

ARKEIA v5 QUICKSTART MANUAL

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1 • Introduction

Welcome to the Arkeia 5 “*Quickstart*” Manual!

Thank you for purchasing Arkeia, the leading software for heterogeneous network backup! We hope that Arkeia version 5 will answer your needs for fast and reliable backup under many Operating Systems.

This manual is designed to help you install, configure and use Arkeia in a short period of time. Because Arkeia is a full-featured software, reading this Quickstart Manual and the “*Arkeia User Manual*” before any installation and operation is highly recommended for all users.

If you downloaded this manual from the Internet, in the form of a PDF (“Portable Document Format”) file, a Table of Contents should be displayed on the left of this page. Clicking on one of the times of this “Table of Contents” will then take you to the relevant page of the manual.

You will find, on the very first page of this manual, a version number for this document. If the manual you are using appears to be outdated or incomplete, download the latest version by connecting to the Arkeia Corporation web site, at the following URL:

`http://www.arkeia.com/download.html`

You may notice that this document contains many links like the one above, as well as many reference to other chapters of the manual. If you click on of these links, your PDF viewer should either take you to the correct section of the manual, or the default worldwide web browser of your system should open the correct web page (provided you are connected to the Internet).

Finally, we would like to hear from you! In order to improve the overall quality of the documentation, an E-mail address is available. If you have any remarks or corrections, feel free to send an E-mail to: `doc@arkeia.com`. Please note that this address is for the documentation-related questions only. All technical inquiries should be sent to the Help Desk of the Arkeia Technical Support.

1.1 Typographical conventions

You may want to take note of the following typographical conventions, which will help you find the information you require in a more convenient way.

In this manual, the following paragraph contains important information, that applies to all versions of Arkeia. You should always read this paragraph and determine if the information applies to your Arkeia installation and/or to your network:



Please note: this information is important, and should be read carefully. It may be necessary to apply the information contained in this paragraph to your network, or Arkeia server, in order to successfully perform a backup or a restoration.

The following paragraph contains information that may, or may not, apply to your situation. Nevertheless, the information it contains should be read carefully.



Please note: the information contained in this paragraph may or may not apply to your installation. Nevertheless, it should be reviewed carefully and understood before proceeding with the rest of the user manual.

The following font is used to indicate the result of a command that should be entered on a command line, as well as the results of said command:

```
$ ls -Al
drwxr-xr-x  2 root  root           2048 Dec  6 23:03 bin
drwxr-xr-x  3 root  root           1024 Sep  1 1999 boot
drwxr-xr-x  5 root  root          34816 Feb 25 04:02 dev
drwxr-xr-x 31 root  root           3072 Feb 27 17:28 etc
drwxr-xr-x 19 root  root           1024 Feb  7 18:49 home
drwxr-xr-x  4 root  root           3072 Sep  1 1999 lib
drwxr-xr-x  2 root  root          12288 Sep  1 1999 lost+found
drwxr-xr-x  9 root  root           1024 Sep 29 18:26 mnt
dr-xr-xr-x 61 root  root              0 Feb  6 11:51 proc
drwxr-x---  7 root  root           1024 Nov 29 12:29 root
drwxr-xr-x  3 root  root           2048 Aug  9 2000 sbin
drwxrwxrwt 11 root  root           1024 Feb 28 17:01 tmp
drwxr-xr-x 23 root  root           1024 Nov 23 1999 usr
drwxr-xr-x 18 root  root           1024 Sep  1 1999 var
```

In the above example, the command “`ls -Al`” has been entered in the root (“/”) directory of a UNIX machine. The lines under the command represent its output, which is displayed on the screen of the machine itself.

Finally, if you’d like to print this documentation to keep a copy for reference, please use the “Fit to page” option of your PDF software if you are not using the standard European “A4” page format.

1.2 Who should read this manual?

This manual is designed, first and foremost, for the network and system administrators who have to quickly install Arkeia version 5 on a new Arkeia server.

