

UniJob Administrator Manual

V1.4 for Windows and Unix

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1. Introduction

1.1 Who Should Read This Manual

This manual is for systems administrators, architects and those needing a rapid understanding of UniJob architecture so they can install and configure the product.

1.2 What This Manual Contains

This manual presents the architecture of UniJob & UniViewer, details the complete installation procedure and explains configuration options.

1.3 Related Information Sources

- UniJob User Manual for UniViewer
- UniViewer Console User Manual
- UniViewer Administrator Manual

1.4 Where to Get Help

1.4.1 Customer Support

You can obtain technical support by using the support page on the ORSYN Website or by contacting our customer support by phone.

You can obtain 24/7 technical support at <http://customer.orsyp.com/>.

From the ORSYN Web site, you can:

- Report a problem or ask a question
- Upload traces or logs
- Consult the support knowledge base
- Consult support “Tips&Tricks”
- Find the latest information about ORSYN products in the compatibility matrix (supported and recommended product versions)
- Download product documentation and product patches
- Subscribe to email Support Newsletters

1.4.2 The ORSYN Forum

<http://www.orsypforum.com>

This site is available to all users of ORSYN and SYSLOAD Products. The goal is to offer ORSYN customers worldwide functional assistance, thus complementing the services provided by ORSYN Support and Professional Services.

All members are invited to share experience, knowledge, best practices and solutions related to **functional** topics (technical issues should be addressed to ORSYN Technical Support).

1.5 Typographical Conventions

The following typographical conventions are used in this manual:

Category	Example
Recommendations, Notes and Warnings	Note: Additional information to better understand
Examples	<i>Examples:</i> ... <i>Here you will find a specific case in point to illustrate what was explained above.</i>
Buttons, Menu Items, Command Names	Right click and select Add Filter to... Start > Programs > ORSYP > UniViewer Console > UniViewer Console Use the uxset var command to...
File Names & Extensions	Edit the file <COMPANY_NODE>\unienv.bat. Select a file with the extension .unipkg to import a package. Note: Variable elements in a file path are quoted by < and >.
File Contents and Command Line Help	[GENERAL] Hosts=C:\Program Files\Sysload\Console\Hosts.ini
Command Line, File Path Syntax & Message Texts	<path>\<file_name>.<extension>

2. UniJob Installation

2.1 Prerequisites

For more information on operating system and compatibility with other ORYSP products, refer to the compatibility matrix on the Customer Service website in the **Content** tab.

On AIX, SOLARIS and Linux, UniJob is a 32bits application: on 64bits OS, the compatibility 32bits libraries must be installed for the product to install and operate. On some distributions (Linux for example), default installation on 64bits OS does not included those libraries, the corresponding package must be explicitly installed.

2.1.1 Disk Space and Memory Requirements

On UNIX/Linux:

Module	Compressed size	Installed size	Minimum Memory
UniJob	11 MB	24 MB	500 MB

On Windows:

Module	Compressed size	Installed size	Minimum Memory
UniJob	11 MB	24 MB	500 MB

Note that the memory recommendations indicate what ORSYN considers to be the minimum requirements for the product to function correctly with low load levels. Memory requirements will clearly depend on the volume of operations.

There are no java requirements for the UniJob server installation.

2.1.2 UniViewer/UniJob Version Compatibility

For a version “x.y”, we have the following rule applicable for compatibility:

$UVC \geq UVMS \geq UJ$

Where,

- UVC is the UniViewer Console version.
- UVMS is the UniViewer Management server version.
- UJ is the UniJob version.

For the 3 components namely, UVMS, UVC and UJ to work together, the rule should be interpreted as follows:

- The UniViewer Console version must be superior or equal to that of the UniViewer Management Server. A console can connect to any Management server of an equal or lower version.
- The UniViewer Management Server version must be superior or equal to that of UniJob. A management server can manage any UniJob of an equal or lower version.
- UniJob cannot register on a UniViewer Management Server at a version lower than itself. This is true only for the major and minor version, not for the maintenance version: for example UniJob 1.2.1 will register on UVMS 1.2.0.

2.2 Install UniJob

2.2.1 The UniJob Installation Dialog

Important: The UniViewer Management Server must be running for UniJob to be registered. A valid UniJob license must be available on the UVMS, if this is not the case, the UniJob installation will succeed but the product will be neither registered nor started. Refer to section: "[Manual Registration of UniJob](#)" on page 19.

Item	Typical – Custom*	Default Values	Comments
Installation / upgrade			Select the installation mode.
ORSYP software user license	All		Accept the ORSYP license to install or upgrade the management server.
UniJob installation folder	All	Windows: C:\ORSYP\unijob Unix: /var/opt/unijob	The directory must exist if the default is not used. The "space" character is forbidden in the directory name.
UniJob Node name	Custom	Hostname	The UniJob Node name must be different to the UniViewer management server Node name if they are installed on the same host. Node name is restricted to alphanumeric characters and dot ".", dash "-" and underscore "_". Maximal length is 64.
Node Tags	Custom		The user can specify a list of Tags (a list of attributes separated by commas).the tags are free strings and they can contain any character except: - White spaces - Comas, semi-columns - Quotes - Percentage character Maximum length is 512 characters.
Hostname	Custom		UniJob hostname to be modified only for a cluster installation. See ** below.
UniJob Port number – I/O Server	Custom	10641	If no specific port number is provided the interactive installation procedure will recuperate the default port number stored on the UniViewer management server.
UniJob Port number – CDJ Server	Custom	10642	See above.
UniJob Port number – CAL Server	Custom	10643	See above.
UniViewer management server hostname	All		The hostname on which the UniViewer management server was installed. See *** below.
UniViewer	All	4184	The port number of the main UniViewer

Item	Typical – Custom*	Default Values	Comments
management server Port number			management server service which manages authentication and security.
UniViewer management server Administrator Login ID	All	admin	A UniViewer management server administrator id must be provided here to register the UniJob installation.
UniViewer management server Administrator password	All		See above.
Summary screen	All		Installation summary.

