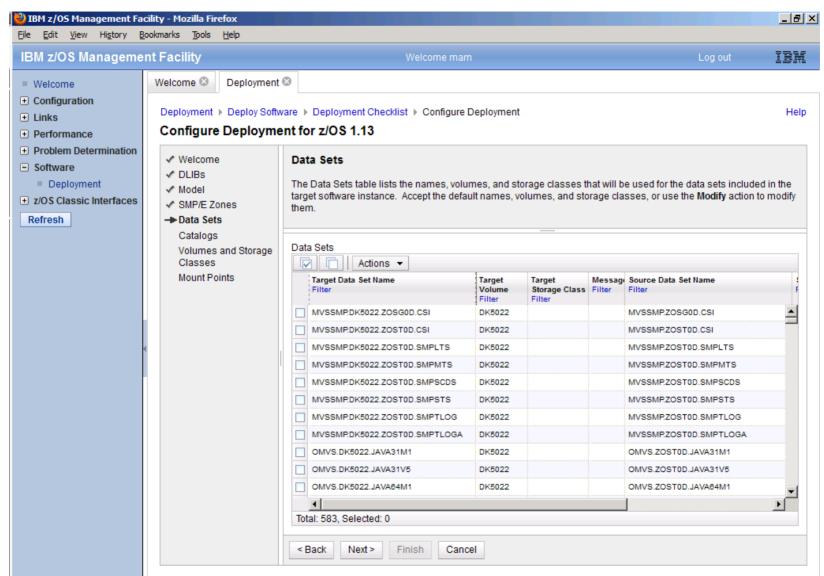






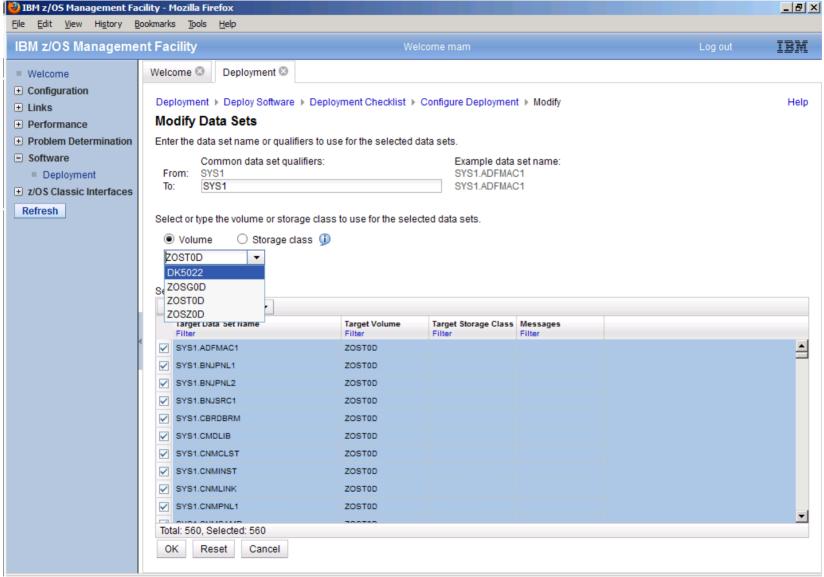


Technology - Connections - Results

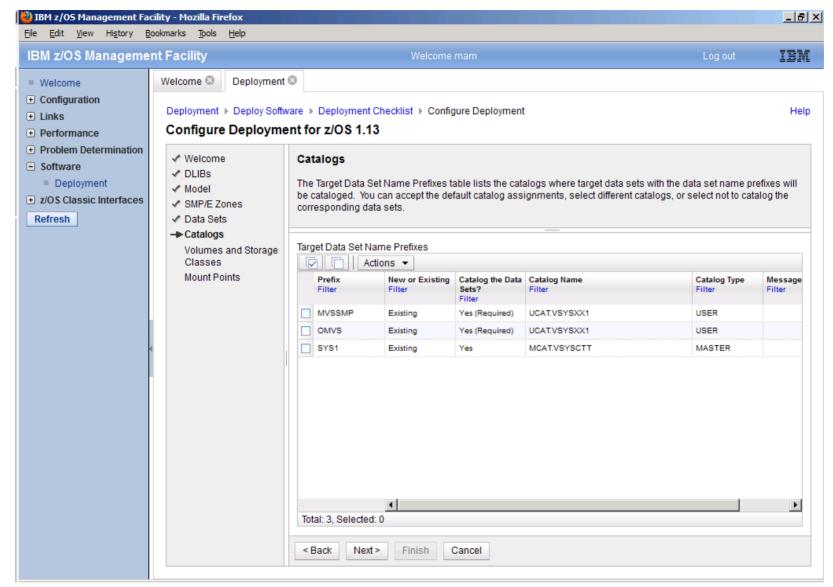




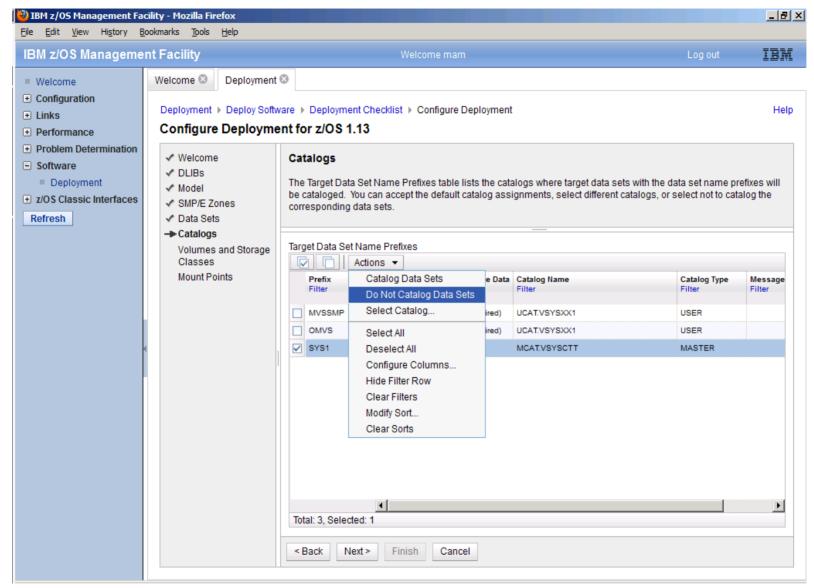






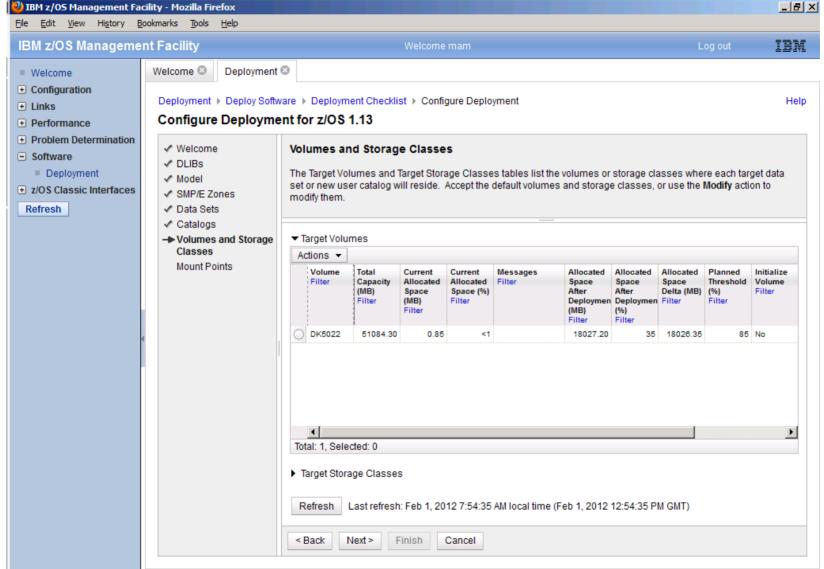




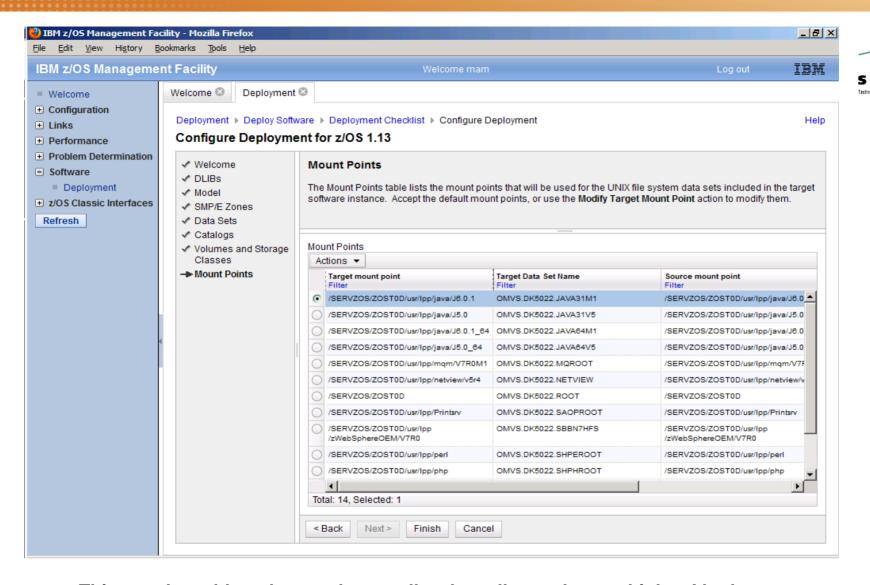






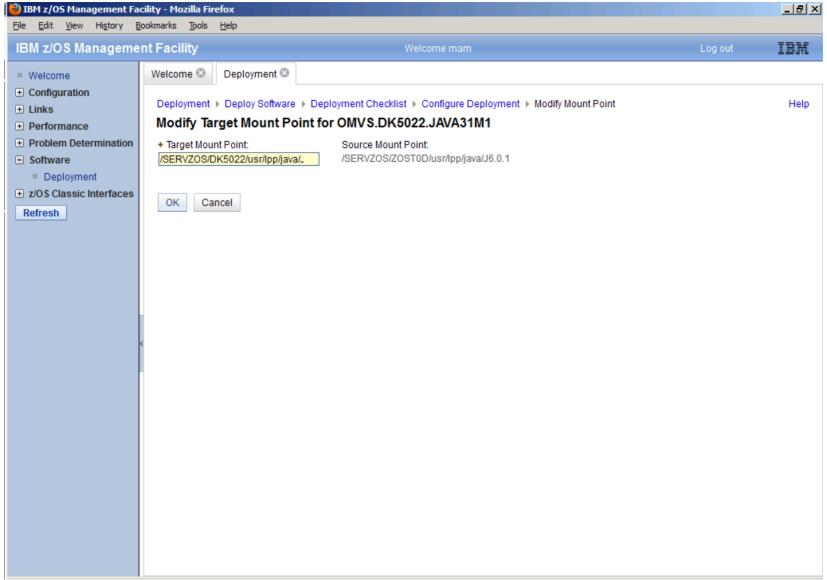




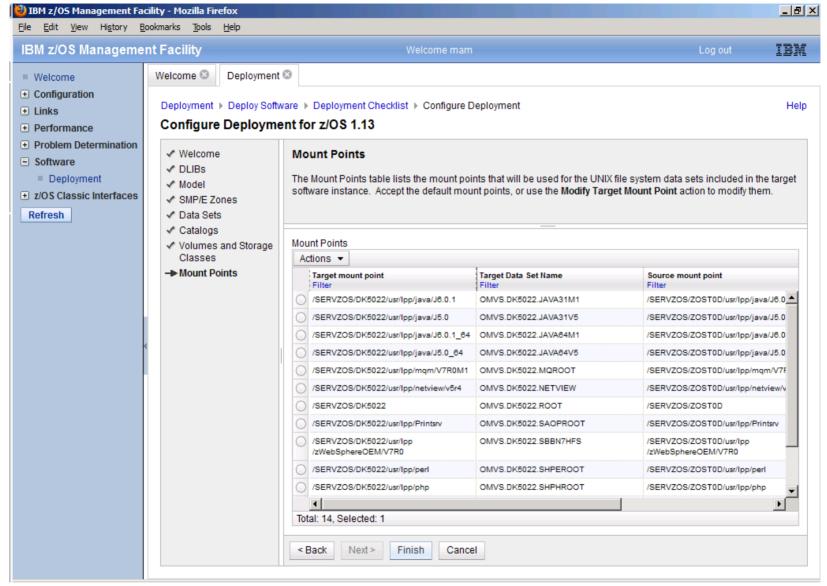


This panel would not let me change all, select all, or select multiples. I had to select each one individually and change it. \otimes

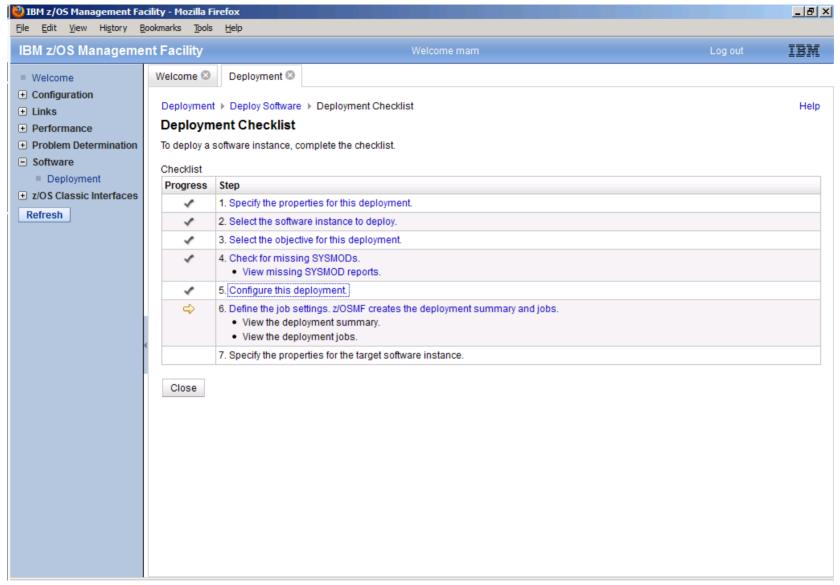




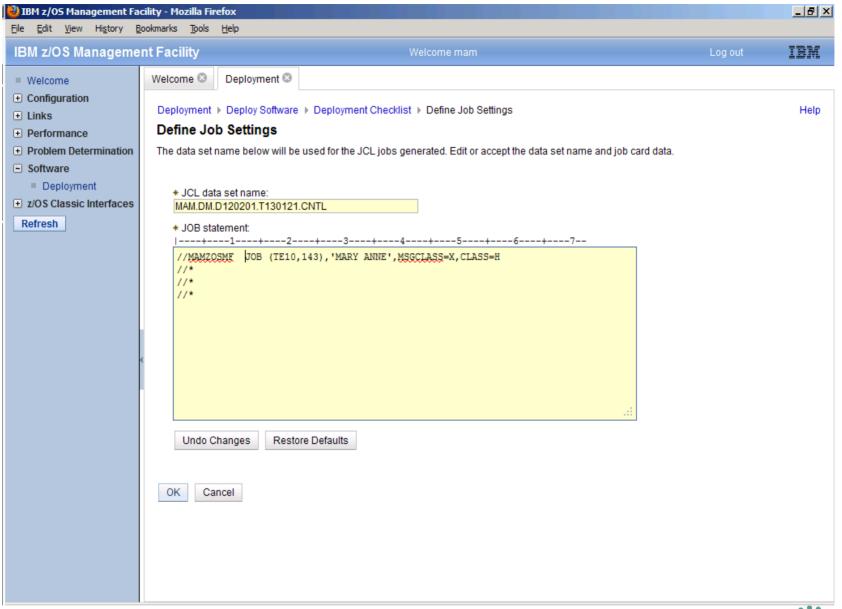


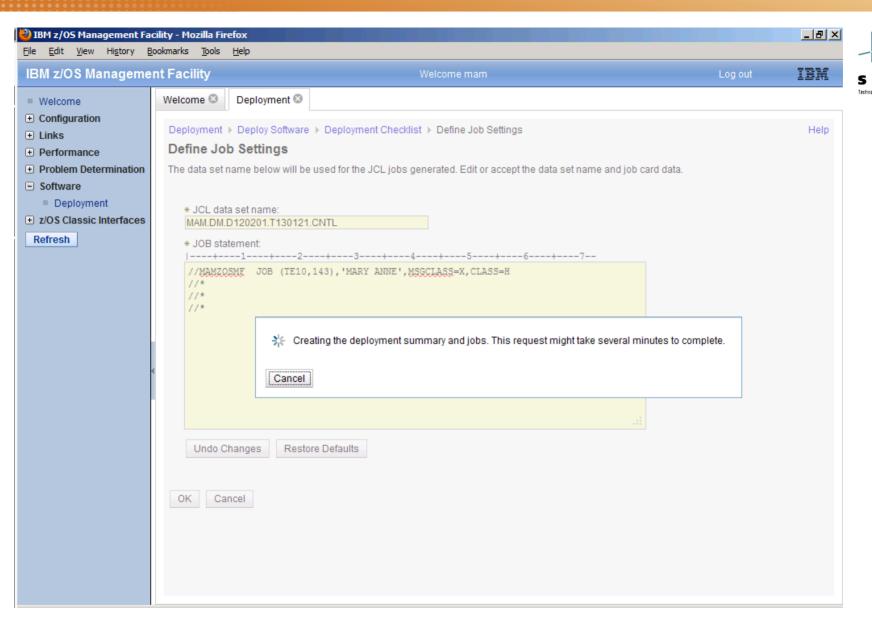




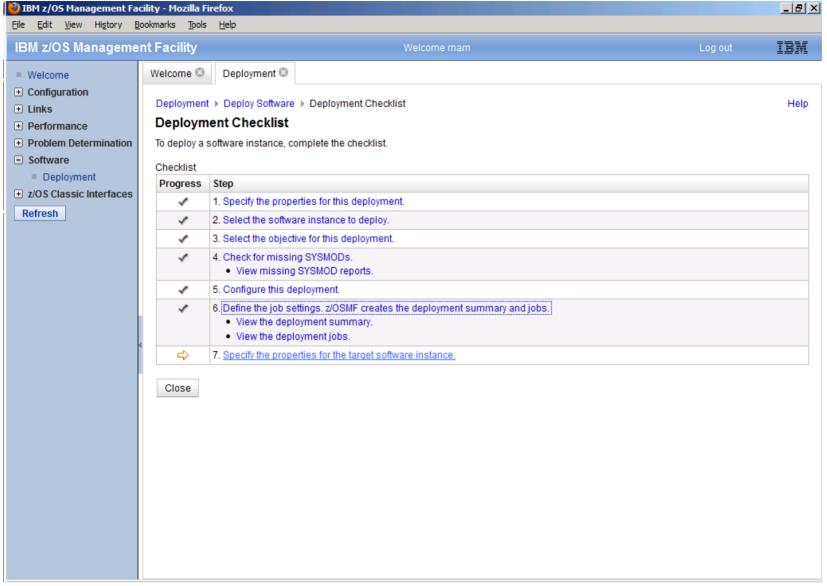




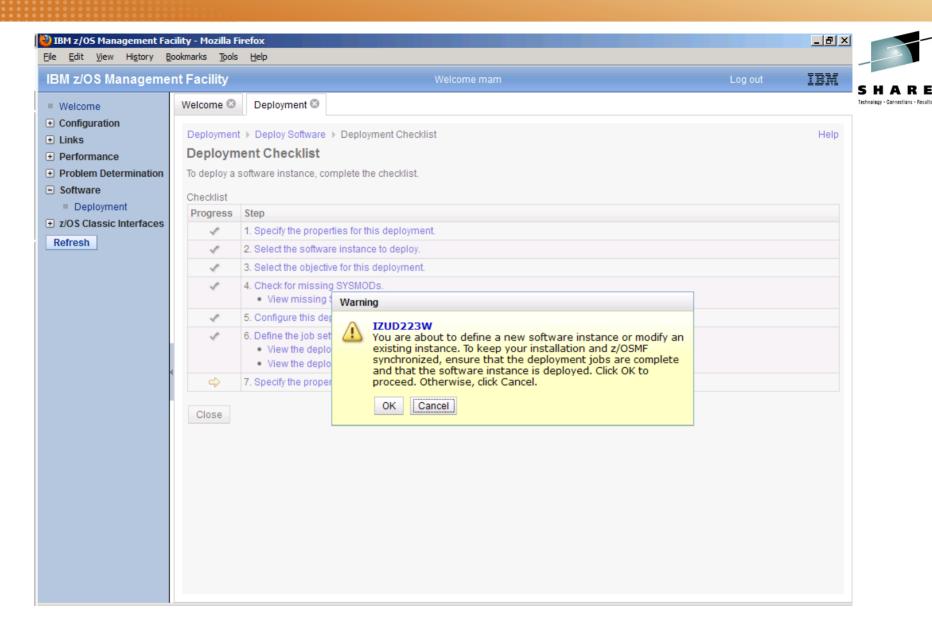




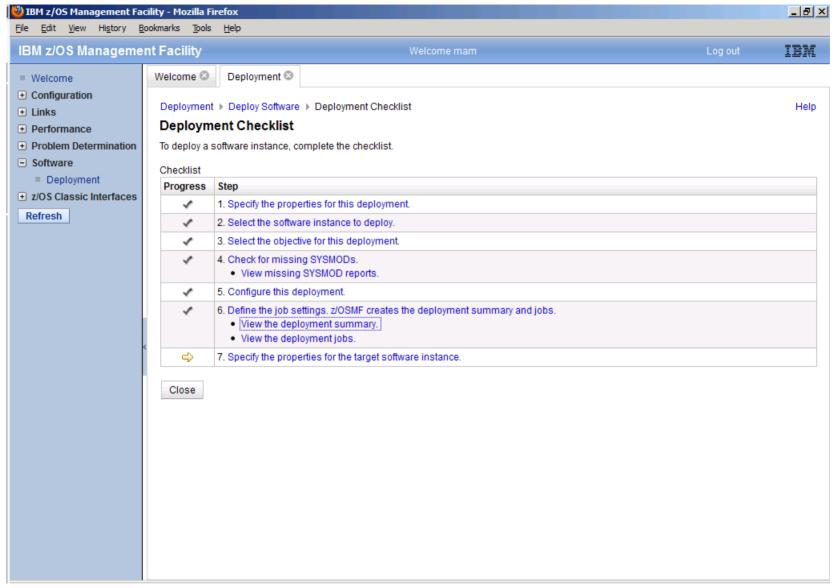




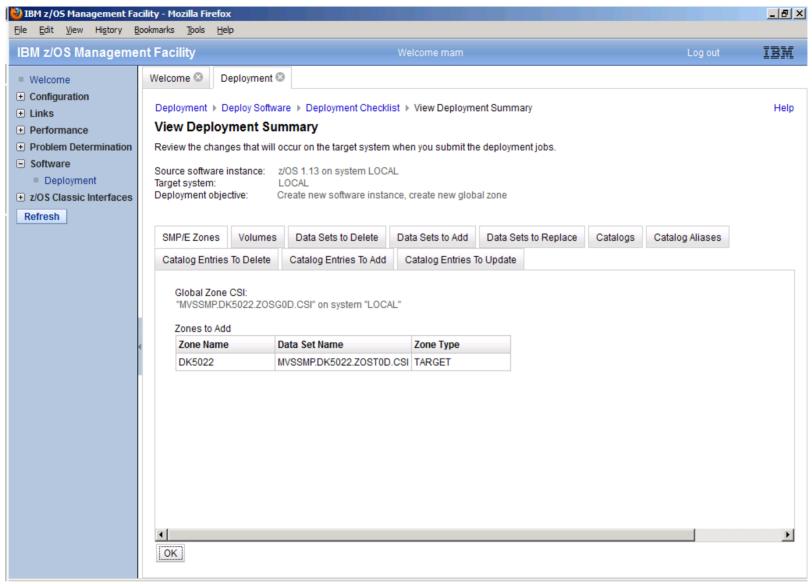




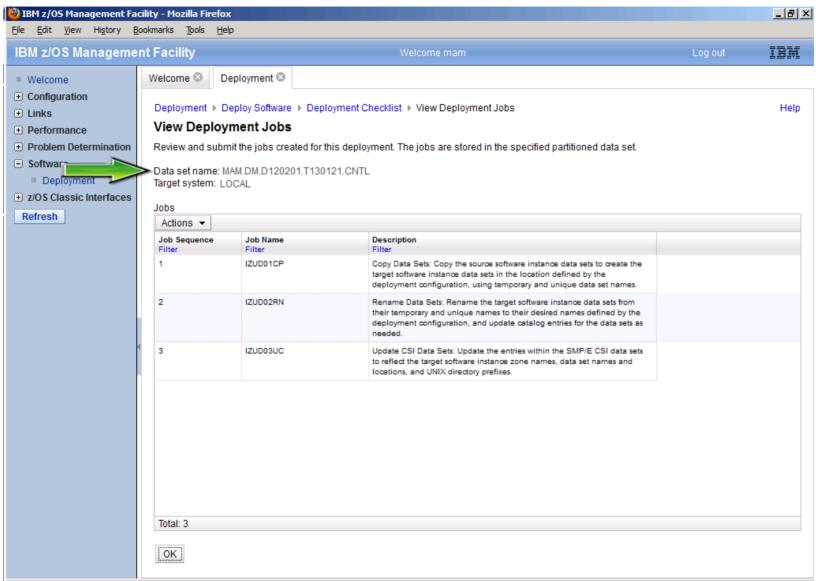


















Jobs produced

- Ultimately the Software Deployment function creates three jobstreams:
 - IZUD01CP Copies the target zone SMP libraries, the zFS/HFS files, and the SYS1 target libraries to the new volume
 - IZUD02RN This job renames all the datasets to their proper names. (ie, SYS1.LPALIB.# to SYS1.LPALIB)
 - IZUD03UC This job does all the SMPE work. Defines a new Global CSI, does the zonerename, and changes all the dddefs.
 - And one readme file: IZUD00RM



userid.DM.Dyymmdd.Ttttttt.CNTL (IZUD01CP)



```
//* This step copies the source data sets into the target data
//* sets. A return code of 4 is acceptable.
//* NOTE: Any changes to the SYSIN statements of this step will
//* result in failure.
//*
//**************************
//*
//COPY1 EXEC PGM=GIMADR, COND=(0,LT,DEL1), REGION=0M,
          PARM='KEY=C4F0E2122C5CBCC7DE2D428441C1D8DE'
               SYSOUT=*
//SYSPRINT DD
//SYSIN
          DD
 /* Wed, 1 Feb 2012 13:29:37 GMT */
 COPY DS(INCLUDE( -
   MVSSMP.ZOSTOD.CSI -
   MVSSMP.ZOSTOD.SMPLTS -
   MVSSMP.ZOSTOD.SMPMTS -
   MVSSMP.ZOSTOD.SMPSCDS -
   MVSSMP.ZOSTOD.SMPSTS -
```





DSLIST

DSLIST - Data Sets on volume DK5022 Command ===>	S	Row 1 of 586 Scroll ===> CSR
Command - Enter "/" to select action	Message	Volume
MVSSMP.DK5022.ZOSG0D.CSI.DATA		DK5022
MVSSMP.DK5022.ZOSG0D.CSI.INDEX		DK5022
MVSSMP.DK5022.ZOST0D.CSI.DATA		DK5022
MVSSMP.DK5022.ZOST0D.CSI.INDEX		DK5022
MVSSMP.DK5022.ZOST0D.SMPLTS		DK5022
MVSSMP.DK5022.ZOST0D.SMPMTS		DK5022
MVSSMP.DK5022.ZOST0D.SMPSCDS		DK5022
MVSSMP.DK5022.ZOST0D.SMPSTS		DK5022
MVSSMP.DK5022.ZOST0D.SMPTLOG		DK5022
MVSSMP.DK5022.ZOST0D.SMPTLOGA		DK5022
OMVS.DK5022.JAVA31M1.DATA		DK5022
OMVS.DK5022.JAVA31V5.DATA		DK5022
OMVS.DK5022.JAVA64M1.DATA		DK5022
OMVS.DK5022.JAVA64V5.DATA		DK5022
OMVS.DK5022.MQROOT.DATA		DK5022
OMVS.DK5022.NETVIEW.DATA		DK5022



Lets IPL it...

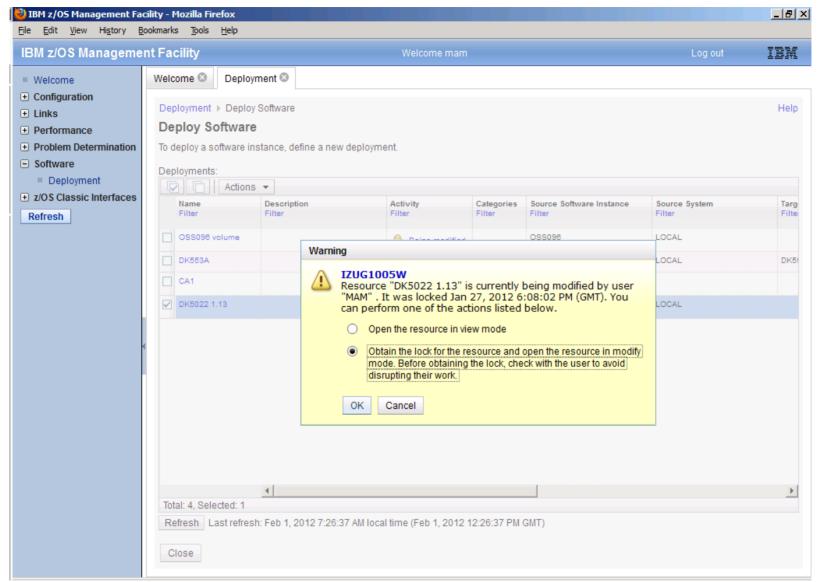


- First IPL had a problem with no IPLTEXT. Ran it manually.
- Second IPL:

IMW005W WORKLOAD MANAGER (COMP/SCWLM) CATASTROPHIC FAILURE:
WAIT STATE CODE WS/08C
REASON CODE RSN/001
ENTRYPOINT EP/UNKNOWN
REASON IS GENERIC/UNKNOWN WLM FAILURE
NO ADDITIONAL WLM SPECIFIC INFORMATION

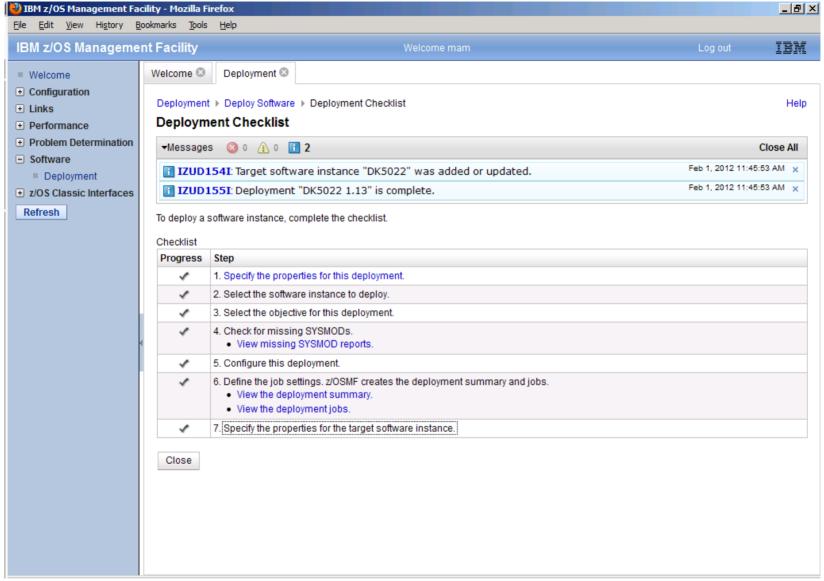
- We do some unnatural things with SYS1.IBM.PROCLIB and SYS1.PROCLIB, and they end up together in SYS1.PROCLIB.
- z/OSMF goes by the SMPE dddefs, so in his mind, SYS1.PROCLIB isn't there.
- Third IPL was the charm!















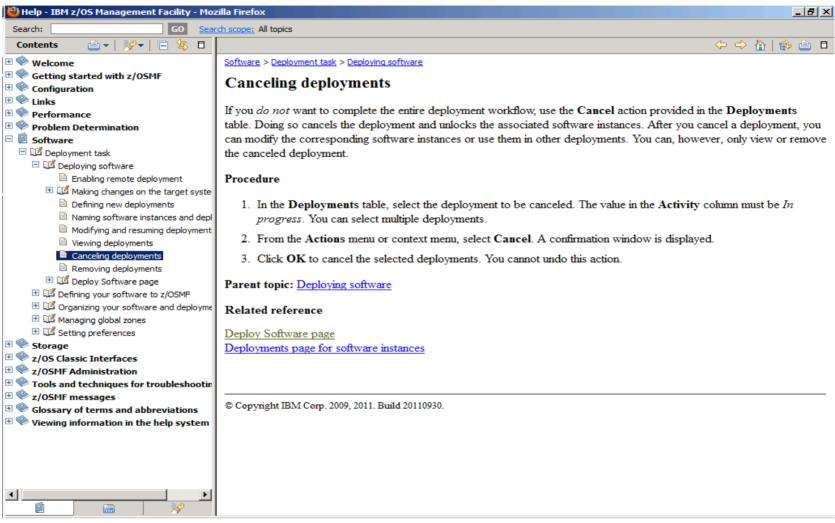
Tips for z/OSMF Software Deployment

- Don't use the 'back' browser button...use z/osmf's button, 'cancel' or 'close'.
- Use the help button, it's actually quite helpful!



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Incidentals

- The batch jobs run program GIMADR to do the copies.
 This is apparently a 'version' of ADRDSSU. You cannot make any changes to the jcl or you get error:
- GIM70570S ** THIS JOB STEP WAS NOT GENERATED BY Z/OSMF AND IS NOT AUTHORIZED TO RUN THE GIMADR UTILITY.
- Even if you are licensed for ADRDSSU.



Differences between our current process and the z/OSMF function



- We don't modify the DDDEFs for the runtime target zone.
 We will never do SMP work there.
- In other words, our SYSR21.CSI has dddefs pointing to ZOST0D. Maybe that is misleading...
- We do a full volume copy versus z/OSMF doing a dataset by dataset copy. This approach depends on the z/os serverpac setting things up properly.
- We do miscellaneous assemblies, copies, etc. It would be nice to have a spot for customized steps in the flow somewhere. At least for IPLTEXT.





What next?

- Maybe I should have started smaller, with a product rather than an operating system.
- So I decided to try CA1. (Hey, why not? It's just an SMPE product right?) Never mind that it's a different vendor...

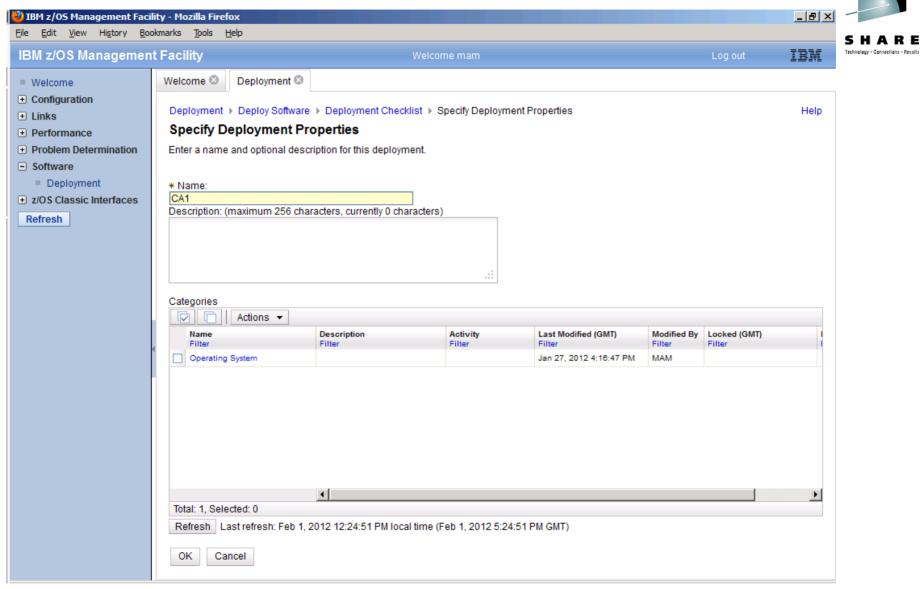




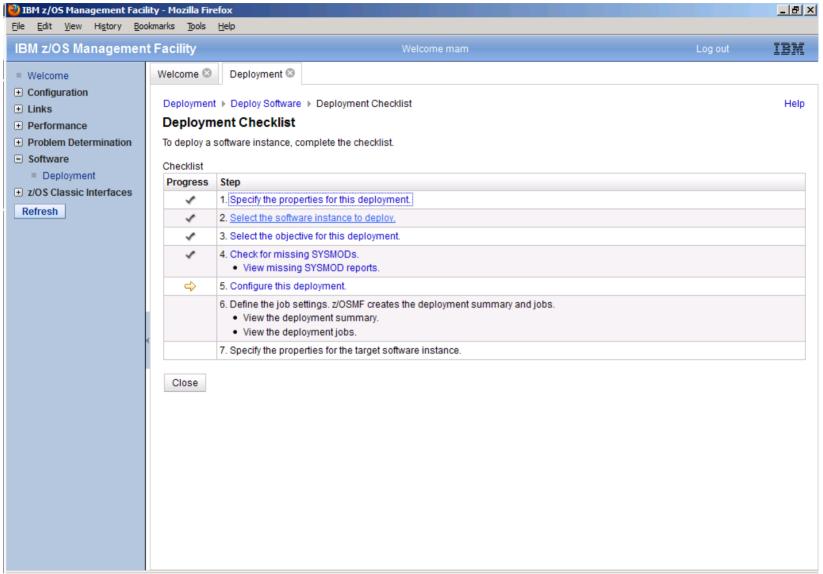
CA1 Software Deployment

Simple. Clean. And it worked the first time!

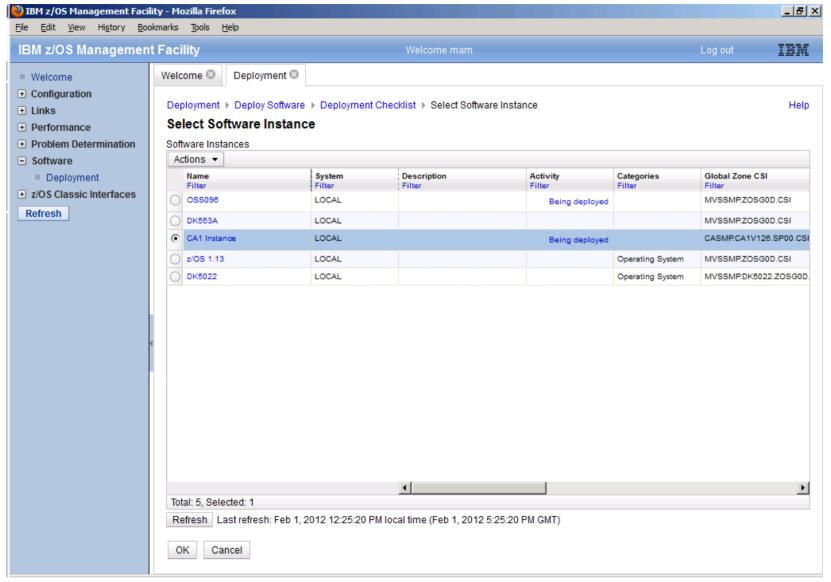






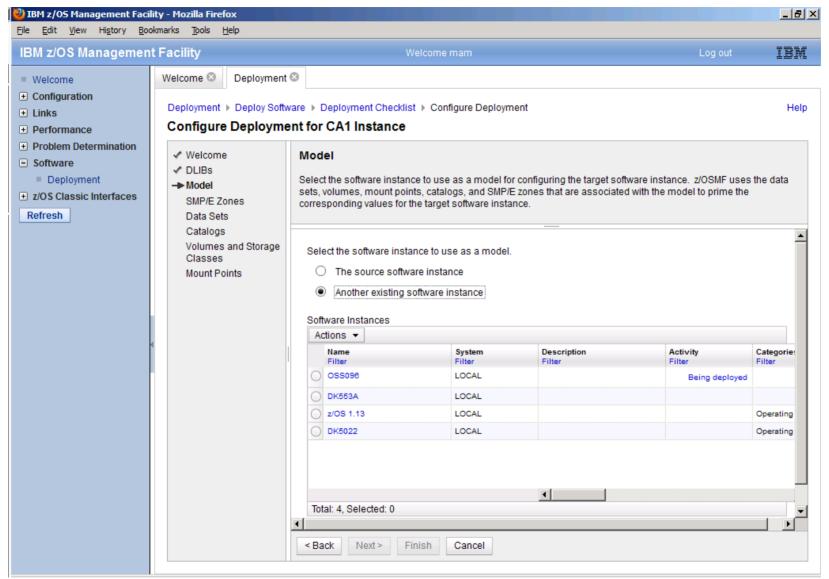




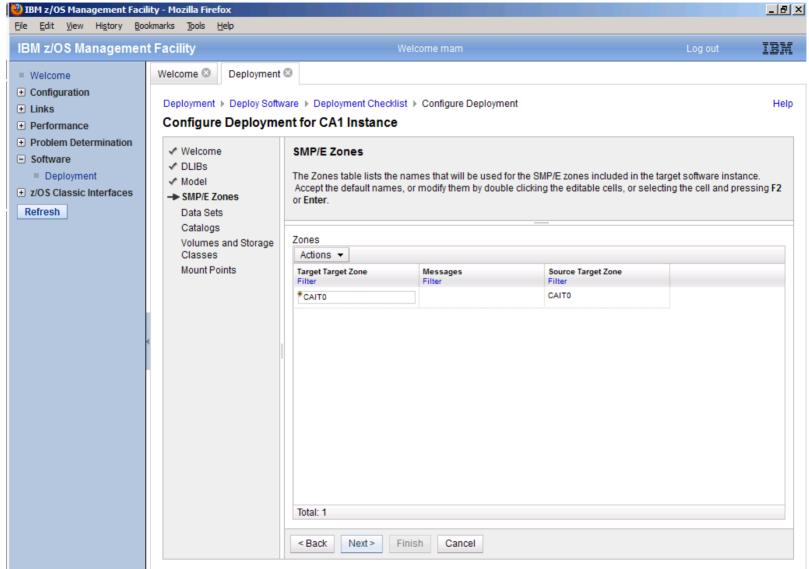






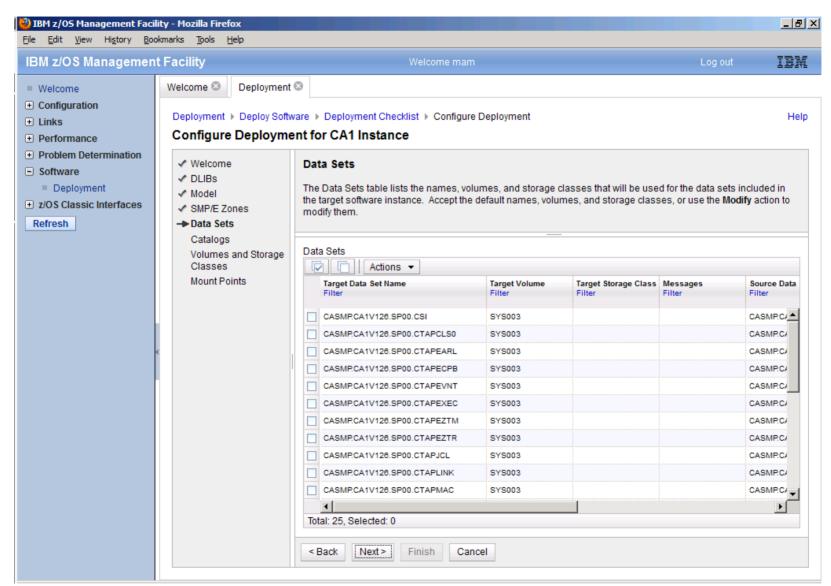






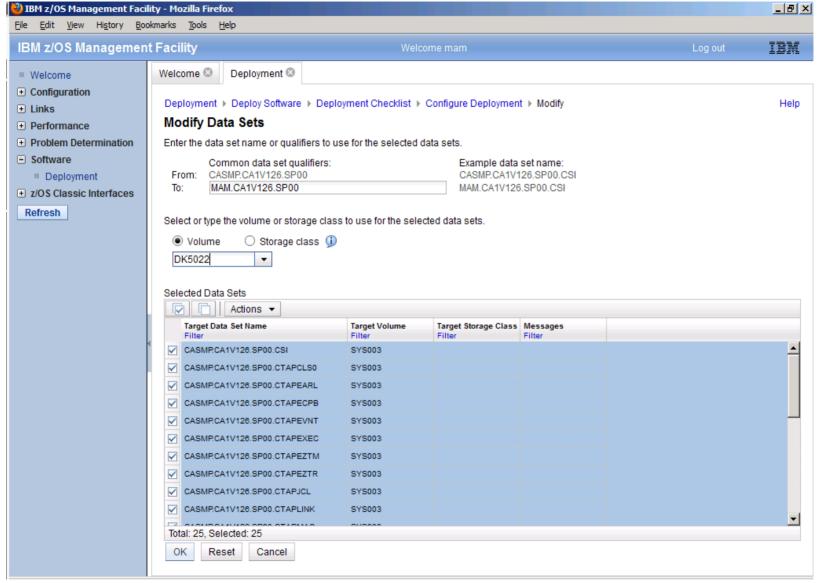






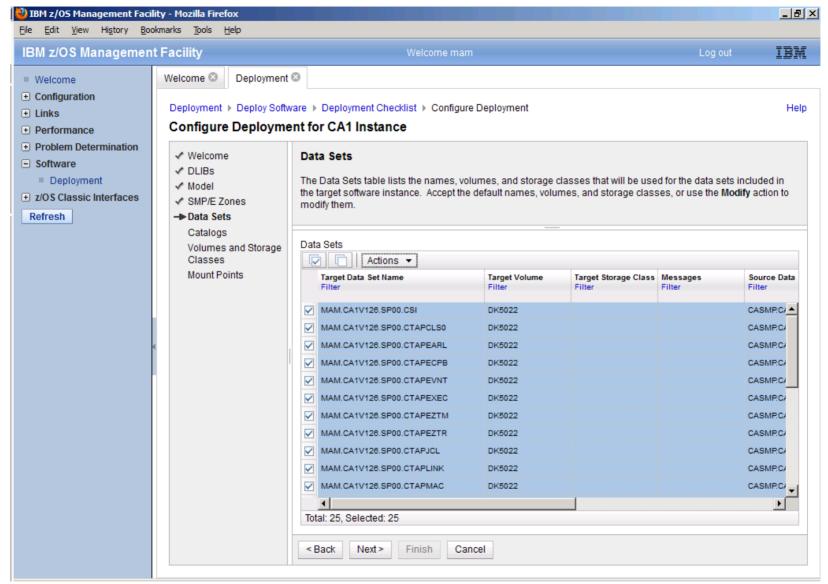






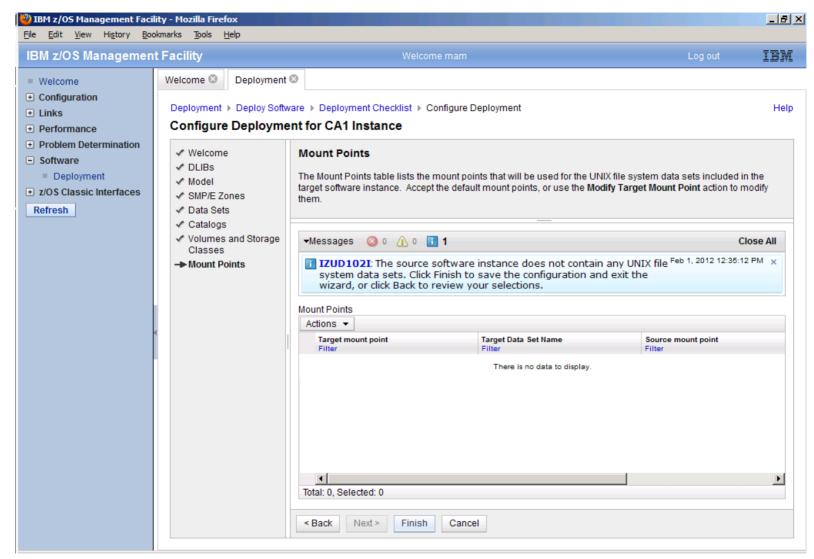




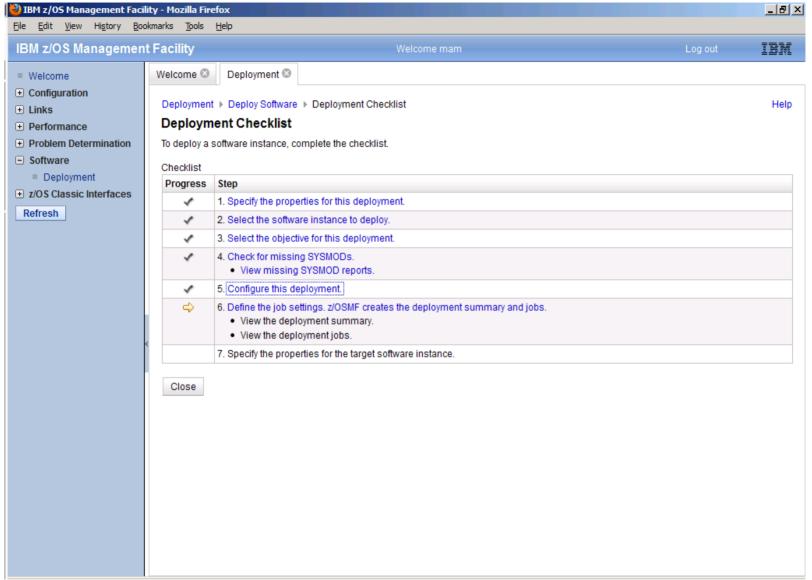




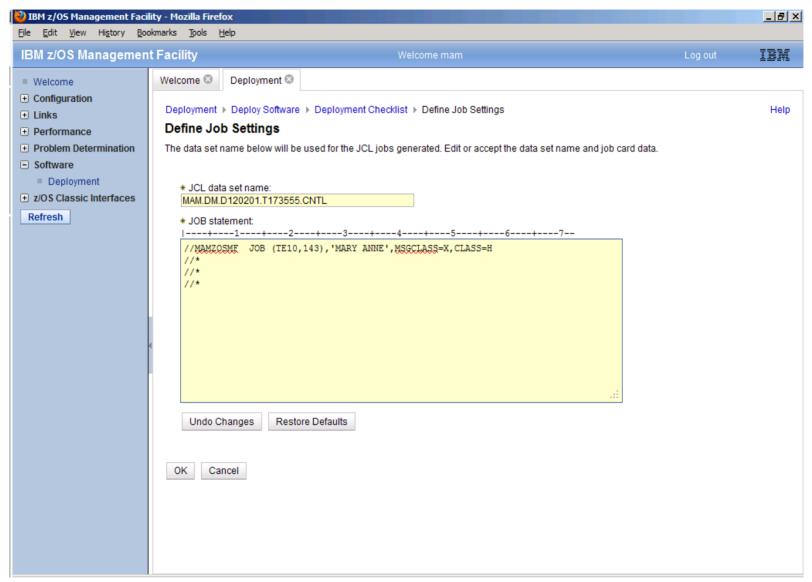




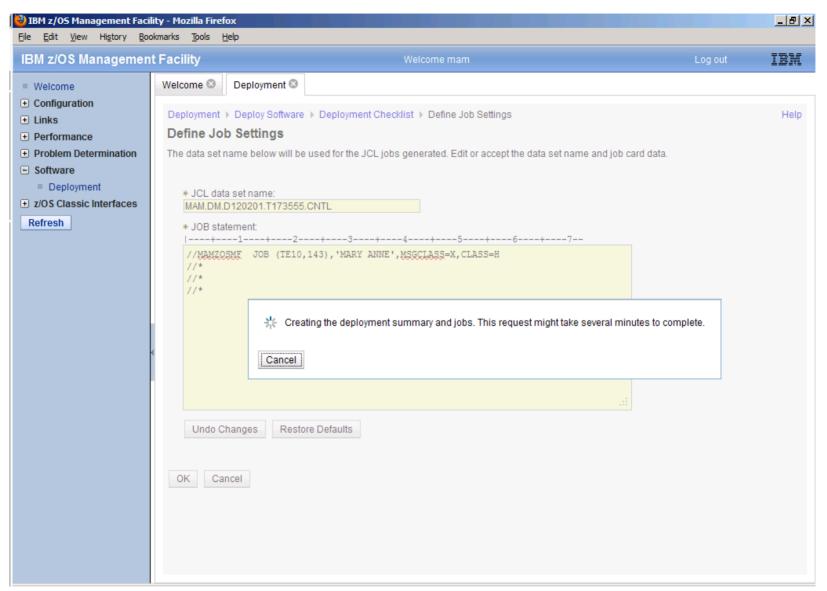








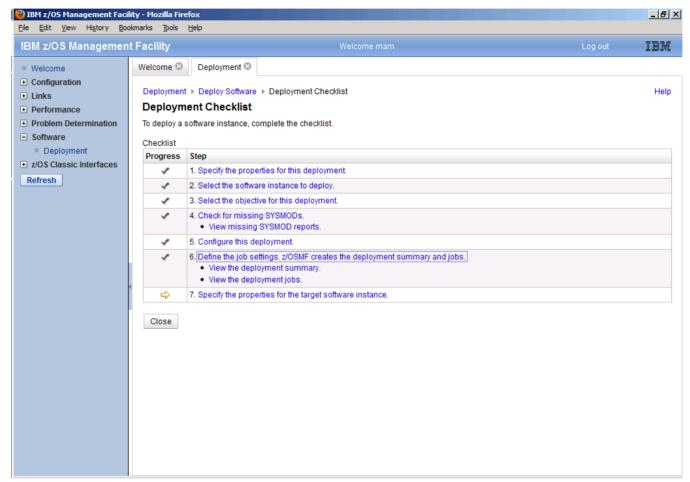












The IZUD01CP job for CA1...



```
COPY DS(INCLUDE( -
CASMP.CA1V126.SP00.CSI -
)) -
RENAMEU( -
(CASMP.CA1V126.SP00.CSI, -
MAM.CA1V126.SP00.CSI) -
```

OADR744W (001)-MRPAM(01), NO VALID MEMBERS WERE FOUND FOR PDS DATA SET CASMP.CA1 V126.SP00.SMPLTS. ONLY THE DIRECTORY WILL BE UPDATED





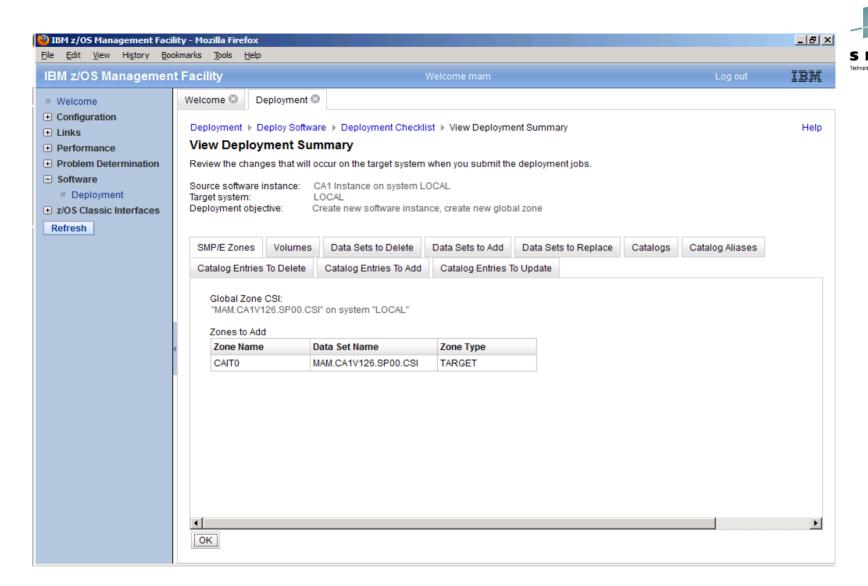
The IZUD02RN job

```
LISTCAT -
    ENTRY(MAM.CA1V126.SP00.CTAPCLS0.#)

IF LASTCC = 0 THEN DO
    ALTER -
        MAM.CA1V126.SP00.CTAPCLS0.# -
        NEWNAME(MAM.CA1V126.SP00.CTAPCLS0) -
        CATALOG(UCAT.VSYSU04)

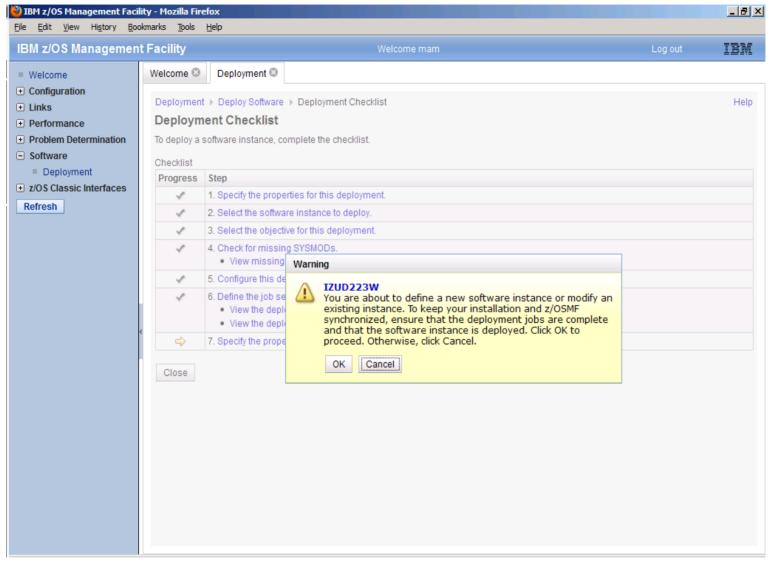
END
```



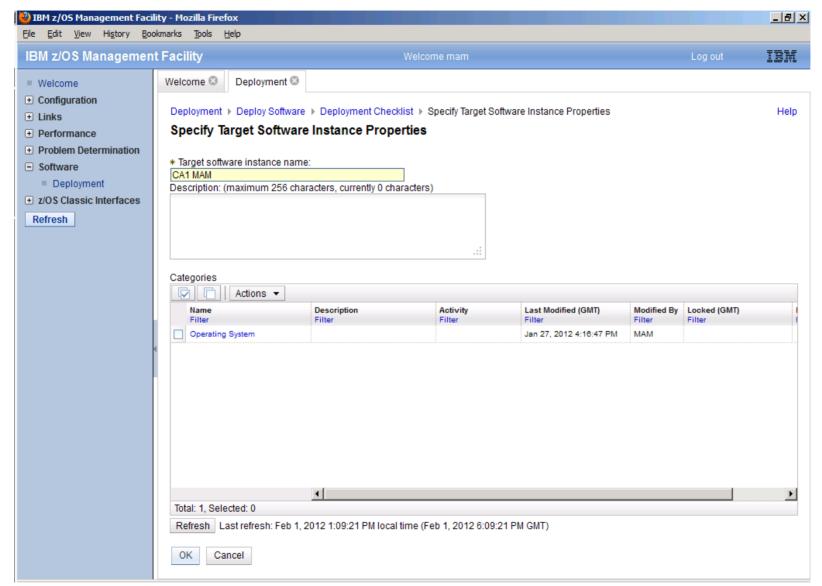






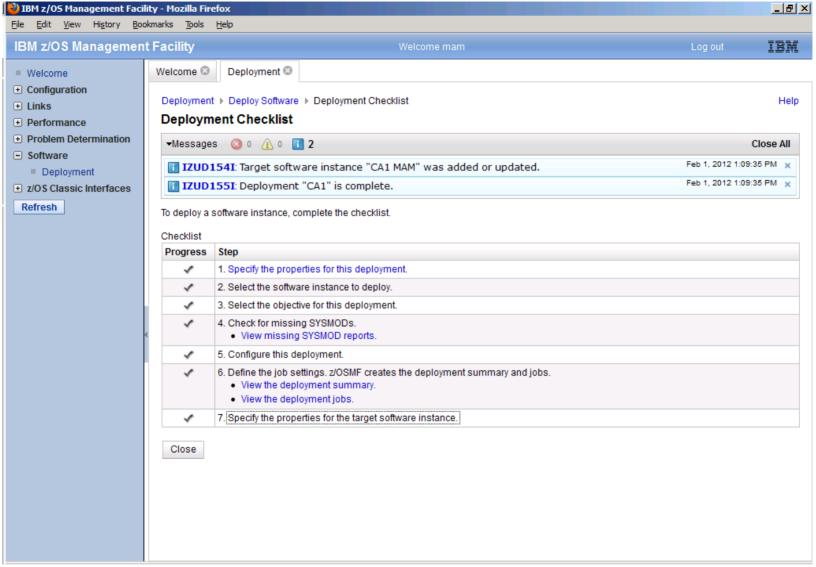














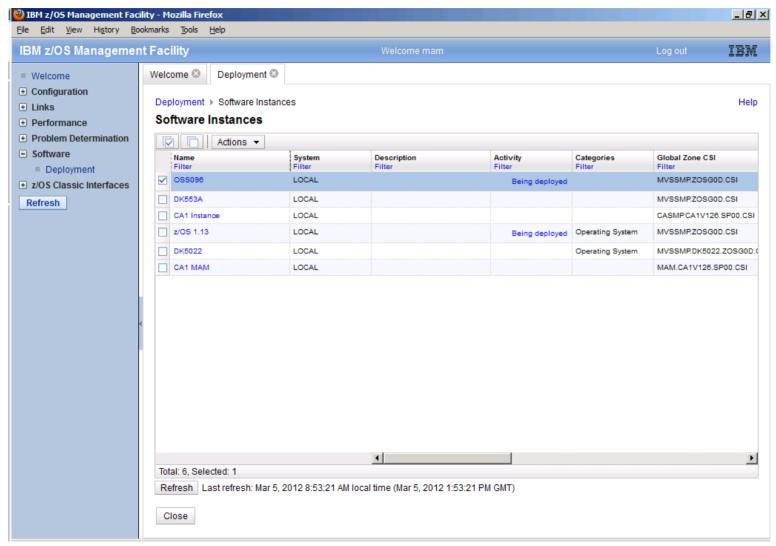


Differences

- On the Operating System deployment:
 - Full volume copy vs dataset-by-dataset
 - No opportunity to add IPLtext, oem assemblies, or miscellaneous jobs (chown and chmod). Though of course, you can run these outside of the deployment.
- On the software product deployment:
 - All SMPE target libs copied, vs just the ones we need. (Loadlibs, ISPF libs, option lib).
 - We catalog the datasets in all our LPAR mcat's.
- Maybe the answer is simply run z/OSMF software deployment, then run our extra jobs.

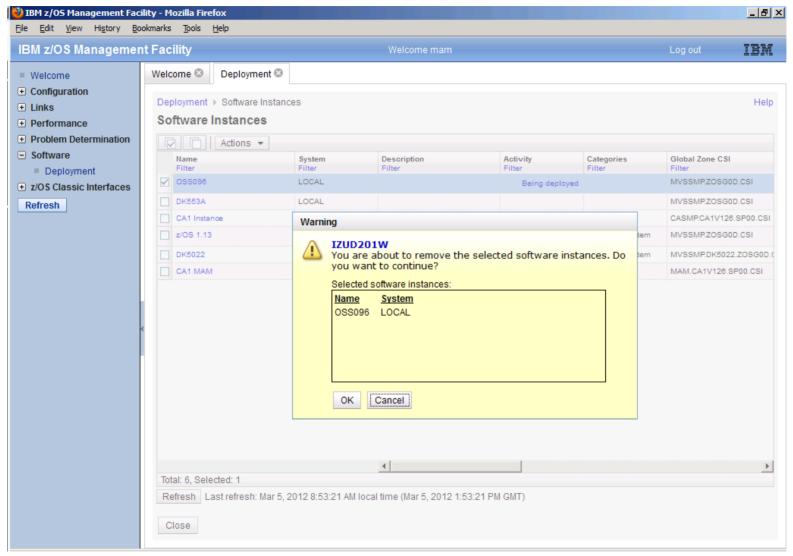






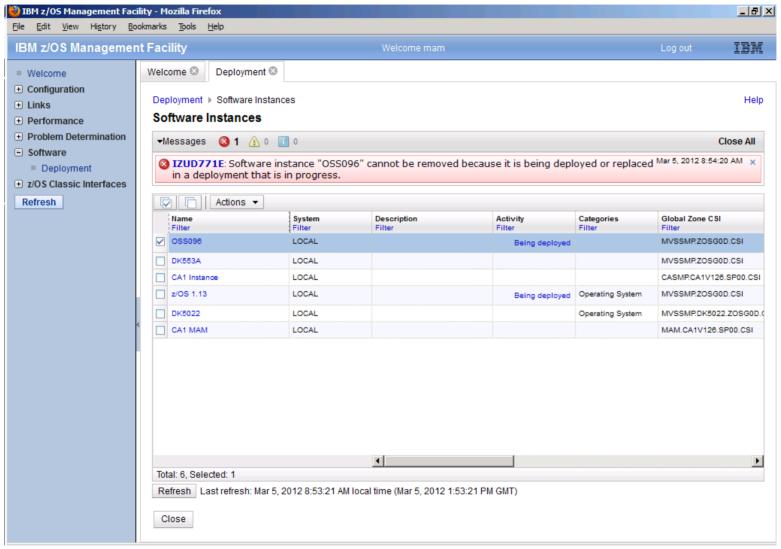






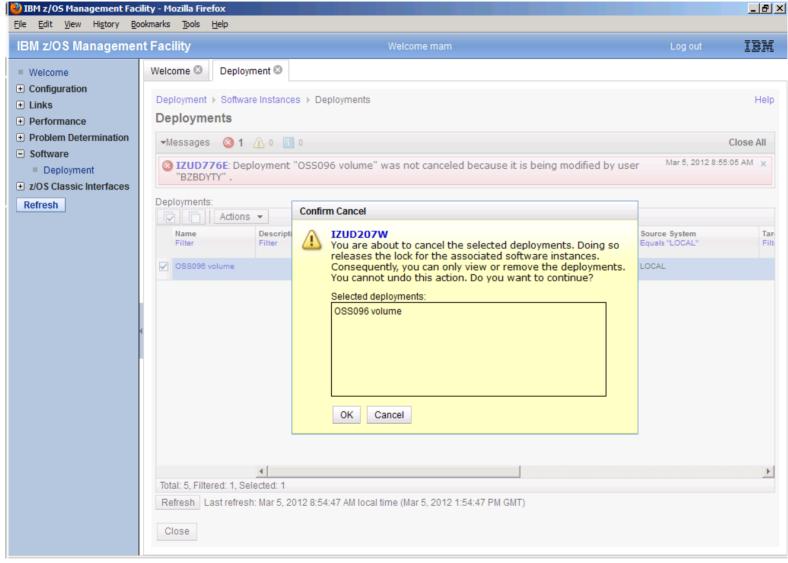




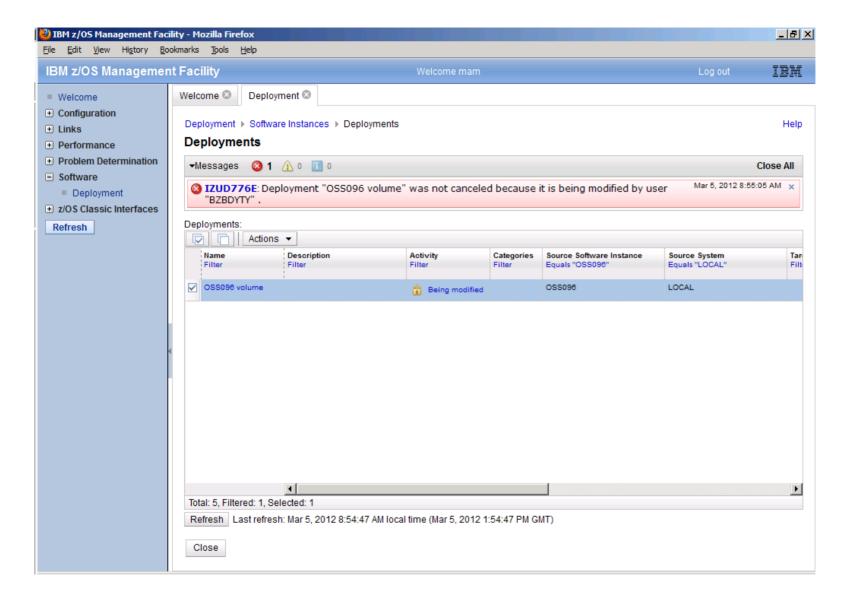








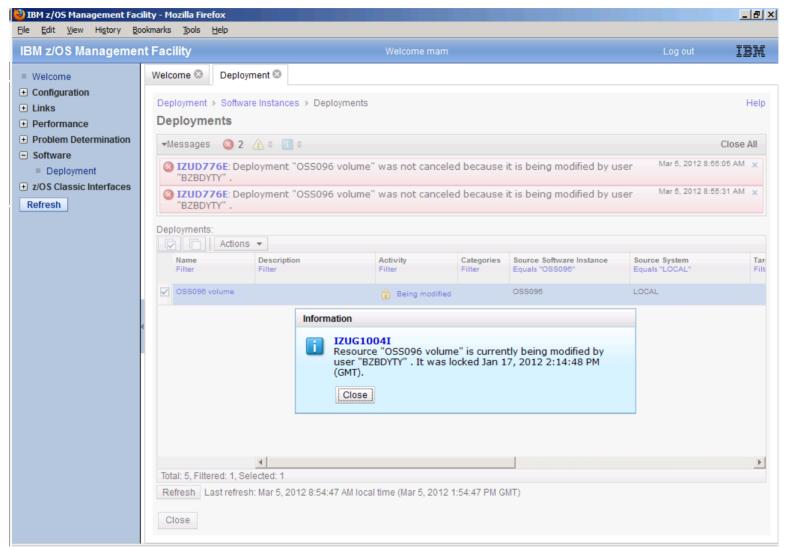






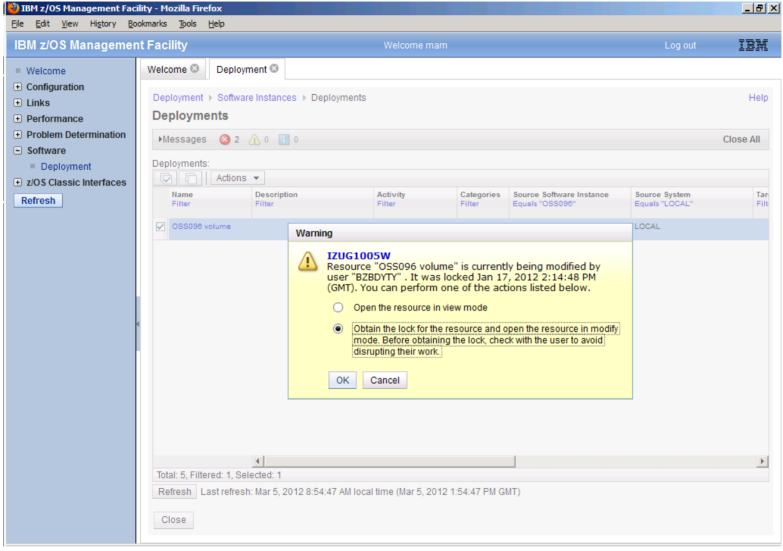






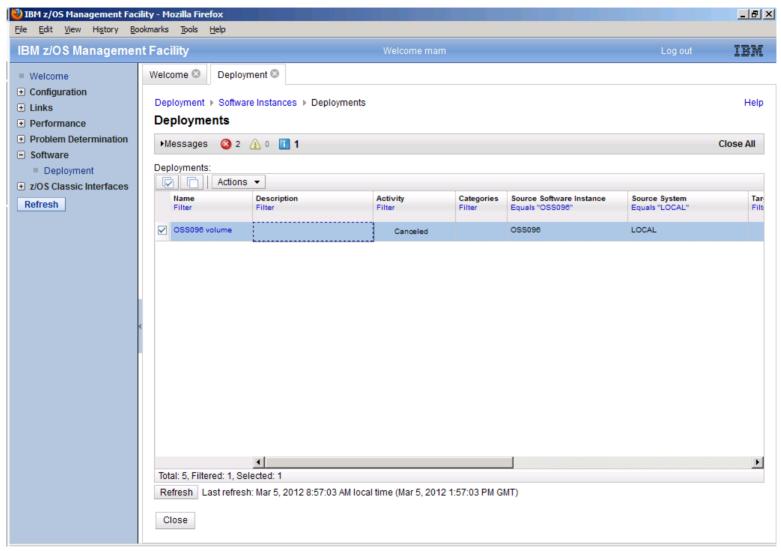






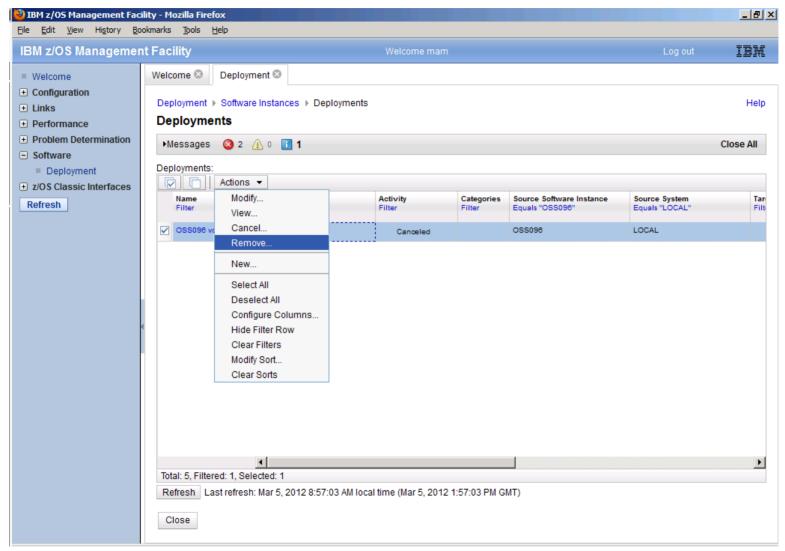






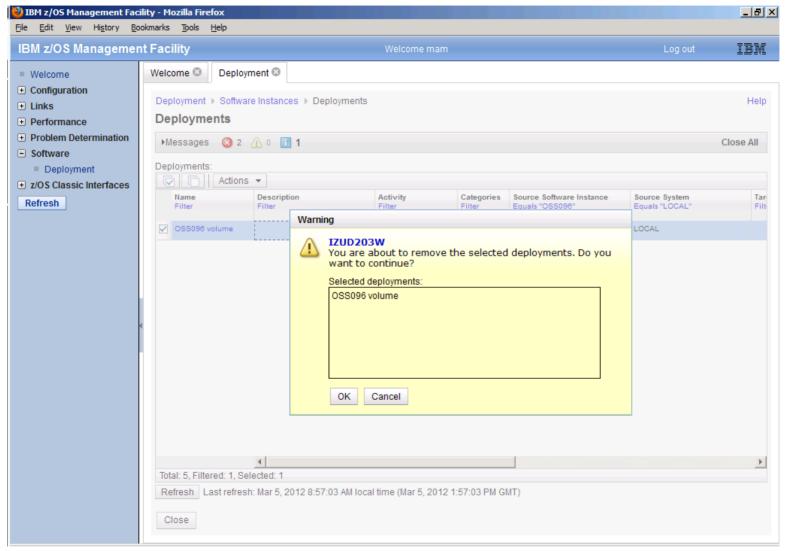






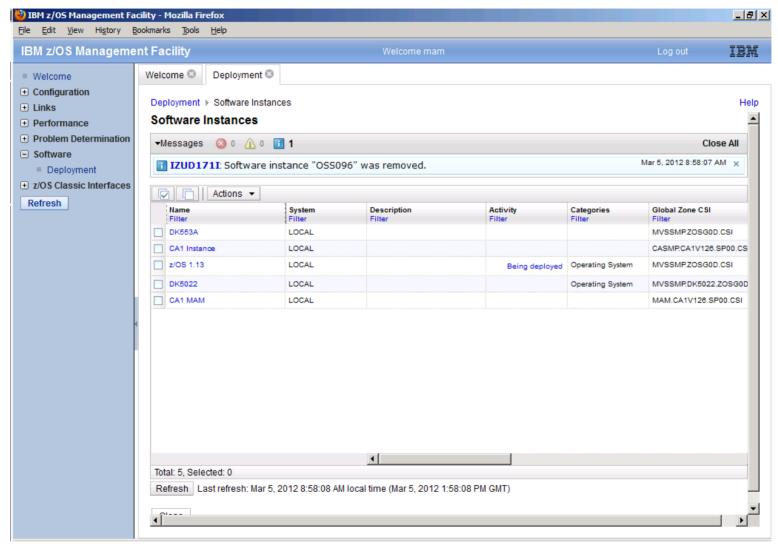














Cancelling/Removing



- Must be unlocked, or obtain lock (obtain it by attempting to modify)
- Cancel
- Remove
- I think the IZUG1004I msg should give you the option to grab the lock, like IZUG1005W does.





Summary

- A very nice deployment application
- Great if yours is nonexistent or not perfected
- Ours is clean, simple, and straightforward
- For us, it's measuring 50 screens versus 2 batch jobs
 - That may lessen on the next deploy
- So we probably won't use this function, for now. But it could be beneficial for us in the future, say if we switch from Mod 9's.





More Info

- Hopefully, you can make it to the Lab...
 - 11574: z/OSMF Software Deployment Hands-on Lab Friday, August 10, 2012: 11:00 AM-12:00 PM
- 11737: z/OSMF Roundtable Thursday, August 9, 2012: 12:15 PM-1:15 PM
- The z/OSMF website:
 - http://www-03.ibm.com/systems/z/os/zos/zosmf/
- z/OS Hot Topics newsletter: <u>http://publibfp.dhe.ibm.com/epubs/pdf/eoz2n1d0.pdf</u>





Questions?