Most administrators will therefore benefit greatly by reading it carefully before any installation or configuration of Arkeia. Most errors and problems that may occur during the use of Arkeia can be avoided (or solved) by reading the relevant section or chapter of this manual.

All other users of Arkeia version 5 should probably read the “*Arkeia User Manual*” instead.

1.3 Copyright notice

Microsoft, Exchange, “*MS Exchange*”, Microsoft Office, Windows, Windows 98, Windows 95, Windows NT, Windows ME, Windows 2000 and Windows XP are trademarks and Copyright © by Microsoft Corporation Inc., All Rights Reserved.

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This manual, including all the figures and screenshots it contains, is Copyright © 2001, 2002 by Arkeia Corporation, All Rights Reserved.

2 • Introducing Arkeia version 5

This chapter of the Arkeia Quickstart Manual attempts to present Arkeia version 5 as quickly as possible. For a more detailed introduction to this software, refer to the “*Arkeia User Manual*”.

2.1 Architecture overview

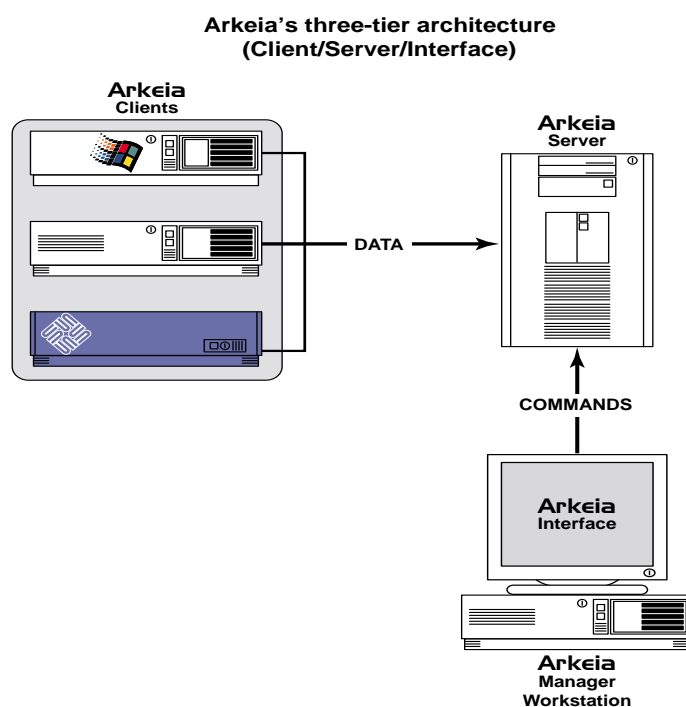
Arkeia uses a variation of the standard “*Client/Server*” architecture by adding a level called the “*Interface*”. This layer is particularly important for large and complex networks, with several backup servers.

The “*Interface*” layer allows the system administrator(s) to install the management interface on any machine of the network. From this machine he/she is then able to configure and control the different backup servers present on the network.

This function is especially important since it offers an unprecedented flexibility to system administrators who are now able to control all the backup and restoration operations performed on their network through a dedicated machine, located anywhere on the network.

With this three-tiered, Client/Server architecture, Arkeia version 5 provides system administrators more choices to manage their networked backup servers.

You will find below a graphical representation of this three-tiered architecture:





Please note: Even though the Arkeia software has the three different parts detailed above, the file supplied on the Arkeia CD-ROM contains all three parts for Linux and most UNIX-class operating systems.

However, the installation files supplied for some systems (for instance FreeBSD or Windows 2000) only contain the binary for the client. For a more precise list of available clients and servers, refer to the “*Arkeia User Manual*”.

