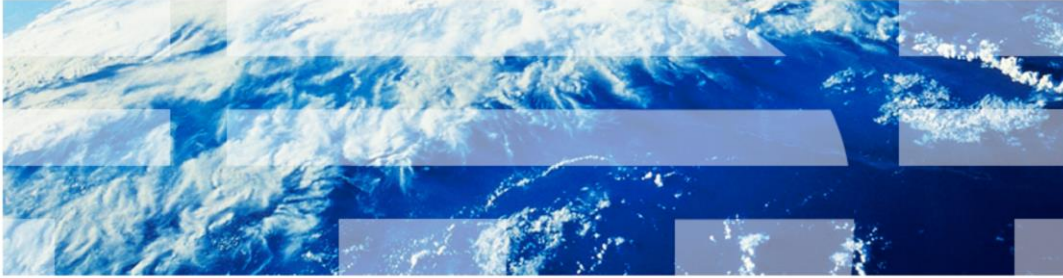

IBM Tivoli Monitoring V6.2

Diagnostic log collection steps for monitoring agent for i5/OS



© 2012 IBM Corporation

IBM Tivoli Monitoring V6.2, Diagnostic log collection steps for monitoring agent for i5/OS. In this module, you learn about the steps involved in collecting the diagnostic logs and other troubleshooting information to help diagnose the problems encountered by the agent. These diagnostic logs are used by IBM Support personnel to identify the root cause of the problem.

Assumptions

Before you proceed, the module designer assumes that you have these skills and environment:

- General system administration of i5/OS or IBM i platform
- Knowledge of Tivoli Monitoring agent for i5/OS
- Ability to FTP from i5/OS server to Windows, UNIX, or Linux systems

The module designer assumes that you have the general system administration skills on i5/OS or IBM i platform and knowledge of Tivoli Monitoring agent for i5/OS. You also have the ability to do the FTP from an i5/OS server to Windows, UNIX, or Linux systems.

Objectives

When you complete this module, you can perform these tasks:

- Check the version of the monitoring agent for i5/OS
- Configure the agent to produce extensive trace information
- Collect the agent RAS1 trace log files
- Collect the agent i5/OS job log (spool) files

After completing this module, you can perform these tasks:

- Check the version of the monitoring agent for i5/OS
- Configure the agent to produce extensive trace information
- Collect the agent RAS1 trace log files
- Collect the agent i5/OS job log (spool) files

Determining the version of the installed agent

Run the **DSPPFM QAUTOMON/KA4LEVEL** command on an i5/OS command line

The **PRODUCT VERSION** line shows the VVRRMMFF level of the agent

Note: The commands **cinfo** and **kincinfo** do not work on i5/OS platform

```

                                Display Physical File Member
File . . . . . : KA4LEVEL          Library . . . . . : QAUTOMON
Member . . . . . : KA4LEVEL        Record . . . . . : 1
Control . . . . . :                 Column . . . . . : 1
Find . . . . . :
+...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+
000100000000PRODUCT ID       : 5724C04
000200000000PRODUCT VERSION  : 06.22.04.00
000300000000PRODUCT DESCRIPTION : IBM Tivoli Monitoring: i5/OS Agent
000400000000KA4 DRIVER       : 03201
000500000000TEMA SDK         : 0258
000600000000PACKAGE DRIVER   : D0320A
000700000000PACKAGE LEVEL    : 201011161125
000800000000PACKAGE SIZE     : 42000 KiloBytes approximately
000900000000COMMENTS         : om400_622fp4 A4D0320A5P op20250a5p V6R2M3
001000000000BUILD DATE       : Tuesday, November 16, 2010
                                ***** END OF DATA *****

```

4

Diagnostic log collection steps for monitoring agent for i5/OS

© 2012 IBM Corporation

To determine the version or the level of the agent installed, run the command **DSPPFM QAUTOMON/KA4LEVEL** on the i5/OS command line. The contents of KA4LEVEL file in QAUTOMON library displays on the screen. The **PRODUCT VERSION** line shows the version of the agent. The Tivoli Monitoring commands **cinfo** and **kincinfo** do not work on i5/OS platform.