* The Typical / Custom choice is available on Windows only.

** The installation procedure uses the machine's hostname by default. However, the Node name can be changed if it has to be different, in the case for example of cluster installations.

*** The UniJob Node was automatically registered on the Management Server specified in the installation procedure. To link the UniJob to a different Management Server later:

- Remove the UniJob Node from the Node list on the UniViewer Management Server.
- Unregister the UniJob Node from the Management server. Refer to section: "[Unregistering a UniJob Node](#)" on page 20.
- Register the UniJob Node on the new Management Server. Refer to section: "[Manual Registration of UniJob](#)" on page 19.

2.2.2 The UniJob Upgrade Dialog

The upgrade is available from the v1.0.1 version of UniJob. It is possible to upgrade UniJob to v1.4.

Item	Comments
Installation / upgrade	Select the upgrade mode.
ORSYP software user license	Accept the ORSYP license to install or upgrade the management server.
UniJob installation folder (on UNIX/Linux)	UniJob directory
UniJob Node name	The UniJob Node name must be different to the UniViewer management server Node name if they are installed on the same host.
Check UniJob is stopped	The upgrade procedure doesn't stop UniJob; stop UniJob before upgrading.
Check the disk space to backup the previous version	The upgrade procedure doesn't verify disk space; you should verify it before the upgrade.

2.2.3 UniJob Directory Structure

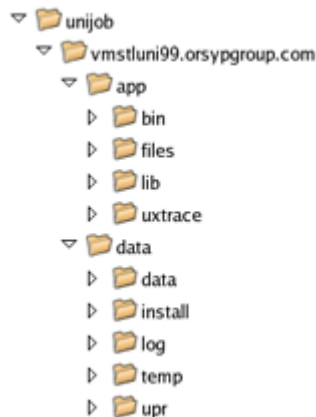


Figure 1: Directory Tree Created by the Installation Procedure (Linux)

The UniJob tree can be installed elsewhere.

The “*app*” sub-directory contains the product’s fixed elements.

Variable elements are stored in the *data* branch.

Consequently future upgrades will consist in simply replacing the *app* branch with a minimum need for re-configuration.

Management procedures are stored in the 1st *data* sub-directory under *<node name>*.

2.2.4 Installation on Windows

Installation should be carried out under an administrator account. If the destination directory does not exist, the installation will fail.

The installation is managed by Windows Installer.

Copy the kit into a work directory.

Double click on the kit: **unijob_v140.exe**.

2.2.4.1 UniJob Interactive Installation on Windows

When the Welcome screen displays, click **Next**.

In the license agreement screen displayed, click **Yes** to accept the license agreement and go on the installation.

In the "Installation directory" screen displayed, enter the installation directory; “C:\ORSYP\unijob” by default. The "space" characters are not supported in the directory name. If necessary click **Browse** to select a new directory.

The installation mode screen offers a choice between Typical and Custom installation.

- Typical installation will simply request the host name of the UniViewer Management Server and the Administrator password.

The default values below will be displayed in the summary screen:

```
UniJob node name           [Localhost]:
UniJob node tags           []:
UniJob Hostname            [Localhost]:
UniJob root directory      [C:\ORSYP\UniJob\Localhost]:
UniJob Port number - I/O Server      []:
UniJob Port number - CDJ Server      []:
UniJob Port number - CAL Server      []:
```

```

UniViewer management server hostname           []:
UniViewer management server port number        [4184]:
UniViewer management server Administrator Login ID [admin]:
UniViewer management server Administrator Password []:

```

Click **Install** to proceed with the installation.

- Custom installation allows the user to change for example the Node name, Node tags, specify port numbers other than the defaults used by the Management Server, etc.

The custom dialog will display the following screens:

- UniJob Node Name, Node Tags and hostname
- UniJob ports (IO, CDJ and CAL)
- UniViewer Management Server authentication: Enter the Management Server hostname, port number (4184 by default), the administrator login name and password.

The Management Server must be started for the registration to succeed.

- Installation summary
- Click **Install** to proceed with the installation.

Refer to section: "[The UniJob Installation Dialog](#)" on page 8 for an explanation of each of the above fields.

The installation ends with the message "Setup is completed". UniJob is automatically started after installation.

2.2.4.2 UniJob Interactive Upgrade on Windows

The installation procedure detects automatically the previous installation of UniJob from version 1.0.1.

- UniJob must be stopped before the upgrade.
- If needed, the upgrade procedure automatically stops the user services before the upgrade.

When the UniJob installation "Welcome" screen displays; click **Next**.

A dialog asks the user to confirm the upgrade. Click **Yes** to continue.

When the user has answered all the questions, the procedure:

- Backs-up the previous version of UniJob to a UniJob installation subdirectory named: *backup_<UniJob node name>_<x.y.z previous version>*

The [unirestore](#) procedure (refer to page 23) can be used to roll back to the previous version.

- Upgrades data files
- Copies the executables and new files to the directory structure
- UniJob is not started by the upgrade procedure.

The upgrade ends with the message "Setup is completed". User services are restarted if they were stopped.

To start UniJob, refer to section: "[Starting and Stopping UniJob on Windows](#)" on page 17.

Another way to upgrade UniJob is described in the "[UniJob Auto-patch on Windows or UNIX/Linux](#)" section.

2.2.4.3 UniJob Silent Installation on Windows

Silent installation of UniJob on Windows implies that the responses to the dialog are first recorded in a file. The installation can then be run from the command line against the response file as many times as needed.

Record the response file:

To launch the silent installation, an ISS file is mandatory. This file respects a particular structure. To create the file, the user should launch the interactive installation procedure once as described below (do not use the **back** button during the dialog phase):

For example:

```
unijob_v140.exe /r /f1"c:\temp\unijob_v140.iss"
```

Note: a default .ISS file will not be created if the file's name and path are not provided. Respect the syntax EXACTLY or the ISS file will not be created. Spaces are not accepted between /f1 and the file name. If /f1"filename" is missing, the response file will not be created.

Installation from a response file:

Start the installation procedure by executing the command **unijob_140exe**, from its directory in the installation kit, using the options described below.

For example:

```
unijob_v140.exe /s /f1"c:\temp\unijob_v140.iss"  
/f2"c:\temp\unijob_v140.log"
```

The ISS file contains all the answers to the screens displayed in interactive mode. The ISS file is the installation scenario.

2.2.5 Installation on UNIX/Linux

Kit format: **unijob_v140.taz**

Installation should be carried out under the root account. If the destination directory does not exist, the installation will fail.

- Uncompress and un-archive the installation kit to a work directory:
 - On Linux:

```
tar -xvzf unijob_v140.taz
```
 - On UNIX:

```
mv unijob_v140.taz unijob_v140.tar.Z  
uncompress unijob_v140.tar.Z  
tar -xvf unijob_v140.tar
```
- Change to the *unijob_v140* directory created by the tar command.
- Execute the **./unirun.sh** script.

Note: the **unirun.sh** procedure accepts the following arguments:

-i (installation - incompatible with -u)

-u (upgrade – incompatible with -i)

-h (display help)

If an argument is missing the question will be put in the interactive dialog.

The dialog displayed is different for an installation (refer to section: "[The UniJob Installation Dialog](#)" on page 8) or an upgrade (refer to section: "[The UniJob Upgrade Dialog](#)" on page 9).

2.2.5.1 UniJob Interactive Installation on UNIX/Linux

Refer to section: "[The UniJob Installation Dialog](#)" on page 8 for an explanation of each of the above fields.

Once the user has answered all the questions, the procedure:

- Creates the directory structure (described in paragraph: "[UniJob Directory Structure](#)" on page 10)
- Copies the executables and the files into the directory structure
- Registers UniJob in the UniViewer management server data base
- Starts UniJob after installation.

A log file of the installation is saved. Its directory and name is displayed at the end of the dialog.

An example of the dialog is shown below.

```
[root@vmstluni99 unijob_v140]# ./unirun.sh -i

Unijob Installation/Upgrade procedure (c) ORSYP 2008

find ksh
=====
Welcome to the UniJob installation procedure
Kit directory is /var/UNIVERSE/Kits/UJ/unijob_v140
=====
Starting installation in interactive mode
# -----
# Orsyp licence agreement:
# Please, read Orsyp license agreement, press <space bar> to read next page

# Press return to continue
...
Do you accept the agreement?
--> ("y" to accept, "n" to decline and abort procedure)? y
# -----
UniJob root directory          [/var/opt/ORSYP/unijob] :
UniJob node name               [vmstluni99.orsypgroup.com] : vmstluni99
UniJob node tags               [] :
Change the "UniJob host name" only if you need to set a different logical network
name (useful for cluster configuration).
UniJob host name               [vmstluni99.orsypgroup.com] :
UniJob Port number: IO Server  [] :
UniJob Port number: CDJ Server [] :
UniJob Port number: CAL Server [] :
UniViewer Management Server hostname [] :
vmstluni99.orsypgroup.com
UniViewer Management Server Port number [4184] :
UniViewer Management Server Administrator Login ID [admin] :
UniViewer Management Server Administrator Password [] : admin
...
Unijob will be started as daemon
...
UniJob environment loaded.
=====
UniJob : installed successfully.
=====
```

```

Registering the Unijob Agent :
=====
=> Declaring UniJob to UniViewer Management Server vmstluni99.orsypgroup.com
--> executing : /var/opt/ORSYP/unijob/vmstluni99/app/bin/unijob -install
login=admin psw=admin
UniViewer Management Server vmstluni99.orsypgroup.com/port 4184: OK
sio_port:52001 cdj_port:52002 cal_port:52003
=====
Agent registered.
=====
=====
Starting Unijob agent with the command :
/var/opt/ORSYP/unijob/vmstluni99/data/unistartuj
=====
UniJob startup procedure
UniJob environment loaded.
    Starting UniJob vmstluni99...
    Status: 0
[root@vmstluni99 unijob_v140]#
Log file is /var/opt/ORSYP/unijob/vmstluni99/data/log/orsyp_installation.log

```

2.2.5.2 UniJob Interactive Upgrade on UNIX/Linux

Refer to section: "[The UniJob Upgrade Dialog](#)" on page 9 for an explanation of each of the above fields.

When the user has answered all the questions, the procedure:

- Backs-up the previous version of UniJob to a UniJob installation subdirectory named: *"backup_<UniJob node name>_<x.y.z previous version>"*

The [unirestore](#) procedure can be used to roll back to the previous version.

- Upgrades data files
- Copies the executables and new files to the directory structure
- UniJob is not started after the upgrade procedure.

A log file of the upgrade is saved. Its directory and name is displayed at the end of the dialog.

An example of the dialog is shown below.

```

[root@vmstluni99 unijob_v140]# ./unirun.sh -u
-----
Unijob Installation/Upgrade procedure (c) ORSYP 2008
-----
find ksh
=====
Welcome to the UniJob upgrade procedure
Kit directory is /var/UNIVERSE/Kits/UJ/unijob_v140
=====
Starting upgrade in interactive mode
# -----
# Orsyp licence agreement:
# Please, read Orsyp licence agreement, press <space bar> to read next page

# Press return to continue
...
Do you accept the agreement ?
--> ("y" to accept, "n" to decline and abort procedure)? y
# -----
UniJob root directory          [/var/opt/ORSYP/unijob] :
UniJob node name               [vmstluni99.orsypgroup.com] : vmstluni99

```

```

Please confirm that your Unijob agent is stopped.
--> ("y" to continue, "n" to abort procedure)?y
Please check that you have sufficient place to backup your current state.
You need a maximum of 13760 kbytes on the partition where /var/opt/ORSYP/unijob
directory is created.
--> ("y" to continue, "n" to abort procedure)?y
UniJob environment loaded.
Current Unijob version is 1.2.0
# -----
# Unijob stopped.
# -----
...
#-----
# Starting UniJob backup
...
# End of UniJob backup
# -----
...
Unijob will be started as daemon
UniJob environment loaded.
=====
UniJob Local Manager: installed successfully.
=====
You can start Unijob with the command :
/var/opt/ORSYP/unijob/vmstluni99/data/unistartuj
=====
Log file is /var/opt/ORSYP/unijob/vmstluni99/data/log/orsyp_upgrade.log

```

Refer to section: "[UniJob Auto-patch on Windows or UNIX/Linux](#)" on page 16.

2.2.5.3 UniJob Silent Installation/Upgrade on UNIX/Linux

Silent installation of UniJob on UNIX/Linux implies that the responses to the dialog are first recorded in a response file. The installation can then be run from the command line against the response file as many times as needed.

To record the interactive dialog run the following command from the command line while positioned in the *tools* sub-directory of the installation kit:

```

unirun.sh -i -r          for an installation
unirun.sh -u -r          for an upgrade

```

By default the procedure will look for */var/opt/ORSYP/unijob/install.file* if the address is not provided. To specify a response file enter the following command:

```

unirun.sh -i -r -f <absolute address of the response file to be
created>
unirun.sh -u -r -f <absolute address of the response file to be
created>

```

Once the response file has been generated, the product can be installed silently as follows:

```

unirun.sh -i -s <absolute address of the response file to be read>
unirun.sh -u -s <absolute address of the response file to be read>

```

2.2.5.4 Rights on UNIX/Linux

The root user must be used to execute the following operations:

- Start/Stop (refer to section: "[Starting and Stopping UniJob on UNIX/Linux](#)" on page 18)

- Check the processes status
- Install/Upgrade

2.2.6 UniJob Auto-patch on Windows or UNIX/Linux

The auto-patch feature can be used to upgrade UniJob on one or more Nodes from the UniViewer Management server.

Packages are provided in the UniJob kit. Make sure to select the right package as there is one package for Windows (named **UNIJOB-Update-WINDOWS-x.y.z.unipkg**) and a package for each UNIX system (for example on LINUX, the package is named **UNIJOB-Update-LINUX-x.y.z.unipkg**). "x.y.z" is the target UniJob version.

To upgrade the UniJob version, execute the following instructions:

- For each UniJob target Node:
 - Stop the launcher
 - Check whether or not there are running Jobs, if yes, either wait until they're finished, or abort the upgrade procedure
 - Stop UniJob (the IO server and all remaining engines)

Note: If Jobs are running during the auto-patch procedure, the following can happen:

- A Job can be killed.
- Its return status/alerts can be missed.
- Upgrade can be prevented because some files are locked.
- Rollback can be prevented because some files are locked.

- Open the Packages document from the UniViewer Console.
- Select **Import** and open the *UNIJOB-Update** file.
- In the next window, modify the package default name. Click **OK**.
- The UNIJOB-UPDATE package is displayed in the list.
- Select the line and click **Deploy**.

Select Nodes: If the action is **Deploy**: all Nodes are displayed in the Node selection dialog.

- To filter the Nodes list, enter a criterion in the "OS" and / or "Node View" fields.
- Select the Nodes one by one or click **Select filtered/Unselect all** to quickly select or unselect Nodes.
- Click **OK** to validate the deployment target Nodes.

Refer to the *UniJob v1.4 UniViewer Interface Manual*, section "Packages – Deploy" for detailed information about package deployment.

When the Job template is deployed to the UniJob Node, it stops UniJob (and production) on the target Node and restarts it once the update has finished. Click **Yes** if you want to proceed with the upgrade.

2.2.6.1 Deploy UNIJOB-UPDATE

Click **Select for Deployment**.

- **OS:** this is a filter. Select the operating system corresponding to the Package to avoid errors during the deployment. There is no control. But the deployment process will abort if the target operating system doesn't correspond to the package.
- **Node View:** you can select a Node View to filter the Nodes and target list.

- In the **Nodes and Targets** list, you must select at least one target on each Node where the UniJob update must be carried out (where the package must be deployed). Click **OK**.

Once you have selected all the update targets, click **Apply**.

The status changes to **In Progress**. It may take few minutes to stop, upgrade and restart UniJob.

Once the status has changed to **Completed**, click **Close**.

Check the UniJob version in the Nodes document.

2.2.7 Starting and Stopping UniJob

UniJob is automatically started after its installation (not started after its upgrade) on:

- Windows
- UNIX: All OS supported
- Supported Linux: SUSE, Redhat

If multiple instances of UniJob are installed on the same machine, only the last installed will be started automatically.

When the server is rebooted:

- On Windows: the default setting restarts UniJob automatically.
- In UNIX/Linux: the **unistartuj** command must be added in the booting script. Refer to section: ["Starting and Stopping UniJob on UNIX/Linux"](#) on page 18.

2.2.7.1 Starting and Stopping UniJob on Windows

UniJob can be started and stopped from a shortcut in the Windows menu **Start>Programs>ORSYP>UniJob>Start (or Stop)**.

Note: On Windows Vista, Windows 7 and Windows 2008, the startup and shutdown of the UniJob Server must be carried out under an administrator account. From the Windows **Start menu > Programs > ORSYP > UniJob > Start (or Stop)**, the user should access the advanced properties shortcuts tab and check the option **run as administrator**.

Alternatively, execute the following command to start UniJob:

```
C:\ORSYP\UniJob\<nodename>\data\unistartuj.bat
```

Similarly to stop UniJob:

```
C:\ORSYP\UniJob\<nodename>\data\unistopuj.bat
```

Installation of UniJob creates six services:

- UniJob LocalSystem: the main service
- UniJob Interactive desktop: To submit interactive Jobs
- UniJob UNIJOB_local_<nodename>_IO_X: the I/O service
- UniJob UNIJOB_local_<nodename>_CDJ_X: the display server
- UniJob UNIJOB_local_<nodename>_CAL_X: the calculator engine
- UniJob UNIJOB_local_<nodename>_LAN_X: the launch engine

The status of these services can be checked with the command:

```
C:\ORSYP\UniJob\<nodename>\data\unicheckuj.bat
```

2.2.7.2 Starting and Stopping UniJob on UNIX/Linux

Execute the following command to start UniJob:

```
/var/opt/ORSYP/unijob/<nodename>/data/unistartuj
```

Similarly to stop UniJob:

```
/var/opt/ORSYP/unijob/<nodename>/data/unistopuj
```

Note: `unistopuj` is synchronous on UNIX/Linux.

Installation of the UniJob creates four processes:

- **uniio:** the I/O server
- **unicdj:** the display server
- **unical:** the calculator engine
- **unilan:** the launch engine

The presence or absence of these processes can be verified with:

```
/var/opt/ORSYP/unijob/<nodename>/data/unicheckuj
```

2.2.8 Traces

2.2.8.1 UniJob Traces on Windows

Internal information and error messages are stored in:

```
C:\ORSYP\unijob\<nodename>\data\log\unijob.log
```

2.2.8.2 UniJob Traces on UNIX/Linux

Internal information and error messages are stored in:

```
/var/opt/ORSYP/unijob/<nodename>/data/log/unijob.log
```

2.2.8.3 Audit Trail

The modifications on the following objects are registered in the audit trail:

	New	Display	Update	Delete	Start	Stop
Node settings			X			
Submission account	X		X	X		
User Service	X			X		
Calendar	X		X	X		
Jobs	X		X	X		
Engines					X	X

Audit Trail information can be displayed for every type of object.

- It can be displayed from the **Audit** tab in the associated information box in the UniViewer Console.
- The audit trail itself will be extracted by reporter or displayed with a command. Refer to section: "[unilst AUDIT](#)" on page 35.

The Audit Trail is activated from the UniJob Node Settings, in the “Logging” section. Audit trail is purge depending on the Node Settings defined in the “Maintenance” section.

2.2.9 Manual Registration of UniJob

On Windows and UNIX/Linux, the UniViewer Management Server must be running for UniJob to be registered. A valid UniJob license must be defined on the UVMS.

Note: A UniJob cannot register on a UniViewer Management Server version lower.

UniJob registration can however be carried out manually:

- Stop UniJob (**unistopuj** in the data directory).
- Open a DOS or a command line window.
- Move to the UniJob <nodename>/data sub-directory.
- Load the logical environment (*unienv.bat* or *unienv.ksh*).
- Move to the UniJob *app/bin* sub-directory.
- Enter the following command:

```
unijob -install login=  
                pwd=  
                [centralhost=  
                [centralport=  
                [host=  
                [io=  
                [cdj=  
                [cal=
```

 - **login:** UniViewer user account with « UniJob Local Administrator » permissions. (Administrator’s account for example).
 - **pwd:** password
 - **centralhost:** UVMS hostname or IP address, optional if UniJob and UVMS are installed locally
 - **centralport:** UVMS TCP port number, optional if UniJob and UVMS are installed locally
 - **host:** hostname of the UniJob instance to register, optional if UniJob and UVMS are installed locally
 - **io:** TCP port numbers of UniJob data server, optional if the default value is used
 - **cdj:** TCP port numbers of UniJob display server, optional if the default value is used
 - **cal:** TCP port numbers of UniJob calculator, optional if the default value is used
- Restart UniJob (**unistartuj** in the *data* directory).

The correct minimum command is:

```
unijob -install login=admin pwd=xxxxxx
```

This assumes default TCP port numbers and the validity of the UniJob license on the UVMS.

2.3 UniJob Uninstallation

2.3.1 Unregistering a UniJob Node

On Windows and UNIX/Linux, the UniJob Node should be removed from the Node list on the UniViewer Management Server before attempting to uninstall UniJob itself.

From the UniViewer console GUI, in the “Nodes” document, delete the UniJob Node.

Local un-registration can also be carried out from the command line:

- Open a DOS or a command line window.
- Move to the *data* sub-directory.
- Load the logical environment (**env.bat** or **env.ksh**).
- Move to the *app/bin* sub-directory.
- Enter the following command:

```
UniJob -remove
```

Unregistering a UniJob Node from the Node list on the UniViewer Management Server does not stop production on the UniJob concerned.

2.3.2 Uninstalling UniJob on Windows

- Make sure UniJob is stopped (Refer to section: "[Starting and Stopping UniJob on Windows](#)" on page 17).
- Manually stop the "UniJob LocalSystem" and "UniJob Interactive Desktop" services in the **administrative tools > Services** Windows application.
- Uninstallation of UniJob should be carried out from the **Start > Settings > Add or Remove Programs**.
- Click **UniJob-Remove**.

2.3.3 Uninstalling UniJob on UNIX/Linux

Make sure UniJob is stopped (Refer to section: "[Starting and Stopping UniJob on UNIX/Linux](#)" on page 18).

Then delete the UniJob directory tree at the installation directory level:

```
cd /var/opt/ORSYP/unijob
rm -R ./<node name>
```

The startup procedure added to the */etc/init.d* during the installation should be removed as well.

2.4 Troubleshooting

Impossible to Access UniJob Data

This is generally because no role (Node/submission account/rights) has been created for the UniJob in question. Consult the UniJob online Help for details.

3. Data Administration Commands

3.1 General Specifications

Commands may be used either from the operating system command line or from a procedure.

UniJob or the UniViewer Management server must be stopped before executing a backup/restore command.

The logical environment is automatically loaded.

3.1.1 Available Commands

The following commands are available:

- **unibackup:** backup data for a UniJob or UniViewer Management server.
- **unirestore:** restore backup data to a UniJob or UniViewer Management Server.
- **unireorg:** reorganize data files.

A list of parameters is detailed below for each command:

- Optional items are shown between brackets [].
- Parameters can be entered in upper or lower case.

Commands are located in the *app/files* subdirectory.

3.1.2 Return Codes

The following return codes are possible:

- 0: The command completed successfully.
- 1: Syntax error: parameters are missing, unknown or incompatible.
- 2: The value was invalid, incomplete, unknown or undefined.
- 99: Technical error

3.2 unibackup

The server (UniJob or UniViewer Management Server) must be stopped before the command can be executed.

Data backup consists in copying the company folders. The user should make sure that there is enough disk space before running the command.

Syntax:

- On Windows:
`unibackup.bat [-s -b <Backup Directory>] [-l <full|data>]`
- On UNIX/Linux:
`unibackup.ksh [-s -b <Backup Directory>] [-l <full|data>]`

Without arguments, the command runs in interactive mode; all parameters will be prompted and manually entered.

- **-s:** runs the command in silent mode; all parameters must be provided in the command line.
- **-b <backup directory>:** enter the full path to the backup directory, the "space" character is forbidden in the directory name. The command creates the backup directory. If it exists already the command will fail.
- **-l:** backup level: The backup offers 2 levels of security requiring different amounts of disk space.
 - Data: only data files are saved. This solution will need less space.
 - Full: executables, parameter data files and operations data files are all saved. Restore will re-establish the situation to the time of backup.
- **-h:** displays the usage text.

Example:

```
unibackup.ksh -s -b /backup/ORSYP/MY_NODE
```

3.3 unirestore

The server (UniJob or UniViewer Management server) must be stopped before executing the command.

This command restores all data and configuration files found in the backup folder.

Syntax:

- On Windows:
`unirestore.bat [-s -b <Backup Directory>]`
- On UNIX/Linux:
`unirestore.ksh [-s -b <Backup Directory>]`

Without arguments, the command runs in interactive mode; all parameters are prompted and should be entered manually.

- **-s:** executes the command in silent mode; all parameters must be provided in the command line.
- **-b <backup directory>:** enter the full path of the backup directory where the backup data is stored. The "space" character is forbidden in the directory name.
- **-h:** displays the usage text.

Example:

```
unirestore.ksh -s -b /backup/ORSYP/MY_NODE
```

3.4 Data File Reorganization

The **unireorg** command is provided in the /app/files directory to check and, if necessary, correct the integrity of all UniJob data files. After a system crash or "disk full" for example, these files may be damaged.

The **unireorg** checks all UniJob data files and rebuilds those with errors.

This command needs UniJob logical environment (**unienv.ksh**) defined and UniJob to be stopped. Refer to section: "[Starting and Stopping UniJob](#)" on page 17.

This command may be launched from the UniJob startup procedure (**unistartuj**) before starting the I/O server.

Standard output is directed to the screen, it is therefore recommended to redirect the output to a log file.

Syntax:

- On Windows:
`unireorg.bat`
- On UNIX/Linux:
`unireorg.ksh`

4. Operations Commands

4.1 General Specifications

Commands may be used either from the operating system command line or from a procedure.

The UniJob server must be running to execute a command.

Execution of the **unienv.*** file (in the UniJob *data* directory) loads the logical environment. This must be carried out before any of the following commands can work.

The command format is the following:

```
uni[3characters] [subject] -[parameter name] [parameter value]
```

4.1.1 Available Commands

The following commands are available:

- [uniadd JOB](#)
- [unihld JOB](#)
- [unirls JOB](#)
- [unilst JOB](#)
- [uniadd RUN](#)
- [unilst RUN](#)
- [uniend RUN](#)
- [unilst AUDIT](#)
- [uniget PKG](#)

Commands are located in the *app/bin* subdirectory.

Object types (JOB, RUN, AUDIT, PKG) must be entered in upper case.

A list of parameters is detailed below for each command:

- Optional items are shown between brackets [].
- "*" (a wildcard) means that a generic value is acceptable.
- Parameters can be entered in upper or lower case.

4.1.2 Special Characters

Windows and UNIX operating systems each have a number of special characters which may be used in a UniJob command.

Added to this characters with a meaning specific to UniJob commands: space = () { }.

These characters must be quoted to be transmitted to the Dollar Universe command without being interpreted by the Operating System. The quotation syntax depends on the operating system.

Windows special characters:

Hyphen "-" and space are special characters.

One kind of quoting can be used to protect these characters: the back-slashed double-quoting. For example: \"text or code field\".

UNIX special characters:

Hyphen “-” and space are specific characters.

Two different kinds of quoting can be used to protect these characters:

- The back-slashed double-quoting if the only specific character is space, for example: `\ "text or code field\"`.
- The single plus double-quoting, for example: `"text (or code field)"`.

Important: Some shells may require different types of quoting. This has been tested for **ksh** and **csh**.

4.1.3 Date Formats

All date formats are YYYYMMDDHHMMSS. If the HHMMSS is not provided, the default value 000000 is used instead. In any case, if the date is not correct, a syntax error is displayed.

4.2 uniadd JOB

This command creates a new Job.

Syntax

```
uniadd JOB -job <job name>
          -target <target name>
          -user <user>
          -cmd <job command>
          -cronsched <cron scheduling>
```

- **<job name>**: enter the Job name. Maximum 256 characters.
- **<target name>**: enter the target name. Maximum 256 characters.
- **<user>**: submission account.
- **<job command>**: command executed. Maximum 2048 characters.
- **<cron scheduling>**: crontab standard scheduling command. The syntax is as follows:

```
mm hh dd MMM DDD
```

- mm: minutes (0 to 59)
- hh: time (0 to 23)
- dd: day in the month (1 to 31)
- MMM: month number (1 to 12) or its abbreviation (Jan, Feb, Mar, Apr etc.)
- DDD: abbreviation of the day or its number in the week (0: Sunday, 1: Monday...).

For each time unit (minutes, hours...), the following syntax is authorized:

- *: for all time units
- 2-5: for the time units 2 to 5: 2, 3, 4, 5
- */3: every 3 time units (0, 3, 6...)
- 5,8: for the time units 5 and 8

For example:

- Every day at 23h30: "30 23 * * *"
- Every first day of the month at 23h30: "30 23 1 * *"
- Every Monday at 22h28: "28 22 * * 1"
- From the 2nd to the 5th of each month at 10h12: "12 10 2-5 * *"

4.2.1 Return Codes

0: execution ok. Displays:

```
run ID xxxxxxxx created for Job <job name> on target <target name>
```

1: syntax error. Displays:

Syntax to create a Job:

```
uniadd JOB -job JOB -target TARGET -user USER
```

-cmd COMMAND -cronsched "mm hh doM M dow"

2: Job, target name or user not found. Displays:

Target <target name> not found

Job <job name> on Target <target name> not found

User <user name> not found

4.2.2 Example

```
uniadd job -job ECA -target VMSMD2K3EN -user unijob -cmd "echo" -cronsched "59 15  
* * 5"
```

Every Friday at 15h59

```
uniadd job -job ECA -target VMSMD2K3EN -user unijob -cmd "echo" -cronsched "0 6  
1,11,21,30"
```

6AM on the 1,11,21 and 30 of each month

4.3 unihld JOB

Disables the schedule of a Job and removes the next execution from the run list.

Syntax

```
unihld JOB -job <job name>
           -target <target name>
           [-simulated]
```

- **<job name>**: enter the Job name. Maximum 256 characters.
- **<target name>**: enter the target name. Maximum 256 characters.
- **-simulated**: optional, to simulate the schedule of a Job and post the next execution in the run list with the status “disabled”.

4.3.1 Return Codes

0: execution is ok. Displays:

```
Job <job name> is "held"
```

0: Job already held. Displays:

```
Job <job name> is already "held"
```

1: syntax error. Displays:

```
-<parameter> parameter is missing
```

2: Job or target name not found. Displays:

```
Target <target name> not found
```

```
Job <job name> on Target <target name> not found
```

4.3.2 Example

```
[eca@vmstluni99 bin]# ./unihld JOB -job JOB1 -target VMSTLUNI99
Job JOB1 disabled.
```

4.4 unilst JOB

This command lists all available Jobs. It displays Job, target and user names and type.

Syntax

```
unilst JOB [-job <job name>]
           [-target <target name>]
           [-user <user name>]
           [-type <type (E/D/S)>]
```

- **<job name>**: enter the Job name. Maximum 256 characters.
- **<target name>**: enter the target name. Maximum 256 characters.
- **<user>**: submission account.
- **<type (E/D/S)>**: enter the first letter of the type (Enabled, Disabled or Simulated).

4.4.1 Return Codes

0: execution is ok. Displays the list of available jobs.

1: syntax error. Displays:

```
-<parameter> parameter is missing
```

2: Job or target name not found. Displays:

```
Target <target name> not found
```

```
Job <job name> on Target <target name> not found
```

4.4.2 Example

```
C:\Orsyp\unijob\FRWPMDEV08\app\bin>unilst job
```

STATUS	JOB	TARGET	USER
JOB_TEST		FRWPMDEV08	
LocalSystem	ENABLED		
JOB_HOLD		FRWPMDEV08	
LocalSystem	DISABLED		
JOB_SIM		FRWPMDEV08	
LocalSystem	SIMULATED		
SCRIPT		FRWPMDEV08\administrateur_FRWPMDEV08	
FRWPMDEV08\administrateur	ENABLED		

4.5 unirls JOB

Enables the schedule of a Job and posts the next execution in the run list.

Syntax

```
unirls JOB -job <job name>
          -target <target name>
```

- **<job name>**: enter the Job name. Maximum 256 characters.
- **<target name>**: enter the target name. Maximum 256 characters.

4.5.1 Return Codes

0: execution is ok. Displays:

```
Job <job name> is "released"
```

0: Job already released. Displays:

```
Job <job name> is already "released"
```

1: syntax error. Displays:

```
-<parameter> parameter is missing
```

2: Job or target name not found. Displays:

```
Target <target name> not found
```

```
Job <job name> on Target <target name> not found
```

4.5.2 Example

```
[eca@vmstluni99 bin]# ./unirls JOB -job JOB1 -target VMSTLUNI99
Job JOB1 released.
```

4.6 uniadd RUN

This command creates a new run for an existing Job.

Syntax

```
uniadd RUN -job <job name>
           -target <target name>
           [-date <date>]
```

- **<job name>**: enter the Job name. Maximum 256 characters.
- **<target name>**: enter the target name. Maximum 256 characters.
- **<date>**: Job scheduling date. Refer to section: "[Date Formats](#)" on page 26.

4.6.1 Return Codes

0: execution ok. Displays:

```
run ID xxxxxxxx created for Job <job name> on target <target name>
```

1: syntax error. Displays:

Syntax to create a Run:

```
uniadd RUN -job JOB -target TARGET [-date YYYYMMDDHHMMSS]
```

2: Job or target name not found. Displays:

Target <target name> not found

Job <job name> on Target <target name> not found

4.6.2 Example

```
[eca@vmstluni99 bin]# ./uniadd RUN -job JOB1 -target VMSTLUNI99 -date 2008121
8153000
Run ID <0000023> created for Job JOB1 on Target VMSTLUNI99
```


4.7 unilst RUN

This command lists all Job runs. It displays Job and target names, execution number, submission user, status, start and end dates.

Syntax

```
unilst RUN [-after < after date >]
           [-before < before date >]
```

- **< after date >**: start date of the Job runs.
- **< before date >**: end date of the Job runs.

Refer to section: "[Date Formats](#)" on page 26.

4.7.1 Return Codes

0: execution ok. Displays the Job runs list.

1: syntax error. Displays:

Argument mismatch

2: The date format is wrong. Displays:

wrong date format

4.7.2 Example

```
[eca@vmstluni99 bin]# ./unilst run -after 20081218000000
```

STATUS	JOB	START	TARGET	EXEC.NB%	USER
			END		

JOB3			VMSTLUNI99	0000000	unijob
TIME OVERRUN	18/12/2008	12:00:00	18/12/2008 15:06:32		
JOB3			VMSTLUNI99	0000000	unijob
LAUNCH WAIT	19/12/2008	12:00:00			
JOB2			VMSTLUNI99	0000000	unijob
TIME OVERRUN	18/12/2008	12:00:00	18/12/2008 15:06:32		
JOB2			VMSTLUNI99	0000000	unijob
LAUNCH WAIT	19/12/2008	12:00:00			
JOB1			VMSTLUNI99	0000000	unijob
LAUNCH WAIT	18/12/2008	16:30:00			
JOB1			VMSTLUNI99	0000000	unijob
LAUNCH WAIT	18/12/2008	15:30:00			

4.8 uniend RUN

Stops Job execution (status “Pending” or “Running”), kill the process and returns an aborted status and mentions "Job killed by user" in the Job log.

Syntax

```
uniend RUN -numexec <execution number>
```

- **<execution number>**: execution number of the Job run. Format: 7 numeric characters.

4.8.1 Return Codes

0: execution ok. Displays:

```
Run xxxxxxxx killed by user
```

1: syntax error. Displays:

```
-<parameter> parameter is missing
```

2: the execution is not on a running status. Displays:

```
Run xxxxxxxx cannot be killed
```

2: the execution number doesn't exist. Displays:

```
Run xxxxxxxx not found
```

4.8.2 Example

```
[eca@vmstluni99 bin]# ./uniend RUN -numexec 0000004  
Run 0000004 cannot be killed.
```

4.9 unilst AUDIT

This command lists audit trail information.

Syntax

```
unilst AUDIT -from <date,HHMMSS>
                [-arch]
                [-sep <character>]
```

- **-from <date,HHMMSS>**: start date and time of the audit trail extraction. The date format is set in the **UniViewer Console > administration mode > User Preferences > Date format**.
- **-arch**: optional, to force the archive status of dumped records.
- **-sep <character>**: to specify the separator between displayed elements; by default elements are enclosed inside [].

4.9.1 Return Codes

0: Execution ok. Displays the audit trail list.

1: Syntax error.

2: The date format is wrong.

4.9.2 Example

```
C:\ORSYP\unijob\vmstdm2k3en\app\bin>unilst audit -from "01012010,000000"
14 element(s)
02/11/2010, 09:44:04, admin, CREATE, USER, eca
02/11/2010, 09:44:20, admin, CREATE, USSRV, eca
02/11/2010, 09:46:44, admin, CREATE, MU, LOCAL
02/11/2010, 09:47:19, admin, CREATE, MU,
02/11/2010, 09:57:29, admin, DELETE, MU, test
02/11/2010, 09:59:10, admin, CREATE, CAL, LOCAL
02/11/2010, 10:01:12, admin, CREATE, JOB,
02/11/2010, 10:05:14, admin, UPDATE, JOB, LOCAL:TEST
02/11/2010, 10:49:41, admin, CREATE, MU, INV_VMSDM2K3EN_MGTSERVER
02/11/2010, 10:49:41, admin, CREATE, JOB, INV_VMSDM2K3EN_MGTSERVER:INV_VMSDM2K3E
N_MGTSERVER_INVENTORY WIN UNIJOB
02/11/2010, 11:52:59, admin, STOP, ENG,
02/11/2010, 11:53:42, admin, START, ENG,
02/11/2010, 11:01:49, admin, CREATE, LPR,
02/11/2010, 11:04:06, admin, RELAUNCH, LPR, LOCAL:TEST
```

4.10 uniget PKG

This command will deploy a package.

The command is synchronous. The output of the command displays the created, deleted and overwritten objects.

Syntax

```
uniget PKG -pkg <PACKAGE_NAME>
          [-psw-file "path/file"]
```

- **-pkg:** this is the name of the package (mandatory).
- **-psw-file:** optional. This is the file where the passwords are stored. The format in the file is login:password.

Note: Import and export packages commands are described in the *UniViewer Administrator Manual*.

4.10.1 Return Codes

0: Deployment successful.

1: Deployment error.

4.10.2 Example

```
D:\ORSYP\frlpmp067\app\bin>uniget.exe PKG -pkg PK2 -clean NO
Reading ...
Status: 1
Package deployment is completed
Job JOB2 is overwritten
```

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About ORSYN

ORSYP is an IT Operations Management specialist that develops and markets innovative solutions that automate IT processes and optimize resource utilization. Headquartered in Boston, Hong Kong, and Paris, ORSYN has been chosen by over 1400 customers as their trusted partner for software, consulting and education since 1986.

www.orsyp.com

EMEA Headquarters

Tour Franklin
101 quartier Boieldieu
92042 Paris La Défense Cedex
France

+33 [0]1 47 73 12 12

Americas Headquarters

300 TradeCenter 128
Suite 5690
Woburn, MA 01801
USA

+1 781 569 5730

APAC Headquarters

Honest Motors Building
Suite 1702
9-11 Leighton Road
Causeway Bay
Hong Kong, China

+852 2575 5966