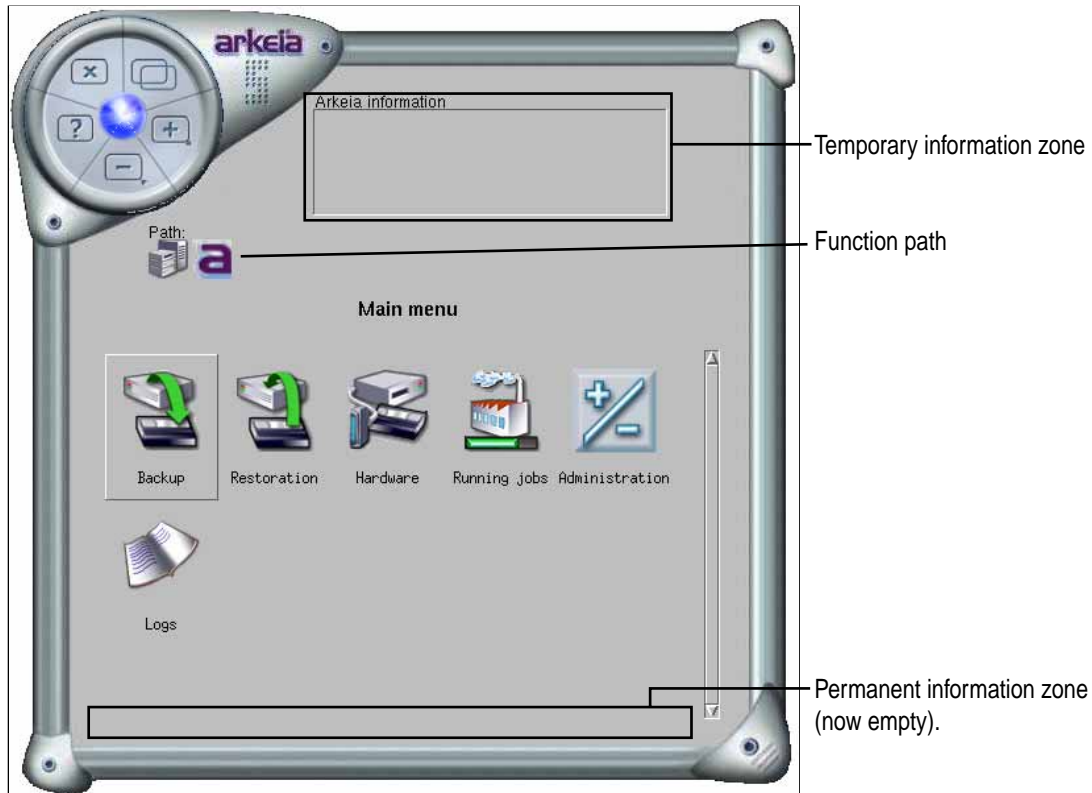
2.2 GUI overview

The GUI (Graphical User Interface) of Arkeia version 5 is both simple to use and esthetically appealing (or un-appealing, depending on your taste). Here is a brief description of the most basic functions of this GUI.

The general window functions are grouped in the distinctive “wheel” of the Arkeia version 5, which is located in the upper-left corner of the window:



The different information fields of the GUI are indicated, on the next page, in the window of Arkeia version 5:



Finally, within its GUI, Arkeia divides all its menus into two separate lists: the “object” list and the “function” list.

Objects are the Arkeia entities that are going to be created, modified, deleted, or configured through the list of functions. We are going to use the tape, which is one of the most basic entities of Arkeia, as an example in this section.

Here is the “Tapes Management” menu of Arkeia, as it is displayed in the main Arkeia version 5 window:



As can be seen in the example above, this menu is divided into two different zones: The zone on the left is the “object list”, which contains 8 different tapes, named “test01” to “test08”.

The zone on the right of the menu is the “function list”. All the functions that are listed there can affect all the objects in the object list, or just the object that have been selected by clicking on the grey check box next to their names. In the example above, it is possible to “recycle” a tape by first selecting it, then clicking on the “Recycle” function. Or, it is possible to recycle all the tapes by clicking on all the grey check boxes, then on the “Recycle” function.

Above the “object list” (the list of tapes of our example above), Arkeia offers four basic functions that are very useful for quick operations. These functions are, from left to right:

- “Back” (Green arrow): Clicking on this button takes Arkeia back to the previous menu.
- “Refresh” (Dual green arrows): Clicking on this button redraws the entire list.
- “New” (Blank document): Clicking on this button starts the creation process of a particular object. In our example above, this would start the tape creation process.
- “Delete” (Dust bin): Clicking on this button deletes the objects that has been selected in the list of objects. In the example above, this would delete one or several tape(s), depending on the check boxes that have been selected.

Simply leaving the mouse pointer on these buttons for a few seconds will display a short help “balloon”, which contains a definition of each button function.

For a more in-depth description of these different elements of the GUI, refer to the *“Arkeia User Manual”*.

3 • Obtaining Arkeia version 5

3.1 Downloading from the world-wide-web

Arkeia version 5 can be downloaded from the Internet from the Arkeia Corporation web site, at the following URL:

```
http://www.arkeia.com/download.html
```

You can also download the Arkeia User Manual, as well as this Quickstart Manual, from the same location.

3.2 Ordering Arkeia version 5 from the world-wide-web

The first step to ordering Arkeia version 5 is easy, just enter the following URL in your browser:

```
http://www.arkeia.com/prices.html
```

Enter the requested information in the form that should appear in your web browser. An Arkeia Corporation sales representative will then contact you by E-mail promptly.

3.3 Licenses applicable to Arkeia version 5

Arkeia comes with three different applicable licenses:

- “Free” license: This license is limited in scope, but is perfect for very small or “SOHO” class networks. This licenses allows a single server, connected to a single drive to backup two clients (Linux, BSD or Microsoft Windows machines only).
- “30-days trial” license: This version allows the clients of Arkeia Corporation to test Arkeia version 5 on a larger network (up to 10 clients) on 9 different configurations. A special license can be granted to use this trial version with libraries and autoloaders.
- “Normal” license: This version is the commercial version of Arkeia version 5 and, as such, contains a complete version of Arkeia, including all the functions that are expected of a corporate, mission-critical backup software. Ordering a “Normal” license is usually done through the world-wide-web page indicated above.

Please note, as indicated above, that additional licenses may be necessary for advanced backup hardware such as libraries and autoloaders. Please contact your Arkeia Corporation sales representative for more information.

4 • Installation of Arkeia version 5

4.1 Installation using the “rpm” file (Linux)

Only the “root” super-user can install software on a Linux server using the “rpm” utility. To do this, enter the following command on a standard Linux shell, followed by the relevant password when prompted to do so by the operating system:

```
$ su root
Password: <Enter the root password>
```

Run the “rpm” utility, by entering the following command:

```
# rpm --install arkeia-5.0.0-15.i386.rpm
```

(The version number of the “rpm” file you will install may be different from the one indicated above).



Please note: The Arkeia version 5 package installs the following packages on your machine:

- Client
- Server
- GUI
- Arkeia command line interface (`arkc`)

Please note that additional packages and options should be installed separately. Refer to the documentation that was supplied with the optional Arkeia package for more information.

If the installation has been completed successfully, you should be able to use Arkeia version 5 immediately. If not, try to solve the installation problems by following the suggestions outlined below:

- Make sure you are logged in as “root”. If necessary, log out of your current session and log again as “root”. If you cannot login as “root”, please check with your system administrator that you have the necessary authorizations.
- If necessary, use the “-vv” and “--force” options of the “rpm” utility to display more messages and use these to solve the installation issues. For more information on the options of the “rpm” utility, refer to its “man” page.

4.2 Installation using the “.tar.gz” file (Linux, most UNIX)

Installation of Arkeia version 5 under Linux, using the “.tar.gz” file format is slightly more complicated than the “.rpm” installation. To complete this installation, please follow the steps outlined below.

Only the “root” super-user can install software on a Linux server using the “.tar.gz” package. To do this, enter the following command on a standard Linux shell, followed by the relevant password when prompted to do so by the operating system:

```
$ su root
Password: <Enter the root password>
```

Run the “tar” utility, by entering the following command:

```
# tar -xvzf arkeia-5.0.0-15.i386.tar.gz
```

The “tar” utility should create a directory named “arkeia-5.0.0-15”, which contains the Arkeia version 5 software. To complete the installation, enter this directory with the following command:

```
# cd arkeia-5.0.0-15
```



Please note: For the latest information on the Arkeia installation, please read carefully the “README” file that should be present in the installation directory.

This file may contain last-minute information that could not be integrated either in this manual or in the “Arkeia User Manual”.

Run the supplied installation utility with the command:

```
# ./install
```

The installation procedure should then start and ask some questions before proceeding with the installation of Arkeia version 5 itself:

```
$ su root
Password:
<Enter root password, as required by su>
$ ./install
I1800020 main: ***** Start of installation *****
I1800020 distrbininstall: The path is
/home/jack/files/download/arkeia.rpm/arkeia-5.0.2
I1801200 mkplinstall: Installing "arkeia" Version "5.0.2" ("Arkeia")
I1801210 mkplinstall: OS: "Linux" Version "2.2.19"
Q1801002 *** Enter main ARKEIA_DIR directory [/opt/arkeia]? (q to quit)
<Press 'Enter' to accept default install directory>

I1801170 validateknox: Got from user $ARKEIA_DIR='/opt/arkeia'
I1801180 validateknox: Directory $ARKEIA_DIR='/opt/arkeia' OK
Q1801002 *** Enter the temporary directory [.]? (q to quit)
<Press 'Enter' to accept the default temporary directory>

I1801170 validatetmpdir: Got tmpdir = '.'
I1801180 validatetmpdir: Directory tmpdir='.' OK
E1801150 validatetmpdir: Normal end
I1801350 ailchk: tmpspace needed: 50000 KB, available in '/home': 3422128 KB
```

```

I1801360 ai1chk: arkeiaspace needed: 25000 KB, available in '/': 3971916 KB
Q1800001 *** OK to start installation in '/opt/arkeia' (y/n) [y]? (q to quit)
<Press 'Enter' to launch installation>

I1802020 untz: Uncompressing and extracting 'arktar.z'...
I1802050 untz: 'arktar.z' extracted successfully
I1802510 arkbootstop: No arkeiad to stop (2: No such file or directory)
I1801080 mkdirknox [L1200]: Directory $ARKEIA_DIR='/opt/arkeia' created
I1801060 mkfsu: /etc/opt/arkeia/ARKEIA_DIR written ('/opt/arkeia')
I1804210 docopy: Installing files...
I1804190 cp1tree: Tree './arkeia/arkboot' successfully installed
I1804190 cp1tree: Tree './arkeia/arkc/arkc.param' successfully installed
I1804190 cp1tree: Tree './arkeia/arkc/arkc.prfl' successfully installed
I1804190 cp1tree: Tree './arkeia/arkc' successfully installed
I1804190 cp1tree: Tree './arkeia/arkeiad' successfully installed
I1804190 cp1tree: Tree './arkeia/lang' successfully installed
I1804190 cp1tree: Tree './arkeia/log' successfully installed
I1804190 cp1tree: Tree './arkeia/server/dbase/f3drv/drvtypes.lst' success-
fully installed
I1804190 cp1tree: Tree './arkeia/server/dbase/f3drv/scsi_detect_drvtypes.lst'
successfully installed
I1804190 cp1tree: Tree './arkeia/server/dbase/f3sec/defrole.lst' successfully
installed
I1804190 cp1tree: Tree './arkeia/server/dbase/f3lib/scsi_detect_libtypes.lst'
successfully installed
I1804190 cp1tree: Tree './arkeia/server/dbase/f3lib/libtypes' successfully
installed
I1804190 cp1tree: Tree './arkeia/server/dbase/f3tape/tptypes.lst' success-
fully installed
I1804190 cp1tree: Tree './arkeia/server/dbase' successfully installed
I1804190 cp1tree: Tree './arkeia/server/server.prfl' successfully installed
I1804190 cp1tree: Tree './arkeia/server/customer/defrole.lst' successfully
installed
I1804190 cp1tree: Tree './arkeia/server/customer' successfully installed
I1804190 cp1tree: Tree './arkeia/server' successfully installed
I1804190 cp1tree: Tree './arkeia/xarkeia' successfully installed
I1804190 cp1tree: Tree './arkeia/bin' successfully installed
I1804190 cp1tree: Tree './arkeia' successfully installed
I1802175 startarkeiad: cp /opt/arkeia/arkboot/sysvinit ->
/etc/rc.d/init.d/arkeia
I1802177 startarkeiad: ln /etc/rc.d/rc0.d/K10arkeia -> ../init.d/arkeia
I1802177 startarkeiad: ln /etc/rc.d/rc1.d/K10arkeia -> ../init.d/arkeia
I1802177 startarkeiad: ln /etc/rc.d/rc2.d/S60arkeia -> ../init.d/arkeia
I1802177 startarkeiad: ln /etc/rc.d/rc3.d/S60arkeia -> ../init.d/arkeia
I1802177 startarkeiad: ln /etc/rc.d/rc4.d/S60arkeia -> ../init.d/arkeia
I1802177 startarkeiad: ln /etc/rc.d/rc5.d/S60arkeia -> ../init.d/arkeia
I1802177 startarkeiad: ln /etc/rc.d/rc6.d/K10arkeia -> ../init.d/arkeia
I1802190 startarkeiad: Daemon '/usr/bin/arkeiad' will start automatically at
boot
I1801520 mk1usrbin: Created command 'xarkeia' in '/usr/bin'
I1801520 mk1usrbin: Created command 'arkc' in '/usr/bin'
arkeiad is starting...
I1800010 myexit: ***** End of installation (0) *****

```

The installation shown above was taken from a Slackware 8.0 machine. Installation on a different Linux (or UNIX) distribution may be slightly different.



Please note: The Arkeia version 5 “.tar.gz” package installs on your machine the following packages:

- Client
- Server
- GUI
- Arkeia command line interface (arkc)

Please note that additional packages and options should be installed separately. refer to the documentation that was supplied with the optional Arkeia package for more information.

If the installation has been completed successfully, you should be able to use Arkeia version 5 immediately. If not, try to solve the installation issues by running the supplied installation procedure again.

4.3 Post-installation root password

One very important post-installation configuration that must be done to ensure the security of the Arkeia server is to change the default password for the “root” user.

By default, there is only one user created on a newly-installed Arkeia server: “root”, and the password used by this user is blank. For instance, once the installation of the server has been completed, simply hitting the “Enter” key on the server login screen allows any user to connect to the Arkeia server.

Since the “root” user has access to all the functions of Arkeia, including the creation of the tapes, the Savepacks, etc. this could become a major security problem. Arkeia Corporation therefore strongly recommends to all system administrators to change this default password immediately after completing the installation of a new Arkeia server.



Please note: Changing the “root” password of an Arkeia server should not be considered an option in a production environment!!!

Changing the default “root” password of a complex system, such as Arkeia, should be treated as the most basic security measure to be applied.

To change the “root” password, please refer to chapter 6 of the “Arkeia User Manual”.

5 • Testing the Arkeia v5 installation

The quickest and easiest way to test the installation of Arkeia v 5 is to attempt to complete a backup on a “NULL” device. While this does not test the backup hardware that may be available, it allows a system administrator to test the network connection that must be established between an Arkeia server and its clients.

This section of the Quickstart documentation will very quickly present this backup. The “NULL” backup can be performed by following the steps detailed below.



Please note: This section is not going to explain all the steps in a very detailed manner. For more information on the backup procedure itself, please refer to the rest of this Quickstart Manual or to the “*Arkeia User Manual*”.

5.1 Creating a “null” tape

The first step in the test of the Arkeia version 5 installation is the creation of a “NULL” tape. To do this, follow the steps outlined below:



In the main menu of Arkeia version 5, click first on the “Hardware” button, which is pictured on the left.