Configure the agent to produce extensive trace information (1 of 4)

- Edit the physical file member KBBENV in the **QAUTOTMP/KMSPARM** file by using EDTF, STRSEU, or other file edit commands

Example: **EDTF FILE(QAUTOTMP/KMSPARM) MBR(KBBENV)**

- Comment all the lines that start with KBB_RAS1 by inserting an asterisk (*) at the beginning of the line

Example: ***KBB_RAS1=ERROR**

- Add a line **KBB_RAS1=ERROR (UNIT:KA4 ALL) (UNIT:KRA ST)** anywhere in the file

- You can also modify the existing line

***KBB_RAS1=ERROR (UNIT:KA4 ST) (UNIT:kra ST)**

to

KBB_RAS1=ERROR (UNIT:KA4 ALL) (UNIT:KRA ST)

Edit the physical file member KBBENV in QAUTOTMP/KMSPARM file using EDTF, STRSEU, or other file editing commands. Comment all the lines that start with KBB_RAS1 by inserting an asterisk (*) at the beginning of the line. For example, *KBB_RAS1=ERROR. Add a new line KBB_RAS1=ERROR (UNIT:KA4 ALL) (UNIT:KRA ST) anywhere in the file or modify the existing line *KBB_RAS1=ERROR (UNIT:KA4 ST) (UNIT:kra ST) to KBB_RAS1=ERROR (UNIT:KA4 ALL) (UNIT:KRA ST). IBM Support personnel might recommend different trace parameters based on the symptoms of the problem reported. Use the trace parameters that are recommended by the IBM Support personnel.

Configure the agent to produce extensive trace information (2 of 4)

- You can change the number of trace or log files that are produced by using the KBB_RAS1_LOG parameter. The default value is

```
KBB_RAS1_LOG=(QAUTOTMP/KA4AGENT01 \  
QAUTOTMP/KA4AGENT02 QAUTOTMP/KA4AGENT03) \  
INVENTORY=QAUTOTMP/KA4RAS.INV LIMIT=5 PRESERVE=1
```

- You can increase or decrease the number of trace files by adding or removing file names in the KBB_RAS1_LOG parameter. For example, to configure the agent to create up to six trace files, set

```
KBB_RAS1_LOG=(QAUTOTMP/KA4AGENT01 QAUTOTMP/KA4AGENT02 \  
QAUTOTMP/KA4AGENT03 QAUTOTMP/KA4AGENT04 \  
QAUTOTMP/KA4AGENT05 QAUTOTMP/KA4AGENT06) \  
INVENTORY=QAUTOTMP/KA4RAS.INV LIMIT=5 PRESERVE=1
```

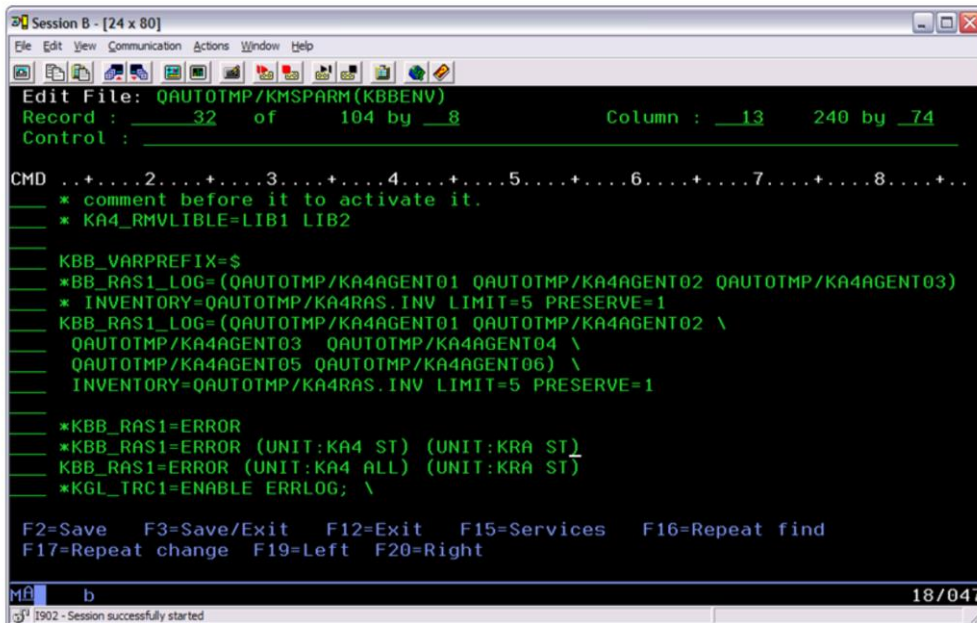
- Save and exit out of the file
- Stop the agent for i5/OS

