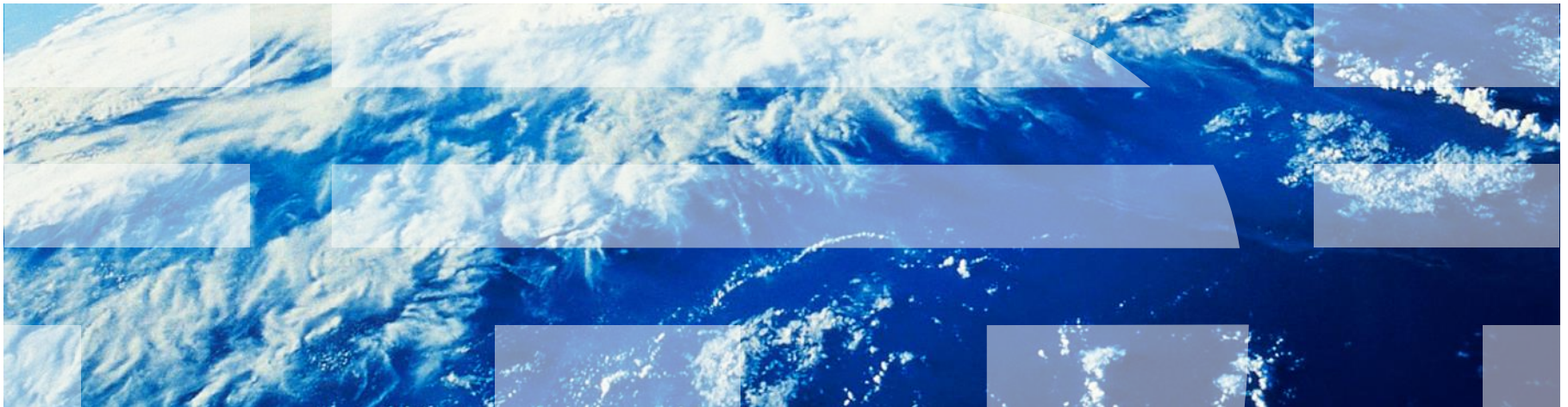

InfoSphere DataStage

Diagnosing a hung Information Server DataStage Parallel Job



Objectives

- Rule out known issues
- Determine the job is hung
- Environment variables to set
- Collecting information during a hang

Known Issues (1 of 13)

- The following technote covers guidelines for configuring Windows 2003 and Windows 2008
 - Configuring a Microsoft Windows Server to run InfoSphere Information Server
<http://www.ibm.com/support/docview.wss?uid=swg21419242>

- The following technotes cover guidelines for anti-virus software
 - Guidelines for anti-virus programs and security software for InfoSphere Information Server
<http://www.ibm.com/support/docview.wss?uid=swg21566611>

 - InfoSphere Information Server guidelines for McAfee HIPS
<http://www.ibm.com/support/docview.wss?uid=swg21576550>

Known Issues (2 of 13)

- DataStage 8 Only
 - MKS Toolkit can be the source of job hangs
 - Check for Nutcracker errors in the Windows application event log
 - Global critical section Nut4SemIdC is being cleaned up with waiter count 1. [nutsrv4.exe (.\globcs.c:767) PID=pppp TID=tttt]
 - Process pppp appears to have hung. Cleaning up global critical sections held by this process. [nutsrv4.exe (sem.cpp:1160) PID=pppp TID=tttt]
 - Failed to create fork() child process. [forktest.exe (fork.c:719) PID=5780 TID=5088]
 - Upgrading to MKS Toolkit 9.4 FP1 + HotFix CFS31959

Level	Date and Time	Source	Event ID	Task Category
Error	9/10/2013 11:32:06 AM	NuTCRACKER 4	16000	NuTCCleanup
Error	9/10/2013 11:30:46 AM	NuTCRACKER 4	16004	NuTCCleanup
Error	9/10/2013 11:28:46 AM	NuTCRACKER 4	16005	NuTCCleanup
Error	9/10/2013 11:28:46 AM	NuTCRACKER 4	16004	NuTCCleanup
Error	9/10/2013 11:29:06 AM	NuTCRACKER 4	16004	NuTCCleanup
Error	9/10/2013 11:29:26 AM	NuTCRACKER 4	16004	NuTCCleanup
Error	9/10/2013 11:29:06 AM	NuTCRACKER 4	16005	NuTCCleanup
Error	9/10/2013 11:28:26 AM	NuTCRACKER 4	16005	NuTCCleanup

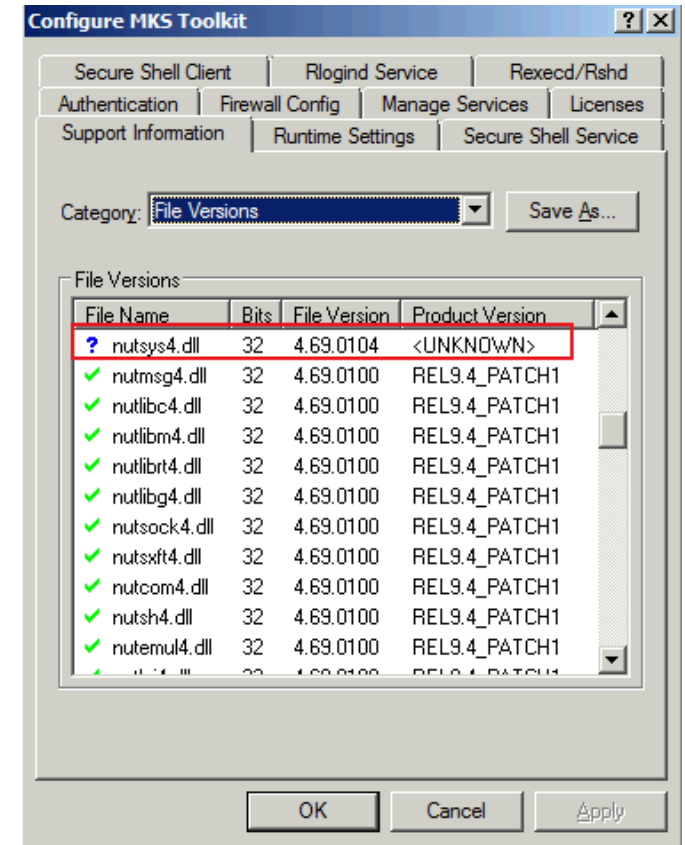
Event 16000, NuTCRACKER 4

General Details

Global critical section Nut4LockNo is being cleaned up with waiter count 1. [nutsrv4.exe (.\globcs.c:767) PID=1196 TID=1268]

Known Issues (3 of 13)

- Check the version of MKS Toolkit on the engine tier
 - Select Control Panel > Configure MKS Toolkit
 - Select the Support Information tab
 - Click on the Category drop down list
 - Select File Versions
 - Find the version for the nutsys4.dll for 64 and 32 bit
 - Version after FP1 + HotFix CFS31959 is applied
 - nutsys4.dll 64 and 32 bit => 4.69.0104



Known Issues (4 of 13)

- To upgrade to MKS Version 9.4 FP1 + Hotfix CFS31959
- IS 9.1 and later
 - MKS Version 9.4 FP1 + Hotfix CFS31959 is included
- IS 8.7FP1
 - Where the 8.7 media includes FP1 (Not IS 8.7 with FP1 applied) MKS Version 9.4 FP1 + Hotfix CFS31959 is included
- IS 8.5 and 8.7
 - JR41641: UPDATE MKS TOOLKIT TO VERSION 9.4 FP1 + Hotfix <http://www.ibm.com/support/docview.wss?uid=swg1JR41641>
 - Available on Fix Central
- IS 8.0.1 and 8.1
 - JR41654: UPGRADE INFORMATION SERVER 8.0.1 AND 8.1 TO MKS TOOLKIT 9.4FP1 WITH HOTFIX CFS31959
 - <http://www.ibm.com/support/docview.wss?uid=swg1JR41654>
 - Request from IBM Support

Known Issues (5 of 13)

- The following errors are normal for a busy system
 - Cleaning up process table entry 358 for process pppp, exit code 0x000000ff, name unknown. [nutshr4.exe (.\process.c:347) PID=pppp TID=ttt]
 - SIGKILL signal has not caused process to die. Child watcher committing suicide. [osh.exe (.\ncchild.c:544) PID=pppp TID=ttt]

Level	Date and Time	Source	Event ID	Task Category
Error	9/10/2013 3:27:30 PM	NuTCRACKER 4	11033	Service
Error	9/10/2013 3:27:30 PM	NuTCRACKER 4	11033	Service
Error	9/10/2013 3:27:30 PM	NuTCRACKER 4	11033	Service
Error	9/10/2013 3:27:42 PM	NuTCRACKER 4	11033	Service
Error	9/10/2013 3:27:30 PM	NuTCRACKER 4	11033	Service
Error	9/10/2013 3:27:30 PM	NuTCRACKER 4	11033	Service
Error	9/10/2013 3:27:30 PM	NuTCRACKER 4	11033	Service
Error	9/10/2013 3:27:30 PM	NuTCRACKER 4	11033	Service

Event 11033, NuTCRACKER 4

General Details

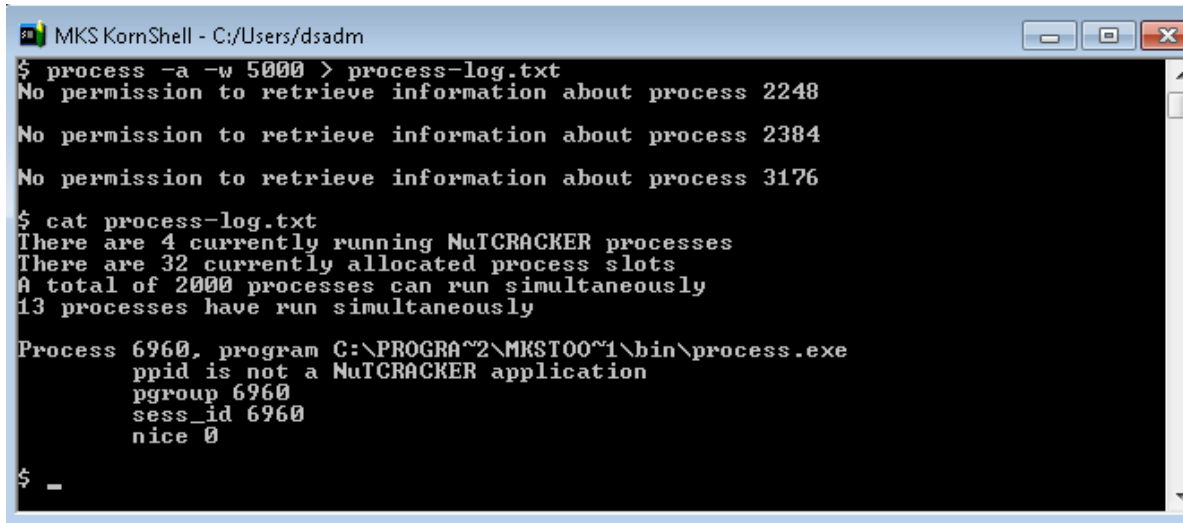
Cleaning up process table entry 36 for process 264, exit code 0x00000001, name unknown. [nutshr4.exe (.\process.c:347) PID=1196 TID=1268]

Known Issues (6 of 13)

- MKS Toolkit Security ID Setting Causes Windows System Lockup
 - The DataStage parallel engine may lock up and you cannot start or compile parallel jobs
 - Existing parallel jobs keep running
 - You can start server jobs
 - Window functionality like Task Manager, Explorer still works
 - MKS shell commands hang
 - Each process created by the DataStage client on a Windows Server requires a Security ID token in the MKS Toolkit
 - On very busy systems increase the number of SSIDs above the default

Known Issues (7 of 13)

- Diagnosing the issue
 - Obtain an MKS NuTCRACKER process report dump.
 - Open a Korn shell by clicking **Start->Run->ksh**
 - From the Korn shell enter the following command:
process -a -w 5000



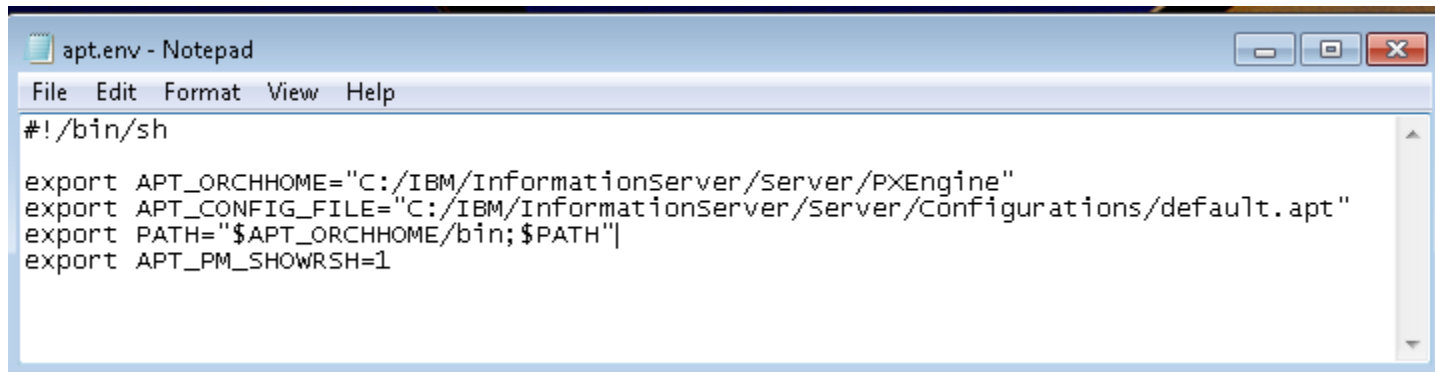
```
MKS KornShell - C:/Users/dsadm
$ process -a -w 5000 > process-log.txt
No permission to retrieve information about process 2248
No permission to retrieve information about process 2384
No permission to retrieve information about process 3176
$ cat process-log.txt
There are 4 currently running NuTCRACKER processes
There are 32 currently allocated process slots
A total of 2000 processes can run simultaneously
13 processes have run simultaneously

Process 6960, program C:\PROGRA~2\MKST00~1\bin\process.exe
  ppid is not a NuTCRACKER application
  pgroup 6960
  sess_id 6960
  nice 0
$ _
```

Note: it is possible this command may hang and not produce results

Known Issues (8 of 13)

- Check that you can successfully run a parallel job as follows:
 - Create an environment file in the PXEngine directory
 - Use an editor such as notepad
 - Save the file as apt.env

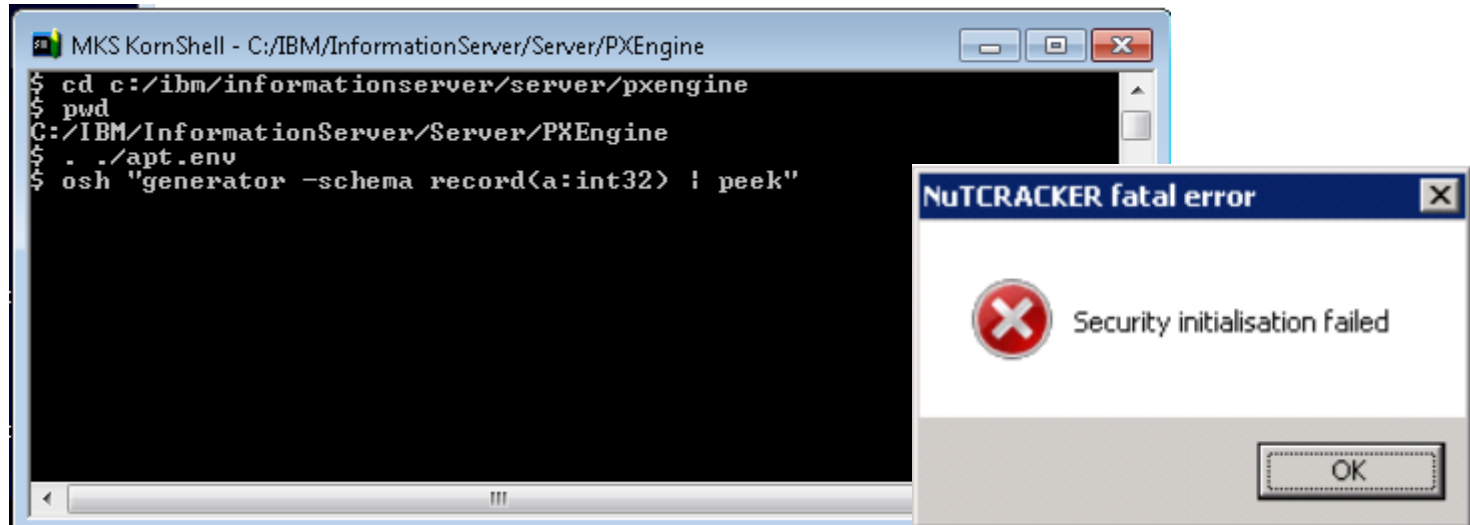


```
apt.env - Notepad
File Edit Format View Help
#!/bin/sh

export APT_ORCHHOME="C:/IBM/InformationServer/Server/PXEngine"
export APT_CONFIG_FILE="C:/IBM/InformationServer/Server/Configurations/default.apt"
export PATH="$APT_ORCHHOME/bin;$PATH"
export APT_PM_SHOWRSH=1
```

Known Issues (9 of 13)

- Test the parallel engine by executing a simple parallel job as follows:
- Invoke Korn shell select Start> Run> ksh
- Change to the PXEngine directory
`cd C:/IBM/InformationServer/Server/PXEngine`
- Source the apt.env environment file
`./apt.env`
- Run a test
`osh "generator -schema record(a:int32) | peek"`

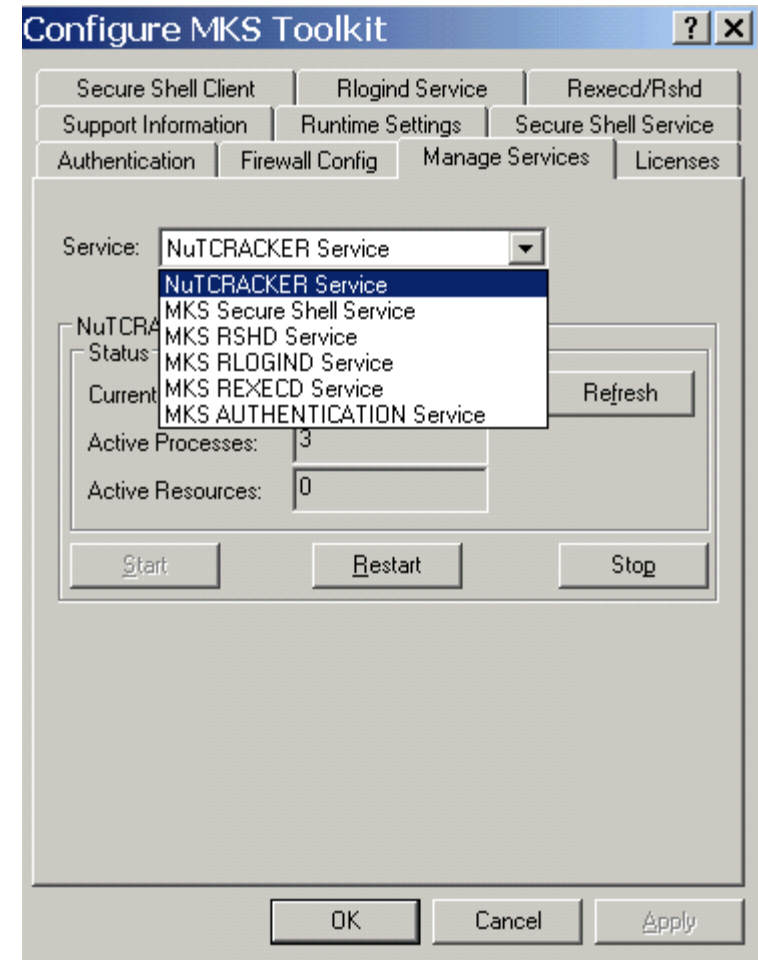


Known Issues (10 of 13)

- Resolving the issue
- The problem can be avoided by changing a parameter in the MKS Control Panel
 - Follow these steps
 - Make sure there are no uvsh.exe or osh.exe processes running on the server
 - This will prevent changed settings from taking effect
 - Stop all the DataStage services
 - InfoSphere Engine Resource Service
 - DataStage Telnet Service
 - DSRPC Service

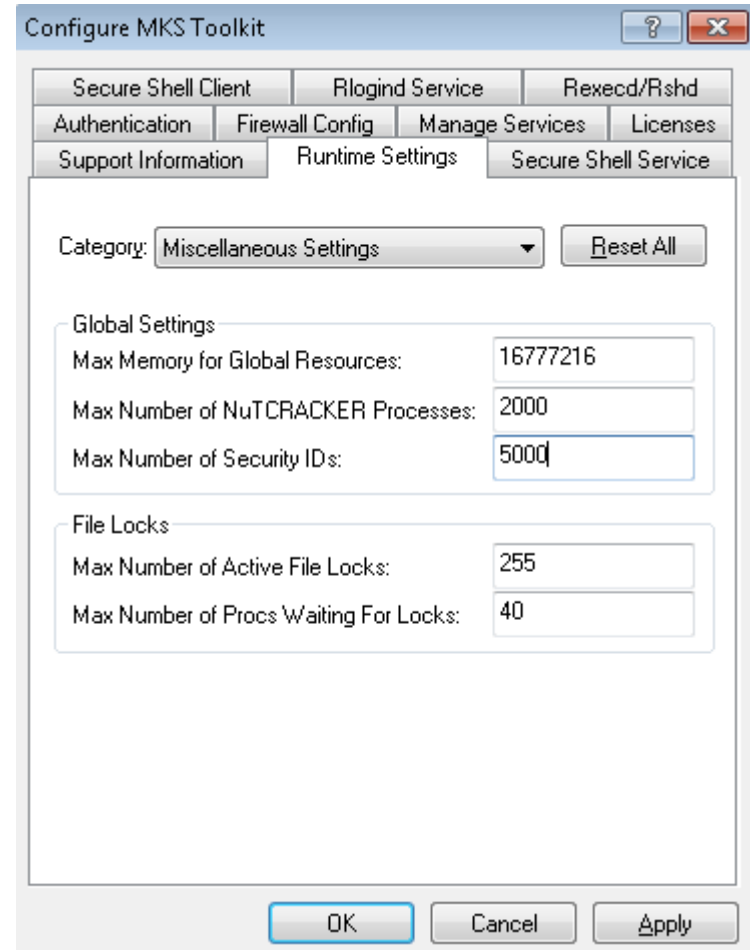
Known Issues (11 of 13)

- Resolving the issue continued
 - Open Microsoft Windows control panel
 - Click Configure MKS Toolkit
 - Select the 'Manage Services' tab
 - Starting with the bottom service shown in the dropdown, Stop each MKS Service.
 - Click the 'Refresh' button
 - 'Active Processes' box should display zero



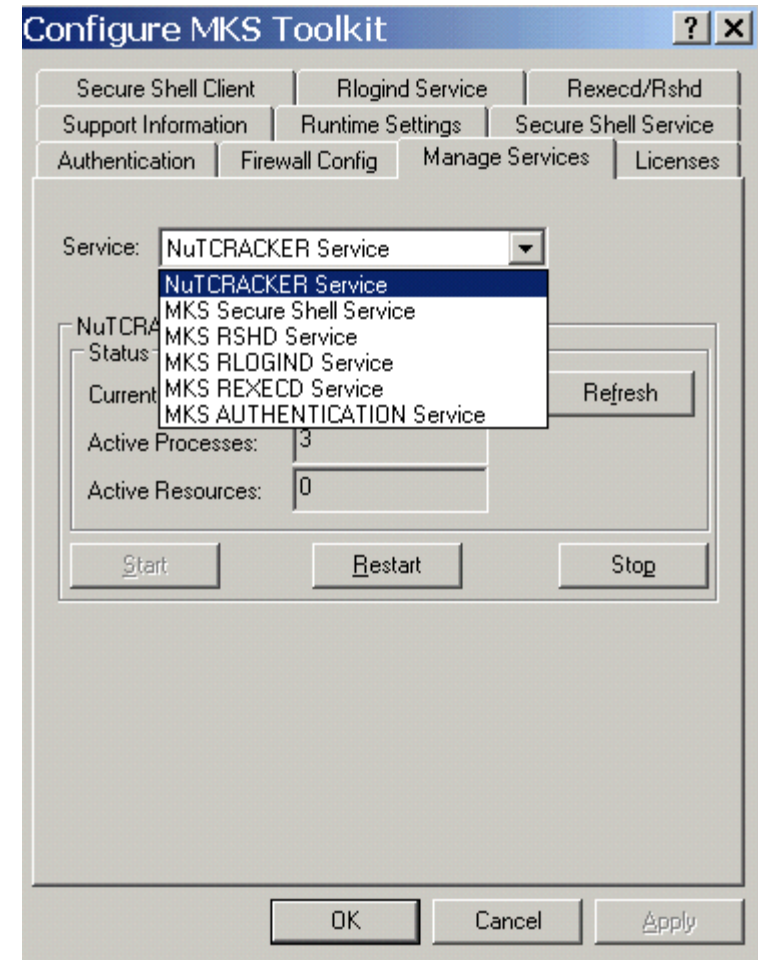
Known Issues (12 of 13)

- Resolving the issue continued
 - Select the "Runtime Settings" tab
 - Select 'Miscellaneous Settings' from the Category dropdown
 - Set Max Number of Security IDs' to 5000



Known Issues (13 of 13)

- Resolving the issue continued
 - Select the 'ManageServices' tab
 - Restart the services in the order shown in the dropdown, starting at the top
 - Restart the DataStage Services



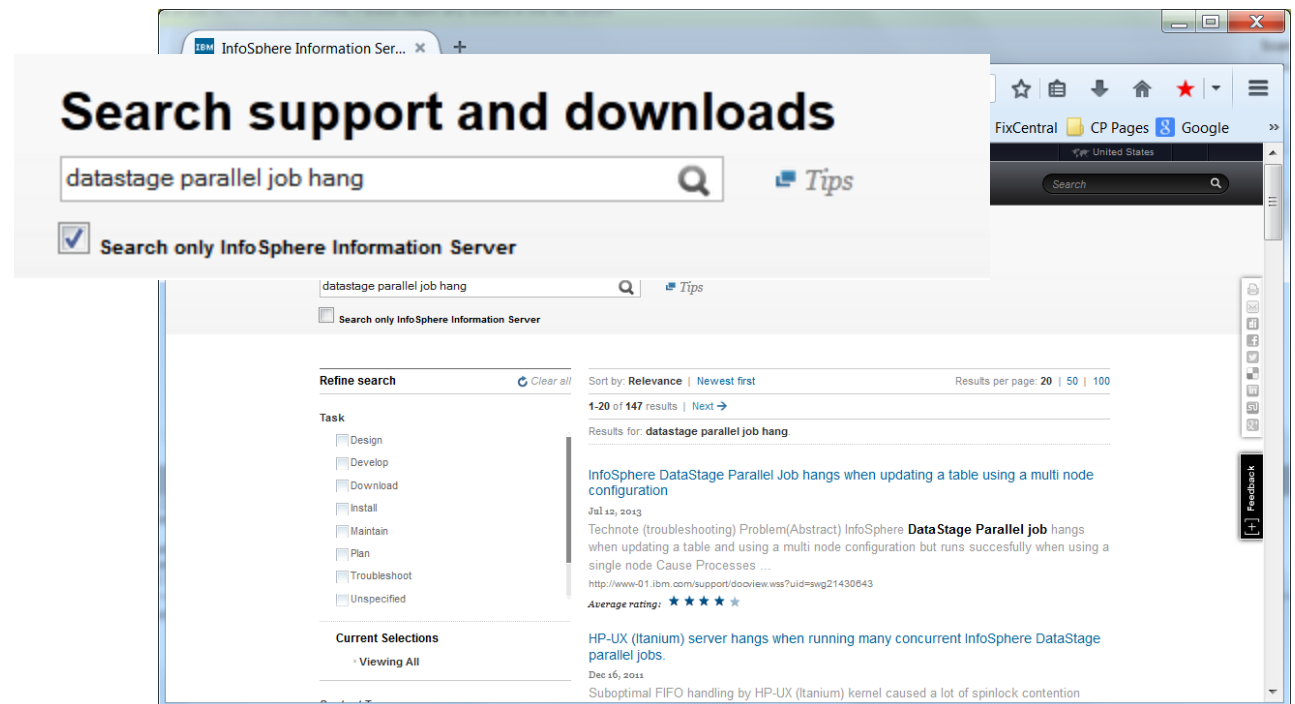
Searching the Knowledge Base

- Search the support portal for known issues

http://www.ibm.com/support/entry/portal/Overview/Software/Information_Management/InfoSphere_Information_Server

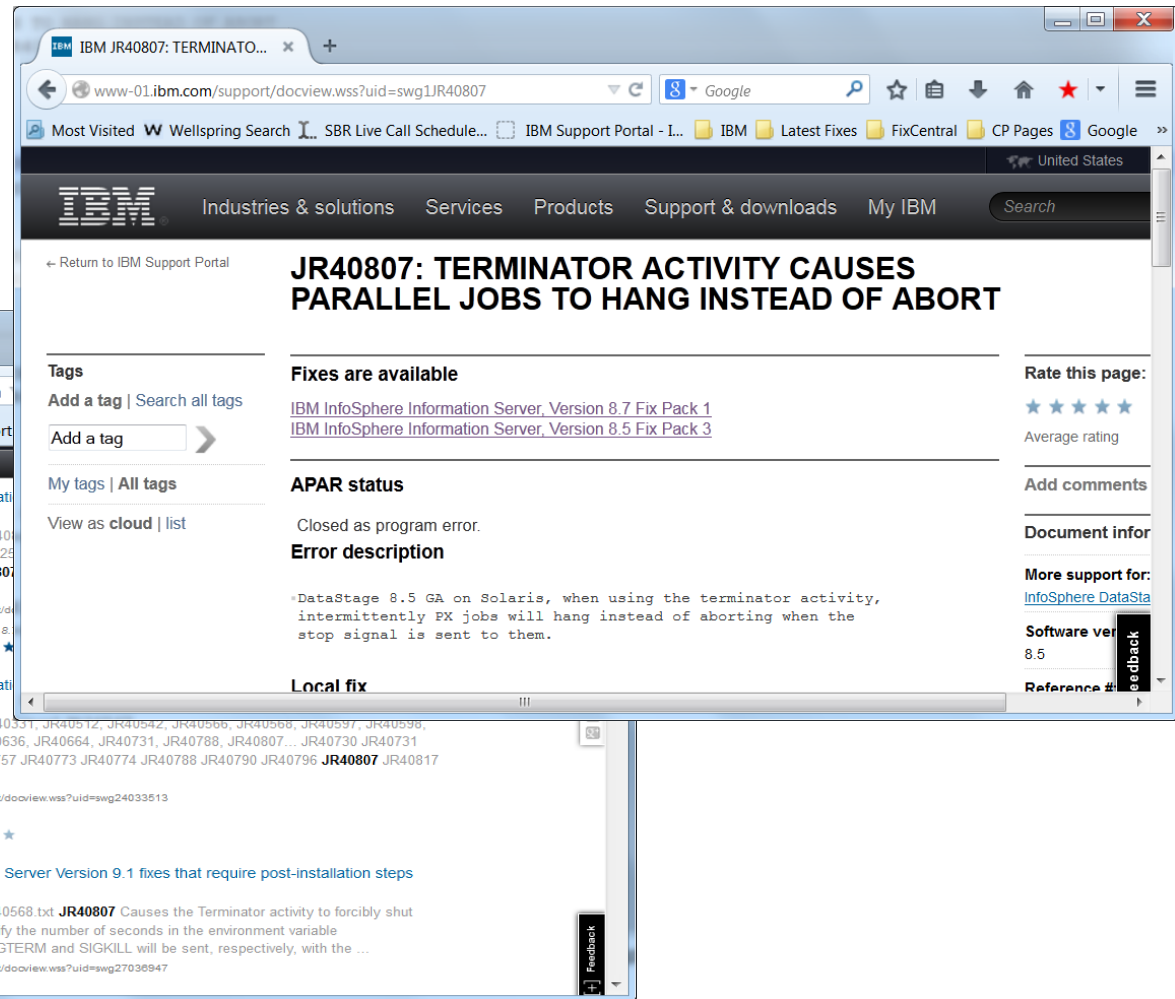
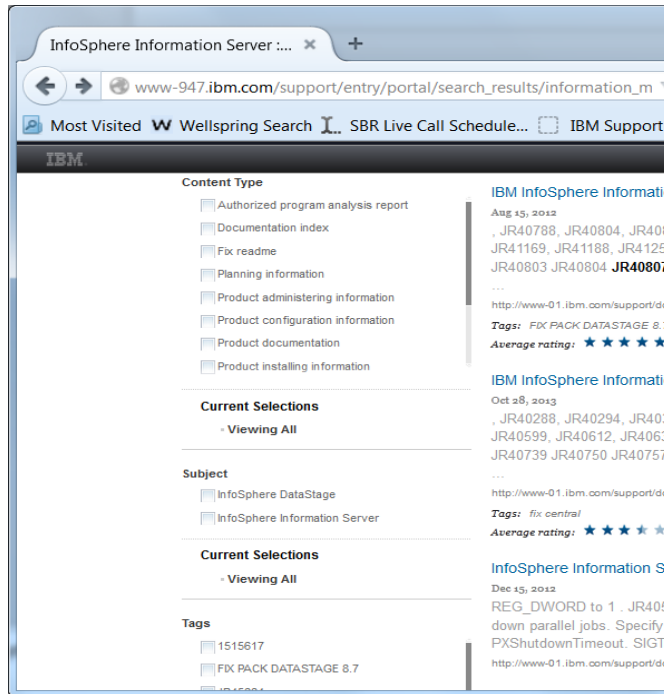
- Types of results

- Technotes
- APARs
- Fix lists
- Documentation
- Redbooks



Searching the Knowledge Base

- Search on an APAR number
- This will provide Fix Lists that include the APAR.



Notifications

- Click the Subscribe button to be notified when an APAR changes status

IBM Industries & solutions Services Products Support & downloads My IBM Search

← Return to IBM Support Portal

JR49459: ERROR CONVERTING EOBJECTS TO XMI, AN INVALID XML CHARACTER WAS FOUND IN THE ELEMENT

Tags
Add a tag | Search all tags
Add a tag

My tags | All tags
View as cloud | list

APAR status
Closed as program error.

Error description
-The import using DB2 connector failed with the following error:

2014-01-31 11:15:34 [ERROR] com.ibm.mif.MIFException: [CDIMR0075E] There was an error converting EObjects to XMI. An invalid XML character (Unicode: 0x1a) was found in the element content:Registra dados peculiares aos depósitos de consigna

The unicode used here is parsed by XML 1.1, instead we are parsing it by XML 1.0, which is a cause of the issue. API calls from IMAM need to be enhanced such that it support XML 1.1 unicode characters.

Local fix
-NA

Problem summary
-ERROR CONVERTING EOBJECTS TO XMI, AN INVALID XML CHARACTER WAS FOUND IN THE ELEMENT

Problem conclusion
-A fix provided to render the control characters

Temporary fix

Comments

APAR Information

Rate this page:
★★★★★
Average rating (0 users)

Document information
More support for:
[InfoSphere Information Server](#)

Software version:
9.1

Reference #:
JR49459

Modified date:
2014-03-21

Translate my page
Select Language

Subscribe to this APAR
By subscribing, you receive periodic emails alerting you to the status of the APAR, along with a link to the fix after it becomes available. You can track this item individually or track all items by product.

Notify me when this APAR changes.

Notify me when an APAR for this component changes.

Feedback

Notifications – Updated

- New simpler My notifications user interface
- This is the product level subscription page where you can manage your subscriptions

My notifications

Delivery preferences
Help

Product notifications APARs

Subscribe to notifications

Product lookup: [Browse for a product](#)

Product subscriptions

1-4/4 results [Delivery preferences](#)

Product	Notifications	RSS/Atom feed	Options
DB2 for Linux, UNIX and Windows	View	Links	Edit Unsubscribe
InfoSphere Information Server	View	Links	Edit Unsubscribe
Tivoli Monitoring	View	Links	Edit Unsubscribe
WebSphere Application Server	View	Links	Edit Unsubscribe

1-4/4 results

Notifications – Updated

- The APAR tab lists the APARs you have subscribed to

The screenshot shows the IBM My notifications interface. At the top, there is a navigation bar with the IBM logo and links for Industries & solutions, Services, Products, Support & downloads, and My IBM. A search bar is also present. Below the navigation bar, the page is titled "My notifications". On the right side, there are links for "Delivery preferences" and "Help". A horizontal tab bar is visible, with "Product notifications" and "APARs" (highlighted with an orange box). Below the tabs, the "APAR subscriptions" section is displayed, showing "1-1/1 results". A table lists the subscription details for APAR IV02052, with columns for "APARs", "Notifications", "RSS/Atom feed", and "Options". The "Options" column includes a link to "Unsubscribe". A "Feedback" button is located at the bottom right of the page.

My notifications

Product notifications **APARs**

Delivery preferences
Help

APAR subscriptions

1-1/1 results

APARs	Notifications	RSS/Atom feed	Options
Status for APAR IV02052	→ View	🔗 Links	🔴 Unsubscribe

1-1/1 results

Feedback

Determining the parallel job is hung (1 of 8)

- Status in DataStage Director Client is running
- No progress being made
 - Select Tools > New Monitor

InfoSphere DataStage Director Monitor - RowGenToDataSet

Stage/Link name	Link type	Status	Num rows	Started at	Elap
+ Row_Generator_0		Running	0	3:53:07 PM	
+ Transformer_2		Running	0	3:53:08 PM	

Close

Help

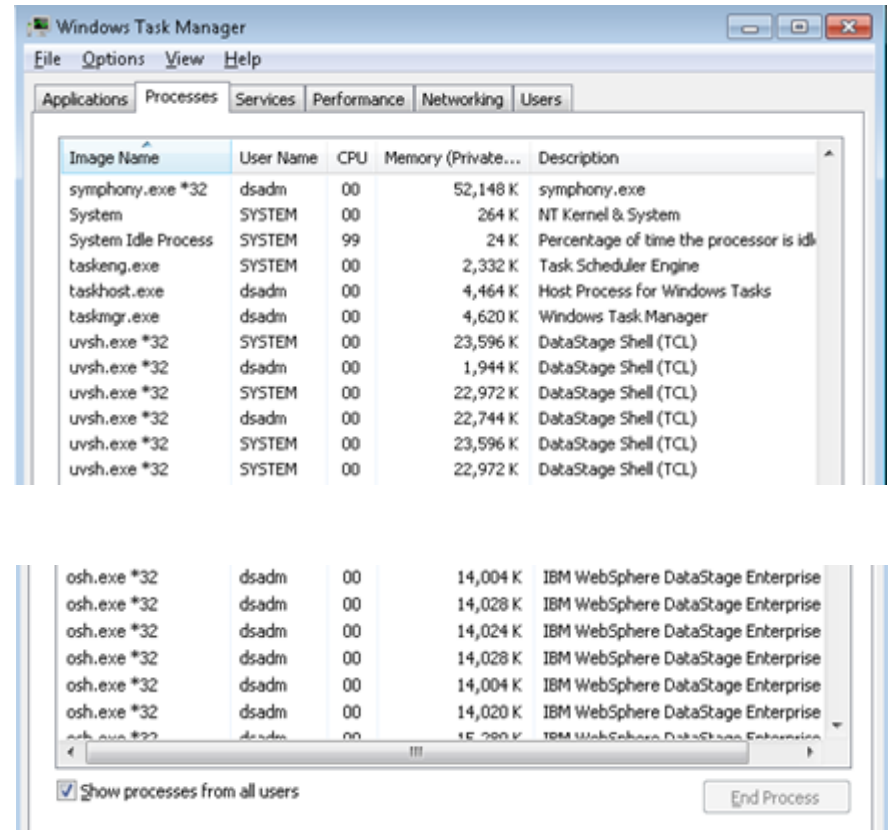
Interval: 10

Job: RowGenToDataSet Status: Running Project: [] Server time: 03:53 PM

Determining the parallel job is hung (2 of 8)

On Windows

- Check for processes at operating system level
- Open Task Manager on the engine tier and look for
 - osh.exe
 - uvsh.exe
- Aborted job
 - No osh processes seen
 - Status file not updated
 - Clear status file from Director
- Difficult to associate osh processes with a particular running job
 - Show PIDs for jobs
 - Set APT_PM_SHOW_PIDS



Determining the parallel job is hung (3 of 8)

- Check for processes at the OS level on Unix/Linux
 - Telnet into the Engine tier
 - Execute:
`ps -ef | grep DSD`

```
$ ps -ef | grep DSD
dsadm    30982 11196 14 11:33 ?        00:00:00 phantom DSD.RUN RowGenToDataSet 0/50/1/0/0/
0/0
dsadm    31017 30982  7 11:33 ?        00:00:00 phantom DSD.OshMonitor RowGenToDataSet 3101
6 MSEVENTS.FALSE
$
```

- Look for the entries with the job name
 - This example - job name is RowGenToDataSet
- If no processes are running, the job has aborted
- Refer to the following technotes for further information

How to get a stack trace for failing processes in a DataStage Parallel Job, AIX platform

<http://www.ibm.com/support/docview.wss?uid=swg21461160>

How to get a stack trace for failing processes in a DataStage Parallel Job, Linux platforms

<http://www.ibm.com/support/docview.wss?rs=0&uid=swg21461167>

DataStage Parallel Job Tracing

<http://www.ibm.com/support/docview.wss?uid=swg27023686>

Determining the parallel job is hung (4 of 8)

- Check for osh processes
 - Telnet into the Engine tier
 - Execute:

```
ps -ef | grep osh
```

- It is difficult to tell which osh processes are for the hung job If other jobs are running Set `APT_PM_SHOW_PIDS`

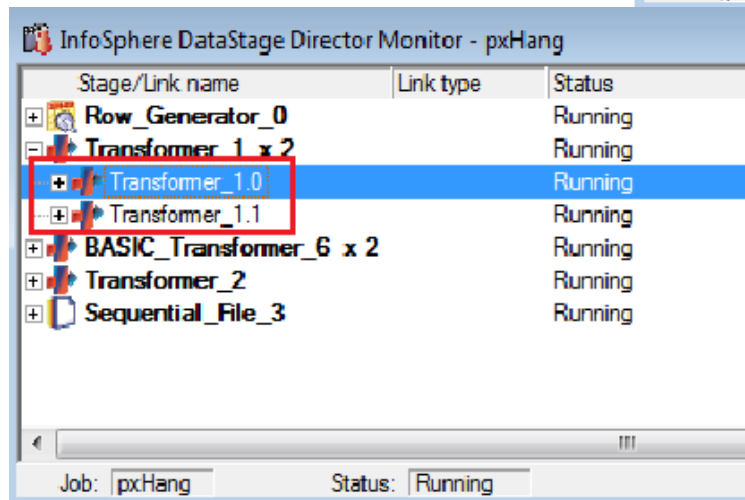
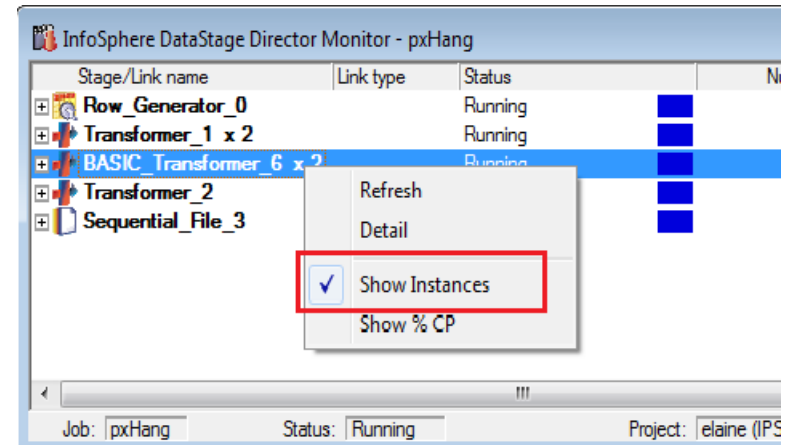
- If no osh processes are seen, the job aborted

Determining the parallel job is hung (5 of 8)

- If failure can be reproduced at 9.1 and above use new feature to generate stack trace
- Add the following user defined environment variables:
 - **APT_DUMP_STACK** - Setting this to 1 will enable basic stack trace dump
 - **APT_DUMP_STACK_DIRECTORY** - Dump files will be created in the specified directory
- After setting APT_DUMP_STACK the feature is automatically invoked when an unrecoverable exception occurs
- Dump files named: px_engine_dump_YYYY_MM_DD_HH_MM_SS_PID
- Technote:
A new feature to generate stack traces for Parallel jobs at version 9.1 of DataStage
<http://www.ibm.com/support/docview.wss?uid=swg21639558>

Determining the parallel job is hung (6 of 8)

- Find the PIDs using Monitor
 - Right click and select Show instances



Determining the parallel job is hung (7 of 8)

Stage/Link name	Link type	Status	Num rows	Started at	Elapsed time
Row_Generator_0		Running	100	2:00:35 PM	00:00:00
Transformer_1 x 2		Running	100	2:00:35 PM	00:00:00
Transformer_1.0		Running	50		
Transformer_1.0		Running	50		
BASIC_Transformer_1.0		Running	0	2:00:36 PM	00:24:11
Transformer_1.0		Running	0	2:00:35 PM	00:00:00
Sequential		Running	0	2:00:35 PM	00:00:00

Job: pxHang Status: Running Project: elaine (IPSVM00079) Server time: 12:24 PM

- To find the PID
 - Right click on the stage instance and select Detail
 - PID is listed under User
 - Repeat this for each instance
- Use Task Manager on Windows or the “ps” command on Unix/Linux to see the processes

Project:	elaine (IPSVM00079)	Row count:	50
Job name:	pxHang	Instance id:	0
Stage.Instance:	Transformer_1.0	Wave #:	4
Status:	Running	User:	461609
Started at:	11/9/2014 12:00:35 PM	Retrieved:	11/9/2014 12:08:54 PM
Ended at:	11/9/2014 12:00:35 PM		

Determining the parallel job is hung (8 of 8)

- Other reasons for leftover osh processes
 - DataStage Engine stopped while parallel jobs running
 - Information Services Director (ISD) job not undeployed
 - Parallel job stopped from DataStage Director when still in startup/handshake phase
 - Clean up left over processes using Task Manager or Kill command

Environment variables to set (1 of 3)

- Set the following environment variables at job or project level
 - APT_PM_SHOW_PIDS=True
 - APT_DUMP_SCORE=True
- Variables listed under the Parallel > Reporting section

Environment Variables

The following categorized environment variables are defined in this project. Either set a default value for an existing env or add a new environment variable to the user defined category. When you export or import environment variables, values are imported.

Categories:

- [-] General
 - [-] Customize
 - [-] Parallel
 - [-] Operator Specific
 - [-] Reporting
 - [-] Compiler
 - [-] User Defined

Details:

Name	Prompt	Value
APT_DUMP_SCORE	Report score	False
APT_MSG_FILELINE	Extra logging information	False
APT_NO_JOBMON	Disable job monitor	False
APT_PERFORMANCE_DATA	Performance data directory	
APT_PM_PLAYER_MEMORY	Report player memory allocation	False
APT_PM_PLAYER_TIMING	Report player calls	False
APT_PM_SHOWRSH	Show RSH commands	False
APT_PM_SHOW_PIDS	Show internal PIDs	False
APT_RECORD_COUNTS	Report record counts	False
APT_SHOW_COMPONENT_CALLS	User-overloadable function	False
APT_STARTUP_STATUS	Extra startup messages	False
OSH_DUMP	Report step description	False
OSH_ECHO	Report step specification	False
OSH_EXPLAIN	Report terse step description	False
OSH_PRINT_SCHEMAS	Report schemas	False

Environment variables to set (2 of 3)

- Create user defined environment variable using DataStage Administrator
 - On non-production environments create
 - DS_PXDEBUG
 - Leave the default value blank at the project level
 - Set the default value to 1 at the job level
 - On Production environment
 - If there is the ability to compile a job, set DS_PXDEBUG to 1 at the job level

Environment variables to set (3 of 3)

- Create the following user defined environment variable using DataStage Administrator
 - APT_NO_PM_SIGNAL_HANDLERS
 - Set to 1 at the project level
 - Allows the Unix/Linux system to terminate all associated processes caused by a database client core dump
- Ensure the Unix/Linux system will permit core files to be created
 - Set ulimit -c unlimited
- See the following technotes for additional information:

How to get a stack trace for failing processes in a DataStage Parallel Job, AIX platform

<http://www.ibm.com/support/docview.wss?uid=swg21461160>

How to get a stack trace for failing processes in a DataStage Parallel Job, Linux platforms

<http://www.ibm.com/support/docview.wss?rs=0&uid=swg21461167>

Collecting information during a hang (1 of 5)

- Send export of detailed job log
- Send export of job design
 - For example, *.dsx, *.isx, *.xml
- If DS_PXDEBUG is set, zip and send Debugging/<job_name> directory found under the project directory.
- Send ISALite Basic System Summary.
 - May be done at any time before or after the hang
 - For additional information see the Technote:
<http://www.ibm.com/support/docview.wss?uid=swg24022700>
- **Alternately** at IS 8.5 and later send ISALite Job Log Collection
 - Includes
 - Job logs and job design in *.isx format
 - Version.xml, .odbc.ini, dsenv, uvconfig
 - DSParams file
 - Run from Engine tier
 - Doesn't require Designer or Director client

Collecting information during a hang (2 of 5)

- On Windows
 - Send an export of the Windows application and system event log
- On Unix/Linux
 - If APT_NO_PM_SIGNAL_HANDLERS is set and core file is produced
 - Gather a stack trace on the core file
 - If APT_NO_PM_SIGNAL_HANDLERS is set but no core is produced
 - Capture and send output from ps
 - Execute: `ps -eaf > /tmp/ps_mmddyyyy.out`

Note: /tmp/ps_mmddyyyy.out is used as an example select a location and file name appropriate for your system

Collecting information during a hang (3 of 5)

- Collect stack trace on each process ID (PID) seen in job log
 - APT_PM_SHOW_PIDS writes PIDs to job log
- One parallel job can have large number of osh processes
 - Script to collect stack trace on all PIDs available for AIX, Linux and Windows 64 bit
 - Script assumes all osh processes are on same machine
 - On Windows
 - Script requires windbg utility from Microsoft be installed on the engine tier.
 - On Unix/Linux
 - Use pstack/procstack OR debugger to collect the stack trace
 - For example dbx or gdb

Collecting information during a hang (4 of 5)

- Scripts are included on the IBM Education Assistant website

- AIX

- http://publib.boulder.ibm.com/infocenter/ieduasst/imv1r0/topic/com.ibm.iea.infosphere_is/infosphere_is/8.5/ProbDeter/PXOSHCallsStackCollectorAIX.tar?dmuid=2013110415509013432

- Linux

- http://publib.boulder.ibm.com/infocenter/ieduasst/imv1r0/topic/com.ibm.iea.infosphere_is/infosphere_is/8.5/ProbDeter/PXOSHCallsStackCollectorLinux.tar?dmuid=20131104155030348921

- Windows

- http://publib.boulder.ibm.com/infocenter/ieduasst/imv1r0/topic/com.ibm.iea.infosphere_is/infosphere_is/8.5/ProbDeter/PXOSHCallsStackCollectorWin64.zip?dmuid=20140806110135386302

Collecting information during a hang (5 of 5)

- Use pstack on Solarix/Linux and procstack on AIX.
 - pstack <pid>
 - procstack <pid>
- Example:

```
$ pstack 14059 > /tmp/pid_14059.out
$ cat > /tmp/pid_14059.out
#0  0xfffffe402 in __kernel_vsyscall ()
#1  0x00b1edf3 in __read_nocancel () from /lib/libpthread.so.0
#2  0x0810bd0a in api_pipe_read ()
#3  0x08100927 in main ()
```

Questions

Additional Information - APARs

DataStage Parallel Engine

- JR40807: Terminator activity causes parallel jobs to hang instead of abort
<http://www.ibm.com/support/docview.wss?uid=swg1JR40807>
 - Fix available in 8.5 Fix Pack 3
 - 8.7 Fix Pack 1
 - 9.1 GA and later
- JR47614: Fix problems with threaded tsort stage shutdown on windows
<http://www.ibm.com/support/docview.wss?uid=swg1JR47614>
 - Supercedes: JR45272, JR44056
- JR39834: A job that reads from a data set and uses a copy stage to distribute the data to multiple funnel stages can hang
<http://www.ibm.com/support/docview.wss?uid=swg1JR39834>
 - Fix available in 8.5 FP2
 - 8.7 GA and later
- JR49663: Job with surrogate key generator operator hangs when \$APT_NO_JOBMON=1
<http://www.ibm.com/support/docview.wss?uid=swg1JR49663>
 - Contact support for patch

Additional Information - APARs

Connectivity

- JR45325: Oracle OCI bulk load plugin may hang or crash
<http://www.ibm.com/support/docview.wss?uid=swg1JR45325>
 - Fix available in 9.1.2
- JR47461: Oracle connector: uninitialized variable causes memory corruption that may cause job to hang or crash <http://www.ibm.com/support/docview.wss?uid=swg1JR47461>
 - Fix available in 11.3
- JR36567: Multiple orawrite stages in job corrupt work files and job fails
<http://www.ibm.com/support/docview.wss?uid=swg1JR36567>
 - Fix available in 8.1 Fix Pack 2
 - 8.5 Fix Pack 1
 - 8.7 and later
- JR37099: Length of CLOB data has to be greater than 2 bytes in order to process data (DRS Oracle) <http://www.ibm.com/support/docview.wss?uid=swg1JR37099>
 - Fix available in 8.5 Fix Pack 1
 - 8.7 and later

Additional Information - APARs

Connectivity Cont'd

- JR39892: Information Server 8.5 parallel jobs that use the Netezza stage show a status of Running even though they have finished. (Windows)
<http://www.ibm.com/support/docview.wss?uid=swg1JR39892>
 - Fix available in 8.5 FP2
 - 8.7 and later
- JR44676: Netezza connector server canvas jobs hang intermittently on windows platform when they process zero rows. (Windows)
<http://www.ibm.com/support/docview.wss?rs=14&uid=swg1JR44676>
 - Fix available in 9.1.2
- JR48857: Provision to set load unload timeout in Netezza Connector
<http://www.ibm.com/support/docview.wss?uid=swg1JR48857>
 - Fix available in 11.3 contact IBM Support
- JR44156: Netezza connect jobs hang intermittently trying to open the pipe second time
<http://www.ibm.com/support/docview.wss?rs=14&uid=swg1JR44156>
 - Fix available in 8.7 Fix Pack 2
 - 9.1 FP1

Additional Information - APARs

Connectivity Cont'd

- JR44156: Netezza connect jobs hang intermittently trying to open the pipe second time
<http://www.ibm.com/support/docview.wss?rs=14&uid=swg1JR44156>
 - Fix available in 8.7 Fix Pack 2
 - 9.1 FP1
- JR37958: Job does not finish, if non-existing table name is specified to "exception table name" in DB2 connector
<http://www.ibm.com/support/docview.wss?rs=14&uid=swg1JR37958>
 - Fix available in 8.5 Fix Pack 1
 - 8.7 and later
- JR46530: DB2 connector in db2 for z/os (a) hangs/slow loading partitioned table, (b) does not read partitioned table in parallel
<http://www.ibm.com/support/docview.wss?uid=swg1JR46530>
 - Fix available in 9.1.2
- JR50856: Greenplum connector parallel unload intermittently hangs
<http://www.ibm.com/support/docview.wss?uid=swg1JR50856>
 - Patch available for 11.3 contact IBM Support

Additional Information - Technotes

Design Issues

- InfoSphere DataStage Parallel Job hangs when updating a table using a multi node configuration
<http://www.ibm.com/support/docview.wss?uid=swg21430643>
- DataStage Job hangs while performing Oracle Update (Upsert) in Parallel
<http://www.ibm.com/support/docview.wss?uid=swg21430589>
- DataStage Job with MQ stage hangs after end-of-data message put on queue
<http://www.ibm.com/support/docview.wss?uid=swg21600044>

Additional Information - Technotes

DataStage Parallel Engine

- Information Server DataStage Jobs intermittently Hang on GRID
<http://www.ibm.com/support/docview.wss?uid=swg21590910>
- DataStage sequence jobs hang with no error when using Grid Toolkit
<http://www.ibm.com/support/docview.wss?uid=swg21654563>
- DataStage jobs hung in a project in IBM InfoSphere DataStage
<http://www.ibm.com/support/docview.wss?uid=swg21390366>
- DataStage jobs running SQL Server Enterprise stage in parallel on multiple nodes may hang during bulk write if primary key for table defined
<http://www.ibm.com/support/docview.wss?uid=swg21504442>

Additional Information - Technotes

Windows

- Teradata connector bulk access jobs fail using Teradata Client v13.10 on Windows
<http://www.ibm.com/support/docview.wss?uid=swg21567580>
- Information Server DataStage Parallel Jobs on Windows are hanging or showing faults with KERNELBASE.dll in Event Log
<http://www.ibm.com/support/docview.wss?uid=swg21567108>
- DataStage Parallel Jobs on Windows fail to start or show random failures
<http://www.ibm.com/support/docview.wss?uid=swg21669421>
- General recommendations to run InfoSphere Information Server DataStage parallel jobs on Windows Platforms
<http://www.ibm.com/support/docview.wss?uid=swg21684610>

Additional Information – Use debugger to collect stack trace (1 of 3)

- Alternatively use a debugger to capture the stack trace
 - AIX - ***dbx***
 - Linux/Solaris - ***gdb***
- Set environment variables
 - **APT_ORCHHOME**
 - Default is /opt/IBM/InformationServer/Server/PXEngine
 - **APT_CONFIG_FILE**
 - Set to the configuration file listed in the job log
 - **PATH=\$APT_ORCHHOME/bin:\$APT_ORCHHOME/osh_wrappers:\$PATH**
 - Set the library path:
 - On AIX
 - LIBPATH=\$APT_ORCHHOME/lib:./usr/lib:/lib:\$LIBPATH**
 - On Linux/Solaris:
 - LD_LIBRARY_PATH=\$APT_ORCHHOME/lib:./usr/lib:/lib:\$LD_LIBRARY_PATH**
- Export the environment variables
- Run the command “`which osh`” this should return osh from \$APT_ORCHHOME/bin

Additional Information – Use debugger to collect stack trace (2 of 3)

- dbx example

Change to the directory chosen to store the generated files and execute the following:

```
dbx -a <pid> $APT_ORCHHOME/bin/osh
```

– once at the "dbx" prompt run the following commands:

```
thread
```

```
where > dbx_<pid>.out * Results will be displayed and sent to the file
```

```
detach * Use detach to exit the dbx command shell without stopping the job
```

Additional Information – Use debugger to collect stack trace (3 of 3)

- gdb example

Change to the directory chosen to store the generated files and execute the following:

```
gdb -p <pid>
```

– once at the “gdb” prompt execute:

```
set logging file gdb_<pid>.out *specify file for output
```

```
set logging on
```

```
thread
```

```
where * display back trace
```

```
detach * detach without killing the job
```

```
quit * quit
```