IBM® Tivoli® Workload Scheduler

Readme File for Fix Pack 04 - PTF (U815448)

Version 8.3.0

IBM® Tivoli® Workload Scheduler

Readme File for Fix Pack 04 - PTF (U815448)

Version 8.3.0

> **Note**
>
> Before using this information and the product it supports, read the information in Chapter 4, "Notices," on page 81.

Contents

Chapter 1. IBM® Tivoli® Workload Scheduler Readme File for Fix Pack 04 for Version 8.3.0

Date   21 December 2007

Fix Pack
>   8.3.0-TIV-TWS-FP0004

PTF Number
>   U815448

Product
>   Tivoli Workload Scheduler Version 8.3.0

General Description
>   Tivoli Workload Scheduler Fix Pack 04 for Version 8.3.0

This readme file provides important information about Tivoli Workload Scheduler Pack 04 for Version 8.3.0 (PTF U815448). This readme file is the most current information for the Fix Pack.

Review this section thoroughly before installing or using this Fix Pack.

About this release

This section includes the following topics:

- "Fix pack structure"
- "Features in Tivoli Workload Scheduler 8.3.0 Fix Pack 03" on page 5
- "Features in Tivoli Workload Scheduler 8.3.0 Fix Pack 02" on page 14
- "Features in Tivoli Workload Scheduler 8.3.0 Fix Pack 01" on page 22
- "Product fix history" on page 24
- "Documentation notes" on page 36

Fix pack structure

This section shows the contents of the nine CDs in this fix pack.

Fix pack installation CDs and .tar files organized by operating system

CD1 includes Fix Pack 04 images for AIX. It has the following structure:

```
+---CD1
|   |
|   +---8.3.0-TIV-TWS-FP0004.README (this file)
|   |
|   +---AIX
|   |
|   +---API
|   |
|   +---LICENSE
|   |
|   +---RESPONSEFILES
|   |
|   |
+--- ...
```

CD2 includes the Fix Pack 04 images for HPUX. It has the following structure:

1

```
+---CD2
│   +---API
│   │
│   +---HPUX
│   │
│   +---LICENSE
│   │
│   +---RESPONSEFILES
│   │
│
+--- ...
```

CD3 includes the Fix Pack 04 images for SOLARIS. It has the following structure:

```
+---CD3
│   +---API
│   │
│   +---LICENSE
│   │
│   +---RESPONSEFILES
│   │
│   +---SOLARIS
+--- ...
```

CD4 includes the Fix Pack 04 images for WINDOWS. It has the following structure:

```
+---CD4
│   +---API
│   │
│   +---LICENSE
│   │
│   +---RESPONSEFILES
│   │
│   +---WINDOWS
+--- ...
```

CD5 includes the Fix Pack 04 images for LINUX_386i. It has the following structure:

```
+---CD5
│   +---API
│   │
│   +---LICENSE
│   │
│   +---RESPONSEFILES
│   │
│   +---LINUX_386
+--- ...
```

CD6 includes the Fix Pack 04 images for LINUX_PCC. It has the following structure:

```
+---CD6
│   +---API
│   │
│   +---LICENSE
│   │
│   +---LINUX_PPC
│   │
│   +---RESPONSEFILES
│   │
+--- ...
```

CD7 includes the Fix Pack 04 images for LINUX_S390. It has the following structure:

```
+---CD7
|   +---API
|   |
|   +---LICENSE
|   |
|   +---LINUX_S390
|   |
|   +---RESPONSEFILES
--- ...
```

CD8 includes the Fix Pack 04 images for SOLARIS_I386, Dynix Irix, AS/400 and
OSF platforms. It has the following structure:

```
+---CD8
|   +---DYNIX
|   |
|   +---IRIX
|   |
|   +---LICENSE
|   |
|   +---OSF
|   |
|   +---SOLARIS_I386
|   |
|   +---TDW_enablement_pack
|   |
|   +---TWS4ITM
|   |
|   +---TWSPLUGINS
|
+--- ...
```

CD9 includes the Fix Pack 04 images for HPIA64. It has the following structure:

```
+---CD9
|   +---API
|   |
|   +---HPIA64
|   |
|   +---LICENSE
|   |
|   +---RESPONSEFILES
|   |
|
+--- ...
```

Fix pack contents on FTP

```
+---AIX
|       8.3.0-TIV-TWS-FP0004.TAR
|
+---DYNIX
|       8.3.0-TIV-TWS-FP0004.TAR
|
+---HPUX
|       8.3.0-TIV-TWS-FP0004.TAR
|
+---HPIA64
|       8.3.0-TIV-TWS-FP0004.TAR
|
+---IRIX
|       8.3.0-TIV-TWS-FP0004.TAR
|
+---LINUX_I386
|       8.3.0-TIV-TWS-FP0004.TAR
|
+---LINUX_PPC
|       8.3.0-TIV-TWS-FP0004.TAR
```

```
          |
          +---LINUX_S390
          |       8.3.0-TIV-TWS-FP0004.TAR
          |
          +---OSF
          |       8.3.0-TIV-TWS-FP0004.TAR
          |
          +---SOLARIS
          |       8.3.0-TIV-TWS-FP0004.TAR
          |
          +---SOLARIS_I386
          |       8.3.0-TIV-TWS-FP0004.TAR
          |
          +---WINDOWS
          |       8.3.0-TIV-TWS-FP0004.zip
          |
          +---TWSPLUGINS
          |       TWSLogParser.tar
          |
          +---8.3.0-TIV-TWS-FP0004.README
          +---8.3.0-TIV-TWS-FP0004.VSR
```

New Features in Tivoli Workload Scheduler 8.3.0 Fix Pack 04

This section describes the new features in Tivoli Workload Scheduler 8.3.0 Fix Pack 04:

Defect 37976 - Cluster Windows 2003 64 bit support

Tivoli Workload Scheduler 8.3 Fix pack 4 supports Windows Cluster on 64 bits.

Note: For WINDOWS 2003 64 bit, Tivoli Workload Scheduler Cluster feature does not support the "DLL extension".

Defect 37694 - REDHAT 4.0 AS Itanium as FTA 8.3 support

Follow the steps as shown below:

1. This FTA needs to be installed in toleration mode. Tivoli Workload Scheduler Apps is 32-bit therefore it needs to be activated on REDHAT 4.0 AS Itanium the software that will enable Apps to run "toleration" mode.

   How to make environment to "toleration" mode:

   Red Hat Enterprise Linux 4 for the 64-bit Intel Itanium2 architecture includes runtime support for 32-bit applications through the use of Intel's IA-32 Execution Layer. (the link is on http://www.redhat.com/docs/manuals/enterprise/RHEL-4-Manual/release-notes/as-itanium/) The IA-32 Execution Layer is provided on the Extras disc for the Intel Itanium2 architecture. In addition, a set of 32-bit libraries and applications are provided on a separate 32-bit Compatibility Layer disc. So we need install the Extras disc for the Intel Itanium2 architecture,and Then install the 32-bit Compatibility Layer disc. To verify the installation of the 32-bit compatibility layer and libraries after installation, check that the /emul directory has been created and contains files. To verify that the 32-bit compatibility mode is in effect, type the following in a shell prompt:
   - service ia32el status

2. After install FTA,Check whether the /emul/ia32-linux/usr/lib/libstdc++-libc6.1-1.so.3 exist,If not,Then run the following command.
   - ln -s /emul/ia32-linux/usr/lib/libstdc++-libc6.1-1.so.2 ./libstdc++-libc6.1-1.so.3

Features in Tivoli Workload Scheduler 8.3.0 Fix Pack 03

This section describes the features in Tivoli Workload Scheduler 8.3.0 Fix Pack 03:

Support for APAR PK40356 in scheduling end-to-end environments

> Tivoli Workload Scheduler 8.3 Fix Pack 3 now supports APAR PK40356 in scheduling end-to-end environments. This is the implementation on Tivoli Workload Scheduler distributed of MR0413043944 (Windows user password encryption). Refer to "Managing Windows users and passwords locally on end-to-end scheduling" on page 64 for details.

APAR IY91247

> Addressed the bug in ICU libraries 3.4 that are not able to manage correctly lang=Ja_jp or Ja_JP. This was a bug of ICU libraries. Tivoli Workload Scheduler 8.3 Fix Pack 3 will install under `/usr/Tivoli/TWS/ICU/3.4.1`, that is the new ICU libraries level that addressed this ICU bug.

Using the Pluggable Authentication Module (PAM) and Trusted Mode - APAR IY90807

> Tivoli Workload Scheduler enhances the embedded version of the WebSphere Application Server by supporting a user authentication mechanism based on the Pluggable Authentication Module (PAM).
>
> This enhancement provides a single authentication mechanism that is capable of authenticating users whatever their user registry implementations are based on, local OS or LDAP.
>
> The enhancement extends the WebSphere Application Server capabilities to include support for authentication on HP Trusted Mode environments.
>
> To configure for PAM after installing this fix pack, run:
>
> ```
> createCustomRegistryforPAM.sh -user TWS_user -password TWS_password
> ```
>
> Refer to "Using Tivoli Workload Scheduler with PAM and LDAP" on page 12 for more information.

Tivoli Workload Scheduler 8.3.0 Fix Pack 3 installation will install on top of current WAS 6.0.2 FP11 additional Was patches

> They are PK32904, PK33150, PK40540. Due to this patching of WAS the Tivoli Workload Scheduler 8.3 Fix Pack 3 Installation might take more time than the previous fix pack installation.

SLES 10 support

> Tivoli Workload Scheduler 8.3 Fix Pack 3 has been successfully certified on Sles10. You can now install Tivoli Workload Scheduler 8.3 GA (July 2006) and then 8.3 Fix Pack 3. Using the following configuration you can run on SLES 10.0:
>
> ```
> SuSE SLES 10.0 32bit xSeries , TWS 8.3 FP03 (server and FTA)
> SuSE SLES 10.0 64bit pSeries , TWS 8.3 FP03 (server and FTA)
> SuSE SLES 10.0 64bit AMD64/EM64T , TWS 8.3 FP03 (server and FTA)
> SuSE SLES 10.0 64bit zSeries , TWS 8.3 FP03 (server and FTA)
> ```

Using Microsoft Cluster Service On Windows 2003 Server - additional options

The following have been added to help you use the Microsoft® Cluster Service On Windows® 2003 Server with Tivoli Workload Scheduler.

- Improved ways of avoiding and handling desktop memory heap problems

- Parameters allowing you to customize the name of the Tivoli Workload Scheduler cluster resource instance.

The details are described in the following sections:
- "Using multiple agents in the cluster environment"
- "New arguments for twsClusterAdm"
- "Changed troubleshooting scenario relating to the desktop memory heap problem" on page 8
- "Resolving desktop heap size problems on workstations with more than three agents" on page 9

Using multiple agents in the cluster environment

If you plan to use multiple agents on a computer in the Microsoft Windows 2003 cluster environment, you must take steps to reconfigure the Windows desktop heap memory so that the multiple agents processes share more desktop heap memory. These steps are described in "Resolving desktop heap size problems on workstations with more than three agents" on page 9.

New arguments for twsClusterAdm

The twsClusterAdm.exe command has some extra arguments. The following shows the full syntax plus the extra arguments and examples:

Syntax: The syntax of the new arguments is shown below in bold:

```
twsClusterAdm.exe -new domain=<Windows_domain>
    user=<TWS_user>
    pwd=<TWS_user_password>
    [hosts=<hostname1,hostname2...>]
    [twshome=<TWS_home_dir>]
    [  -res
       group=<cluster_group_name>
       ip=<IP_resource_name>
       net=<network_resource_name>
       disk=<disk_resource_name>
       [resname=<resource_instance_name>]
       [check_interval=<TWS_polling_interval>]
       [failover=yes|no]
       [looksalive=<lookalive_interval>]
       [isalive=<isalive_interval>]
       [tcpport=<tcp_port>]
       [opts=<generic_options>]
    ]
    [-notwsinst]
    [-dll
        [path=<DLL_resource_path>]
    ]
      [-force]
      [-sharedDesktop [name=<desktop_name>]]]
twsClusterAdm.exe  -uninst domain=<Windows_domain>
    user=<TWS_user_name>
    [hosts=< hostname1,hostname2...>]

twsClusterAdm.exe -update   resource=<resource_instance_name>
    [-force]

twsClusterAdm.exe -changeResName "<resource_instance_name>"
                                 "<new_resource_instance_name>"
```

Additional arguments: The **"-new"** parameter accepts the following addition argument:

-sharedDesktop [name=<desktop_name>]

> Optionally specify that **Jobmon** uses a shared desktop name to manage desktop heap memory allocation where multiple agents are installed on one computer (see "Resolving desktop heap size problems on workstations with more than three agents" on page 9 for details). Use the same name for at least two agents on this computer to make the option effective.
>
> The default name (by not supplying the **name=<desktop_name>** argument), is *TWS_JOBS_WINSTA*. If you supply a name, it must be in single-byte characters (English alphabet), with no special characters allowed, except spaces, in which case you must surround it by double quotes.

The **-res** argument of the **"-new"** parameter accepts the following addition argument:

resname=<*resource_instance_name*>

> The name of the resource instance, as it appears in the Cluster Administrator. If this paremeter is not supplied, the default value of *ITWSWorkstation_<domain_name>_<user_name>* is used.

The **–changeResName** parameter is a new parameter that changes the cluster instance resource name, and accepts the following arguments:

"<resource_instance_name>"

> The Tivoli Workload Scheduler Resource Instance name as it appears within the cluster group. The default name is *ITWSWorkstation_<domain>_<user>*. This argument is mandatory for **–changeResName**.

"<new_resource_instance_name>"

> The new name you want to use for the Tivoli Workload Scheduler resource instance. This argument is also mandatory for **–changeResName**.

Examples: For all the scenarios described below it is assumed that the Fix Pack described by this readme has been installed.

In all the scenarios described below the following definitions are used:
- *MYDOM* is the Windows User Domain of the Tivoli Workload Scheduler User.
- *mytwsuser* is the Tivoli Workload Scheduler user name
- *mytwspwd* is the password for the *MYDOM\mytwsuser* domain user.
- *myresgroup* is the name of the cluster resource group selected.
- *myip* is the name of the IP Address resource type within the *myresgroup* resource group.
- *mynetname* is the name of the Network Name resource type within the *myresgroup* resource group.
- *mydisk* is the name of the Physical Disk resource type within the *myresgroup* resource group.
- *my shared desktop* is the name of the shared desktop that all instances of **jobmon** will use
- *myResName* is the customized name of the resource instance.

Scenario 12: First installation of Tivoli Workload Scheduler in a Windows 2003 cluster environment, defining a shared desktop: First time installation of Tivoli Workload Scheduler in a Windows 2003 cluster environment, defining a shared desktop to be used by **Jobmon** (this is like scenario 1, but with the addition of the shared desktop):

```
twsClusterAdm.exe -new domain=MYDOM user=mytwsuser pwd=mytwspwd
-res group=myresgroup ip=myip net=mynetname disk=mydisk -dll -sharedesktop
```

The command:
- Configures Tivoli Workload Scheduler on all the nodes of the cluster.
- Installs the new Tivoli Workload Scheduler Cluster resource type (named `ITWSWorkstation`) on all the nodes of the cluster.
- Copies the `ITWSResources.dll` to the `\%systemRoot%\cluster` folder.
- Creates an instance of the Tivoli Workload Scheduler Cluster resource type within the specified cluster group.
- Adds a dependency from *myip*, *mynetname*, and *mydisk* to the resource.
- Defines that **jobmon** uses the default shared desktop name

Scenario 13: First installation of Tivoli Workload Scheduler in a Windows 2003 cluster environment, using a customized resource instance name: First time installation of Tivoli Workload Scheduler in a Windows 2003 cluster environment, using a customized resource instance name (this is like scenario 1, but with the addition of the customized resource instance name):

```
twsClusterAdm.exe -new domain=MYDOM user=mytwsuser pwd=mytwspwd
-res group=myresgroup ip=myip net=mynetname disk=mydisk resname=myResName -dll
```

The command:
- Configures Tivoli Workload Scheduler on all the nodes of the cluster.
- Installs the new Tivoli Workload Scheduler Cluster resource type (named `ITWSWorkstation`) on all the nodes of the cluster.
- Copies the `ITWSResources.dll` to the `\%systemRoot%\cluster` folder.
- Creates an instance of the Tivoli Workload Scheduler Cluster resource type within the specified cluster group.
- Adds a dependency from *myip*, *mynetname*, and *mydisk* to the resource.
- Defines that the resource instance name is *myResName*.

Scenario 14: Changing the resource instance name: Changing the name of an existing resource instance:

```
twsClusterAdm.exe -changeResName "ITWSWorkstation_CLUSTER_SA_DM1"
                  "myResName"
```

The command changes the resource instance name from *ITWSWorkstation_CLUSTER_SA_DM1* to *myResName*.

Changed troubleshooting scenario relating to the desktop memory heap problem

The following error scenario in the troubleshooting section has changed:

Tivoli Workload Scheduler resource instance reports fail status or Tivoli Workload Scheduler user jobs go in the abend state: **Problem:** If you run more than three instances of Tivoli Workload Scheduler on the same node with jobs running it is possible to have the following behavior:

- The Tivoli Workload Scheduler cluster resource instance is in fail status. See the resource status on the Cluster Administrator console.
- Tivoli Workload Scheduler user jobs go in the **abend** or **fail** state. In this case you can find the following error message in *<TWS_HOME>\stdlist\date\ TWSUSERNAME*:

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+ AWSBIJ139E An internal error has occurred. Jobmon was unable to create a
+ new desktop on the window station associated with the calling process.
+ The error occurred in the following source code file:
+ ../../src/jobmon/monutil.c at line: 2454. The error mess
+ ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
AWSBIJ140E An internal error has occurred. Jobmon was unable to create the
Windows process environment to launch jobs. The error occurred in the
following source code file: ../../src/jobmon/monutil.c at line: 830.
```

The following error message is in the *<TWS_HOME>*\stdlist\logs\ date_TWSMERGE.log file,e: 06:00:28 19.05.2006│BATCHMAN:* AWSBHT061E Batchman as received a mailbox record indicating that the following job has terminated unexpectedly: The system has run out of desktop heap.

```
06:00:28 19.05.2006│BATCHMAN:*
AWSBHT061E Batchman as received a mailbox record indicating that the following
job has terminated unexpectedly:
   The system has run out of desktop heap.
```

Solution: The solution to this problem has a number of different options, and is described in "Resolving desktop heap size problems on workstations with more than three agents"

Resolving desktop heap size problems on workstations with more than three agents

This section describes how to resolve the problem where the Windows desktop heap memory limitations cause processes to fail if there are more than three instances of Tivoli Workload Scheduler installed on a workstation in a Windows 2003 cluster environment.

Use this description whether you want to prevent the problem occurring (before installing the fourth agent instance) or if a problem has occurred caused by this limitation.

This section has the following topics
- "Problem description"
- "Solutions" on page 10
- "Implementing the solutions" on page 11

Problem description: The problem occurs because of the way Windows handles its desktop heap memory, and the way Tivoli Workload Scheduler creates *desktops*. In the security context, a desktop is used to encapsulate Windows processes, preventing the process from performing unauthorized activities.

The total amount of memory available for the creation of desktops is determined by a Windows registry entry called :

```
HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Session Manager
\Memory Managment\SessionViewSize
```

The default value is 20Mb.

The share of that buffer for each desktop is determined by a Windows registry entry called :

```
HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Session Manager
\SubSystems\Windows
```

For example, the value of this entry might be:

```
%SystemRoot%\system32\csrss.exe ObjectDirectory=\Windows SharedSection=
1024,3072,512 Windows=On SubSystemType=Windows ServerDll=basesrv,
1 ServerDll=winsrv:UserServerDllInitialization,3 ServerDll=winsrv:
ConServerDllInitialization,2 ProfileControl=Off MaxRequestThreads=16
```

In this entry, after the keyword *SharedSection*, there are three comma-separated memory entries (in Kbs):

Common memory (first entry)
> Defines the shared heap size common to all desktops (1024 in the example).

Interactive desktop memory (second entry)
> Defines the extra desktop heap memory assigned to each interactive process (3072 in the example). For example, the process which is in *foreground* at the moment. There are normally three interactive processes running at any one time.

Non-interactive desktop memory (third entry)
> Defines the extra desktop memory assigned to non-interactive processes (512 in the example). For example, any process running in background.

Tivoli Workload Scheduler processes make the following use of desktops:

Tivoli Netman **Windows service**
> Creates a non-interactive desktop shared between all agents running on the physical computer.

Tivoli Token Service **Windows service**
> Creates a non-interactive desktop for the TWSUser for each agent.

Tivoli Workload Scheduler **Windows service**
> Creates a non-interactive desktop for the TWSUser for each agent.

Job manager (jobmon.exe)
> Creates a non-interactive desktop for all jobs launched by each agent.

Thus, for each extra agent, 3 non-interactive desktops are created. The problem occurs when Windows uses up all the memory for creating desktops.

Solutions: To reduce the risk that a Tivoli Workload Scheduler process cannot find sufficient memory to create a desktop, do one, or more, of the following:
- "Modify the shared heap buffer sizes"
- "Configure the *Tivoli Workload Scheduler* Windows service to start as a local system account" on page 11
- "Customize the desktop name so that it is reused" on page 11

Modify the shared heap buffer sizes: If you reduce the size of the common or interactive memory, you leave more memory available for non-interactive desktops. However, reducing the sizes of either of these might cause performance problems. Microsoft sets these values by default because their tests show that these are the required values. You are not recommended to change these values.

Reducing the memory used for a non-interactive desktop will allow more desktops to be created. Individual processes that require more memory might be impacted,

but most processes will run successfully. If your default non-interactive desktop memory (third entry) is 512, try reducing it to 256. See "Modify the Windows registry entries that determine the heap size" on page 12 for how to do it.

Configure the Tivoli Workload Scheduler Windows service to start as a local system account: By default, the *Tivoli Workload Scheduler* Windows service is configured for the TWSUser of each agent. By changing it to start as a local system account, only one desktop instance is created on the computer, not one per agent. The solution is implemented as follows:

- For agents installed with version 8.2.1 fix pack 3, or later, this change is achieved by using the optional installation parameter *-sharedDesktop*
- For agents being installed at earlier versions, or agents already installed, make the change manually. See "Modify configuration of Windows service" for how to do it.

Customize the desktop name so that it is reused: When **Jobmon** opens a desktop, it allocates a unique name to the desktop, ensuring that a different desktop is created for each agent. However, if it creates the desktop using the name of a desktop already open, that process will open inside the existing desktop. To do this, you need to customize the name that will be used by Jobmon when it creates its desktop. By using the same name for all agents, each instance of **Jobmon** opens in the same desktop.

To ensure that this option is effective, the supplied name must be the same for at least 2 of the agents installed. The more agents that are run using the same shared desktop, the more memory will be available for desktop creation. However, if too many agents use the same shared desktop, there might be an impact on the ability of Windows to manage the jobs running in the shared desktop correctly. In this case, you might want to make a compromise. For example, if you had four agents installed on the same computer, you could choose to have pairs of agents share the same desktop.

The solution is implemented as follows:

- For agents installed with version 8.2.1 fix pack 3, or later, this change is achieved by using the optional installation parameter **-sharedDesktop**. If you add this option without an argument, the installation applies the default name of *TWS_JOBS_WINSTA*. Otherwise supply your own name, for example, **-sharedDesktop name="*my windows desktop name*"**.

  See "New arguments for twsClusterAdm" on page 6 for how to do it.
- For agents being installed at earlier versions, or agents already installed, make the change manually. See "Modify localopts to supply a shared desktop name" on page 12 for how to do it.

Implementing the solutions: There are several possible solutions. Choose the one that is best for your circumstances:

- "Modify configuration of Windows service"
- "Modify the Windows registry entries that determine the heap size" on page 12
- "Modify localopts to supply a shared desktop name" on page 12

Modify configuration of Windows service: To modify the *Tivoli Workload Scheduler* Windows service to open as a local account, do the following:

1. From the **Start** button, select the **Services** panel (for example, select **Programs ➜ Administrative Tools ➜ Services**).
2. Select the **Tivoli Workload Scheduler** service and double-click it to edit it.

3. Select the **Log on** tab

4. Click **Local System account** and then **Apply**.

5. Right click the service and select **Stop**.

6. When the service has stopped, right click it again and select **Start**

7. Check that the service has started correctly and close the Services window.

Modify the Windows registry entries that determine the heap size: To modify the Windows registry entries that determine the heap size, run **regedit.exe** and modify the key:

```
HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Session Manager
\SubSystems\Windows
```

The default data for this registry value will look something like the following (all on one line):

```
%SystemRoot%\system32\csrss.exe ObjectDirectory=\Windows SharedSection=
1024,3072,512 Windows=On SubSystemType=Windows ServerDll=basesrv,
1 ServerDll=winsrv:UserServerDllInitialization,3 ServerDll=winsrv:
ConServerDllInitialization,2 ProfileControl=Off MaxRequestThreads=16
```

The numeric values following SharedSection= control how the desktop heap is allocated. These *SharedSection* values are specified in kilobytes. See "Problem description" on page 9 for a description of the values.

The third *SharedSection* value (512 in the above example) is the size of the desktop heap for each non-interactive desktop. Decrease the value to 256 kilobyte.

Note: Decreasing any of the *SharedSection* values will increase the number of desktops that can be created in the corresponding window stations. Smaller values will limit the number of hooks, menus, strings, and windows that can be created within a desktop. On the other hand, increasing the *SharedSection* values will decrease the number of desktops that can be created, but will increase the number of hooks, menus, strings, and windows that can be created within a desktop. This change will only take effect after you reboot the cluster nodes.

Modify localopts to supply a shared desktop name: To use a shared desktop name for an agent already installed, do the following:

1. Open the *localopts* file for the agent in question (see the *Tivoli Workload Scheduler: Planning and Installation Guide* for the location of this file)

2. Add the key jm windows station name = *<my_name>*. Ensure that *<my_name>* is the same name as used in another agent to save desktop memory.

3. Save the file.

4. Stop and restart Tivoli Workload Scheduler to make the change effective.

Using Tivoli Workload Scheduler with PAM and LDAP

Fix pack 3 enhances Tivoli Workload Scheduler version 8.3 to operate with LDAP in PAM-enabled systems. The tested and certified environments are:
- Solaris 9 with LDAP Client native connected to LDAP Server on Solaris10
- Solaris 9 with OPEN LDAP Client 2.3.21 connected to LDAP Server on Solaris10
- HPUX 11.23 in Trusted Mode connected to LDAP Server on Solaris10
- HPUX 11.23 ia64 in Trusted Mode connected to LDAP Server on HPUX 11.23 ia64 Netscape Directory Server Version 6.21

The following subsections explain how to configure and use Tivoli Workload Scheduler with LDAP in PAM-enabled systems.

Configuring Tivoli Workload Scheduler 8.3.0 Fix Pack 03 for LDAP support

The following steps are to run a basic configuration of Tivoli Workload Scheduler 8.3.0 Fix Pack 03 with LDAP support:

1. Install fix pack 3 on Tivoli Workload Scheduler.

   On HP Trusted Mode:
   - Before you install the fix pack, use the available operating system tools to disable or enable the HP trusted mode.

2. Run the `backupConfig.sh` script located in the `wastools` folder of the Tivoli Workload Scheduler home directory to backup the basic WAS configuration.

3. Change the Tivoli Workload Scheduler security file as follows to assign the LDAP user as Tivoli Workload Scheduler user:

   a. Run `dumpsec > sec.txt` to download the security file onto the `sec.txt` text file

   b. Open `sec.txt`

   c. Edit the values in the `logon` keyword to add the LDAP user so that it that looks something like this:

   ```
   ....
   USER TWS_user
   CPU=@+LOGON=TWS_user,root,LDAP_user
   ....
   ....
   ```

   d. Save `sec.txt`

   e. Run `makesec sec.txt` to upload the security file and apply the modifications

   f. Run this command sequence to stop and restart Tivoli Workload Scheduler:

   ```
   conman shut wait
   conman start
   ```

4. Run the `createCustomRegistryforPAM.sh` script located in the `wastools` folder of the Tivoli Workload Scheduler home directory as follows to create a custom registry for PAM:

   ```
   createCustomRegistryforPAM.sh -user TWS_user  -password password
   ```

5. Run this command sequence to stop and restart WebSphere Application Server:

   ```
   stopWas.sh —user root —password rootpasswd
   startWas.sh
   ```

Supported scenarios

Table1 shows the actions you can now perform based upon PAM and LDAP support:

Table 1. Scheduling actions with PAM/LDAP support

Connecting user	User interface	Actions
Connect to system with user *TWS_user*, root, or *LDAP_user*	Run composer with *LDAP_user*	composer -user *LDAP_user* -password *LDAP_user_password*
		Change/add/delete scheduling objects as per authorization in security file
		Create job with streamlogon *LDAP_user*
	Run conman with *LDAP_user*	conman -user *LDAP_user* -password *LDAP_user_password*
		Submit job streams/jobs, admin plan as per authorization in security file
		Submit job with streamlogon *LDAP_user*
Connect to system with user *OPENLDAP_user* and *password*	Job Scheduling Console	Create scheduling objects as per authorization in security file
		Submit jobs and job streams

Features in Tivoli Workload Scheduler 8.3.0 Fix Pack 02

This section describes the new features in Tivoli Workload Scheduler 8.3.0 Fix Pack 02:

Windows Vista

Tivoli Workload Scheduler runs on Windows Vista in compatibility mode. Only agent configurations can run. The following are not supported with this operating system:

- Master domain manager (and backup master)
- Distributed connector

Installing and running Tivoli Workload Scheduler on Windows Vista workstations requires special attention. To know what specific action you must take to properly install and use the product in this environment see page 71

Installing Linux libraries

To run Tivoli Workload Scheduler on Linux, you need to ensure that certain Linux libraries are on your system. These libraries are not distributed with Tivoli Workload Scheduler but must be obtained from your Linux provider. Depending upon your Linux vendor, the version of Linux you are using, and the architecture of your system, these libraries can be obtained in a variety of ways.

Note:

libstdc++.so.6 is no longer used by Tivoli Workload Scheduler applying FP2, libstdc++.so.5 is used instead. This means that libstdc++.so.5 must be installed from official RPM for RHEL 3 or compatibility (official) RPM for RHEL 4 and SLES 9 if not already present.

If you do not want to install libstdc++.so.6 (used by GA and fix pack 1) on your systems you have to install Tivoli Workload Scheduler for Linux directly using a fresh installation

A description of the methods to locate and install these libraries follows:

- Red Hat Enterprise Linux, versions 3 and 4, and SuSe Linux Enterprise Server, version 9

  1. Search the media on which your copy of Linux was provided to you for the relevant library listed below. The libraries to locate are:

     ```
     libstdc++-libc6.1-2.so.3
     libstdc++.so.5
     libgcc_s.so.1
     ```

     or their most recent compatible version.

  2. If you cannot find them on the product media, the libraries might be available from your Linux vendor (Red Hat or SuSe):

     a. The libraries are typically stored in packages (RPMs). Select the package according to the Linux system and architecture where you are installing. For example, an RPM might have the name: `compat-libstdc++-33-3.2.3-47.3.i586.rpm`. From the name you can determine the date it was released (choose the most recent) and the architecture. In this case, i586 is correct for the supported platform *SuSe Linux Enterprise Server 9 xSeries (IA32) Kernel 32.*

     b. You will need to check that the library you are looking for is contained in the package prior to downloading.

  3. After locating or obtaining the correct package, install the library. If the installation finds an existing version of the library at a higher level, it will give an error and stop. In this case create a symlink to the higher level version that the installation found.

     Note: Some Linux platforms running the 64 bit kernel (for example Red Hat Linux Enterprise 3.0 and 4.0 on iSeries and pSeries), install only the 64-bit runtime support. However, Tivoli Workload Scheduler also requires the 32-bit runtime support. Therefore the 32-bit libraries must also be installed.

- Red Hat Enterprise Linux, version 2.1 and SuSe Linux Enterprise Server, version 8

  1. Download the source file gcc-3.3.6.tar.gz (or a compatible version) from the GNU web site (http://www.gnu.org)

  2. Unpack the source file as follows:

     ```
     tar -zxvf gcc-3.3.6.tar.gz
     ```

  3. Change to the directory with the unpacked files:

     ```
     cd gcc-3.3.6
     ```

  4. Configure the compiler:

     ```
     ./configure --prefix=/opt/gcc-3.3 --program-suffix=33
     ```

  5. Compile the libraries, as follows:

     ```
      make bootstrap
     ```

  6. Install the libraries, as follows:

     ```
     make install
     The libraries are located in the directory /opt/gcc-3.3/lib:
     libstdc++-libc6.1-2.so.3
     libstdc++.so.5.0.7
     libstdc++.so.5 (soft link to libstdc++.so.5.0.7)
     libgcc_s.so.1
     ```

  7. These libraries can be used in any of the following modes

     - Copy them into the /usr/lib directory

- Add dir /opt/gcc-3.3/lib to the /etc/ld.so.conf file and run ldconfig.
- Copy them into the <TWSHome>/bin directory

> **Note:** To compile this package you must have already installed the appropriate compiler.

- **New keyword for evtsize command**

  The `evtsize` utility command has a new keyword that compresses the *filename* event file and changes the maximum size value to a specified *size*. For more information on the description of this command refer to "evtsize" on page 43

Cluster Support on Microsoft Windows

Tivoli Workload Scheduler supports Microsoft Windows 2003 Cluster - for more details on how to install and use the Windows 2003 Cluster Enabler refer to *Tivoli Workload Scheduler: Using Microsoft Cluster Service On Windows 2003 Server* document.

New tomserver mailman server

An additional mailman server named `tomserver` (also referred to as `server@` in the log files) can be defined on each domain manager to aid mailman with its communications task. For a detailed description of the mailman process refer to "New tomserver mailman server" on page 41

Data Execution Prevention

Fix Pack 2 makes Tivoli Workload Scheduler fully compatible with the Data Execution Prevention (DEP) feature of MicroSoft Windows operating systems.

HP-UX 11iv2 for Integrity

Full support is extended on HP-UX 11iv2 for Integrity to all components; that is, master domain manager and backup master, agents, Distributed and z/OS Connectors, CLI client, and Job Scheduling Console.

Dynamic Workload Console

A new component named Dynamic Workload Console has been added to the Tivoli Workload Scheduler product. The Dynamic Workload Console is a new web-based user interface that provides you with a way of viewing and controlling scheduling activities in production on both the Tivoli Workload Scheduler distributed and z/OS environments. Using the Dynamic Workload Console you can access the Tivoli Workload Scheduler environment from any location in your network using one of the supported browsers.

Daylight Saving Time (DST) changes - Defect 28855

This fix pack automatically applies the required adjustments to the 2007 DST start and end dates in the US in accordance with the change mandated by the US Energy Policy Act of 2005.

To apply similar time zone adjustments for:
- Bermuda
- Brazil
- Canada
- Western Australia

you must run the IBM Time Zone Update Utility for Java (JTZU) manually after applying the fix pack.

Go to http://www-128.ibm.com/developerworks/java/jdk/dst/index.html to download the JTZU for free.

The Metronome tool

Defect 28596:

Metronome is a PERL script that produces information about your Tivoli Workload Scheduler environment and can take a snapshot of the Tivoli Workload Scheduler database and configuration data on the master domain manager, saving them as a dated package. It can also generate a report containing not only the results of the snapshot, but also many configuration and environment parameters. Metronome is a useful tool for the Tivoli Workload Scheduler user when describing a problem to IBM Software Support. For best results, the tool must be run as soon as the problem is discovered.

Metronome can be used just to make a snapshot backup of data and configuration files for backup or archiving purposes. However, it should be noted that if it is used for this purpose, and you subsequently need to restore the backed up data, you must manually reverse the backup actions taken by the tool - there is no automatic restore facility.

Metronome is also a useful source of information for you. It always displays information about the Tivoli Workload Scheduler environment, and in particular the sizes of the key files, such as Symphony.

Metronome's executable and other files can be found in the *<TWS_home>*/bin/ directory.

Note: If you use the option to take a snapshot, Metronome copies what can be a very large amount of data into the indicated directory. To estimate the size, you have to sum the sizes of all the files indicated in "Metronome snapshot." Ensure you have enough disk space in the indicated file set. You might also want to archive old snapshots before taking new ones, optionally placing the archive on a different file set to avoid space problems.

Information on how to use Metronome is provided in these topics:
- "Metronome prerequisites"
- "Metronome snapshot"
- "Metronome command" on page 19
- "Using Metronome when a problem occurs" on page 21
- "Restoring from a Metronome package" on page 21

Metronome prerequisites: Metronome requires version 5.8.8 of the PERL scripting language, or later. This can be obtained from the Internet.

Metronome snapshot: Metronome takes a snapshot of the Tivoli Workload Scheduler database and configuration files into a directory named `<TWS_home>`/snapshots/snap_`<date>`_`<time>`.

The following data is backed up:

Configuration and scheduling files

The following files are copied from the *<TWSHome>* directory:

```
/Symphony
/Sinfonia
/Synnew (master domain manager only)
/localopts
/mozart/globalopts
/version/maestro.info
/version/patch.info
/Mailbox.msg
/Intercom.msg
/Courier.msg
/network/NetReq.msg
/Security file
/BmEvents.conf
/event.log
/audit/*
```

Tivoli Workload Scheduler log files

The following files are copied from the *<TWSHome>* directory:

```
/schedlog/*.*
/stdlist/*.*
```

Log files for the embedded version of WebSphere Application Server - Express

The following files are copied from the *<TWSHome>/appserver/profiles/ twsprofile/logs* directory:

```
/activity.log
/server1/*
```

Properties for the embedded version of WebSphere Application Server - Express (master domain manager only)

The following scripts in the *<TWSHome>/wastools* directory are used to create text files containing the configuration parameters of the embedded version of WebSphere Application Server - Express (on UNIX you need to run Metronome as root):

```
/showSecurityProperties.sh/bat
/showHostProperties.sh/bat
/showDataSourceProperties.sh/bat
```

DB2 log files (if the DB2 server option is installed)

The following files are copied from the *<DB2Home>* directory:

UNIX

```
/db2dump/db2diag.log
```

Windows

```
/db2diag.log
```

On Windows, the parameter DB2INSTNAME must be specified to correctly identify the *<DB2Home>* directory.

Object definitions

The script uses **composer create** to create flat text files with the extension **.def*, containing all object definitions.

Plan data (master domain manager only)

The **planman showinfo** command is used to create a file containing information about the plan.

Global options

The script uses the **optman ls** command to create a file containing the global options.

DB2 database

If requested, the script uses the DB2 command **backup database** to create a backup of all the files in the database.

Note: Metronome does not back up the database if it is on Oracle.

Metronome command:

Metronome:

Authorization: Metronome should be run as Administrator on Windows or root on UNIX.

Format:

<Perlpath>/**perl** *<TWS_home>*/**bin/Metronome.pl**
  [**MAESTROHOME**=*<TWS_absolute_home>*]
  [**-html**]
  [**-pack**
   [**DB2USER**=*<DB2_user>* **DB2PASSWORD**=*<DB2_user_password>*
    DB2DIR=*<DB2_path>* **DB2NAME**=*<DB2_name>*]
   [**DB2INSTNAME**=*<DB2_instance_name>*]]
  [**-prall**]

Parameters: The parameters are:

<Perlpath>   The path identifying the directory where the Perl executable can be found. This can be relative or absolute. If the path contains spaces, the whole parameter must be enclosed in double quotes.

<TWS_home>   The Tivoli Workload Scheduler home directory. This can be relative or absolute. If the path contains spaces, the whole parameter must be enclosed in double quotes.

MAESTROHOME=*<TWS_absolute_home>*
  The absolute path to the Tivoli Workload Scheduler home directory if the script is launched from a different directory.

–html   Generates an HTML report. If you specify this option without -pack, the report.htm output is copied to the `<TWS_home>` directory.

–pack   Creates a package of configuration files. If you specify this option together with -html, the report.htm output is copied to the `<TWS_home>`/snapshots/snap_`<date>`_`<time>` directory.

**[DB2USER=*<DB2_user>* DB2PASSWORD=*<DB2_user_password>*
DB2DIR=*<DB2_path>* DB2NAME=*<database_name>*]**
  If these four parameters are supplied in addition to the **-pack** parameter, the script additionally backs up the DB2 database using the DB2 command **back up database**, and adds it to the pack in a subdirectory. This option can only be used if you are using a DB2 Server on the master domain manager. If you are using a DB2 Client, to back up the database on the DB2 Server you must directly run the DB2 **back up database** command on the server. See the DB2 documentation for details (http://

publib.boulder.ibm.com/infocenter/db2luw/v8//index.jsp). If these parameters are supplied without the **-pack** parameter, they are ignored.

Note: If you are using an Oracle database you must back up the database according to the instructions in the Oracle documentation.

The individual parameters are as follows:

DB2USER=<*DB2_user*>
>The DB2 administration user on the local server.

DB2PASSWORD=<*DB2_user_password*>
>The password of the DB2 administration user.

DB2DIR=<*DB2_path*>
>The fully-qualified path of the DB2 installation directory.

DB2NAME=<*database_name*>
>The name of the Tivoli Workload Scheduler database, as supplied at installation (or modified since).

Note: When Metronome backs up the DB2 database, do not use Tivoli Workload Scheduler interfaces to the database (the local command line, remote command-line clients, and the Job Scheduling Console).

>This is because Metronome first "quiesces" the database, then performs the backup, and finally "unquiesces" it. While the database is in "quiesced" mode, if you use an interface to manage objects in the database the activity might fail with a message similar to the following:

```
SQL1224N  A database agent could not be started to service
a request, or was terminated as a result of a database system
shutdown or a force command. SQLSTATE=55032
```

>To avoid this, do not use the interfaces.

[DB2INSTNAME=<*DB2_instance_name*>**]**
>Windows only. The name of the Tivoli Workload Scheduler instance database, as supplied at installation (or modified since). This is needed on Windows to retrieve the DB2 log.

[–prall] Prints the contents of the report produced by the *-html* parameter to stdout.

Whatever parameters are used, the command displays a set of useful data about the Tivoli Workload Scheduler environment, as well as messages showing the success or failure of its various activities.

Examples: This is an example of the command run from the Tivoli Workload Scheduler home directory, displaying just the base information.

```
E:\Perl5\bin\perl .\bin\Metronome.pl
```

This is an example of the command run on Windows from a directory that is not the Tivoli Workload Scheduler home directory. In addition to producing the pack and the HTML report, it also runs the DB2 backup:

```
E:\Perl5\bin\perl .\bin\Metronome.pl
   MAESTROHOME="E:\Program Files\IBM\TWS\twsuser"
   -html -pack DB2USER_db2admin DB2PASSWORD=db2admin
   DB2DIR="D:\Program Files\DB2" DB2NAME=TWS
   DB2INSTNAME=mydb2instance
```

Using Metronome when a problem occurs: After discovering a problem, use the following procedure:

1. Run Metronome with options `-html -pack`

2. Open a Problem Management Record (PMR) with IBM Software Support and include the HTML report found in *<TWS_home>*/snapshots/snap_*<date>_<time>*/ report.htm

3. IBM Software Support reads the report and either solves the problem or asks for the package of files produced by the script. Alternatively, they might ask you to rerun Metronome with the DB2 backup options, as well.

4. When requested, send the package to IBM Software Support who solve the problem.

Restoring from a Metronome package: There is no automatic restore facility available with Tivoli Workload Scheduler that corresponds to the Metronome snapshot. Thus, to restore from a Metronome snapshot, unpack the **.tar** file into a temporary directory, and proceed as follows:

Configuration and scheduling files
> Copy the following files into the <TWSHome> directory:

> ```
> /Symphony
> /Sinfonia
> /Synnew (master domain manager only)
> /localopts
> /mozart/globalopts
> /version/maestro.info
> /version/patch.info
> /Mailbox.msg
> /Intercom.msg
> /Courier.msg
> /NetReq.msg
> /network/NetReq.msg
> /Security file
> /BmEvents.conf
> /event.log
> /audit/*
> ```

Tivoli Workload Scheduler log files
> Copy the following files to the *<TWSHome>* directory:

> ```
> /schedlog/*.*
> /stdlist/*.*
> ```

Log files for the embedded version of WebSphere Application Server - Express
> Copy the following files to the *<TWSHome>*/appserver/profiles/ twsprofile/logs directory:

> ```
> /activity.log
> /server1/*
> ```

Properties for the embedded version of WebSphere Application Server - Express (master domain manager only)
> Perform this procedure:

> 1. Log in to the master domain manager as Administrator (Windows) or root (UNIX)

> 2. Navigate to the *<TWSHome>*/wastools directory.

3. Run the **stopWas.sh/bat** command to stop the embedded version of WebSphere Application Server - Express

4. Copy the following files from the Metronome backup directory to the *<TWSHome>*/wastools directory:

```
/SecurityProps.properties
/HostProps.properties
/DataSourceProps.properties
```

5. Run the following commands to restore the configuration parameters of the embedded version of WebSphere Application Server - Express:

changeSecurityProperties.sh/bat SecurityProps.properties
changeHostProperties.sh/bat HostProps.properties
changeDataSourceProperties.sh/bat DataSourceProps.properties

6. Run the **startWas.sh/bat** command to restart the embedded version of WebSphere Application Server - Express

DB2 log files (if the DB2 server option is installed)
Copy the following file to the *<DB2Home>* directory (Windows) or the *<DB2Home>/db2dump* directory (UNIX):

```
/db2diag.log
```

DB2 database
If you used the option to run the DB2 backup, you can use the DB2 **restore database** command to restore the database, taking the backed up file as input. See the DB2 documentation for details http://publib.boulder.ibm.com/infocenter/db2luw/v8/index.jsp. If you do this, you do not need to manually restore the following:

- Plan data
- Object definitions
- Global options

If you did not use the option to run the DB2 backup when you originally ran Metronome, you should continue and restore these items, as described below.

Plan data (master domain manager only)
Use the information in the following file in the Metronome backup directory to run the **planman crt** command to recreate the plan:

```
planman.showinfo
```

Object definitions
Use **composer add** for each of the ***.def** files to add the object definitions to the database (except the global options file).

Global options
Use the **optman ls** command to determine the current values of the global options. Note which are different from the definitions listed in the global options file and use **optman** to modify the changed values back to their previous values.

Features in Tivoli Workload Scheduler 8.3.0 Fix Pack 01

Described below are new features in Tivoli Workload Scheduler 8.3.0 Fix Pack 01

Job Stream ID name in backlevel agents
Reduces limitations due to new Job Stream ID on Tivoli Workload Scheduler 8.1 and 8.2.x agents when working with 8.3 masters.

Support a second mode of generating the plan, very similar to old 8.2.x style plan generation, with Carry Forward name on the JS, so that on the backlevel agents no impact is seen coming from the change of name. The support for multiple JS with same name is almost complete.

To implement this change a new global property is defined in the database and it is configurable by optman; the planner component reads this property during the planning and also for the submit operation to understand if to use the generation ID mechanism similar to Tivoli Workload Scheduler 8.2.x or similar to Tivoli Workload Scheduler 8.3 GA code.

The name of this property is **enLegacyId** (short name li) and its default value is NO.

During the planning, when the plan is created or extended, if this property is set to NO, the planner creates the instance of the job stream setting a new ID and the behavior is the same as Tivoli Workload Scheduler 8.3 GA (refer to SDD1 Advanced Planner), then in the Symphony file the job stream name is equal to this id. When the enLegacyId property is set to YES, the planner generates the instance job stream with an ID (symphony ID) equal to the real job stream name, then in the Symphony file the job stream name is equal to real job stream name. If more instances of the same job stream are present, the planner generates for every instance an ID with an alias starting from the job stream name.

This allow 8.2 behavior if just one instance of each job stream is present in Symphony file, and a behavior like the alias used in submit for the next instances of the job stream in the same Symphony file.

When stageman runs, the IDs generated with the lagacy mechanism are renamed using the CF.... mechanism of previous releases. This does not apply to the job stream name displayed by 8.3 that is maintained unchanged.

Start of day calculating TZ
Reintroduce a behavior that was present in previous releases and is no longer present in 8.3 GA, the 8.3 GA behavior is better for new users but might introduce some rework of job streams when migrating from previous releases.

Support an alternate way to handle the start of day in TZ calculation when creating the plan to be fully compatible with previous releases. This applies to master only.

A new option managed by optman has been added: enLegacyStartOfDayEvaluation (shortname is le)

If it is set to YES, the start of day is evaluated as in previous releases using the master time zone: instances falling between 0am and the start of day in the time zone of the master DM are scheduled for the following day. If set to NO, the start of day is evaluated using each object's time zone: instances falling between 0am and the start of day in the time zone of the job stream or job are scheduled for the following day.

OS/400 refresh
Update of the OS/400 Code base to insure full compatibility of the OS/400 "limited agent" to the new functions implemented in Tivoli Workload Scheduler 8.3.

> Conman, batchman, mailman, and jobman modified to display correctly JS names and Sched time using an 8.3 symphony.

Planner plan recovery
> This new function will provide the ability to run logman on production plan and update status on pre-production plan. This provides you the possibility to perform as recovery actions the generation of a new Symphony file that contains only job stream instances not yet completed in the production plan.
>
> Introduces the possibility to make checkpoints through logman of the plan information to restart from last checkpoint in case of Symphony corruption on the Master.
>
> A new parameter without value has been added. It is "-prod". If the new parameter is specified, logman runs on the production Symphony files and updates the Pre-Production plan with the information of which job stream instances have been completed.

Oracle support
> This enhancement will provide the ability to use an Oracle DB as backup store. Exactly the same functionality currently available for DB2 will also be provided to customers who use an Oracle DB.

Parms enhancements
> This requirement introduces in parms, some functions that were performed by composer in previous versions and that in 8.3 GA have no equivalents. The listed actions are required to manage the Mozart file used by parms and that is no longer used by composer.
>
> The following functions have been added to parms utility:
> - Rebuild of Mozart file
> - Import from scheduling language (able to import the output of composer create)
> - List and extract of parameters
> - Delete of a parameter

Product fix history

Tivoli Workload Scheduler Fix Pack 04 for Version 8.3.0 supersedes all the fixes released previously for the product. The following section includes all the APARs and defects shipped for Tivoli Workload Scheduler Fix Pack 04 for Version 8.3.0.

This section lists the APARs and defects fixed in Tivoli Workload Scheduler. It is divided into the following subsections:
- "APARs and Defects Fixed in Tivoli Workload Scheduler Fix Pack 04 for Version 8.3.0"
- "APARs and Defects Fixed in Tivoli Workload Scheduler Fix Pack 03 for Version 8.3.0" on page 29
- "APARs and Defects Fixed in Tivoli Workload Scheduler Fix Pack 02 for Version 8.3.0" on page 31
- "APARs and Defects Fixed in Tivoli Workload Scheduler Fix Pack 01 for Version 8.3.0" on page 34

APARs and Defects Fixed in Tivoli Workload Scheduler Fix Pack 04 for Version 8.3.0
This section lists the APARs and Defects fixed in Tivoli Workload Scheduler Fix Pack 04 for Version 8.3.0

- APAR IY98036

  Symptoms: LOGMAN activity can produce out of memory exceptions when a large amount of jobs are processed.
- APAR IY98653

  Symptoms: Tivoli Workload Scheduler 8.3 FTA CONMAN error message if default configuration
- APAR IY98653

  Symptoms: TWS 8.3 FTA Conman error message if default configuration
- APAR IY99558

  Symptoms: The UNIXRSH.WRP of Tivoli Workload Scheduler 8.2/8.3 use same PATCHLEVEL
- APAR IY99613

  Symptoms: XREF reports do not work correctly in Tivoli Workload Scheduler 8.3
- APAR IY99710

  Symptoms: Forecast plan is not updated on Job Scheduling Console if it is created with the same name.
- APAR IY99785

  Symptoms: Jobman crashes with error message AWSBIK007E in TWSMERGE trying to submit (AD HOC) a job long 4095 bytes
- APAR IY99785

  Symptoms: JOBMON crash when running job with DOCOMMAND "4095" length.
- APAR IY99829

  Symptoms: The report XREF -DEPENDS does not work in Tivoli Workload Scheduler 8.3
- APAR IZ00694

  Symptoms: Submit of jobstream of workstation that is set to ignore Tivoli Workload Scheduler 8.3
- APAR IZ00999

  Symptoms: Job streams that are for ignored workstations are incorrectly added to the plan.
- APAR IZ00999

  Symptoms: Job streams that are for ignored workstation are incorrectly added to the plan.
- APAR IZ01065

  Symptoms: 8.3 Jobstream submitted from Job Scheduling Console with an "EVERY" dependency does not run correctly if TIMEZONES are not enabled.
- APAR IZ01202

  Symptoms: JOBSTDL and MORESTDL return syntax error 'a test command parameter is not valid'
- APAR IZ01601

  Symptoms: TWS scripts AT/BATCH/JOBSTDL/MORESTDL gives errors after TWS 8.3 fixpack 3
- APAR IZ01633

  Symptoms: JOBSTDL list file header is missing date from job stream name in job field
- APAR IZ01804

  Symptoms: Follows dependency removed when doing a CONMAN "SBS"

- APAR IZ01849

  Symptoms: Runcycle with (AT) and /or (until) are not scheduled correctly in symphony by JNEXTPLAN.
- APAR IZ01935

  Symptoms: Master CPU needs display access to modify FTA steams.
- APAR IZ02719

  Symptoms: The RCCONDSUC keyword for the centralized scrips leads to error messages AWSBDW057E and AWSBDW005E
- APAR IZ02785

  Symptoms: Jobmon corrupts MAILBOX.MSG file on handling XA jobs.
- APAR IZ03261

  Symptoms: Event 155 in EVENT.LOG does not match with FMT file.
- APAR IZ03267

  Symptoms: TWS truncates $LOGNAME to 8 characters no matter how long $LOGNAME is.
- APAR IZ03330

  Symptoms: On PA_RISC architecture machines when browsing job STDLIST files only the first 2000 lines are returning to the JSC
- APAR IZ03693

  Symptoms: A late job event is not generated if a deadline time occurs while an extended agent job is in "WAIT" status.
- APAR IZ04036

  Symptoms: "[JAVA] <DEFUNCT>" processes are created when displaying "alternate plan list".
- APAR IZ04183

  Symptoms: The master is not recognized as master on "status of all workstations", if master domain name is not MASTERDM.
- APAR IZ04323

  Symptoms: Event 157 not recorded for jobstreams in hold or ready state.
- APAR IZ04808

  Symptoms: MAESTRO.RLS tries to run framework tasks which do not exist.
- APAR IZ05027

  Symptoms: Parallel ADHOC job submits intermittently fail.
- APAR IZ05146

  Symptoms: TWS 8.3 HP ITANIUM ENSTRENCRYPT and Windows user password.
- APAR IZ05159

  Symptoms: On W2K3 running an upgrade from TWS V8.2.1 to V8.3 does not update the system registry.
- APAR IZ05172

  Symptoms: Until keyword with +DAYS never runs.
- APAR IZ05403

  Symptoms: Conman not working TWS 8.3 with group setting in security file.
- APAR IZ05957

  Symptoms: Conman SHOWCPU command should order workstations alphabetically.
- APAR IZ06124

Symptoms: Event 110 is not logged to EVENT.LOG.
- APAR IZ06257

  Symptoms: UNISON_SCHED_ID of CARRYFORWARDED jobstream holds the original value, if ENLEGACYID=YES
- APAR IZ06575

  Symptoms: RCCONDSUCC/TWSRCMAP information missing from 8.3 (GA, FP01, FP02, and FP03) recovery jobs.
- APAR IZ08155

  Symptoms: JSC allows to perform not allowed actions on the current distribution plan in E2E environment.
- APAR IZ08937

  Symptoms: Tivoli Workload Scheduler 8.3 REP7 -S not working
- Defect 34341

  Symptoms: IY99257 - Batchman down when adhoc prompt added on XA
- Defect 34502

  Symptoms: JnextPlan shows corrupt messages.
- Defect 34561

  Symptoms: JS with opens dep: JnextPlan failed while running: tclsh84.
- Defect 34714

  Symptoms: Password not encrypted in trace.log file
- Defect 34905

  Symptoms: Java NullPointerException for js with jobs in class and opens.
- Defect 34960

  Symptoms: JSC: Wrong doc about Job Instance Actual Start Time
- Defect 35057

  Symptoms: Coredump using composer and conman with DBCS on HPIA64
- Defect 35286

  Symptoms: WAS crashes when AdHoc submit from JSC with PlanAudit enabled.
- Defect 35382

  Symptoms: MAE_PlanInit() returns no error if no Symphony exists.
- Defect 35467

  Symptoms: Java process goes down doing a log of sbs through event rule.
- Defect 35478

  Symptoms: Wrong time deps for jobs if TZ defined at js level
- Defect 35636

  Symptoms: Incorrect memory handle in plan audit JNI calls can cause memory corruption if the java finalizer runs during the audit methods.
- Defect 35646

  Symptoms: EnPlanAudit=1 JnextPlan crash.
- Defect 35666

  Symptoms: Add traces to TWSPlanAPI
- Defect 35787

  Symptoms: Submit a job stream with 40 deps.: WAS crashes.
- Defect 35865

  Symptoms: Rep-N:The "Acutal Report" does not work on AIX.
- Defect 35871

Symptoms: Update New zealand DST
- Defect 35887

  Symptoms: JavaNullPointerException
- Defect 36089

  Symptoms: Defunct process on set alternate plan.
- Defect 36173

  Symptoms: Stageman segementation fault.
- Defect 36248

  Symptoms: Objects freed twice when plan connectors reports errors.
- Defect 36495

  Symptoms: WAS crashes during queries on the DB with stress suite.
- Defect 36724

  Symptoms: DB deadlock in long run environment.
- Defect 36726

  Symptoms: PURIFY logged more errors -- free (job->jobName)
- Defect 36727

  Symptoms: Tivoli Workload Scheduler engine CPU at 100%
- Defect 36728

  Symptoms: Decrease WAS Java memory consumption with trace activated.
- Defect 37055

  Symptoms: APAR IZ04437 - porting on TWS 8.3
- Defect 37077

  Symptoms: Install 1.4.2 SR9
- Defect 37119

  Symptoms: Memory leak on Connector
- Defect 37129

  Symptoms: Error during JnextPlan extension with legacy_id enabled.
- Defect 37299

  Symptoms: Wrong time deps for jobs if TZ defined at js level
- Defect 37300

  Symptoms: Jnextplan shows corrupted messages.
- Defect 37301

  Symptoms: Web UI displays wrong Start Time for workstations.
- Defect 37306

  Symptoms: FlowNodeInPlan - unuseful number of dependencies returned.
- Defect 37307

  Symptoms: A dependency on a failed job had status set to Unresolved.
- Defect 37309

  Symptoms: Default value for dependency status is incorrect.
- Defect 37311

  Symptoms: Simultaneous Add and Mod deadlock or timeout.
- Defect 37312

  Symptoms: 15 sbs in background hang.
- Defect 37332

  Symptoms: The command r11xtr go in Segmentation Fault - core dumped.

- Defect 37482

    Symptoms: GVT: JnextPlan fails on French Windows (Ref:35026 8.4)
- Defect 37583

    Symptoms: Submit: Dependencies from resources in workstation classes ignored
- Defect 37622

    Symptoms: WAS hangs when reaching max number of connections.
- Defect 37725

    Symptoms: Estimated duration for jobs that never ran is 00:00 from JSC .

APARs and Defects Fixed in Tivoli Workload Scheduler Fix Pack 03 for Version 8.3.0

This section lists the APARs and Defects fixed in Tivoli Workload Scheduler Fix Pack 03 for Version 8.3.0

- APAR IY90807

    Symptoms: Tivoli Workload Scheduler 8.3 HP trusted mode support.
- APAR IY91247

    Symptoms: Composer create output includes garbled characters.
- APAR IY91578

    Symptoms: Composer replace fails with long definition jobs containing parameters.
- APAR IY91664

    Symptoms: RMSTDLIST script fails if launched using Tivoli Workload Scheduler.
- APAR IY92620

    Symptoms: "CPU=@+GROUP=GROUPNAME" cannot be used in security file for Tivoli Workload Scheduler.
- APAR IY92681

    Symptoms: BATCHMAN goes down in Tivoli Workload Scheduler 8.2 when customer tries to cancel
- APAR IY92875

    Symptoms: UNISON_JOB variable value changed in Tivoli Workload Scheduler 8.3
- APAR IY93083

    Symptoms: Canceling a job stream causes JSC to hang, because an object does not get unlocked
- APAR IY93271

    Symptoms: MIGRFWKUSR migration tool core dumps
- APAR IY93589

    Symptoms: MULT opens dependencies on same fault-tolerant agent with same path uses only one set of options
- APAR IY93603

    Symptoms: After SWITCHMGR, fault-tolerant agents cannot recognize the correct MDM.
- APAR IY94037

    Symptoms: Jobs with prompts that would be higher than 32768 result in negative numbered prompts.
- APAR IY94589

    Symptoms: CONMAN submit (SBS) from a Windows fault-tolerant agent does not work when the schedule/job stream contains a z/OS external dependency

- APAR IY94598

  Symptoms: Jobs launched while JNEXTDAY is running intermittently abend reporting a job number.
- APAR IY94730

  Symptoms: Jnextplan planner did not convert end time from GMT to local OS if no timezone is enabled.
- APAR IY95129

  Symptoms: Submit JS from JSC did not work when JSC cpu had a different timezone from Master cpu
- APAR IY95154

  Symptoms: Jobmon end with End of Jobtable file
- APAR IY95209

  Symptoms: Tivoli Workload Scheduler 8.3 JOBMON crashes on windows when JS or jobs are greater than 74 characters.
- APAR IY95291

  Symptoms: Migration problem with XA opens > 28
- APAR IY95335

  Symptoms: Jobs not displayed in job stream instance editor for archived and trial plans.
- APAR IY95381

  Symptoms: Invalid argument error message for TWS RMSTDLIST on WIN2K3
- APAR IY95430

  Symptoms: Support for DB2 V9 viper stat.
- APAR IY95448

  Symptoms: Job is not added to symphony when a job stream is submitted from JSC.
- APAR IY95537

  Symptoms: CONFIG_TECLOGADAPTER.SH" does not place "TECAD_LOGFILE.FMT" in the correct locale directory, if LANG=JA_JP.
- APAR IY95581

  Symptoms: METRONOME.PL snapshot directory name is not correct.
- APAR IY95687

  Symptoms: JSC set alternate Plan causes failure.
- APAR IY95700

  Symptoms: exxon requirements for MR0413043944
- APAR IY96175

  Symptoms: Mapped non-zero return code is incorrectly written in the event.log on master.
- APAR IY96454

  Symptoms: Database lists - all job definitions: last runtime field is not filled in Database Job definition.
- APAR IY96802

  Symptoms: JSC 8.3 hangs when opening a JS Instance that contains more than 250 jobs.
- APAR IY96917

  Symptoms: Fix pack installation sets "DBCS=FALSE" IN STARTUP.CMD and TWS-ENV.CMD

- APAR IY97050

  Symptoms: VALIDFROM is incorrectly added by "COMPOSER ADD".
- APAR IY97402

  Symptoms: Cannot use $MASTER and $THISCPU in Tivoli Workload Scheduler 8.3 FP02 security file
- APAR IY97560

  Symptoms: Makesec compile multiple ~ name lines without errors
- APAR IY97768

  Symptoms: Actions on the JSC does not reflect to symphony, after "set alternate plan" and "restore plan" are preformed.
- APAR IY97780

  Symptoms: JSC displays incorrect times/dates on ITANIUM
- APAR IY98533

  Symptoms: Plan list is not updated after JNEXTPLAN
- Defect 29318

  Symptoms: IY92523 Fault-tolerant agent stops after receiving symphony
- Defect 29391

  Symptoms: wrong scheduled time submitting JS with Time Zone enabled
- Defect 29531

  Symptoms: Tivoli Workload Scheduler 830 fix pack 3 change localopts default
- Defect 29550

  Symptoms: Cluster "Share windows desktop heap memory usage"

APARs and Defects Fixed in Tivoli Workload Scheduler Fix Pack 02 for Version 8.3.0

This section lists the APARs and Defects fixed in Tivoli Workload Scheduler Fix Pack 02 for Version 8.3.0

- APAR IY86690

  Symptoms: setting JM nice value to a negative number results in value 0.
- APAR IY87033

  Symptoms: event 202 is not logged correctly to event.log
- APAR IY87137

  Symptoms: event 202 occurred instead of 203.
- APAR IY87573

  Symptoms: event 156 is not event 156 is not written into EVENT.LOG.
- APAR IY87619

  Symptoms: Not able to submit a job stream from backup manager using JSC.
- APAR IY87627

  Symptoms: TWS 8.3 DATAWAREHOUSE WEP GA did not correctly manage the names
- APAR IY88627

  Symptoms: Mailman abend when mailman cache is set to yes
- APAR IY88696

  Symptoms: event 164 and 165 are not sent to server
- APAR IY88715

  Symptoms: TWS 8.3 On LINUX flavours should use GCC-3.2.3
- APAR IY88819

Symptoms: TWS 8.3 Windows services did not automatically start.

- APAR IY89100

  Symptoms: On Windows db2 installation via TWS want to have db2instance =db2administrator

- APAR IY89284

  Symptoms: TWS does not set DACL to created services at install time

- APAR IY89557

  Symptoms: ″CONMAN RERUN″″ does not allow to use underscore (_) as a part of step name″

- APAR IY89791

  Symptoms: ″time independent jobs submitted in the plan are displayed with a scheduled date and time 0000.

- APAR IY89866

  Symptoms: TWS 8.3 fta did not install on Windows2003 turkish

- APAR IY90083

  Symptoms: TWSTOPACTION.SH fails for FUSER

- APAR IY90637

  Symptoms: with TIMEZONE feature disabled times are displayed offset if you submit a defined job stream with time dependencies

- APAR IY90665

  Symptoms: EQQY702E on JSC V8R3 accessing TWSZ V8R1 via ZOS connector.

- APAR IY90924

  Symptoms: ISMP setup.exe does not accept a TWSUSER password greater than 14 characters when installing TWS 8.3 on Windows.

- APAR IY91020

  Symptoms: TWS 8.3 master install fails if trailing in tablespace path.

- APAR IY91032

  Symptoms: GMT time incorrectly shows 8.3 ″engine data″ window

- APAR IY91038

  Symptoms: TWS 8.3 master with DB2 RDBMS install fails if DB2 warning.

- APAR IY91095

  Symptoms: Default plan list shows in GMT time zone.

- APAR IY91857

  Symptoms: TWS 8.3 Windows installation with TWSUSER password is greater than 14 characters - User must exist.

- Defect 25855

  Symptoms: Re events lost during Jnextday, cause Every jobs on the master

- Defect 22362

  Symptoms: %sbj two times: AWSBHU510E output contains garbage characters

- Defect 22772

  Symptoms: performance downgrade after each circle of 100k jobs add and del

- Defect 22786

  Symptoms: dumpsec on tws821 core dump if you use a 8.3 Security file

- Defect 22806

  Symptoms: Composer parser error, token too large exceeds YYLMAX.

- Defect 22811

Symptoms: Randomical MDM migration failure on z/LINUX

- Defect 25059

  Symptoms: IY86521 job on w2003 not be succ when cmd didn't rights.

- Defect 25060

  Symptoms: 193575: feature for Metronome enhancement for Roche.

- Defect 25502

  Symptoms: %sbs from FTA a job stream with an internetwork dependency does not work

- Defect 25624

  Symptoms: Prompt instead of "orphaned" dependencies

- Defect 25649

  Symptoms: Switch DB-parallel scenario cannot import old master as FTA.

- Defect 25831

  Symptoms: IY87168 - FileChek is not processed if the job is released.

- Defect 26268

  Symptoms: WAS JVM is not updated by FP installation

- Defect 26415

  Symptoms: With Refresh 83GA SETUP.sh does not find the wastool directory

- Defect 26537

  Symptoms: IY87681: Schedule state not aligned if there is a job every.

- Defect 26578

  Symptoms: Recovery option rerun does not work

- Defect 26637

  Symptoms: Batchman goes down because of sbs with "li = YES"

- Defect 26674

  Symptoms :WIN fta FP2 installation too much files respect GA

- Defect 26998

  Symptoms: Disk space check for FP: missing

- Defect 27113

  Symptoms: Open dependencies with XA aren't resolved.Run deldep,segmentation fault

- Defect 27742

  Symptoms: Pwd for the Oracle user beginning with number breaks install

- Defect 27836

  Symptoms: If you remove the tmp directory after the remote CLI GA, the installation of the remote CLI fix pack fails

- Defect 27871

  Symptoms: Problem into returnCodeMapping field of the JobInPln

- Defect 27929

  Symptoms: refresh install failed on RHEL21: no ksh

- Defect 28050

  Symptoms: JSC: JSE 'undo delete' arrow in the toolbar doesn't work well

- Defect 28163

  Symptoms: makecal doesn't work if it is run by a user different from tws

- Defect 28193

Symptoms: "deadlock or timeout" error on validate JS

- Defect 28222

  Symptoms: Event.log: Tec Server doesn't receive the 163 and 201 events

- Defect 28339

  Symptoms: FP2: Submit ad hoc sap job, cpu listed are all xagent

- Defect 28374

  Symptoms: FP2:Succesful delete of an R/3 Job shows erroneously an error

- Defect 28387

  Symptoms: JSC: all the action menu in the JSE Expl view should be aligned

- Defect 28470

  Symptoms: Problem in Job stream properties for JS in Held state

- Defect 28516

  Symptoms: Browse job log failure for Xagent R3 on FTA AIX

- Defect 28624

  Symptoms: Set TZ=no and submit a job stream with time restriction

- Defect 28747

  Symptoms: Concurrency: getEngineInfo sometimes unlock erroneously Symphony

- Defect 28907

  Symptoms: Memory leaks in plan queries

- Defect 29064

  Symptoms: Batchman could not access the mailbox file Symphony.msg JSC

- Defect 29232

  Symptoms: Different Jobs scheduled Time between JSC and CLI

- Defect 29276:

  Symptoms: When you connect the JSC to an engine and it is present a firewall, only JSC FP2 works with Engine FP2.

APARs and Defects Fixed in Tivoli Workload Scheduler Fix Pack 01 for Version 8.3.0

This section lists the APARs and Defects fixed in Tivoli Workload Scheduler Fix Pack 01 for Version 8.3.0

- APAR IY79231

  Symptoms: Carry forward on job with "EVERY" not being carried forward.

- APAR IY80719

  Symptoms: Avoid TWS filling up the system FILEIN case of corruption.

- APAR IY80816

  Symptoms: JSC shows garbled characters for "COMMAND" field in task tab.

- APAR IY81129

  Symptoms: Problems with AD-HOC JOBS/JOBSTREAM added via JSC ON TWSFP09

- APAR IY81495

  Symptoms: Connector not allowing JSC to resolve $MASTER in the host field

- APAR IY81568

  Symptoms: Confirm success on recovery job did not work.

- APAR IY82923

  Symptoms: Displaying information column of every jobs on MDM and FTA ARE

- APAR IY83827

  Symptoms: TWS batchman got segmentation violation when submit ad hoc via JSC on Into schedule

- APAR IY84152

  Symptoms: Mailman traps after SSL activation between a windows master and a UNIX FTA.link/unlink actions.

- APAR IY84367

  Symptoms: rep7 produces core dump

- APAR IY84833

  Symptoms: INVALID RESPONSE FILE _DB2SERVERUNIX.RSP results in -INSTANCE.MAX_LOGICAL_NODES

- APAR IY86090

  Symptoms: TWS 8.3 GA Install fails on compaqtrue: fatal error: cannot map library LIBICUUC

- APAR IY86579

  Symptoms: Websphere application server crashes when trying to view "all scheduled jobs" through JSC 8.3

- APAR IY86719

  Symptoms: "SWITCHPLAN" job is always in "EXEC" status

- APAR IY86723

  Symptoms: "recovery job" JSC does not add the "SCRIPTNAME" STAT= closed per FESN0911490- C recovery job" JSC does not add the "SCRIPTNAME"

- Defect 186643

  Symptoms: Excessive EXP'S measured from E2E server address space.

- Defect 19577:

  Symptoms: BiDi locales are not supported for the interactive InstallShield wizard, and BiDi characters are not displayed correctly when typed

- Defect 19825:

  Symptoms: On the French version of Red Hat Linux, version 3.0, national characters are corrupt in the interactive InstallShield wizard

- Defect 19880:

  Symptoms: When running the interactive InstallShield wizard on HP-UX 11i using X-Windows, national characters might not display correctly

- Defect 21643:

  Symptoms: Tivoli Workload Scheduler for Applications cannot be installed on an instance of Tivoli Workload Scheduler, version 8.3, if the installation path of the latter contains blanks and a file or directory exists with a name corresponding to the part of the installation path before the first blank

- Defect 21753:

  Symptoms: The -name option in the morestdl and jobstdl utilities does not work on UNIX platforms

- Defect 21798:

  Symptoms: The UpdateWASService.bat script does not update the service

- Defect 22498:

  Symptoms: The -name option in the morestdl and jobstdl utilities does not work on UNIX platforms

- Defect 22647:

Symptoms: In the report header of report "rep1", one line is misaligned and incorrect in the NLS versions of the product

- Defect 22719:

  Symptoms: On Windows operating systems, jobs fail if the jcl file name contains national characters, and there are any differences between the codepages of the shells involved in the launching and running of the job

- Defect 22738:

  Symptoms: You encounter performance problems on the master domain manager in a heavily-loaded environment running JnextPlan for the first time

- Defect 22900:

  Symptoms: Installing the DB2 server on UNIX, the installation fails if you do not supply the DB2 instance name with the same value as the DB2 Administration User

Documentation notes

This section contains new information and documentation corrections contained in this fix pack. It is organized by manual:

Tivoli Workload Scheduler Planning and Installation Guide

- **APAR IZ01951:**

  In the *Tivoli Workload Scheduler 8.3 Planning and Installation Guide* (Revised August 2006), in Chapter 1 "Getting Started" the paragraph titled: **DB2 Enterprise Server Edition**: should read as follows:

  DB2 Enterprise Server Edition:

  DB2 Server 8.2 (DB2 Server version 8.1 with fix pack 7) is the minimum RDBMS level required for the installation of a master domain manager. On Solaris 10, the minimum required level is DB2 8.2.2 (DB2 server version 8.1 with fix pack 9). DB2 Enterprise Server Edition does not need to be installed on the same computer as the master domain manager. For further details on DB2 requirements, see the *Release Notes*.

- **APAR IZ05159:**

  To modify Tivoli Workload Scheduler Windows Registry Keys after an upgrade to Tivoli Workload Scheduler 8.3 you need to:

  1. Upgrade Tivoli Workload Scheduler to 8.3 Fresh Fix Pack 1
     - Download locally TWS 8.3 Fresh FP1 for Windows Platform into <TWS83_PATH> directory
     - Get the twsCommitAction.cmd from the Tivoli Workload Scheduler 8.3 Fix Pack 4 It is located under the following directory: "GA_fixes\twsCommitAction.cmd"
     - Replace the file <TWS83_PATH>\WINDOWS\ACTIONTOOLS\ twsCommitAction.cmd with the new one:

       `<TWS83FP4_PATH>\GA_fixes\twsCommitAction.cmd`
     - Upgrade Tivoli Workload Scheduler 8.2.1 instance to Tivoli Workload Scheduler 8.3 Fix Pack 1 Fresh from <TWS83_PATH> directory
  2. Upgrade Cluster Pack to 8.3 Fix Pack 4
     - Perform step 1 - Install Fix Pack 8.3 Fix Pack 4
     - Upgrade Cluster Pack from 8.2.1 to 8.3, run:

       `<TWS_HOME>\cluster\twsClusterAdm.exe -update resource=<TWS instance resource name -t`

- **APAR IZ06537:** Tivoli Workload Scheduler 8.3 installation on WINDOWS machine with domain user.

  On the Windows machine where the Tivoli Workload Scheduler 8.3 Installation GA is performed with a Domain\User WAS pre-requisites that the windows service "Microsoft Computer Browser" is active. If not WAS authentication will fails because WAS needs this service active to reach the Domain Controller to perform authentication.

- **Defect 37196** "Tivoli Workload Scheduler Event 155" listed in the Planning and Installation Guide for Tivoli Workload Scheduler integrations does not have the time-stamp field as an event.

Tivoli Workload Scheduler 8.3.0 Fix Pack 2 - Tivoli Workload Scheduler Planning and Installation Guide

This section contains information and documentation corrections contained in Tivoli Workload Scheduler 8.3.0 Fix Pack 2.

-

  Defect 25803: In Chapter 3. Upgrading an existing Tivoli Workload Scheduler instance, section "Upgrade overview", change the sentence below from:

  – When upgrading from earlier versions, make sure the software package is in the COMMIT state (not in the UNDOABLE state). This implies that if any Fix Packs were applied to those versions, you must make sure that the software package was committed. If it is in the UNDOABLE state, you must accept it to change its state to COMMIT, before you upgrade to version 8.3.

    to:

  – When you upgrade from Tivoli Workload Scheduler version 8.2 or later, make sure the software package is in the COMMIT state (not in the UNDOABLE state). This implies that if any Fix Packs were applied to those versions, you must make sure that the software package was committed. If it is in the UNDOABLE state, you must accept it to change its state to COMMIT, before you upgrade to version 8.3.

- **Uploading LDAP server properties**

  In sub-section "Sample properties file for LDAP servers", in the section "Configuring Microsoft Active Directory LDAP servers", in "Appendix A. Embedded version of WebSphere Application Server - Express utilities", replace the final sentence: "Update the LDAPServerId and LDAPPassword properties with actual values. Because the server type is ACTIVE_DIRECTORY advanced LDAP properties are not needed.

  With the following:

  Update the **LDAPServerId** and **LDAPPassword** properties with actual values. Because the server type is **ACTIVE_DIRECTORY** some advanced LDAP properties are also needed. As a minimum the following advanced properties are required:

```
LDAPUserFilter=(&(sAMAccountName=%v)(objectCategory=<object_category>))
LDAPUserIdMap=*:sAMAccountName
```

  For example:

```
LDAPUserFilter=(&(sAMAccountName=%v)
              (objectCategory=CN=Person,Category=CN=Person,CN=Schema,
               CN=Configuration,DC=subdomain,DC=example,DC=com))
LDAPUserIdMap=*:sAMAccountName
```

- **TEC Integration Information - APAR IY92190**

In, Appendix C "Integration with other IBM Products", in the "Configuring the bmEvents.conf file section of the "Integrating with Tivoli Enterprise Console" chapter, in the EVENT=n parameter description, remove the paragraph starting with "Event 51 causes mailman.... "After the last paragraph starting with " If the EVENT.... " add the following:

Note: Event 51 is always reported whenever batchman or mailman are restarted, regardless of the filters specified in the "EVENT" parameter. If you do not want to notify this event to the TEC event console, you must manually edit the maestro.fmt file or, for Windows, the maestro_nt.fmt file and comment out the following section:

```
 // TWS Event Log
      FORMAT TWS_Reset
      1 %s %s %s*
      event_type 1
      hostname DEFAULT
      origin DEFAULT
      agent_id $1
      software_version $2
      msg PRINTF("TWS has been reset on host %s",hostname)
      severity HARMLESS
      END
```

When this section is commented, the TEC adapter does not send the event to the TEC event console.

- **Local option changes**

  In Chapter 7 "Performing optional customization", section "Setting local options":

  – Add the following description of the new `mm start tomserver` global option before the description of `mm unlink`:

  mm start tomserver

    Specify `yes` on the domain manager to define a local mailman server named `tomserver` (also referred to as `server@` in the log files) that takes charge of the process of forwarding all the events meant for the parent domain manager. When there is no link to the parent domain manager, the events are stored in the `tomaster` pobox of the domain manager. As soon as the link is up again, `tomserver` transfers all the messages stored in `tomaster` to the parent domain manager. The advantage of using `tomserver` to free mailman of the task of upstream messaging (inclusive of checking the link with the parent domain manager) is twofold:

      - The transmission of the Symphony file down to the network is faster.

      - Mailman can dedicate all its resources to its other tasks.

    The `tomserver` is incompatible with the fault-tolerant switch mechanism.

    The default value is `no`.

  – Expand the description of the `mm retrylink` local option to include `tomserver` information as follows:

  mm retrylink

    Specify the maximum number of seconds Mailman waits after

unlinking from a non-responding workstation before it attempts to link to the workstation again. The default is 600 seconds.

The `tomserver` optional mailman servers do not unlink non-responding agents, but repetitively try the link every 60 seconds because their `retrylink` value is by default set to this value.

Obsolete options

The following local options are no longer in use:

– `mozart directory`

– `unison network directory`

They must therefore be removed from Chapter 7 "Performing optional customization", section "Setting local options", and from any other place in the Tivoli Workload Scheduler documentation.

- **Missing "nm ipvalidate" parameter - IY98879**

  The following missing description was added "Performing Optional customization" Chapter, section "Setting local options" nm ipvalidate none|full where: nm ipvalidate Specify full to enable IP address validation. If IP validation fails, the connection is not allowed. Specify none to allow connections when IP validation fails.

- **Missing list item in the Planning and Installation Guide - APAR IY92692**

  In Chapter 1: Getting Started , in the paragraph labeled "Windows user domain rights and structure", In the list beginning with "For a stand-alone workstation, the windows user:" Add the following list item after the "has the log on as a service privilege........

  – Has the impersonate Client after authentication user right

  The same list item has to be added to the list beginning with: "For a workstation that is a member of a domain, only a domain user ..... after the "The user is a domain user and not a local user...."

- **LDAP connection security protocols - Defect 23364**

  Add this paragraph in Chapter 8 "Setting connection security"

  Tivoli Workload Scheduler uses LDAP (Lightweight Directory Access Protocol) to authenticate users to post-installation tasks using WebSphere in the following environments:

  – MicroSoft Active Directory

  – IBM Tivoli Directory Server

  – Sun ONE DS (formerly known as IPlanet)

  LDAP authenticated users can run configuration tasks from the following interfaces:

  – Composer

  – Tivoli Job Scheduling Console

  – Command-line client

  – Command-line of clients connected to the master domain manager using HTTP or HTTPS

- **The manual description of "Switching a master domain manager" does not work correctly - Defect IY99286**

  According to page 63; in the Switching a master domain manager section:

– 3. On the new master, create a plan with 0 extension period that begins at the end of the current plan, by running the following command: JnextPlan -from start_time -for 0000

Must be changed to:

– 3. On the new master, create a plan with 0 extension period that begins at the end of the current plan, by running the following command: JnextPlan -for 0000

- **Compatibility with other services and protocols**

  Add this paragraph at the end of section "Tivoli Workload Scheduler network overview" in Chapter 1 "Getting started"

  Tivoli Workload Scheduler can operate with the following services and protocols:
  – Active Directory of Windows Servers 2000 and 2003
  – NAT (Network Address Translation)
  – VPN (Virtual Private Network)
  – LDAP (Lightweight Directory Access Protocol)

Tivoli Workload Scheduler Reference Guide Fix Pack 4

- **APAR IZ05400: - The** *planman showinfo* **command displays inconsistent times**

  The plan time displayed by the `planman showinfo` command might be incongruent with the time set in the operating system of the workstation. For example, the time zone set for the workstation is `GMT+2` but `planman showinfo` displays plan times according to the `GMT+1` time zone.

  This situation arises when the WebSphere Application Server Java virtual machine does not recognize the time zone set on the operating system.

  As a workaround for this problem, set the time zone defined in the `server.xml` file equal to the time zone defined for the workstation in the Tivoli Workload Scheduler database. Proceed as follows:

  1. Stop WebSphere Application Server
  2. Create a backup copy of this file:

     `appserver/profiles/twsprofile/config/cells/DefaultNode/nodes/DefaultNode/servers/server`

  3. Open `server1.xml` with an editor
  4. Find the `genericJvmArguments` string and add:

     `genericJvmArguments="-Duser.timezone=time_zone"`

     where *time_zone* is the time zone defined for the workstation in the Tivoli Workload Scheduler database.
  5. Restart WebSphere Application Server

- **Reference Guide - APAR IY92875**

  On page 22, change the line related to UNISON_JOB, from:
  – "The fully qualified job name, for example cpu#sched.job."
    to:
  – "The absolute job identifier: workstation#sched_id.job"

  The same change applies on page 23.

Tivoli Workload Scheduler Reference Guide Fix Pack 2

- **Submit docommand explanation for default "into=" value is not correct - Defect 25035**

In Chapter 8, Command descriptions, Submit docommand, Arguments. In the "into=jobstream_instance" argument description, on page 313 change the second paragraph adding the following lines:

– If a workstation is specified at the job level, this is the value used as default.

– If a workstation is not specified at the job level, the default is the workstation on which conman is running. If into is not used, a job is added to a job stream named JOBS

- **Delete 'valid from' and 'valid - Defect 28735**

  In "Chapter 7. Managing objects in the database - composer", section "Command descriptions", change the description of the *"valid to"* and *"valid from"* options in the following commands: **delete**, **display**, **extract/create**, **list**, **lock**, **modify**, and **unlock**. The new descriptions are as follows:

  valid from   *date* Restricts the selection to job streams that have a *valid from* date equal to the indicated value. The format is *mm/dd/yy*.

  valid to   *date* Restricts the selection to job streams that have a *valid to* date equal to the indicated value. The format is *mm/dd/yy*. The description of the *"valid in"* option remains as is.

- In Chapter 1 'Tivoli Workload Scheduler overview', in the definition list in section 'Tivoli Workload Scheduler user interfaces' add the following:

  Dynamic Workload Console
  > A web-based user interface for IBM Tivoli Workload Scheduler. It provides you with a way for viewing and controlling scheduling activities in production on both the Tivoli Workload Scheduler distributed and z/OS environments. Using the Dynamic Workload Console you can access the Tivoli Workload Scheduler environment from any location in your network using one of the supported browsers. This interface is described in the *IBM Tivoli Dynamic Workload Console: Installation and Troubleshooting Guide* and in the Tivoli Dynamic Workload Console Online Help.

- **New tomserver mailman server**

  An additional mailman server named `tomserver` (also referred to as `server@` in the log files) can be defined on each domain manager to aid mailman with its communications task.

  In Chapter 2 "Understanding workstation processes", section "Tivoli Workload Scheduler workstation processes", the description of the mailman process is expanded as follows to also describe the `tomserver`:

  mailman
  > Is the Mail Management process. It routes messages to either local or remote workstations. On a domain manager, additional **mailman** processes can be created to divide the load on **mailman** due to the initialization of agents and to improve the timeliness of messages. When the domain manager starts up, it creates a separate **mailman** process instance for each *ServerID* specified in the workstation definitions of the fault-tolerant agents and standard agents it manages. Each workstation is

contacted by its own *ServerID* on the domain manager. For additional information, refer to "Workstation definition" on page 89.

An additional mailman server named `tomserver` (also referred to as `server@` in the log files) can be defined on each domain manager to aid mailman with its communications task. `tomserver` takes charge of the process of forwarding all the events meant for the parent domain manager. When there is no link to the parent domain manager, the events are stored in the `tomaster` pobox of the domain manager. As soon as the link is up again, `tomserver` transfers all the messages stored in `tomaster` to the parent domain manager. The advantage of using `tomserver` to free mailman of the task of upstream messaging (inclusive of checking the link with the parent domain manager) is twofold:

– The transmission of the Symphony file down to the network is faster.

– Mailman can dedicate all its resources to its other tasks.

The `tomserver` is defined by a new local option. See the *Planning and Installation* guide.

- **APAR IY92372**:

  In the Tivoli Workload Scheduler 8.3 Reference guide (revised August 2006) Chapter 8 "Managing objects in the plan - conman", showjobs command description, in the command output under 'State' the following change must be made:

  – From:

    CANCEL The job stream was cancelled

  – To:

    CANCL The job stream was cancelled

  The same change applies to the showschedules command of the same chapter.

- **TES 8.3 Reference Guide. In Chapter 9 "Using utility commands" add the following Usage section for command rmstdlist - APAR IY96795**

  As a rule, you should regularly remove standard list files about every 10-20 days. Larger backlogs might be harder to manage and, if the number of files becomes exceedingly large, you might be required to erase some of them manually before you can use **rmstdlist** again.

  This problem might occur on AIX systems, particularly, because of a currently unresolved limitation with the `rm -rf` command. When **rmstdlist** fails because of this limitation, it does not display any errors other than exit code 126. If you would rather have the `rm -rf` error displayed, you can edit the `rmstdlist` script in the following way:

  1. Locate the script in the *TWS_home*/`bin` directory

  2. Find the line:

     ```
     rm -rf `cat /tmp/rm$$` 2> /dev/null
     ```

  3. Remove the redirection to /dev/null so that the line becomes:

     ```
     rm -rf `cat /tmp/rm$$`
     ```

- **Script name specification - APAR IY92131**

  In Chapter 6, "Defining objects in the database", "Job Definition" page, in the Arguments section under the scriptname parameter explanation, in

the paragraph beginning with: ″ For Windows jobs.... add the following sentence at the end of the paragraph:

″If the file path of the scriptname contains blank spaces, it must be enclosed between ″\″ and \″″ as in the following example:

`scriptname` `"\"C:\Program Files\tws\myscript.cmd\"".`

- **Wrong path stated for .jobmanrc**

    Chapter 2 *Understanding workstation processes*, section *Tivoli Workload Scheduler workstation processes*, the explanation of the job monitor process in page 12, erroneously states that the `.jobmanrc` local configuration script is located in the *TWS_home* directory. The script is in fact located in the *TWS_user* directory.

New keyword for evtsize command

The `evtsize` utility command has a new keyword. In Chapter 9 ″Using utility commands″, the description of this command is updated to the following:

evtsize

Defines the size of the Tivoli Workload Scheduler message files. This command is used by the Tivoli Workload Scheduler administrator either to increase the size of a message file after receiving the message, "End of file on events file.", or to monitor the size of the queue of messages contained in the message file. You must be **maestro** or **root** in UNIX®, or **Administrator** in Windows to run **evtsize**. Be sure to stop the IBM® Tivoli® Workload Scheduler engine before running this command.

Syntax: evtsize -c | -v | -u

evtsize *filename size*

evtsize -show *filename*

Arguments:

-c   Compresses the *filename* event file and changes the maximum size value to a specified *size*. Use this option if the `read` pointer is greater than the `write` pointer, which denotes a file wrap condition. Otherwise, use:

        evtsize `filename size`

        to change the maximum size.

-v   Displays the command version and exits.

-u   Displays command usage information and exits.

-show *filename*
        Displays the size of the queue of messages contained in the message file

filename
        The name of the event file. Specify one of the following:

        `Courier.msg`
        `Intercom.msg`
        `Mailbox.msg`
        `pobox/`*workstation*`.msg`

size   The maximum size of the event file in bytes. When first built by Tivoli Workload Scheduler, the maximum size is set to 10 MB.

Note: The size of the message file is equal to or bigger than the real size of the queue of messages it contains and it progressively increases until the queue of messages becomes empty; as this occurs the message file is emptied.

Examples: To set the maximum size of the `Intercom.msg` file to 20 MB, run the following command:

```
evtsize Intercom.msg 20000000
```

To set the maximum size of the `pobox` file for workstation `chicago` to 15 MB and to compact the file, run the following command:

```
evtsize -c pobox\chicago.msg 15000000
```

The following command:

```
evtsize -show Intercom.msg
```

returns the following output:

```
Tivoli Workload Scheduler (UNIX)/EVTSIZE 8.3 (1.2.2.4) Licensed Materials -
Property of IBM(R)
5698-WSH
(C) Copyright IBM Corp 1998, 2006 All rights reserved.
US Government User Restricted Rights
Use, duplication or disclosure restricted by GSA ADP
Schedule Contract with IBM Corp.
IBM is a registered trademark of International Business Machines
Corporation in the United States, other countries, or both.
AWSDEK703I Queue size current 240, maximum 10000000 bytes
(read 48, write 288)
```

where:

880	Is the size of the current queue of the `Intercom.msg` file
10000000	Is the maximum size of the `Intercom.msg` file
read 48	Is the pointer position to read records
write 928	Is the pointer position to write records

Tivoli Workload Scheduler Administration and Troubleshooting guide - Fix Pack 2

- **Fix pack installation problems - APAR IY88947**

  The following changes need to be made to the Chapter 6. Troubleshooting installation, migration, and uninstallation, "Installation logs", "Installation logs for the embedded version of WebSphere Application Server - Express", add the following paragraph:

  The application server installation has no log. However, if you update the application server, for example during the application of a Tivoli Workload Scheduler fix pack, a log is created which gives information about the update. The log can be found in the directory *<TWSHome>*/appserver/logs/update, where you will find a directory that identifies the fix pack that has been installed, for example: `6.0.2-WS-WASEmbeded-AixPPC32-FP0000007.install`, which contains a log file called /updatelog.txt.

  Add a new major section in Chapter 6, called "Fix pack installation problems", as follows:

  This section describes problems and solutions for problems that might occur during the installation of a fix pack.

  The following problem could be encountered:

The update of the embedded version of Websphere Application Server fails during the fix pack installation

You have tried to apply a fix pack, but the installation fails at the step "Update the embedded version of WebSphere Application Server - Express". A message similar to the following is given in the *summary.log*:

```
Updating bobcat
ERROR: The script ended abnormally. The reason is:
possible error, 65, launching updateinstaller.
The script exit code is 65

CMW3202E Command failed.
```

Cause and solution

More information can be found in the fix pack installation log.

One potential cause of the problem is disk space. Look for the following message in the fix pack installation log file:

```
(Aug 30, 2006 12:01:00 PM), UpdateInstaller,
com.ibm.ws.install.ni.ismp.actions.MaintenancePrereqCheckAction, err,
CWUPI0025E: There is insufficient free disk space on the system:

/<TWSHome>/appserver:

Required: 400 MB
Available: 146 MB

/tmp/:

Required: 250 MB
Available: 311 MB
```

Ensure there is enough free disk space on all required file systems and retry the operation.

- **A DB2 fail message (SQL1224N) is received while Metronome is running - Defect 28526**:

  Update "Chapter 10. Other common problems" by adding the following sub-section to the section "Problems with DB2"

  You have launched Metronome but then a user of the command line or the Job Scheduling Console finds that the database cannot be accessed. The following message is received from DB2:

  ```
  SQL1224N  A database agent could not be started to service
  a request, or was terminated as a result of a database system
  shutdown or a force command. SQLSTATE=55032
  ```

  Cause and solution

  When Metronome backs up the DB2 database it first "quiesces" the database, then performs the backup, and finally "unquiesces" it. While the database is in "quiesced" mode, if you use an interface to manage objects in the database the activity might fail, with a message like the one shown.

  To avoid receiving these messages, do not use the Tivoli Workload Scheduler interfaces to the database (the local command line, remote command-line clients, and the Job Scheduling Console).

- **Submit job streams with a wildcard loses dependencies - Defect 28919**

  You issue a submit of interdependent job streams using a wildcard. In certain circumstances you lose the dependencies in an anomalous way.

Cause and solution

To understand the cause, follow this example, in which the job streams are represented by A, B, C, and their instances are represented by 1, 2:

1. You have the following job streams and jobs in the Symphony file:
   ```
   A1
   B1 (A1,C1)
   C1
   ```

   where B1 depends on A1 and C1.

2. You submit all the jobs, using:
   ```
   sbs @
   ```

   The planner creates the following job stream instances:
   ```
   A2
   B2 (A2,C1)
   C2
   ```
   B2 now depends on A2 and C1. This is correct, because at the moment of submitting the B2 job stream C2 did not exist, so the highest instance available was C1.

3. The planner then asks you to confirm that you want to submit the instances:
   ```
   Do you want to submit A2?
   Do you want to submit B2?
   Do you want to submit C2?
   ```

4. Assume that you do not want to submit the job streams A2 and C2, yet, so you reply "No" to the first and last questions. In these circumstances you lose the dependency on A2, but not on C1. This behavior is correct and logical but could be seen by some as anomalous.

To correct the situation, stop the agent on the workstation where the job stream is running and cancel the job stream. Then determine the correct sequence of actions to perform to achieve your desired objective and submit the appropriate jobs.

- **An uninstallation fails during the restore profiles step, because the embedded version of WebSphere Application Server - Express was not stopped - Defect 28301**

  You have tried to uninstall the product but the uninstallation has failed at the *restore profiles* step. The error indicates that the embedded version of WebSphere Application Server - Express has not stopped (if this fact is not reported by the log, check whether the application server has stopped, and if it has not, proceed in the same way).

  Cause and Solution

  The problem is that the profiles cannot be restored while the application server is running, and the stop of the application server has failed. There are two possible causes:

  – The Windows Service Control Manager was unable to stop the WebSphere Application Server - Express service before the timeout expired.

  – The Windows Service Control Manager has given an error while trying to stop the service

  Check the Windows system logs to see if an error is reported by the Windows Service Manager. If it has, you need to resolve the problem before continuing.

If no error is reported from the Windows Service Control Manager, it must be a timeout problem.

To solve the problem, do as follows:

1. Open the Windows Services panel
2. Stop the service that runs the embedded version of WebSphere Application Server - Express from the panel
3. Close the Windows Services panel
4. Resume the installation from the *restore profiles* step.

- **Controlling Autotrace - Defect 28196**

Add the following note to the description of the init argument of the Autotrace actl command in the sub-section "Controlling Autotrace" in the section "Autotrace" in "Chapter 5: Diagnostic Tools":

Note: On the Windows 2003 Server, Autotrace cannot be initialized using any remote access method. Instead it must be initialized locally. You may need to shutdown all Tivoli Workload Scheduler processes, reboot the computer and re-initialize Autotrace before starting the Tivoli Workload Scheduler processes again.

Make the following changes to Part 2: "Installing, upgrading and uninstalling"; Chapter 3: "Upgrading an existing Tivoli Workload Scheduler instance"

Note: The data import in a large environment or an environment with slow network speeds, may take some hours to complete, whether you do the import manually or automatically.

3. Section: "Upgrading a backup master domain manager", sub-section "Upgrading a backup master domain manager using the installation wizard", remove step 13, and change step 12 to the following:

Review the summary data. If there is a problem, click **Back** and check the data you have input.

If the steps seem correct, before clicking **Next** to start the installation process, note these considerations:

- The installation is performed as a series of steps. If a step fails, you might be able to correct the problem and resume the installation. This means that if the installation fails, before taking *any* action, consult the *IBM Tivoli Workload Scheduler: Administration and Troubleshooting* manual to understand the implications of any action.

- Every time you run an installation, you overwrite any data that was stored in respect of any previous installation. This means that if a previous installation is incomplete, for any reason, the action of running a new installation, even if it is for a different component, will make it impossible for you to complete the previous installation (by resuming a failed step, for example).

- **The submission of an Oracle job fails - APAR IY97188**

Symptom: The submission of an Oracle job fails and the Tivoli Workload Scheduler job log shows the following information: EEWP0017 Child MCMLJ exited normally. Exit code: 1.EEWP0027 Error - Launch job failed.

Solution: Submitting an Oracle job might fail because there is a connection problem to the Oracle database. Verify that your Oracle naming methods are set correctly. For details about how to configure naming methods, refer to the Oracle Net Services Administrator's Guide.

- **Change the name of the directory - APAR IY95580**

  In Chapter 5 "Diagnostic tools", section "Metronome snapshot", change the name of the directory where the snapshot is saved from:

  – <TWS_home>/snapshots/snap_<date>_<time>

    to:

  – <TWS_home>/snapshots/snap_<YYYYMMDDHHTT>

- **switchmgr command, agent cannot relink - IY93603**

  Add the following scenario under the category of *Other common problems*:

  – **In a scenario involving more than one switchmgr command, agent cannot relink:**

  You have been using the **switchmgr** command to switch to the backup master domain manager, and then back to the master domain manager, but an agent might not have relinked to the original master domain manager.

  Cause and solution

  The complex interaction of variables, environments, network conditions, and linking and relinking events can sometimes prevent an agent from relinking correctly.

  No events or messages are lost, you can repeat the use of **switchmgr**, if necessary, and the performance of the network is not normally impacted because one agent is out of communication.

  To avoid having to identify and specifically relink the non-linked agent or agents, you can, in any case, issue the following command, which automatically relinks all agents without needing to specifically identify the unlinked ones:

  ```
  Jnextplan -for 0000
  ```

- **Remote UNIX access method - Defect 25797**

  In Chapter 7, "Troubleshooting networks", replace the sub-section "Remote UNIX access method" in the sub-section "UNIX extended agents", with this:

  The Remote UNIX access method can be used to designate a non-Tivoli Workload Scheduler workstation to run jobs scheduled by Tivoli Workload Scheduler. You can use `unixrsh` or `unixssh`:

New messages

The following messages are to be added in the *Administration and Troubleshooting Guide*:

AWSDEC018E An internal error occurred while attempting to compact the file *event_file*. **The file is unusable.**

Explanation: *event_file* is the file being processed that gave an error.

System action: This message is generated by a library function that is called by more than one program. The calling program decides how to process the error that this message has revealed. Look in the log for other messages following this one to see how Tivoli Workload Scheduler reacts.

User response: The indicated file is corrupt. Contact

IBM Software Support for assistance.

AWSDEC019W The supplied maximum size of the file *event_file* **is** *maximum_size* **bytes, which is too small. A higher value will be allocated.**

Explanation: *event file* is the file that will be allocated a larger maximum size than the stored value.

User response: You need take no action, but you might decide to change the maximum size to a value of your choice with the `evtsize` tool. See the *Reference* guide for more information about the `evtsize` tool.

AWSDEC020W The maximum size of the file
event_file **has been changed to**
maximum_size **bytes.**

Explanation: *event file* is the file that has been allocated the indicated maximum size.

User response: You need take no action, but you might decide to change the maximum size to a value of your choice with the evtsize tool. See the *Reference* guide for more information about the evtsize tool.

AWSDEK704E The message queue *event_file* **cannot**
be resized without being compacted.
Make a backup copy and then compact
the file by running evtsize -compact
event_file. **Refer to the documentation for**
more details.

Explanation: *event file* is the file being processed by the evtsize utility that was unable to resize the event queue because the queue is full and cannot be expanded without compacting events.

System action: evtsize stops without modifying the event file size.

User response: Try to run the evtsize utility again using the parameter **-compact**. See the *Reference* guide for more information about the evtsize utility.

AWSDEK705E An error occurred while processing
the file *event_file*. **The error is:**
error_message.

Explanation: An error occurred while processing the event file. *error_message* is a message that contains information about the error and includes the operating system error message.

System action: evtsize stops without compacting or resizing the event file.

User response: Attempt to resolve the operating system error. Restore the backup copy and try to run the evtsize utility again. See the *Reference* guide for more information about the evtsize utility.

AWSDEK706E An error occurred while attempting to
process the file *event_file* . **The error is:**
error_message. **The original event file has**
been recovered.

Changed messages

The following messages are to be changed in the *Administration and Troubleshooting Guide*:

AWSBCV098W Mailman has not received an
acknowledgement for a message sent to
workstation: *workstation_name*.

Explanation: There are two possible reasons:

Explanation: The evtsize utility was unable to compact events within the event queue. The file being processed is *event_file*. *error_message* is a message that contains information about the error and includes the operating system error message. The original event file has been recovered.

System action: evtsize stops without compacting the event file.

User response: Attempt to resolve the operating system error. Try to run the evtsize utility again. See the *Reference* guide for more information about the evtsize utility.

AWSDEK708E The message queue *event_file* **cannot**
be re-sized without corrupting the
contents.

Explanation: The evtsize utility was unable to re-size the event queue because the new size is smaller than the previous one and re-sizing the queue will corrupt the queue contents. *event_file* is the file being processed.

System action: evtsize stops without modifying the event file size.

User response: Wait until the queue has been emptied before re-sizing it, or select a size greater than the stored size. Try to run the evtsize utility again. See the *Reference* guide for more information about the evtsize utility.

AWSDEK709E The supplied value for the size
parameter is greater than the maximum
allowed by the operating system:
maximum_size.

Explanation: The maximum value for the size parameter is determined by the LONG_MAX system variable. *maximum_size* is the maximum value you can supply for the size parameter of the evtsize utility.

System action: evtsize stops without modifying the event file size.

User response: Run the evtsize utility again, supplying a lower value for the size parameter. See the *Reference* guide for more information about the evtsize utility.

- The version of the Tivoli Workload Scheduler agent running on *workstation_name* is incompatible with the version of mailman.
- A corruption of the event occurred during the transmission.

System action: Mailman proceeds. No information is lost.

User response: To determine the reason and correct the problem, take the following steps:

1. Verify the version of the agent on the workstation by issuing the `conman v` command on the workstation, or by checking in the Job Scheduling Console.

2. If the version is not compatible with the version of mailman, upgrade the agent or the Tivoli Workload Scheduler version running on the computer where mailman is running (whichever is back-level). See the *Planning and Installation* guide for instructions on upgrading the components.

3. If the agent and mailman are at compatible versions, unlink and relink the workstation using the `unlink` *workstation_name* and the `link` *workstation_name* conman commands. If the `link` *workstation_name* command gives an error, investigate and correct the reason for the error and then repeat this step.

4. Retry the operation.

AWSBHT057W Batchman has found a non-valid run number in the Symphony file for the following record type: *record_type* **and object:** *object*.

Explanation: *record_type* is the record type of the record in the Symphony file with the non valid run number.

object is the object of the record with the non-valid run number; for example, job stream, job, or resource.

System action: Batchman proceeds. The record is ignored.

User response: This is an internal error. Contact IBM Software Support for assistance.

AWSEDW022E An internal error has occurred. Netman encountered an IPC error when waiting for a service request to arrive or when reading a service request, from the following port: *port_number*. **The error message is as follows:** *system_error*.

Explanation: *port_number* is the port to which Netman is waiting on request.

system_error indicates when the error occurred and the operating system error message.

Note: if the error occurred while *waiting* for a request, the port_number variable contains the system_error and the second variable is unused.

System action: Netman continues, but the operation is not performed.

User response: When *system_error* contains the `AWSDEB014I` message, you only need to fine tune the agent. Increase the `nm read` option in the `localopts` file.

In other situations, this is an internal error. Contact IBM Software Support for assistance.

APAR IY85469: Replace the sub-sections "Changing the <TWSUser> passwords" and "Changing the DB2 access passwords" in the section "Administrative tasks: Tivoli Workload Scheduler" in "Chapter 1: Product maintenance" with the following:

Changing Tivoli Workload Scheduler passwords

- The *<TWS_user>* (the instance owner) of a Tivoli Workload Scheduler component.
- The WebSphere Application Server user (as identified by the WebSphere Application Server tools) which authenticates the *<TWS_user>* being used by Tivoli Workload Scheduler components.
- The database user of a Tivoli Workload Scheduler component:

  DB2   If you are using a DB2 database, this is the user ID used to access DB2.

  Note: This is different according to whether you have the server or the client installed:

  DB2 Server installed
          The DB2 administration user (local) is used.

  DB2 Client installed
          The Tivoli Workload Scheduler DB2 user on the remote server is used.

Oracle If you are using an Oracle database, the Oracle schema owner user.

> **Note:** The Oracle schema owner is not an operating system ID. Even if it has the same value as an operating system ID on the same computer, it is completely separate, and the passwords are changed separately.

- The streamlogon user of any job run in the Tivoli Workload Scheduler environment (jobs running on Windows only)

For all other users of Tivoli Workload Scheduler, no action is required if their passwords change.

If you change any of these passwords, there are various operations to perform, depending on which user's password is being changed, the type of user authentication in use, the type of operating system on which it is deployed, and the type of Tivoli Workload Scheduler node where the password is being changed.

You must determine the type of Tivoli Workload Scheduler node and the type of user whose password has changed.

Determine the type of Tivoli Workload Scheduler node: Determine which type of Tivoli Workload Scheduler node where you want to change the password, from the list below. Follow the link, determine the type of user whose password is being changed and consult the table of actions appropriate for the node and the user type:

- "Changing passwords on a master domain manager or backup master domain manager"
- "Changing passwords on a fault-tolerant agent with the connector installed" on page 54
- "Changing passwords of streamlogon users on Windows workstations used for job scheduling" on page 54

Changing passwords on a master domain manager or backup master domain manager:

Determine the user type: Determine which type of authentication is in use, and for which type of user you need to change the password. Table 2 summarizes the possibilities, referring to fields in the Security Properties of WebSphere Application Server - Express (a blank cell in the table means that the value for the indicated item is ignored). The resulting *User Type*, is used in tables 3 and 4.

> **Note:** A user can be more than one *User Type*.

Table 2. Decision tree for determining user type

User is:	ActiveUserRegistry=	LocalOSServerID=	LDAPServerID=	J2cUserID=	User Type
The TWSUser (instance owner)					*LDAP Authentication: Local OS User*
	LocalOS	The user whose password has changed			*Local OS Authentication*
	LDAP		The user whose password has changed		*LDAP Authentication: LDAP User*

Table 2. Decision tree for determining user type (continued)

User is:	ActiveUserRegistry=	LocalOSServerID=	LDAPServerID=	J2cUserID=	User Type
				The user whose password has changed	DB User
The streamlogon user for jobs run on this computer					Streamlogon User

If the user ID whose password has changed is not in this table, no action is required.

The detailed procedure is as follows; check whether the user is a Tivoli Workload Scheduler user, a database user, a streamlogon user, or all three:

1. Checking the Tivoli Workload Scheduler users

1. Determine if the user whose password is to be changed is the TWSUser (instance owner):

   Windows
   > Check if the user whose password is to be changed is the user that owns the *Tivoli Workload Scheduler for <TWSUser>* service.

   UNIX   Run the following command:
   ```
   ps -ef | grep netman
   ```

   If the user is the TWSUser, follow the actions outlined in the tables below, under the column **Local OS User**.

2. Whether or not the user is the TWSUser, continue as follows. Log on to the computer where Tivoli Workload Scheduler is installed as the following user:

   UNIX   root

   Windows   Any user in the *Administrators* group.

3. Access the directory: *<TWS_home>/wastools*

4. From that same directory run the following script:

   UNIX   **showSecurityProperties.sh**

   Windows   **showSecurityProperties.bat**

   Note: This command might display a message from the application server (WASX7357I:) in the output file. You can ignore this message.

5. Check the value of the key: activeUserRegistry. If the value is *LocalOS*, you are using **Local OS Authentication**, and you must then check the key LocalOSServerID. If it matches the user whose password has changed, follow the actions outlined in the tables below, under the column **Local OS Authentication**.

6. If the user whose password is to be changed is not the TWSUser, check the key LDAPServerID, which identifies the LDAP user of Tivoli Workload Scheduler. If it matches, follow the actions outlined in the tables below, under the column **LDAP User**.

2. Checking the DB user

DB2 The key *j2cUserid* identifies the user that owns the access to the database. Check the value to see if it matches the user whose password has changed, and if so, follow the actions outlined in the tables below, under the column **DB user**.

Oracle If you have changed the internal password of the Oracle schema user, follow the actions outlined in the tables below, under the column **DB user**.

3. Checking the Streamlogon user
Using **composer** or the Job Scheduling Console, check if the user is identified as a Windows user. If so, follow the actions outlined in the tables below, under the column **Streamlogon user**.

Determine the actions to take: Consult Table 3 to determine which actions you need to perform for a change of password:

Table 3. Password change actions on a master domain manager or backup master domain manager

	Local OS Authentication	LDAP Authentication			
Actions	**TWSUser**	**Local OS user**	**LDAP user**	**DB user**	**Streamlogon user**
"Action 1: edit the user options file" on page 54	✔		✔		
"Action 2: change the WebSphere Application Server - Express user ID password" on page 54	✔		✔	✔ [1]	
"Action 3: for all fault-tolerant agent workstations that connect to the computer where the <TWSUser> has been changed, change the password used in the connection" on page 55	✔	✔	✔		
"Action 4: for all remote command line client workstations that connect to the computer where the <TWSUser> has been changed, change the password used in the connection" on page 56	✔	✔	✔		
The following steps only apply to passwords of users on Windows computers					
"Action 5: change Windows services password" on page 56	✔	✔			
"Action 6: change the Tivoli Workload Scheduler Windows user definition" on page 57	✔	✔			✔

Notes:

1. Change only the *j2cpassword*.

Changing passwords on a fault-tolerant agent with the connector installed:
Consult "Determine the user type" on page 51 to determine which type of user is the user whose password has changed.

Consult Table 4 to determine which actions you need to perform for a change of password:

Table 4. Password change actions on a fault-tolerant agent with the connector installed

Actions	Local OS Authentication TWSUser	LDAP Authentication Local OS user	LDAP Authentication LDAP user	Streamlogon user
"Action 2: change the WebSphere Application Server - Express user ID password"	✔		✔	
The following steps only apply to passwords of users on Windows computers				
"Action 5: change Windows services password" on page 56				✔

Changing passwords of streamlogon users on Windows workstations used for job scheduling: Consult "Determine the user type" on page 51 to determine which type of user is the user whose password has changed.

If the user is a streamlogon user, the only action required is "Action 6: change the Tivoli Workload Scheduler Windows user definition" on page 57.

Action 1: edit the user options file: Follow this procedure:
1. Open the user options file *<UserHome>/.TWS/*useropts
2. Locate the password key (encrypted) and change its value to that of the new password in plain text, enclosed in double quotes. The password is saved in clear, but will be encrypted at first logon of the User ID.
3. Save the file.
4. Check if the following file exists: *<Root_home>/*.TWS/useropts. If it does, change the password in the same way.

Action 2: change the WebSphere Application Server - Express user ID password: Follow this procedure:
1. Log on to the computer where Tivoli Workload Scheduler is installed as the following user:

   UNIX   root

   Windows   Any user in the *Administrators* group.
2. Access the directory: *<TWS_home>/wastools*
3. Run the following script to stop the application server:

   UNIX   **stopWas.sh -user** *<TWSUser>* **-password** *<TWSUser_password>*

   Windows   **stopWas.bat**
4. From that same directory run the following script to create a file containing the current security properties:

   UNIX   **showSecurityProperties.sh >** *my_file_name*

Windows	showSecurityProperties.bat > *my_file_name*

5.

> **Note:** A template file of properties exists in this directory, but if you edit and use it in the command described below you will overwrite the current settings with those in the template file, which are almost certainly incorrect.

Edit *my_file_name*. Check the start of the file. The command might have written a message from the application server (WASX7357I:) at the beginning of the file. Cancel this message.

6. Locate either *LocalOSServerpassword* or *LDAPPassword*, depending on the type of authentication you are using, and change the password to the new value, in plain text.

7. If the user is the DB User (the *j2cUserid* is the user whose password is being changed), change the password of the *j2cpassword*.

> **Note:** Do not change this value if you are using an Oracle database, unless you have changed the Oracle schema owner password in Oracle.

8. Save the file *my_file_name*.

9. Run the script:

Windows	changeSecurityProperties.bat *my_file_name*
UNIX	changeSecurityProperties.sh *my_file_name*

This changes the password.

Notes:

a. This command might display a message from the application server (WASX7357I:). You can ignore this message.

b. When you edit the file, add the password (substituting the asterisks), and save the file, the password is saved unencrypted. However, the script that changes the password also re-saves the file after completion, substituting asterisks for the password. Thus, any security exposure is limited to the time between saving the edited file and completing the script.

10. Run the following script to restart the application server:

UNIX	startWas.sh
Windows	startWas.bat

11. Check that the installed component or components are working correctly with the new password.

Action 3: for all fault-tolerant agent workstations that connect to the computer where the <TWSUser> has been changed, change the password used in the connection: If you have changed the password of the user that fault-tolerant agents use to connect to the master domain manager (for example, to run **conman** to submit job streams and jobs), the connection parameters must be updated.

Follow this procedure:

1. Identify all fault-tolerant agents that have an HTTP or HTTPS connection defined with the master domain manager.
2. On these workstations, open the user options file *<UserHome>*/.TWS/useropts
3. Locate the password key (encrypted) and change its value to that of the new password in plain text, enclosed in double quotes. The password is saved in clear, but will be encrypted at first logon of the User ID.
4. Save the file.
5. Check if the following file exists: *<Root_home>*/.TWS/useropts. If it does, change the password in the same way.

Action 4: for all remote command line client workstations that connect to the computer where the <TWSUser> has been changed, change the password used in the connection: If you have changed the password of the user that remote command line client workstations use to connect to the master domain manager (for example, to run **composer**), the connection parameters must be updated.

Follow this procedure:
1. Identify all remote command line client workstations that have an HTTP or HTTPS connection defined with the master domain manager.
2. On these workstations, open the user options file *<Root_home>*/.TWS/useropts
3. Locate the password key (encrypted) and change its value to that of the new password in plain text, enclosed in double quotes. The password is saved in clear, but will be encrypted at first logon of the User ID.
4. Save the file.

Action 5: change Windows services password: On Windows, the *"<TWS_user>"* account is used to start the following services:
- Tivoli Token Service for *<TWS_user>*
- Tivoli Workload Scheduler for *<TWS_user>*
- IBM WebSphere Application Server V6 - *<TWS_user>* (a script **updateWasService.bat** exists in the *<TWS_home>/wastools* directory, but it cannot be used for this purpose)

The password must be updated in the properties of these services, or they are not able to start at next reboot. This is done as follows:
1. Stop all Tivoli Workload Scheduler processes.
2. Open the Services panel.
3. For each of the services, do the following:
   a. Right-click the service in question and select **Stop**, or select the service in question and then select **Action ‣ Stop**.
   b. Right-click the service in question and select **Properties**, or select the service in question and then select **Action ‣ Properties**.
   c. Click the **Log On** tab and enter and confirm the current password assigned to the indicated user ID.
   d. Click **OK**.
   e. Right-click the service in question and select **Start**, or select the service in question and then select **Action ‣ Start**.
      The service now starts.
4. When you have changed all three services' passwords and restarted the services, close the Services panel.

Action 6: change the Tivoli Workload Scheduler Windows user definition: If the user ID is used within Tivoli Workload Scheduler to run jobs, follow this procedure:

1. Run the **composer modify user** command. The user details of the selected user are written to a temporary file, which is opened.
2. Edit the password field so that it contains the new password value delimited by double quote characters (").
3. Save the file, and the contents are added to the database.
4. To make the change immediately effective in the current plan, issue the **conman altpass** command.

For the full syntax of these commands see the *Reference Manual*.

References to the Tivoli Workload Scheduler Plus Module in documentation obsolete: Some references to the Plus Module were left in the Tivoli Workload Scheduler version 8.3 documentation. Such references are obsolete because the Plus Module functions were moved directly to the Tivoli Workload Scheduler engine. The Plus Module no longer exists in version 8.3 and any references in the documentation should be disregarded. They will be deleted from the next refresh of the manuals.

Chapter 2. Installation

This section describes how to install Tivoli Workload Scheduler and Tivoli
Workload Scheduler Connector Fix Pack 04. It is divided into the following
sections:

- "Installing on Windows using the ISMP wizard" on page 60
- "Installing on UNIX using the ISMP wizard" on page 61
- "Installing using the ISMP silent Installation" on page 61
- "Installing on UNIX - using the twspatch script" on page 62
- "Software Distribution Installation" on page 62
- "Additional Installation Instructions" on page 63
- "Installation Log Files" on page 64
- "Additional configuration step to improve multiple access via the Tivoli
  Dynamic Workload Console" on page 64
- "Managing Windows users and passwords locally on end-to-end scheduling" on
  page 64

Applying the Fix Pack

This section describes how to install Tivoli Workload Scheduler, Version 8.3.0 fix
pack 4. Fix packs are cumulative, so you can apply them directly to the general
availability version of the product without having to install previous fix packs.

Note: After installing the Fix pack the last line of the <TWShome>/version/
patch.info file will contain: 8.3.0-TIV-TWS-FP0004

Note: If the product was originally installed using the ISMP method, the Fix Pack
should also be installed by this method. Read "Additional Installation
Instructions" on page 63 before installing the Fix Pack.

TEMPORARY SPACE FOR J2EE (Master, Backup Master, FTA+Connector)
NEEDED Make sure you have at least 400 MB of free space inside the local temp
directory and at least 400 MB of free space inside the *TWSuser* home directory (the
target installation directory) before starting the fix pack installation.

Installation Methods on Tier 1 Platforms

When you use the graphical installation or the command line installation you can
perform one of the following actions:

- Apply the Fix Pack in "undoable" mode
  - This action allows you to go back using the roll back action to the previous
    fix pack.
- Roll back an undoable Fix Pack
  - This action allows you to roll back to the previous level
- Commit an undoable Fix Pack
  - This action does not allow you to roll back the Fix Pack
- Repair an already committed Fix Pack.
  - This action allows you to restore an existing Tivoli Workload Scheduler
    instance to the current committed level when a problem arises with a binary.

Depending on the Fix Pack installation state, you can perform the action as shown below:

Initial state	Action	Final State	Final State GA Pack
-	apply	IU	ICH
IU	commit	IC	-
IU	roll back	-	IC
IC	repair	IC	-

where:
- IU = installed undoable
- IC = installed and committed
- ICH = Installed, committed and hidden

If you have a Tivoli Workload Scheduler Fix Pack installed in "undoable mode" (IU state) on your machine and you are applying a more recent Tivoli Workload Scheduler Fix Pack on it, all the changes that you have made when installing the previous Tivoli Workload Scheduler Fix Pack will be committed before applying the newer ones. Therefore, if you undo the Fix Pack you last installed, you will restore the previous Fix Pack changes. These changes are permanent. The setup program discovers all the Tivoli Workload Scheduler 8.3.0 instances existing on the machine. After selecting one of these, it is possible to specify the required action.

The Fix Pack installation is recorded in the TWSRegistry.dat file adding the following lines:

```
/Tivoli/Workload_Scheduler/ tws_user_DN_FixpackName=
FP_TWS_$(SWD-OS-NAME)_$(tws_user).8.3.0.$(patch_id)
```

where:
- $(SWD-OS-NAME) depends on the platform where you are installing.
- $(tws_user) is the Tivoli Workload Scheduler instance owner.
- $(patch_id) is the Fix Pack number.

Installing on Windows using the ISMP wizard

To apply the Fix Pack on Windows follow the steps below:
1. Unlink the host on which you are installing the patch from the IBM Tivoli Workload Scheduler network and shut down IBM Tivoli Workload Scheduler. Use the following commands:

   ```
   conman "unlink @; noask"
   conman "stop @; wait"
   Shutdown.cmd
   ```

   If you had jobs scheduled on the computer, make sure they have completed; otherwise some processes, such as jobmon or joblnch, could still be active. Choose one of the following:
   - Insert the CD that is related to your operating system
   - Download the specific zip file for the operating system and unzip it
2. Run setup.exe to install the fix pack. Follow the instructions provided on the screen. When required, select the instance of Tivoli Workload Scheduler on which you are installing the patch.
3. The installation starts.
4. Click **Finish** to complete the installation.

Note:

If you want to apply the fix pack to a remote Command line client installed on a Windows domain controller with the GA code, you must manually update the TWSRegistry.dat file first by adding the following lines:

```
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_MajorVersion=8
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_MinorVersion=3
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_MaintenanceVersion=
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_RemoteHost=
 <REMOTEHOST>
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_RemotePort=31116
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_RemoteUser=
 <REMOTEUSER>
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_InstallationPath=
 C:\TWS\CLI
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_ProductID=TWS_CLI
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_LPList=
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_PatchVersion=
/Tivoli/Workload_Scheduler_CLI/<REMOTEHOST>:<REMOTEUSER>_DN_ou=
 <REMOTEHOST>:<REMOTEUSER>
```

where <REMOTEHOST> is the remote host and <REMOTEUSER> is the remote user configured for the remote CLI to be Fix Packed.

Installing on UNIX using the ISMP wizard

To install the Fix Pack on UNIX perform the following steps:

1. Unlink the host on which you are installing the patch from the IBM Tivoli Workload Scheduler network and shut down IBM Tivoli Workload Scheduler. Use the following commands:

   ```
   conman "unlink @; noask"
   conman "stop @; wait"
   conman "shut;wait"
   ```

   If you had jobs scheduled on the computer, make sure they have completed; otherwise some processes, such as `jobmon` or `joblnch` could still be active.

2. Choose one of the following:
   - Insert the CD that is related to your operating system
   - Download the specific tar file for the operating system,

3. Untar the file and execute the following command:

   ```
   chmod -R 755 <imagesDir>
   ```

4. Run SETUP.bin to install the Fix Pack and follow the instructions on the screen. When required, select the instance of Tivoli Workload Scheduler on which you are installing the Fix Pack.

Installing using the ISMP silent Installation

An alternative way to use the graphical installation is the silent installation. Process Silent installation requires response file customization. A template of the response file is available on all CDs, in the RESPONSE_FILE directory. You can use silent installation by launching the SETUP.bin command only if you are using UNIX (SETUP.exe on Windows operating systems) program as follows:

```
./SETUP.exe -options /opt/tws/FP03/patchInstall.txt
```

where `patchInstall.txt` is a customized response file.

In the Patch txt file use the following keywords for "-W actionPanel.selectedAction" parameter:

Table 5. Parameters

KEYWORKD	SCENARIO
APPLY	Install an undoable Fix Pack
ROLLBACK	Roll Back an undoable Fix Pack
COMMIT	Commit an undoable Fix Pack
APPLY_AND_COMMIT	Repair an installed and committed Fix Pack **Notes:** 1. This action is available only when you install a fix pack. It is not available on General Availability (GA) versions. 2. This action is available only from the installation wizard. It is not available via response file.

APAR IY96878 - To install a new fix pack, use the APPLY option. After the installation process completes successfully, use the COMMIT option. Do not use APPLY_AND_COMMIT as its purpose is to repair committed installations.

Installing on UNIX - using the twspatch script

On AIX, HP-UX, Solaris Operating Environment, Linux_IX86, and Linux_S390 platforms you can install the Fix Pack using the twspatch script file. The synopsis of twspatch is:

./twspatch -{install | undo | commit | repair} -uname <TWS user>

To install, follow these steps:

1. Unlink the host on which you are installing the patch from the IBM Tivoli Workload Scheduler network and shut down IBM Tivoli Workload Scheduler. Use the following commands:

   ```
   conman "unlink @; noask"
   conman "stop @; wait"
   conman "shut;wait"
   ```

   If you had jobs scheduled on the computer, make sure they have completed; otherwise some processes, such as `jobmon` or `joblnch` could still be active.
2. Choose one of the following:
   - Insert the CD that is related to your operating system
   - Download the specific tar file for your operating system
3. Untar it on your system.
4. Run twspatch.

Note: Tier 1 platforms uses the Software Distribution mechanism to install the package. Tier 2 platforms uses a TAR file to un-compress in order to perform package installation. They have the same twspatch script interface and both will update the TWSRegistry.dat registry file.

Software Distribution Installation

To install the fix pack using software distribution use the following command:
- `wdinstsp -f -uy -D execActionTools=false -D tws_user=<TWS_USER>`
  `-D install_dir=<TWS_HOME> <CPU_TYPE_DEF> -n <INST_PKG_NAME> <SPB_FILE_NAME>`

where:

```
<CPU_TYPE_DEF> = -D st_agent=<true or false> -D ft_agent=<true or false>
-D master=<true or false> -D bkm_agent=<true or false>

<INST_PKG_NAME> = FP_TWS_<INST_INTERP>_<TWS_USER>.8.3.0.<PATCH_NUMBER>

<INST_INTERP> = AIX | HPIA64 | HP | LINUX_I386 | LINUX_S390 | LINUX_PPC | Linux
| SOLARIS_I386 | SOLARIS | IRIX64 | OSF1 | DYNIX | WINDOWS

<PATCH_NUMBER> = fixpack level (e.g. 03)

<SPB_FILE_NAME> = spb file name with the complete path
```

For Example: To install fix pack 3 on an FTA running on AIX, stop the Tivoli
Workload Scheduler instance and perform the following steps:

```
/opt/images/TWS/AIX/CLI>$ . ./swd_env.sh
/opt/images/TWS/AIX/CLI>$ wdinstsp -f -uy -D execActionTools=false -D tws_user=maestro83
-D install_dir=/home/maestro83 -D st_agent=false -D ft_agent=true -D master=false
-D bkm_agent=false -n FP_TWS_AIX_maestro83.8.3.0.03 /opt/images/TWSFP/AIX/FP_TWS_AIX.SPB
```

**Error occurs when applying Tivoli Workload Scheduler 8.3.0 fix pack via ITCM -
APAR IY94997:**

> The following problems may occur when applying a Tivoli Workload
> Scheduler 8.3.0 Fix pack via ITCM
>
> • The installation process will fail during twsStopAction.exe. if the Tivoli
>   Workload Scheduler is stopped before installation, and winstsp is
>   launched in a non-transactional way.
>
> • If Tivoli Workload Scheduler is not stopped before installation, and
>   winstsp is launched in a non-transactional way, the installation fails as
>   the Msvcirt.dll library is locked (by batchup.exe)
>
> As a workaround install the fix pack in one of the following ways:
> tranactional and not tranactional mode (winstsp command).
>
> • Install in transactional mode, adding the '-ty' parameter
>
> • Install the non-transactional mode (default mode) as follows:
>   – Stop the Tivoli Workload Scheduler instance manually
>   – Install the fix pack by adding the following command to the
>   installation parameters:
>
>     ```
>     '-D execTwsStopAction="false" -D execTwsStartUpAction="false"'
>     ```

Additional Installation Instructions

When installing, follow these recommendations:

• Use the same installation method (ISMP, twspatch, CM) to install, undo, remove
  the fix pack.

• Do not install from a Samba disk on the Windows platform.

• On HP-UX set the kernel parameter max_thread_proc to 128 (at least). By default
  it is 64, otherwise the installation can fail. A core dump is generated by Java.

New J2EE Component update

The table below shows the APPLY and UNDO steps for the actions related to the
new J2EE component update.

Table 6.

APPLY	UNDO (Read from bottom to top)
Stop Bobcat	Start Bobcat
Stop the instance	Start the instance

Table 6. (continued)

APPLY	UNDO (Read from bottom to top)
Backup profile	Delete bckit is
+ Backup EAR	Delete bck
+ Backup Connector	Delete bck
Backup bobcat	Delete bck
Patch bobcat	Move back old
Patch EAR (profile)	Move back old
Patch Connector (profile)	Move back old
Patch Agent	Undo Agent SPB
Download Unistaller	Move back old
Start Bobcat	Stop Bobcat
Start the instance	Stop the instance
Complete	
Patch CLI	No
Patch CLI catalogs	No

Installation Log Files

To check the installation status of the J2EE Master, Backup Master, FTA and connector, look in the following log files:

```
<LocalTemp>/tws83fixpack/twsismp.log (trace file for ISMP installer)
<LocalTemp>/tws83fixpack/summary.log (log file for ISMP installer)
<LocalTemp>/tws83fixpack/twsinst_<operating_system>_<TWSuser>^8.3.0.01.log
 (twsinstallerlog)
<LocalTemp>/FP_TWS_<operating_system>_TWS user>^8.3.0.01.log
 (CM installation log file)
```

Additional configuration step to improve multiple access via the Tivoli Dynamic Workload Console

If you plan to use the Tivoli Dynamic Workload Console, you should run the modifyThreadPool script on master domain managers or connectors after you installed this fix pack. This script raises the limit of concurrent users from 20 to a number that is limited only by the resources available in your system. Locate this script in the wastools subdirectory of the Tivoli Workload Scheduler home directory.

Run the script with no arguments to enable as many concurrent users as your system resources allow for.

Managing Windows users and passwords locally on end-to-end scheduling

APAR PK40356 addresses how security is handled for end-to-end users scheduling on Windows operating systems.

- **Managing Windows users and passwords locally**

  In an end-to-end configuration, use the users utility to create and manage Windows user IDs and passwords locally. With this command, you define on a Windows fault-tolerant agent the credentials of the users that are associated with job definitions by the JOBUSR parameter.

When a job is started, the fault-tolerant agent looks for the ID and password of the user who submitted it in the Symphony file. If they are not found, and LOCALPSW is set to YES in the TOPOLOGY statement, the agent looks for the user credentials in the workstation local database.

If the user ID is not found in the Symphony file and local database, the job does not start.

Note: For performance reasons, the users that you define locally must be also stored in the user table. Therefore, if you define or modify users' credentials, stop and restart the agent or run a Symphony renew.

- **Authorization**

  To run the **users** utility, you must:

  – Have the Impersonate a client after authentication and Log on as a batch job rights.
  – Have display access to the database of the locally defined users.
  – Depending on the command option you want to use, be authorized with the following access types defined in the security file:

Tivoli Workload Scheduler for z/OS: End-to-end Password Encryption

Table 7.

Command option	Object type	Access type
-u | -v	None	None
username	USEROBJ	DISPLAY
-s	USEROBJ	• ADD (if username does not exist) • MODIFY (if username exists)
-d	USEROBJ	DELETE
-e	FILE	DISPLAY
	USEROBJ	• DISPLAY (to extract user definition with password marked with asterisks) • MODIFY (to extract user definition with encrypted password)
-r	FILE	MODIFY
	USEROBJ	• ADD (to add a new user definition) • MODIFY (to replace an existing user definition)
-b	FILE	BUILD

- **Syntax**

```
users  username
users  {[-V  |  -v  |  -U  |  -u]  |  -b[uild]}
users  {-r[eplace]  |  -e[xtract]}  filename
users  -d[elete]  username
users  -s[et]  username  userpwd
```

- **Arguments**

    username

    > The name of the user to be created, replaced, or removed. If you specify only this argument, it returns information about whether the *username* is defined in the local database.

    userpwd

    > The password of the user to be added.

    filename

    > The name of the file with the user definitions to be either extracted or replaced.

    -v

    > Displays the command version and exits.

    -u

    > Displays command usage information and exits.

    -build

    > Creates a local user database, if it does not exist. If the database exists, rebuilds it removing the records that are deleted.

    -extract

    > Extracts all the user definitions from the local database and stores them into *filename*. You can later reimport them with the **–r** option.

    -replace

    > Adds new user definitions stored in *filename* to the local database, or replace the existing ones..

    -delete

    > Deletes the user with *username* from the local database.

    -set

    > Adds the *username* and *userpwd*, if they do not exist or modify the user credentials if the *username* already exists.

    Usage Notes

    > By entering **users** without any argument, you are prompted for user names and passwords.

    Examples

    > To create a new user named Bob with password My123pwd, run the following command:

    > – `users –s Bob My123pwd`

    > To delete a user named Jack, run the following command:

    > – `users –d Jack`

    > To extract the definition of all users defined in the local database into a file named *allusers.def*, run the following command:

    > – `users –e allusers.def`

Known Problems and Workarounds

This section documents limitations and workarounds contained in this fix pack.

Defect 37352 - Tivoli Workload Scheduler z/OS connector installation fails on Sles10 x86 and x86_64.

Defect 37492 -
> On WINDOWS 2003 64 BIT the Tivoli Workload Scheduler Cluster feature does not support the "DLL extension".

On Red Hat Linux the installation of the fix pack will fail if the Tivoli Workload Scheduler processes are active. (Software Distribution install method)

- With Red Hat Linux operating system the installation of the fix pack will fail if the Tivoli Workload Scheduler processes are active.

  This is due to the location of the fuser command that is utilized to check if there are Tivoli Workload Scheduler running process.

- On Red Hat the fuser program is located on /sbin directory that contains executable programs needed to boot the system:

  – /sbin's programs are normally executed only by the root user.

  /sbin is by default not in the PATH variable of ordinary users, but it is for the root account, so the end point daemon is not able to locate the fuser command. To avoid the above error the workaround that follows:

  1. add a link on /usr/sbin directory.

     The /usr/sbin directory contains system administrative programs that are not required until the /usr filesystem has been mounted during system startup are usually located in /usr/sbin.

     ```
     cd /usr/sbin
     ln -s /sbin/fuser fuser

     ls -l fuser
     lrwxrwxrwx   1 root     root   11 Jan 10 08:24 fuser -> /sbin/fuser
     ```

  – **ISMP setup.exe does not accept a twsuser password longer than 14 characters when installing Tivoli Workload Scheduler 8.3 on a Windows workstation - Apars - IY90924, IY91857:**

     Workaround: To bypass this problem, run the setup.exe using a response file as described in the following steps:

     1. Create a response file, or copy and edit one of the available response files provided on the product CD and specify these options only:

        - -W userWinCfgPanel.inputUserName="twsuser"
        - -W userWinCfgPanel.twsPassword="user_password_greater_than_14"
        - -W userWinCfgPanel.twsDomain="MYDOM1"
        - -W userWinCfgPanel.active="False"

        Where: inputUserName is the name of the Tivoli Workload Scheduler user.

        twsPassword is the user password greater than 14 characters. The twsDomain value can be one of the following:

        a. Windows user domain name if the user is a domain user.

        b. Hostname of the workstation where Tivoli Workload Scheduler will be installed.

Either value must be specified in upper case.The important key is the "userWinCfgPanel.active=False". When this key is set to "false", the setup.exe installation program will read the input values from the response file and not from the user interface panel. The password length is a limitation of the graphical user interface only and will not affect the values read from the response file. The <TWSuser> panel will not be displayed.

Note: If the twsuser does not exist on the machine, you must perform the following steps prior to running the setup.exe:

a. Copy the TWS 8.3 GA installation locally on disk.

b. Substitute the REGUTIL.dll file found in the installation directory under WINDOWS\ACTIONTOOLS with the REGUTIL.dll from the Tivoli Workload Scheduler 8.3 Fix pack 2 installation directory under the same path.

2. Run the setup.exe as follows:

```
setup.exe -options  <local_dir>\<ResponseFileName>
```

Tivoli Workload Scheduler 8.3 GA Installation fails on Windows if password contains ")" followed by other characters - APAR IY91808

If the <twsuser> password specified for the Tivoli Workload Scheduler 8.3 GA installation contains the ")" character, for example "abcd)efg", the installation COMMIT action fails.

Workaround: To solve this problem, you need to substitute the **twsCommitAction.cmd** file in the Tivoli Workload Scheduler 8.3 GA CD with the same file shipped in the 8.3.0-TIV-TWS-FP000x CD and launch the installation again, as described in the following steps:

1. Copy the contents of the GA Installation disk CD_4|WINDOWS locally

2. Substitute the **twsCommitAction.cmd** file in the CD_4\WINDOWS\ ACTIONTOOLS directory with the one on the Tivoli Workload Scheduler 8.3 Fix Pack 3 in the CD_4|GA_Fix directory.

3. Rerun the TWS 8.3 GA Installation.

Autotrace does not initialize on Windows 2003 Server

On the Windows 2003 Server, Autotrace cannot be initialized using any remote access method. If you try and initialize it and take a snapshot, the following message is displayed:

```
atctl:autotrace not initialized
```

Instead it must be initialized locally. If initializing it locally does not work, you must shut down all Tivoli Workload Scheduler processes, reboot the computer and then re-initialize Autotrace before starting the Tivoli Workload Scheduler processes again.

Note: Autotrace diagnostic tool is not supported on HP-UX 11iv2 for Integrity.

Timezone MST,EST,AGT changes into Java 1.4.2 version 5 or greater will impact Tivoli Workload Scheduler 8.3.0 - Defect 29244

Time Zone changes for MST,EST,AGT has been reported against Java 1.4.2 version 5 or greater level. 8.3.0-TIV-TWS-FP000x and 8.3.0-TIV-TWSJSC-FP0002 have been built using this level of Java to include the DST 2007 changes for US.

There is a major incompatibility issue in the recent Java service refreshes (1.4.2 SR5 or above; 5.0 SR1 or above) due to the reassignment of the three letter time zone IDs ("EST" and "MST") introduced into the standard Olson time zone table.

As a result, applications (in this case Tivoli Workload Scheduler/Job Scheduling Console 8.3) using "EST" or "MST" will start to get incorrect time zone offset from Java APIs during the Daylight Saving Time period.

During the period of DST, the time returned by the API call is now incorrect by one hour. If you plan to use those make sure you change the code to use the long time zone ID such as "America/New_York" or GMT based time zone ID such as "GMT-05:00".

From Tivoli Workload Scheduler 8.2.1 the long time zone ID has been implemented so it is recommended to use these long time zones.

In addition to previous bug Java 1.4.2 version 5 remove the "AGT". AGT can now be accessed as America/Argentina/Buenos_Aires with Tivoli Workload Scheduler 8.3.

EVENT 164 and 165 are not sent to TEC sever - APAR IY88696

This problem is fixed in fix pack 2. You must substitute the maestro.fmt file on the machine where your TEC adapter is installed with the one provided in this fix pack. Follow the steps below:

- Copy the maestro.fmt file from the Fix pack 2 CD under the TEC\TecAdapter path to the <tecadhome>/etc/ja directory on the machine where the TEC adapter is installed.

- Generate the cds file. For example, on Windows use the following command:

```
set tecadhome=C:/Tivoli/Nontmeadapter win_gencds
 %tecadhome%\etc\ja\tecad_win.fmt > %tecadhome%\etc\tecad_win.cds
```

- Start the logfile adapter

- Check that the events 164 and 165 are correctly displayed on the TEC console.

Installation of master domain managers fails if the DB2 tablespace path is specified with a trailing slash sign (/) - Defect 28934

When you install a master domain manager with DB2, and you specify the database tablespace path, refrain from using a slash (/) as the last character of the path name. Doing this causes the installation process to fail.

If you specified a DB2 tablespace path with a trailing slash sign and the installation fails, do the following:

1. If this is a fresh installation, cancel the installation.
2. Clean up the *TWSuser* home directory.
3. Drop the DB2 database that was created.
4. Restart the installation process and make sure that you specify tablespace path without a trailing slash.

Job log output not loaded - Defect 29273

If a host workstation and the Extended Agent have different time zones, the browse job log of jobs run on the Extended Agent might not function from the workstation different from the host workstation.

1. The workaround is:

- If you are using the command line: From a **conman** shell on local host workstations run the following command:

```
"sj <ExtendedAgent>#<JOBID>;std"
```

  The same command functions on all **conman** shell of machines with the same time zone as the host workstation.
- If you are using the Job Scheduling Console: Connect the Job Scheduling Console to the (eventually present) connector on the host workstation and browse the job log.

2. Set the time zone (on both operating system and Tivoli Workload Scheduler) of the machine where you are browsing the job log to the host workstation time zone. Run **JnextPlan**.

3. Set the time zone of the extended agent to the same time zone of the host workstation and then run **JnextPlan**.

Submit of an ad hoc job working with Time Zones not enabled - Defect 29355

When Time Zones are not enabled, if you submit an ad hoc job into a job stream instance specifying a Scheduled Time, the action fails with the following message:

```
GJS0025E: The job stream instance cannot be loaded because it is unknown.
Try a different name.
```

Workaround: Perform one of the following actions to solve the problem:
- If there is only one instance of the job stream where the ad hoc job will be submitted, empty the scheduled time fields.
- Work with Time zones enabled.
- If the job stream instance has different scheduled times, decrease by one hour the specified scheduled time to allow you to submit the ad hoc job successfully.

Web UI

To improve multiple access to the Tivoli Workload Scheduler, before using the Tivoli Dynamic Workload Console you should run the modifyThreadPool script on master domain managers or connectors after you installed Tivoli Workload Scheduler, Fix Pack 2. This script raises the limit of concurrent Tivoli Workload Scheduler users from 20 to a number that is limited only by the resources available in your system. Refer to Download Document of the Tivoli Dynamic Workload Console for more details.

If conman is launched when Symphony and mastsked do not exist the mastsked will be created with incorrect information. - Defect 32771

If conman is launched when Symphony and mastsked do not exist the mastsked will be created with incorrect information. Subsequent security checks could fail if in Security file definition is $MASTER key and the MASTER's name is greater than 8 characters.

The following error will be displayed:

```
Error running command: AWSDEJ027E Either the user for which authorization is being sought is
```

The Job Scheduling Console also shows an error message: GJS0083E The workstation plan view cannot be loaded. reason: AWSJSY508E You do not have permission to perform the operation "<UNKNOWN>" on the following object type "<UNKNOWN>" with object key:"".

Workaround

1. Delete files `<TWSHOME>/mozart/mastsked <TWSHOME>/mozart/mastsked.key`
2. Launch conman (make sure that Symphony file exists)
3. mastsked files will be created with correct information

APPLY fails because libicudata34a. is locked by another application - Defect 32726 If the Fix pack installation failed during the Apply at phase "Install with Rollback" with the following error messages:

- DISSE0309E Cannot rename locked file '$TWSHOME/bin/libicudata34.a'
- DISSE0025E Unable to create the path $TWSHOME/bin/libicudata34.a. Error number: 26

this is due to the fact that other applications are using the same library.

Workaround

1. Open the ISMP Installation panel.
2. Open another console
3. Run fuser -cx *<library name>*

   for example fuser -cx $TWSHOME/bin/libicudata34.a
4. A set of PIDs are listed in output, for example 12345e get the 12345 and ...
5. From the console launch ps -ef | grep 12345 to know the user or application name.
6. Stop the processes or applications related

   For example if DB2 is the application that locks the library then perform db2stop action
7. Repeat from step 2 until the library is unlocked
8. Force the status of step "Install with Rollback" at Ready
9. Run next to continue the installation

- **Defect 25583: Workaround for a hanging Tivoli Workload Scheduler 8.3 installation process on UNIX**

  Take the following steps if you perceive that the installation process on UNIX has stopped and seems to be hanging:

  1. Run the following command to find the Java process that is hanging: ps -ef | grep java | grep *<ant_xml_file>*

     Run the command for each of the following processes, each time replacing *<ant_xml_file>* with one of the following files:

     - generateDB2Response.xml
     - customizeDBCheckScripts.xml
     - customizeSQLScripts.xml
     - configTWSFiles.xml
     - configTWSFilesConn.xml (specify this only when you are installing the Connector on a fault-tolerant agent)

     This check should produce the one Java process that is holding up the installation.
  2. Kill the Java process that step 1 shows as running and in the Troubleshooting panel restart the corresponding installation step.

- **Working with Windows Vista in compatibility mode**

  This section describes what specific action you must take to properly install and use the product in this environment.

Checking environment settings:

Before installing Tivoli Workload Scheduler on a Windows Vista computer that does not belong to a Windows domain, make sure that the computer name and the domain name are both registered in uppercase in the Windows environment settings. When the workstation is not in a Windows domain, the COMPUTERNAME and USERDOMAIN values are identical, but on Vista the USERDOMAIN value sometimes happens to be in lowercase while COMPUTERNAME is in uppercase.

Tivoli Workload Scheduler requires that they both be in uppercase. You must check that it is so and take corrective action in case it is not. Follow these steps:

1. Open a DOS command prompt shell
2. Run the `set` command to display the Windows environment settings
3. Check that the USERDOMAIN value is in uppercase

If the USERDOMAIN value is not in uppercase, follow this workaround to correct it:

1. Run the `set` command as shown below to change the value of COMPUTERNAME to a temporary host name of your choice

   `set /p COMPUTERNAME=TEMPORARY HOST NAME`

2. Restart the system
3. Run the `set` command again as in step 1 replacing the temporary host name with the original one
4. Restart the system
5. Check that the USERDOMAIN value is now in uppercase

Installing Tivoli Workload Scheduler:

Follow these steps to properly install the product on Windows Vista computers:

1. Install the 8.3 General Availability version:

   a. Login to the computer with Administrator privileges.

   b. Insert the Tivoli Workload Scheduler version 8.3 General Availability CD for Windows (or copy that installation directory on a local drive).

   c. If the Tivoli Workload Scheduler installation program is started by the CD `autorun` command, press `Cancel`.

   d. Run `setup.exe` on the CD or local image, right-clicking on the command and selecting `Run as administrator` on the ensuing menu.

   e. Provide the information requested in the installation panels. When you come to entering the installation path, keep in mind that certain peculiarities of the Vista operating system have an impact on where you install Tivoli Workload Scheduler.

      Specify one of the following installation paths, making sure you use the exact case match for the user name:

      – The default installation directory; that is `c:\Program Files\IBM\TWS\`*TWS user*

        On Windows Vista the system `program files` directory has restricted access to a Standard User, so that `malware` (virus/spy-ware) access to the system programs and configuration files can be prevented. Choosing this installation path will help Tivoli Workload Scheduler run in a secure context. In this context, however, you will need Administrator privileges to modify the scheduler's configuration files (for example, you can use Notepad with `Run as administrator` to modify the Tivoli Workload Scheduler configuration files).

      – The users home directory; for example `c:\Users\`*TWS user*`\dir`

To install the product in the *TWS user* home directory, you must first create the user account and login to the system at least once, and then run the installation process. Only *TWS user* can access the `c:\Users\`*TWS user* directory.

- A non-system directory; for example `c:\IBM\TWS`. This is the recommended installation path.

2. Apply the fix pack for version 8.3:

   a. Login to the computer with Administrator privileges.

   b. Insert the Tivoli Workload Scheduler version 8.3 fix pack CD for Windows (or copy that installation directory on a local drive).

   c. If the Tivoli Workload Scheduler installation program is started by the CD `autorun` command, press `Cancel` .

   d. Run `setup.exe` on the CD or local image, right clicking on the command and selecting `Run as administrator` on the ensuing menu.

   e. Provide the information requested in the installation panels.

3. Define the new workstation on the master domain manager:

   a. Follow the definition process used normally for all Windows workstations.

   b. Add the name of *TWS user* in the Tivoli Workload Scheduler Users database as follows:

      - If the computer is not in a Windows domain, enter *COMPUTERNAME\TWS user*

      - If the computer is in a Windows domain, enter *USERDOMAIN\TWS user*

4. Generate the Symphony plan to add the new agent.

Starting and stopping Tivoli Workload Scheduler:

Startup and shutdown scripts are used to start and stop Tivoli Workload Scheduler. On Microsoft Windows they start and stop Tivoli Workload Scheduler services. Because Tivoli Workload Scheduler services are installed in a security context, only a member of the Administrators group can start and stop them.

To be able to start and stop Tivoli Workload Scheduler services on Windows Vista computers, you have two options:

- Elevate privileges using the `Run as administrator` option.

- Use the `sc.exe` Windows command to change the `DACL` for these services by adding full access to Authenticated Users as follows:

  - `Sc.exe sdset  TWS_NETMAN_`*TWS user*`  D:(A;;CCDCLCSWRPWPDTLOCRSDRCWDWO;;;BA)`
     `(A;;CCDCLCSWRPWPDTLOCRSDRCWDWO;;;AU)`
     `(A;;CCLCSWRPWPDTLOCRRC;;;PU)`
     `(A;;CCLCSWRPWPDTLOCRRC;;;SY`
  - `Sc.exe sdset  TWS_tokensrv_`*TWS user*`  D:(A;;CCDCLCSWRPWPDTLOCRSDRCWDWO;;;BA)`
     `(A;;CCDCLCSWRPWPDTLOCRSDRCWDWO;;;AU)`
     `(A;;CCLCSWRPWPDTLOCRRC;;;PU)`
     `(A;;CCLCSWRPWPDTLOCRRC;;;SY`
  - `Sc.exe sdset  TWS_maestro_`*TWS user*`  D:(A;;CCDCLCSWRPWPDTLOCRSDRCWDWO;;;BA)`
     `(A;;CCDCLCSWRPWPDTLOCRSDRCWDWO;;;AU)`
     `(A;;CCLCSWRPWPDTLOCRRC;;;PU)`
     `(A;;CCLCSWRPWPDTLOCRRC;;;SY`

Using the Tivoli Workload Scheduler command line interface:

The following table summarizes what different types of users need to do to use the command line interface (CLI) on a Tivoli Workload Scheduler agent running on Windows Vista:

User type	Action
Tivoli Workload Scheduler user	Can use the CLI with no restrictions.
Vista administrator (user member of the administrators group)	You must use the Run as administrator option when launching commands.
Vista Standard user	You must use the Run as administrator option when launching commands. In addition, you must provide an Administrator's password, if the User Account Control (UAC) facility is ON.

Installing a Compatibility database:

You can install a Compatibility database to set the Run as administrator option for all CLI commands.

To install the compatibility database, use the standard Windows Sdbinst.exe command as follows:

1. Open a DOS command prompt shell with Run as administrator
2. Run:

   Sdbinst "TWSVistaCompatibility.sdb"

To uninstall the compatibility database, use the standard Windows Sdbinst.exe command as follows:

1. Open a DOS command prompt shell with Run as administrator
2. Run:

   Sdbinst -u "TWSVistaCompatibility.sdb"

Alternatively:

1. Start the Windows Control panel
2. Run Programs and features
3. Uninstall the Tivoli Workload Scheduler fix pack 2 compatibility database

The TWSVistaCompatibility.sdb file is located in the fix pack installation CD.

Known limitations:

The following limitations are known for running Tivoli Workload Scheduler on Windows Vista:

– The interactive option does not work on job definitions
– When the User Account Control facility is enabled, Vista Standard users are required to provide an Administrator's password to run CLI commands

• **Installing a master domain manager on a Windows domain controller might fail if** *TWSUser* **already exists - Defect 28875**

Fresh installations of master domain mangers on Windows domain controllers might fail if they find an existing *TWSUser* definition. This is generally due to insufficient user rights available to install the WebSphere-Application server. If the installation fails yielding message AWSJIS061E, you should delete the existing *TWSUser* definition and start the installation process again.

• **OPENS dependencies with filenames greater than 128 characters are not migrated into the new DB during the upgrade from 8.1 or 8.2.x to 8.3. A Popup Panel informs you that the migration encountered a problem - IY95291**

To resolve this issue, install Fix pack 03 and then rerun the data migration step only for job streams objects:

– data migrate -scheds scheds_filename [-tmppath temporary_path]

where `scheds_filename` Is the name of the job streams file created during the dump process.

- **Tivoli Workload Scheduler Windows Domain environment**

  This section contains information about running Tivoli Workload Scheduler jobs using domain users as a streamlogon, in an active directory environment. It applies to both the case of use of w2k3 and w2k domain controllers.

  Workaround

  Before launching a job, Tivoli Workload Scheduler retrieves information about the streamlogon user. If this user is a domain user, the information is retrieved by the domain controller. In a pre-windows 2000 environment there was no security check about queries on domain users, but in active directory environment queries are granted or not, based on the ACL of the domain user whose information is queried. In Tivoli Workload Scheduler, these queries are performed by the Tivoli Workload Scheduler installation user, so in the active directory environment this user must have read access on the domain controller to the domain user who will run the job. without this read access, the job will fail.

  Listed below are some suggestions on how to grant read access to a domain user <domain\user>:

  1. Install Tivoli Workload Scheduler as a domain administrator; because the default ACL for domain users grants read access to domain users. In this default configuration Tivoli Workload Scheduler users will be able to retrieve information on any domain user.

  2. Select the domain users to be used to run Tivoli Workload Scheduler jobs; for each of them in the active directory modify the security properties to allow read access to the host running Tivoli Workload Scheduler.

  3. In the Active Directory, add the host running Tivoli Workload Scheduler into the directory "Pre Windows 2000"; in this way the same security checks as before Windows 2000 (NT domains) will be used to access to domain users.

  Note: Microsoft Windows NT is no longer a supported platform for Tivoli Workload Scheduler components. Any reference you find to this platform in the product documentation is an error, and does not imply that the platform is supported.

Messages modified

Message help has been added to the message AWSDEQ021E, as follows:

AWSDEQ021E Error required service not running in *"internal_service_name"* **near** *"time"*.

Explanation: This message indicates that a problem has occurred with a Windows service that could not be started at the time indicated. This might be a user error or an internal error. The *internal_service_name* is the path to the program that runs the service. For example, the Tivoli Workload Scheduler Token Service shows as `../../src/libs/tokenutils.c`.

System action: The command or action is not processed.

Operator response: Follow this procedure:

1. Open the Windows Services panel and check if the service is running.

2. If not, try and start the service. If the service starts, try the action or command again. If it works, the problem was a temporary one which has now been resolved.

3. If the service does not start, check that the service has the TWSUser as its logon account, and that the password registered in the service properties panel is the one currently being used by the TWSUser. If there are any discrepancies, correct them, try and start the service, and if successful, retry the action or command. If it works, the problem was caused by incorrect credentials, and has now been resolved.

4. If the service still does not start, check that the rights of the TWSUser are as described in the *Planning and Installation Guide*. If there are any discrepancies, correct them, try and start the service, and if successful, retry the action or command. If it

works, the problem was caused by incorrect rights, and has now been resolved.

5. In all other cases this is an internal error, so contact IBM Software Support for assistance.

Interoperability notes

This section contains information about the Interoperability of Tivoli Workload Scheduler, version 8.3. It includes the following information:
- Interoperability of the components
- Interoperability tables

Interoperability of the components

This section contains information about the Interoperability among different versions of the distributed components of Tivoli Workload Scheduler. It also provides information about the Interoperability with components of other products in the Tivoli Workload Scheduling suite.

All domain managers and agents of Tivoli Workload Scheduler, version 8.3 can coexist with the following:
- All domain managers and agents of Tivoli Workload Scheduler, version 8.1, 8.2, and 8.2.1
- Tivoli Workload Scheduler for z/OS, versions 8.1, 8.2 and 8.3
- Tivoli Workload Scheduler for Applications, versions 8.2, 8.2.1, and 8.3
- Tivoli Workload Scheduler for Virtualized Data Centers, version 8.2

Notes:

1. Basic Interoperability is provided with the GA versions of 8.1, 8.2, and 8.2.1, but to get full Interoperability apply the latest fix packs to these versions to take advantage of the improvements in functionality and performance that they provide.

2. In a Tivoli Workload Scheduler, version 8.1 environment, you must expand the database on the master domain manager using the `dbexpand` utility command to Inter-Operate with Tivoli Workload Scheduler, version 8.3 agents. Databases in version 8.2.0 and later were installed already expanded.

3. Any new features in version 8.3 that require information from another node might not work correctly if the other node is not at version 8.3. However, the new planning and modeling features in the version 8.3 master domain manager can be immediately implemented in a mixed network without requiring an upgrade of the version 8.1 and 8.2 agents to version 8.3.

4. The change in the job stream instance naming convention, introduced with Tivoli Workload Scheduler version 8.3, imposes the following restrictions when issuing command-line commands against a plan generated on a Tivoli Workload Scheduler version 8.3 master domain manager from Tivoli Workload Scheduler version 8.1, 8.2, or 8.2.1 agents:
   - You must use the @ (at) symbol as the first character for the job stream instance identifier. For example, the job stream running on workstation `CPU1` with identifier `0AAAAAAAAAAAAY3` must be identified in the `conman` command line as follows:

     `CPU1#@AAAAAAAAAAAAY3`
   - You cannot use the `follows` keyword when you add a dependency to a job or a job stream when you submit a command or a file as a job.
   - You cannot use the `into` keyword to specify the job stream where the job must be added when you submit a command or a file as a job.

For example, to display the information about the `job2` job included in the job stream instance having `0AAAAAAAAAAAAT1` as identifier and running on workstation `CPU1`, run the following command on Tivoli Workload Scheduler version 8.1, 8.2, or 8.2.1 agents:

`sj CPU1#@AAAAAAAAAAAAT1.job2`

These changes will also be seen in reports, logs, and any other places where job stream names are printed or displayed.

5. In mixed environments, the `dumpsec` utility must not be used on a version 8.1 or 8.2 agent with a version 8.3 security file, because it causes a core dump. If you need to dump the security file to a flat file, do it on a version 8.3 agent.

Interoperability tables

The following tables show what associations are possible among component versions for:

- Tivoli Workload Scheduler
- Tivoli Workload Scheduler for Applications
- Tivoli Workload Scheduler for z/OS
- Distributed connector
- z/OS connector
- Job Scheduling Console
- Dynamic Workload Console

This table shows which versions of Tivoli Workload Scheduler and of the distributed connector, Job Scheduling Console, Dynamic Workload Console, and Tivoli Workload Scheduler for Applications can go together:

Table 8. Interoperability table for Tivoli Workload Scheduler

Tivoli Workload Scheduler	Distributed connector	Tivoli Job Scheduling Console	Tivoli Dynamic Workload Console	Tivoli Workload Scheduler for Applications
8.3	8.3, 8.3.0.01, 8.3.0.02	8.3, 8.3.0.01, 8.3.0.02, 8.3.0.03	N/A	• 8.2, 8.2.0.01, 8.2.0.02, 8.2.0.03, 8.2.0.04, 8.2.0.05, 8.2.0.06, 8.2.0.07, • 8.2.1, 8.2.1.0.01, 8.2.1.0.02 • 8.3, 8.3.0.01, 8.3.0.02
8.3.0.01	8.3.0.01, 8.3.0.02	8.3, 8.3.0.01, 8.3.0.02, 8.3.0.03	N/A	• 8.2, 8.2.0.01, 8.2.0.02, 8.2.0.03, 8.2.0.04, 8.2.0.05, 8.2.0.06, 8.2.0.07 • 8.2.1, 8.2.1.0.01, 8.2.1.0.02 • 8.3, 8.3.0.01, 8.3.0.02
8.3.0.02	8.3.0.02, 8.3.0.03	8.3, 8.3.0.01, 8.3.0.02, 8.3.0.03	8.3	• 8.2, 8.2.0.01, 8.2.0.02, 8.2.0.03, 8.2.0.04, 8.2.0.05, 8.2.0.06, 8.2.0.07 • 8.2.1, 8.2.1.0.01, 8.2.1.0.02 • 8.3, 8.3.0.01, 8.3.0.02

Table 8. Interoperability table for Tivoli Workload Scheduler (continued)

Tivoli Workload Scheduler	Distributed connector	Tivoli Job Scheduling Console	Tivoli Dynamic Workload Console	Tivoli Workload Scheduler for Applications
8.3.0.03	8.3.0.03	8.3, 8.3.0.01, 8.3.0.02, 8.3.0.03	8.3	• 8.2, 8.2.0.01, 8.2.0.02, 8.2.0.03, 8.2.0.04, 8.2.0.05, 8.2.0.06, 8.2.0.07 • 8.2.1, 8.2.1.0.01, 8.2.1.0.02 • 8.3, 8.3.0.01, 8.3.0.02

This table shows which versions of Tivoli Workload Scheduler for z/OS and of the z/OS connector, Job Scheduling Console, and Dynamic Workload Console can go together:

Table 9. Interoperability table for Tivoli Workload Scheduler for z/OS

Tivoli Workload Scheduler for z/OS	z/OS connector	Tivoli Job Scheduling Console	Tivoli Dynamic Workload Console
8.1	8.3, 8.3.0.02	8.3, 8.3.0.01, 8.3.0.02, 8.3.0.03	N/A
8.2	8.3, 8.3.0.02	8.3, 8.3.0.01, 8.3.0.02, 8.3.0.03	N/A
8.2 + APAR PK33565	8.3, 8.3.0.02	8.3, 8.3.0.01, 8.3.0.02, 8.3.0.03	8.3
8.3	8.3.0.02	8.3, 8.3.0.01, 8.3.0.02, 8.3.0.03 **Note:** The new functions of Tivoli Workload Scheduler for z/OS version 8.3 are supported only on versions 8.3.0.02 and later.	8.3 **Note:** Version 8.3 of the scheduler is used in compatibility mode with 8.2. This means that even though Tivoli Workload Scheduler for z/OS version 8.3 is installed, only the version 8.2 functions can be used.

Chapter 3. Contacting IBM Software Support

Before contacting IBM Software Support with a problem, refer to the IBM Software Support site by accessing the following Web address:

http://www.ibm.com/software/support

To access Tivoli support, click the Tivoli support link at the bottom right of the page.

If you want to contact IBM Software Support, see the *IBM Software Support Guide* at the following Web site:

http://techsupport.services.ibm.com/guides/handbook.html

The guide provides information about how to contact IBM Software Support, depending on the severity of your problem, and the following information:
- Registration and eligibility.
- Telephone numbers, depending on the country in which you are located.
- Information you must have before contacting IBM Software Support.

Chapter 4. Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785 U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement might not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
2Z4A/101
11400 Burnet Road
Austin, TX 78758 U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

If you are viewing this information in softcopy form, the photographs and color illustrations might not display.

Trademarks

IBM, the IBM logo, AIX®, Tivoli, the Tivoli logo, and z/OS are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both.

Microsoft, Windows, and Windows NT 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

Java™ and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

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

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

IBM ®

Program Number: 5698-WSH

Printed in USA