The value of the configuration variable KBB_RAS1_LOG causes the agent to always create one trace file QAUTOTMP/KA4AGENT01. The agent creates the files QAUTOTMP/KA4AGENT02 and QAUTOTMP/KA4AGENT03 if necessary to log more trace statements. The agent preserves the contents of the file QAUTOTMP/KA4AGENT01 during the active session of the agent. When the size of the file QAUTOTMP/KA4AGENT01 reaches the maximum defined size in the LIMIT parameter, the agent creates the file QAUTOTMP/KA4AGENT02 file. The agent switches to the trace file QAUTOTMP/KA4AGENT02 and begins to write to it. The agent creates the QAUTOTMP/KA4AGENT03 when the size of the file QAUTOTMP/KA4AGENT02 reaches its maximum defined size in the LIMIT parameter. The agent switches to the file QAUTOTMP/KA4AGENT03 and begins to write to it. This process continues with the other trace files if more trace files are defined. The agent switches to the second file QAUTOTMP/KA4AGENT02 after all the trace files are written to. The number of trace files can be increased or decreased by adding or removing file names in KBB_RAS1_LOG parameter. As an example, to configure the agent to create up to six trace files, see the second KBB_RAS1_LOG statements on the slide. Each configuration parameter line must end with a backslash (\) except the last line if the configuration parameter value spreads across multiple lines. The LIMIT parameter defines the maximum size of a trace file in mega bytes. The default size is 5 MB. The actual size of the trace file on a i5/OS system can be up to four times larger than the file size in ASCII format after the file is transferred to PC. This is because of the white space padding of the fixed length records by i5/OS system. The actual size of the trace file can be up to 20 MB for a default value of LIMIT=5.

Save and exit out of the file.

Stop the agent for i5/OS.

Configure the agent to produce extensive trace information (3 of 4)



```
Session B - [24 x 80]
File Edit View Communication Actions Window Help
Edit File: QAUTOTMP/KMSPARM(KBBENV)
Record : 32 of 104 by 8 Column : 13 240 by 74
Control :

CMD ..+...2...+...3...+...4...+...5...+...6...+...7...+...8...+...
* comment before it to activate it.
* KA4_RMVLIBLE=LIB1 LIB2

KBB_VARPREFIX=$
*BB_RAS1_LOG=(QAUTOTMP/KA4AGENT01 QAUTOTMP/KA4AGENT02 QAUTOTMP/KA4AGENT03)
* INVENTORY=QAUTOTMP/KA4RAS.INV LIMIT=5 PRESERVE=1
KBB_RAS1_LOG=(QAUTOTMP/KA4AGENT01 QAUTOTMP/KA4AGENT02 \
QAUTOTMP/KA4AGENT03 QAUTOTMP/KA4AGENT04 \
QAUTOTMP/KA4AGENT05 QAUTOTMP/KA4AGENT06) \
INVENTORY=QAUTOTMP/KA4RAS.INV LIMIT=5 PRESERVE=1

*KBB_RAS1=ERROR
*KBB_RAS1=ERROR (UNIT:KA4 ST) (UNIT:KRA ST)
KBB_RAS1=ERROR (UNIT:KA4 ALL) (UNIT:KRA ST)
*KGL_TRC1=ENABLE ERRLOG; \

F2=Save F3=Save/Exit F12=Exit F15=Services F16=Repeat find
F17=Repeat change F19=Left F20=Right

MA b 18/047
i902 - Session successfully started
```

The values for the configuration variables KBB_RAS1 and KBB_RAS1_LOG are shown in the illustration.

Configure the agent to produce extensive trace information (4 of 4)

- Delete all the existing log files whose names start with KA4AGENT in QAUTOTMP library
- Start the agent
- Reproduce the problem

Delete all the existing log files whose names start with KA4AGENT in QAUTOTMP library. Start the agent and reproduce the problem.

RAS1 trace file location

- RAS1 log files of the agent are created in the QAUTOTMP library
- You can run the command `WRKLIB QAUTOTMP` to identify the created files

```

Work with Objects
Type options, press Enter.
 2=Edit authority      3=Copy      4=Delete      5=Display authority      7=Rename
 8=Display description 13=Change description

Opt  Object      Type      Library      Attribute      Text
---  -
QA1CRMDTAQ *DTAQ     QAUTOTMP
KA4USRI    *USRIDX   QAUTOTMP     OMAUSRIDX      OMA Remote Probe Data Queue
QA1CALRFTR *FTR      QAUTOTMP     *ALR           'OMA Probe User Index'
KA4AGENT   *FILE     QAUTOTMP     SAVF           PMR 89922.550.000
KA4AGENT01 *FILE     QAUTOTMP     PF
KA4RAS.INV *FILE     QAUTOTMP     PF
KMSPARM    *FILE     QAUTOTMP     PF             ITM AGENT FOR I5/OS
QA1COMICFF *FILE     QAUTOTMP     ICFF           ICF FILE
KFD0MA     *DTAARA   QAUTOTMP
QA1CERRUSP *USRSPC   QAUTOTMP     PF             Exception Handling Uspc

Parameters for options 5, 7 and 13 or command
===>
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F11=Display names and types
F12=Cancel  F16=Repeat position to  F17=Position to
  
```

9

Diagnostic log collection steps for monitoring agent for I5/OS

© 2012 IBM Corporation

The RAS1 log files of the agent are created in QAUTOTMP library. Run the command **WRKLIB QAUTOTMP** to identify the created files. The file names start with KA4AGENT with default value for KBB_RAS1_LOG configuration variable.

Transferring the trace file to another system

- Transfer all the existing log files whose names start with KA4AGENT in QAUTOTMP library to another system

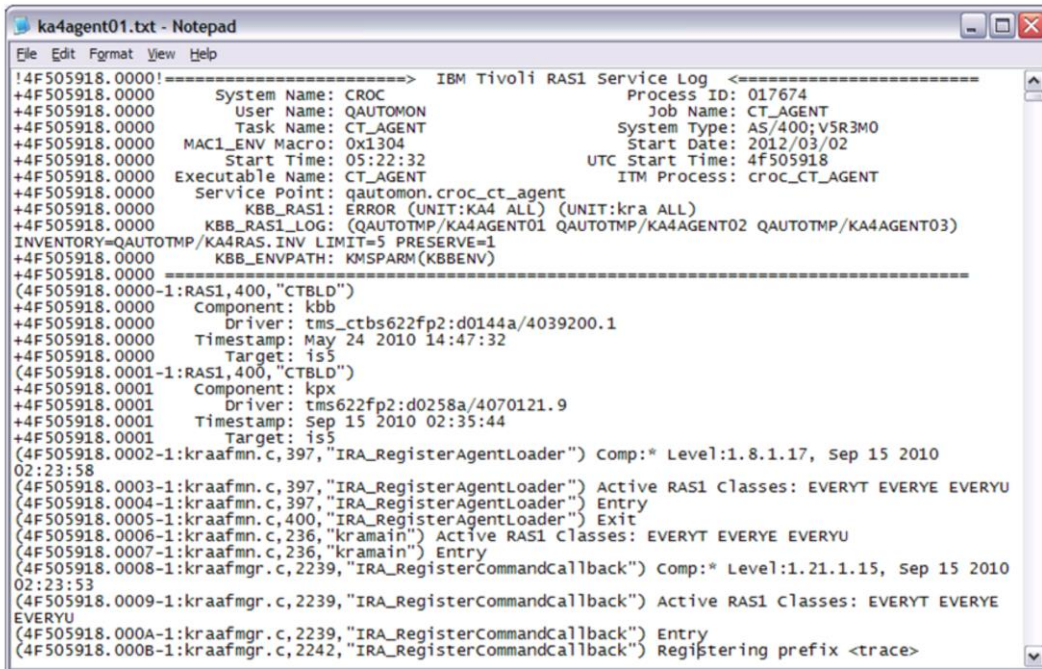
Example:

```
ftp> <i5/OS system>  
ftp> ascii  
ftp> get qautotmp/ka4agent01 ka4agent01.txt  
ftp> get qautotmp/ka4agent02 ka4agent02.txt  
ftp> get qautotmp/ka4agent03 ka4agent03.txt
```

- The FTP commands transfer the trace files to the destination system and store the files in the current directory of the command or shell window. If more trace files are defined in the KBB_RAS1_LOG parameter, then transfer all the existing files by using FTP

There are multiple ways to transfer the RAS1 trace files in text format to another system. The FTP method to transfer the trace files to another system from an i5/OS server in ASCII format is shown in the examples on the slide. From the command prompt on a PC or a UNIX/Linux shell, change to a temporary directory, and run the FTP commands. The transferred files are stored in the current directory. If more trace files are defined in the KBB_RAS1_LOG parameter, then transfer all the existing files using FTP.

RAS1 trace file on PC



```

ka4agent01.txt - Notepad
File Edit Format View Help
!4F505918.0000!===== IBM Tivoli RAS1 Service Log <=====
+4F505918.0000      System Name: CROC                Process ID: 017674
+4F505918.0000      User Name: QAUTOMON              Job Name: CT_AGENT
+4F505918.0000      Task Name: CT_AGENT              System Type: AS/400;V5R3M0
+4F505918.0000      MAC1_ENV Macro: 0x1304           Start Date: 2012/03/02
+4F505918.0000      Start Time: 05:22:32            UTC Start Time: 4f505918
+4F505918.0000      Executable Name: CT_AGENT        ITM Process: croc_CT_AGENT
+4F505918.0000      Service Point: qautomon.croc_ct_agent
+4F505918.0000      KBB_RAS1: ERROR (UNIT:KA4 ALL) (UNIT:kra ALL)
+4F505918.0000      KBB_RAS1_LOG: (QAUTOTMP/KA4AGENT01 QAUTOTMP/KA4AGENT02 QAUTOTMP/KA4AGENT03)
INVENTORY=QAUTOTMP/KA4RAS.INV LIMIT=5 PRESERVE=1
+4F505918.0000      KBB_ENVPATH: KMSPARM(KBBENV)
+4F505918.0000      =====
(4F505918.0000-1:RAS1,400,"CTBLD")
+4F505918.0000      Component: kbb
+4F505918.0000      Driver: tms_ctbs622fp2:d0144a/4039200.1
+4F505918.0000      Timestamp: May 24 2010 14:47:32
+4F505918.0000      Target: is5
(4F505918.0001-1:RAS1,400,"CTBLD")
+4F505918.0001      Component: kpx
+4F505918.0001      Driver: tms622fp2:d0258a/4070121.9
+4F505918.0001      Timestamp: Sep 15 2010 02:35:44
+4F505918.0001      Target: is5
(4F505918.0002-1:kraafmn.c,397,"IRA_RegisterAgentLoader") Comp:* Level:1.8.1.17, Sep 15 2010
02:23:58
(4F505918.0003-1:kraafmn.c,397,"IRA_RegisterAgentLoader") Active RAS1 Classes: EVERYT EVERYE EVERYU
(4F505918.0004-1:kraafmn.c,397,"IRA_RegisterAgentLoader") Entry
(4F505918.0005-1:kraafmn.c,400,"IRA_RegisterAgentLoader") Exit
(4F505918.0006-1:kraafmn.c,236,"kramain") Active RAS1 Classes: EVERYT EVERYE EVERYU
(4F505918.0007-1:kraafmn.c,236,"kramain") Entry
(4F505918.0008-1:kraafmgr.c,2239,"IRA_RegisterCommandCallback") Comp:* Level:1.21.1.15, Sep 15 2010
02:23:53
(4F505918.0009-1:kraafmgr.c,2239,"IRA_RegisterCommandCallback") Active RAS1 Classes: EVERYT EVERYE
EVERYU
(4F505918.000A-1:kraafmgr.c,2239,"IRA_RegisterCommandCallback") Entry
(4F505918.000B-1:kraafmgr.c,2242,"IRA_RegisterCommandCallback") Registering prefix <trace>

```

11

Diagnostic log collection steps for monitoring agent for i5/OS

© 2012 IBM Corporation

The RAS1 log files of the agent are similar to other Tivoli Monitoring agents.

Agent job logs and spool files (1 of 2)

- Spool files, job logs, or memory dumps for the CT_AGENT job after recent IPL
- Run this command to view the spool files, job logs, or dumps:
WRKSPLF SELECT(QAUTOMON)
- You might see some of these names:
 - QPJOBLOG** is the job log name for a completed job
 - QPRINT** is the standard output from a job
 - QPSRVDMP** is the memory dump file (possibly from the DMPOBJ command)

Run the **WRKSPLF SELECT(QAUTOMON)** command to search for the spool files, job logs, or dumps on the i5/OS system. The names of the spool files help to indicate their contents. You might see the files with names **QPJOBLOG**, **QPRINT**, and **QPSRVDMP**.

Agent job logs and spool files (2 of 2)

- Some problems leave messages in the job log of the agent
- Run the command `WRKUSRJOB USER(QAUTOMON)` on an i5/OS command line to see the list of active and completed agent jobs. The agent jobs have the name CT_AGENT
 - If the agent job in the list shows a status of ACTIVE, then the job log can be viewed with option 5, **Work with**, then option 10, **Display job log**
 - If the agent job in the list shows a status of OUTQ, then look for the spool files that are created for that job

The job log files of the agent provide valuable information in diagnosing the exceptions encountered by the agent. When agent job encounters certain exceptions, the job writes exceptions to the job log spool file. Run the command **WRKUSRJOB USER(QAUTOMON)** to find the list of active and inactive jobs of the agent.

Reverse the configuration changes

- After the required logs and trace files are collected, perform these steps to reverse the configuration changes that are performed in the prior slides:
- Stop the agent
- Delete all the existing log files whose names start with KA4AGENT in QAUTOTMP library
- Edit the QAUTOTMP/KMSPARM file (member KBBENV) and reset the log level to ERROR in KBB_RAS1 configuration variable

KBB_RAS1=ERROR

- Save and exit out of the QAUTOTMP/KMSPARM file
- Start the agent

The extended trace logging can cause some unexpected problems during the operation of the agent. The extended trace logging is not required during the normal operation of the agent. After the required logs are collected and transferred to another system, perform the steps shown on the slide.

Summary

Now that you completed this module, you can perform these tasks:

- Check the version of the monitoring agent for i5/OS
- Configure the agent to produce extensive trace information
- Collect the agent RAS1 trace log files
- Collect the agent i5/OS job log (spool) files

Now that you completed this module, you can perform these tasks:

- Check the version of the monitoring agent for i5/OS
- Configure the agent to produce extensive trace information
- Collect the agent RAS1 trace log files
- Collect the agent i5/OS job log (spool) files

Trademarks, disclaimer, and copyright information

THE INFORMATION CONTAINED IN THIS PRESENTATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. Other product and service names might be trademarks of IBM or other companies. A current list of other IBM trademarks is available on the web at "[Copyright and trademark information](http://www.ibm.com/legal/copytrade.shtml)" at <http://www.ibm.com/legal/copytrade.shtml>

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Windows, and the Windows logo are registered trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, or service names may be trademarks or service marks of others.

THE INFORMATION CONTAINED IN THIS PRESENTATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. WHILE EFFORTS WERE MADE TO VERIFY THE COMPLETENESS AND ACCURACY OF THE INFORMATION CONTAINED IN THIS PRESENTATION, IT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. IN ADDITION, THIS INFORMATION IS BASED ON IBM'S CURRENT PRODUCT PLANS AND STRATEGY, WHICH ARE SUBJECT TO CHANGE BY IBM WITHOUT NOTICE. IBM SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES ARISING OUT OF THE USE OF, OR OTHERWISE RELATED TO, THIS PRESENTATION OR ANY OTHER DOCUMENTATION. NOTHING CONTAINED IN THIS PRESENTATION IS INTENDED TO, NOR SHALL HAVE THE EFFECT OF, CREATING ANY WARRANTIES OR REPRESENTATIONS FROM IBM (OR ITS SUPPLIERS OR LICENSORS), OR ALTERING THE TERMS AND CONDITIONS OF ANY AGREEMENT OR LICENSE GOVERNING THE USE OF IBM PRODUCTS OR SOFTWARE.

© Copyright International Business Machines Corporation 2013. All rights reserved.