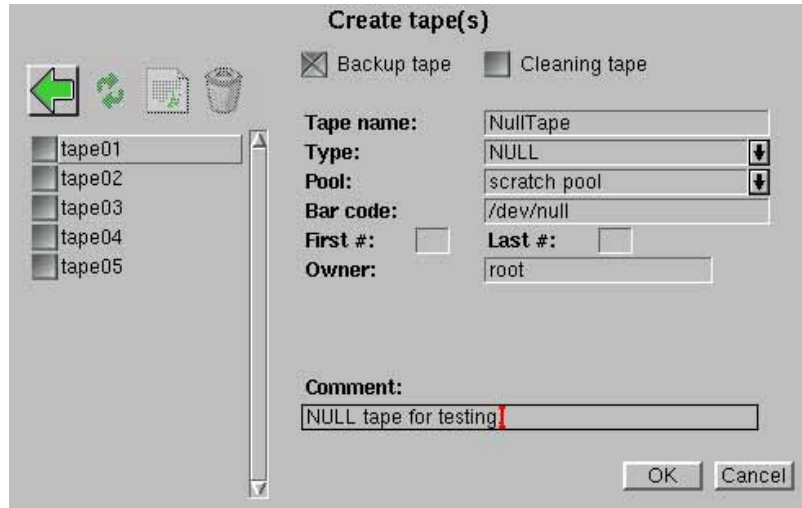


Then, within the “Hardware” menu, click on the “Tapes” button (pictured on the left) to open the main “Tapes” menu within the window of Arkeia version 5.



Finally, click on the “New” button (pictured on the left), which is displayed above the list of tapes.

The following screen should then be displayed within the main window of Arkeia version 5. Make sure you enter the relevant information exactly as it is shown in the table below and click on the “OK” button to create the tape.



In the field named:	Enter or choose:
"Tape Name"	A descriptive name for the tape
"Type"	Select the type "Null" in the drop-down menu
"Pool"	Select "Scratch pool" in the drop-down menu
"Bar Code"	/dev/null
"Comment"	A descriptive comment (optional)

5.2 Creating a "null" tape pool

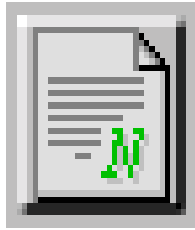
After creating a "NULL" tape, a pool should be created to be used during the backup. This pool should use the "NULL" tape when needed, if this tape is the only one in the "Scratch Pool". For more information about these subjects, refer to the *"Arkeia User Manual"*.



To create a Tape Pool, click first on the "Hardware" button in the main menu of Arkeia version 5.



Then, click on the "Pools" button of the "Hardware" menu in order to open the "Tape Pools" screen in the main window of Arkeia.



Then, click on the “New” button, which is displayed above the list of Tape Pools.

The “Pool creation” screen should then be opened within the main window of Arkeia version 5. Enter the information detailed below exactly as it appears in the following screen:

The screenshot shows the "Pool creation" dialog box. It features a toolbar with icons for navigation and actions. A list box on the left contains "scratch pool" and "FilePool". The main area contains three labeled text input fields: "Pool name:" (containing "NullPool"), "Owner:" (containing "root"), and "Comment:" (containing "NULL Pool for testing."). "OK" and "Cancel" buttons are located at the bottom right.

In the field named:	Enter or choose:
"Pool Name"	A descriptive name for the tape pool
"Comment"	A descriptive comment (<u>optional</u>)

Once the information detailed above has been entered, clicking on the “OK” button creates the tape pool and returns the Arkeia version 5 window to the main “Tape Pool” screen.

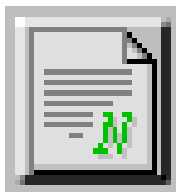
5.3 Creating a “null” drive



To create a “NULL” drive, click first on the “Hardware” button (pictured on the left) in the main menu of Arkeia version 5...



Then, click on the “Drives” button (pictured on the left) that should be displayed in the “Hardware” menu.



Then, click on the “New” button (pictured on the left) that is displayed above the list of drives.

The following screen should then be displayed within the main Arkeia version 5 window. