ibm.com

e-business

IBM

z/OS V1R12
Overview

Paul Rogers - ITSO Poughkeepsie
paulroge@us.ibm.com

Redbooks
International Technical Support Organization

Trademarks

eNetwork	DFSMS/MVS	IMS	RMF
geoManager	DFSMSdfp	IMS/ESA	RS/6000
AD/Cycle	DFSMSdss	IP PrintWay	S/390
ADSTAR	DFSMShsm	IPDS	S/390 Parallel Enterprise Server
AFP	DFSMSrmm	Language Environment	SecureWay
APL2	DFSORT	Multiprise	StorWatch
APPN	Enterprise System 3090	MQSeries	Sysplex Timer
BookManger	Enterprise System 4381	MVS/ESA	System/390
BookMaster	Enterprise System 9000	Network Station	System REXX
C/370	ES/3090	NetSpool	SystemView
CallPath	ES/4381	OfficeVision/MVS	SOM
CICS	ES/9000	Open Class	SOMobjects
CICS/ESA	ESA/390	OpenEdition	SP
CICS/MVS	ESCON	OS/2	VisualAge
CICSPlex	First Failure Support Technology	OS/390	VisualGen
COBOL/370	FLowMark	Parallel Sysplex	VisualLift
DataPropagator	FFST	Print Services Facility	VTAM
DisplayWrite	GDDM	PrintWay	WebSphere
DB2	ImagePlus	ProductPac	3090
DB2 Universal Database	Intelligent Miner	PR/SM	3890/XP
DFSMS	IBM	QMFr	z/OS
	IBM System z	RACF	z/OS.e

Domino (Lotus Development Corporation)
DFS (Transarc Corporation)
Java (Sun Microsystems, Inc.)
Lotus (Lotus Development Corporation)

Tivoli (Tivoli Systems Inc.)
Tivoli Management Framework
(Tivoli Systems Inc.)
Tivoli Manger (Tivoli Systems Inc.)

UNIX (X/Open Company Limited)
Windows (Microsoft Corporation)
Windows NT (Microsoft Corporation)

Redbooks

Agenda

- z/OS overview
- Extended access volumes (EAVs)
- zFS and z/OS UNIX
- JES2, JES3, and SDSF
- Auto_reply
- zOSMF
- RSM, Device Allocation
- Infoprint Server
- Service Aids
- Consoles Message Flood Automation

Redbook for z/OS V1R12

SG24-7853   - z/OS V1R12 updates
SG24-6580-04 - zFS updates (V1R11)

Key Dates for z/OS V1R12

❑ z/OS ordering and deliverable key dates

➢ September 10, 2010

– First date for ordering z/OS V1R12 ServerPac, SystemPac, CBPDO using CFSW configuration support, or ShopzSeries, the Internet ordering tool

– Program number for z/OS V1R12 is 5694-A01

➢ September 24, 2010

– z/OS V1R12 general availability via ServerPac, CBPDO and SystemPac

➢ October 2010

– z/OS V1R11 ServerPac planned ordering ends

---

z/OS Release Coexistence

❑ Coexistence and fallback PTFs installed on pre-z/OS V1R12 systems allow those systems to coexist with z/OS V1R12 systems during your migration, and allow backout from z/OS V1R12 to the previous systems if necessary

Coexistence Releases
with z/OS V1R11

z/OS V1R9	z/OS V1R10	z/OS V1R11	z/OS V1R12
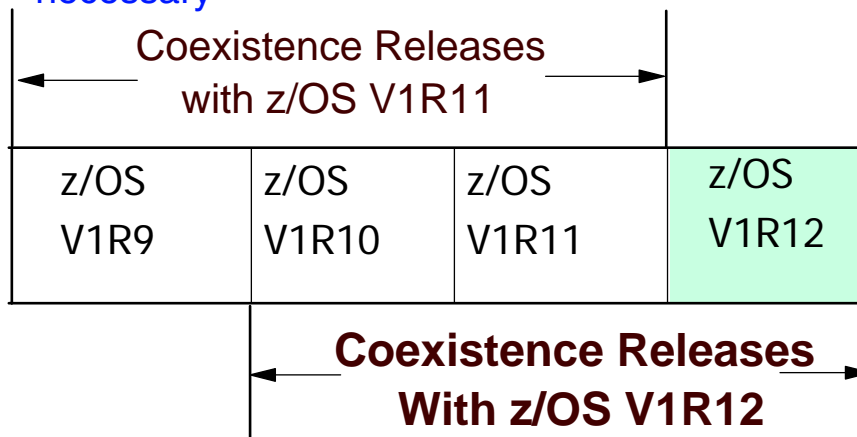
**Coexistence Releases
With z/OS V1R12**

JES Coexistence

BCP release	JES2 release allowed	SDSF release allowed
z/OSV1R12	z/OSV1R10	z/OSV1R9
	z/OSV1R11	z/OSV1R10
	z/OSV1R12	z/OSV1R11

BCP release	JES3 release allowed	SDSF release allowed
z/OSV1R12	z/OSV1R10	z/OSV1R10
	z/OSV1R11	z/OSV1R11
	z/OSV1R12	z/OSV1R12

DASD Space Requirements - z/OS V1R9

❑ If you are migrating from a very old operating system release, or if you will have a different product set than your previous release, you will see increased need for DASD space

➤ Amount depends on the levels of products you are running

	z/OS V1R4	z/OS V1R5	z/OS V1R6	z/OS V1R7	z/OS V1R8	z/OS V1R9
Target	4840	5244	5277	5225	5625	6400
DLIB	6446	6930	7338	7286	7325	8900
HFS	2250	2200	2800	2800	2800	2900

** Sizes in 3390 cylinders

All sizes include 15% freespace to accommodate the installation of maintenance

DASD Space Requirements z/OS V1R12

❏ Minimum to install z/OS V1R11 ServerPac via tape:
  ➤ z/OS V1R10 or z/OS V1R11
❏ Customized Offerings Driver V3 (5751-COD) or later

	z/OS V1R11	z/OS V1R12
Target	6400	5891
DLIB	9200	8599
File system	3100	3100

All sizes include 15% freespace (3390) to accommodate the installation of maintenance

---

DASD Space Requirements z/OS V1R12

❏ Root HFS file system and the Root zFS file system:
  ➤ 3100 cylinders primary; 290 cylinders secondary on a 3390 device
❏ Total space required /etc HFS file system and the /etc zFS file system:
  ➤ 50 cylinders primary; 10 cylinders secondary on a 3390 device
❏ For the CIM element, the total space required for the /var/wbem file system:
  ➤ 50 cylinders primary; 10 cylinders secondary on a 3390 device

Requirements for Service of z/OS V1R12

❏ Minimum to service the new target system:
  ➤ z/OS V1R12 Binder, SMP/E, and HLASM

❏ Run SMP/E REPORT MISSINGFIX command on your z/OS V1R10 and z/OS V1R11 systems
  ➤ Specify a Fix Category (FIXCAT) value of "IBM.Coexistence.z/OS.V1R12"
  ➤ Report identifies any missing coexistence and fallback PTFs for that system
  ➤ REPORT MISSINGFIX command, see SMP/E V3R5.0 for z/OS Commands, SA22-7771
  ➤ Periodically, acquire the latest HOLDDATA and rerun the REPORT MISSINGFIX command to find out if there are any new coexistence and fallback PTFs

Considerations for Coexistence PTFs

❏ **Attention:** z/OS V1R12 will not identify coexistence and fallback PTFs
  ➤ IBM plans to remove the Enhanced PSP Tool (EPSPT) and the extract files from the web on December 31, 2010
  ➤ Use the SMP/E MISSINGFIX report and FIXCAT instead of EPSPT to identify missing coexistence PTFs

❏ With z/OS V1R12, z/OS Migration, GA22-7499 will no longer document the required coexistence and fallback PTFs
  ➤ The SMP/E MISSINGFIX command, in conjunction with the latest HOLDDATA will identify the current coexistence PTFs that are required
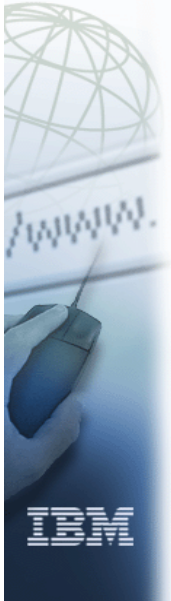
ibm.com

e-business

IBM

Miscellaneous Enhancements in z/OS V1R12

Redbooks
International Technical Support Organization

Display SYMBOLS Command

❑ The DISPLAY SYMBOLS command has new symbols defined via the IEASYMxx parmlib member

❑ In z/OS V1R12 two new parameters have been added:

➤ D SYMBOLS [{,DETAIL | ,SUMMARY}]

– DETAIL - Displays the names and substitution text of the static system symbols -the DETAIL parameter is optional - Default: DETAIL

– SUMMARY | SUM - Displays summary information about the static system symbols currently in use with message IEA994I - SUMMARY parameter is optional - You can use SUM as a synonym of SUMMARY

Dynamic Exits CSVLLIX1 and CSVLLIX2

❑ Dynamic exits CSVLLIX1 and CSVLLIX2 can improve the performance of module fetching on your system by allowing library lookaside (LLA) to manage your production load libraries

 ➢ LLA reduces the amount of I/O needed to locate and fetch modules from DASD storage

 ➢ LLA determines which modules, if staged, would provide the most benefit to module fetch performance

 ➢ LLA evaluates modules as candidates for staging based on statistics it collects about the members of the libraries it manages (such as module size, frequency of fetches per module (fetch count), and the time required to fetch a particular module)

Dynamic Exits CSVLLIX1 and CSVLLIX2

❑ z/OS V1R12 allows CSVLLIX1 and CSVLLIX2 to be added via the dynamic exits facility

 ➢ Previously they were defined via the EXIT1 and EXIT2 statements in the CSVLLAxx parmlib member

 ➢ This means that they can be managed like other dynamic exits through PROGxx parmlib members

❑ Once the exit routines are managed by the use of PROGxx the use of EXIT statements within CSVLLAxx is ignored

F LLA Command Enhancements

❑ Prior to z/OS V1R12, if one modify is in-process when another is received, the second got a "busy" response
  ➢ z/OS V1R12 allows up to 255 modify's to be started without getting a "busy" response
❑ LLA should always be started by specifying SUB=MSTR to allow the address space to start independent of JES
  ➢ With z/OS V1R12, LLA detects the omission of the recommended SUB=MSTR and terminates this START and begins a new one adding SUB=MSTR

Dynamic Exit Enhancements

❑ Replacing a dynamic exit
  ➢ z/OS V1R12 introduces a REPLACE function
  ➢ The REPLACE function is available via:
    – The EXIT REPLACE statement in PROGxx
    – The SETPROG EXIT,REPLACE command
    – The CSVDYNEX REQUEST=REPLACE macro
❑ With z/OS V1R12 a parameter (PARAM) is defined on:
  ➢ The EXIT ADD statement of PROGxx
  ➢ The SETPROG EXIT,ADD command,
  ➢ The CSVDYNEX REQUEST=ADD macro
    – An 8-byte parameter can be placed into access registers 0/1 on entry to the exit routine
    – To get the full 8 bytes of PARAM data, the contents of AR0 and AR1 need to be concatenated

Dynamic Exits Types

❏ Following is an example of the SETPROG EXIT,ADD command with PARAM= specified:

```
SETPROG EXIT,ADD,EXITNAME=IEFU83,MODNAME=IEFBR14,PARAM=PAULROGE
CSV420I MODULE IEFBR14 HAS BEEN ADDED TO EXIT IEFU83.



D PROG,EXIT,EXITNAME=IEFU83,DIAG
CSV464I 15.25.44 PROG,EXIT DISPLAY 197
EXIT IEFU83
MODULE     STATE EPADDR    LOADPT    LENGTH    JOBNAME    PARAM
IEFBR14      A    00000000  00000000  00000000  *          PAULROGE
```

Dynamic Exits Types

❏ There are two main types of dynamic exits:
  ➤ Installation exits - type is "installation"
  ➤ Exits intended for use by programs - type is "program"
  ➤ z/OS V1R12 provides functionality by which the owner of an exit can identify which of these types their exit is
  ➤ Many exits are not yet identified and so an exit will have a type of installation, program, or not defined

❏ DISPLAY PROG command can be filtered by type to limit the display
  ➤ DISPLAY PROG,EXIT[INSTALLATION, PROGRAM, NOTPROGRAM]
    – INSTALLATION displays all exits with type "installation"
    – PROGRAM displays all exits with type "program"
    – NOTPROGRAM displays all exits with type "installation" or no type

zAAP on zIIP Implementation

❑ IBM made support available for z/OS V1R11 with a new capability that can enable zAAP eligible workloads to run on zIIPs

❑ This capability allowed customers to run zIIP and zAAP eligible workloads together on one type of specialty engine, the zIIP

❑ This capability is available with z/OS V1R11

➢ z/OS V1R9 and V1R10 with a PTF for APAR OA27495

➢ Is available on IBM System z9 and System z10 servers

---

zAAP on zIIP Support with z/OS V1R12

❑ Before z/OS V1R12, users had difficulty verifying zAAP on zIIP support was enabled

❑ The DISPLAY IPLINFO command is enhanced to display the value specified for any IPL parameter

➢ The DISPLAY IPLINFO command is now enhanced to give information on the zAAP on zIIP state

```
DISPLAY IPLINFO,ZAAPZIIP
IEE255I SYSTEM PARAMETER 'ZAAPZIIP': YES
```

➢ Yes - means you specified ZAAPZIIP=YES, and the system can run zAAP processor eligible work on zIIP processors when no zAAP processors are installed on the machine

zAAP on zIIP Support

❏ In providing this support the DISPLAY IPLINFO command is enhanced to display the value specified for any IPL parameter

➤ The DISPLAY IPLINFO command being used to display the PROGxx parmlib member(s) used at IPL

❏ When displaying the ZAAPZIIP status, the DISPLAY IPLINFO command accepts the parameter STATE

➤ This will display the ZAAPZIIP state of ACTIVE or INACTIVE and give the reason if ZAAPZIIP is INACTIVE

```
D IPLINFO,PROG
IEE255I SYSTEM PARAMETER 'PROG': (A0,S0,D0,2A,J3,L0)
```

```
DISPLAY IPLINFO,ZAAPZIIP,STATE
IEE256I ZAAPZIIP STATE: INACTIVE - ZAAP(S) DEFINED TO THIS LPAR
```

---

ibm.com

e-business

Migration Issues

Redbooks
International Technical Support Organization

Migration to z/OS V1R12

❏ This section describes new migration actions for the BCP element that can be performed on current coexistence supported z/OS release systems

➤ z/OS V1R10 and z/OS V1R11

Trace Options with CTIGRSxx member

❏ if you specify your own CTIGRSxx parmlib member on the CTRACE option in GRSCNFxx parmlib member

➤ Before z/OS V1R12, default buffer value (BUFSIZE) for the trace option with the GRS component in the IBM-supplied CTIGRS00 parmlib member was 128 K

➤ Starting with z/OS V1R12, the default size in CTIGRS00 is increased to 16 M.

❏ Migration action

➤ If you specify your own CTIGRSxx parmlib member, change the BUFSIZE in the CTIGRSxx parmlib member to 16 M

CSVRTLS Services

❏ This change is required: if you use CSVRTLS services

❏ z/OS V1R5 was the last release of z/OS to support Run-Time Library Services (RTLS) for LE

❏ In z/OS V1R12, the CSVRTLS services are removed

➤ A way to track CSVRTLS usage, and to let you find any programs that might be using these services, is available for

– z/OS V1R11 with APAR OA29995

– z/OS V1R10 with APAR OA29019

CSVRTLS Services with APARs

❏ Exploit the z/OS tracking facility so that you can tell if you are using any RTLS announced withdrawal

❏ Any use while the tracking facility is active will be recorded and can be displayed:

➤ SET RTLS command

➤ DISPLAY RTLS command

➤ The CSVRTLS macro

➤ Use of the RTLS system parameter in IEASYSxx parmlib member will be tracked

```
D OPDATA,TRACKING
CNZ1001I 15.47.47 TRACKING DISPLAY
STATUS=ON        NUM=2     MAX=1000 MEM=n/a EXCL=0      REJECT=0
--TRACKING INFORMATION-- -VAL- JOBNAME   PROGNAME+OFF-- ASID NUM
WTO: IEC350I CATALOG ADD     00 CATALOG   IGG0CLX0 80BAC   1A   1
WTO: IEF677I WARNING MES     00 JES2      IEFNB903 C9AA   13   1
```

Migration Assistance Tracker Commands

❏ The tracking facility can be manipulated with the following commands:

➤ The SETCON command is used to activate and deactivate the Console ID Tracking facility.

➤ The DISPLAY OPDATA,TRACKING command is used to display the current status instances of violations

❏ CNIDTRxx parmlib member

➤ The CNIDTRxx parmlib member is used to list violations that have already been identified to prevent them from being recorded again

EWLM Transaction Class

❏ **Recommended task:** Beginning with z/OS V1R12, the workload management (WLM) service definition no longer supports the work qualifier EWLM transaction class name (ETC) for classification rules of the subsystem type EWLM

➤ Otherwise you will have to delete the classification rules the next time you use the WLM ISPF application to modify the EWLM subsystem type

❏ Although z/OS V1R12 disregards classification rules with the ETC work qualifier, you should consider removing them

➤ If you do not remove the rules, you will have to delete them the next time you use the WLM ISPF application to modify the EWLM subsystem type

Accommodate New REUSASID Default

❏ Required action: If this migration action is not taken, the 0D3 abends might occur with downlevel products that provide no toleration support for reusable ASIDs

❏ Because reusable ASIDs have been available since z/OS V1R9, it is reasonable to expect that the current levels of products are tolerant of reusable ASIDs

➢ In z/OS V1R9, REUSASID(YES | NO) parameter in parmlib member DIAGxx was introduced with a default of **NO**

➢ With z/OS V1R12, the default is changed to **YES**

Accommodate New REUSASID Default

❏ Take the following migration actions:

➢ With z/OS V1R11 or z/OS V1R10 systems, specify REUSASID(YES) in the parmlib member DIAGxx

➢ On z/OS V1R12 systems, keep REUSASID(YES) or allow it to default to YES

– Verify that no 0D3 abends occur as a result

– If 0D3 abends do occur, apply appropriate maintenance to the affected code

– If this is not possible, specify REUSASID(NO) in DIAGxx on z/OS V1R12 to override the new default of REUSASID(YES)

Language Environment Run-time Options

❏ With z/OS V1R12, you can set run-time options as overrideable or nonoverrideable in the CEEPRMxx parmlib member using the OVR or NONOVR attribute

➤ Or with a SETCEE command

❏ The ability to specify an option as overrideable or nonoverridable removes a barrier to using CEEPRMxx

❏ For migration: Set run-time options in the CEEPRMxx parmlib member using the OVR or NONOVR attribute

➤ Or by issuing the SETCEE command

➤ This elimantes using the USERMODs at installation to mark run-time options as monoverrideable

In a future release, IBM plans to remove the capability to change the default Language Environment run-time options settings via SMP/E installable USERMODs. IBM recommends using the CEEPRMxx parmlib member to change the default

---

z/OS UNIX Migration

❏ Before z/OS V1R12, a value had to be specified for the MAXSOCKETS keyword in the NETWORK statement for AF_UNIX in the BPXPRMxx parmlib member if the maximum number of AF_UNIX sockets for the system needed to be greater than the default of 100

➤ As of z/OS V1R12, the value does not need to be specified because a maximum value of 10,000 has been set for MAXSOCKETS for AF_UNIX

❏ With z/OS V1R112 the value of 10,000 is set

➤ Any MAXSOCKETS keyword is now ignored

➤ Be careful if you remove the parameter if other members of the sysplex are not yet at V1R12

z/OS V1R12 Supported Hardware

❑ z/OS V1R12 runs on these IBM System z servers:

  ➤ z196

  ➤ z10 EC

  ➤ z10 BC

  ➤ z9 EC (see Note)

  ➤ z9 BC (see Note)

  ➤ z990 (see Note)

Note:These machines are withdrawn from marketing

---

ibm.com

e-business

Small Enhancements with z/OS V1R12

Redbooks
International Technical Support Organization

z196 and zBX

zEnterprise System

BulkPower Hub A
BulkPower Hub B

Intranode Management Network

TOR Switches

z196

zBX

OSM

OSX

Intraensemble Data Network

OSD

Customer Managed Data Network
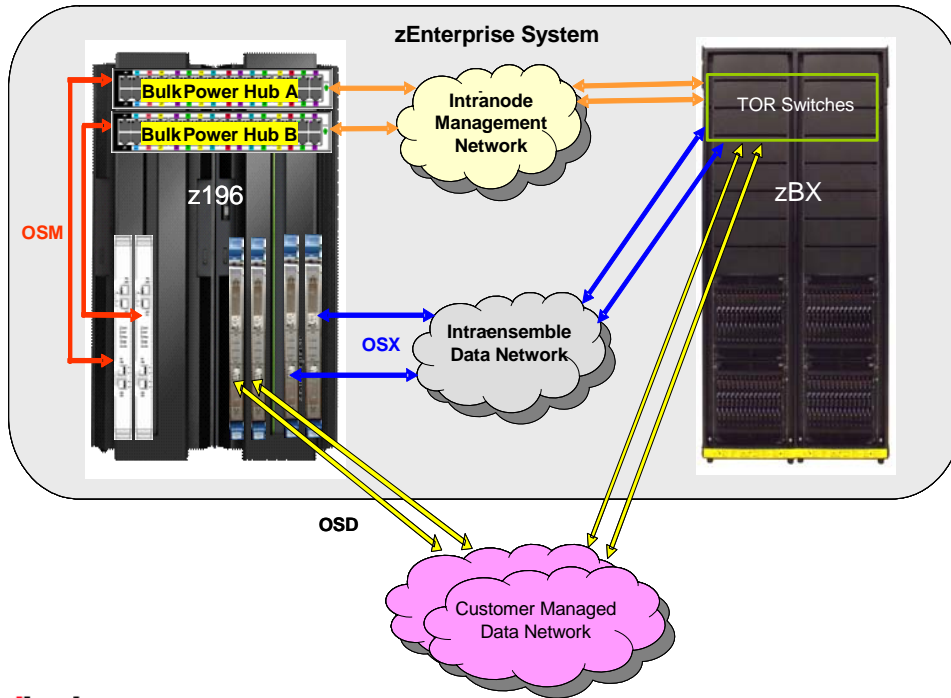
WLM Definition Menu

```
  File  Utilities  Notes  Options  Help
 --------------------------------------------------------------------
Functionality LEVEL025        Definition Menu        WLM Appl LEVEL025
Command ===> _____


Definition data set  . . : none


Definition name  . . . . . TEST1     (Required)
Description  . . . . . . . _____


Select one of the
following options. . . . . ___   1.   Policies
                                 2.   Workloads
                                 3.   Resource Groups
                                 4.   Service Classes
                                 5.   Classification Groups
                                 6.   Classification Rules
                                 7.   Report Classes
                                 8.   Service Coefficients/Options
                                 9.   Application Environments
                                 10.  Scheduling Environments
                                 11.  Guest Platform Management Provider
```

Guest Platform Management Provider (GPMP)

❑ z/OS integrates with this new management environment - a new agent, (GPMP) that communicates with z/OS WLM and provides basic data such as:
  ➤ System resource utilization
  ➤ System delays and paging delays
    – Back to the zEnterprise Unified Resource Manager over the INMN network
❑ The zEnterprise Unified Resource Manager can add additional workload relationships from the ensemble components to your z/OS workload
  ➤ For example, linking a transaction that started on the zBX back to DB2 on z/OS data

---

Select Systems to be Excluded

```
  GPMP-Settings  Notes  Options  Help
  -----------------------------------------------------------
 IWMAPBD     Guest Platform Management Provider (GPMP) Settings
 Command ===> _____


 Guest Platform Management Provider activation: 2    1.  NO
                                                     2.  YES



 Names of systems to be excluded:

   SC81        _____    _____    _____
 _____    _____    _____    _____
 _____    _____    _____    _____
 _____    _____    _____    _____
 _____    _____    _____    _____
 _____    _____    _____    _____
 _____    _____    _____    _____
 _____    _____    _____    _____
```

Elements Withdrawn from z/OS V1R12

❏ Managed System Infrastructure for Setup (msys for Setup)

❏ FMIDs HMSI707 and HMSI737 are not included in V1R12

❏ z/OS V1R11 is the last release to include these FMIDs

❏ If installing CBPDO deliverable for z/OS V1R12

➢ You must delete the msys for Setup element from the target system after z/OS V1R12 is installed

➢ A sample job, CLNOS390, is provided to delete the msys for Setup FMIDs from the target system

➢ z/OS V1R12 Program Directory provides instructions on running the sample job CLNOS390

➢ Obsolete libraries, paths and associated DDDEFs must be removed from the target system after V1R12 has been installed and the msys for Setup element has been deleted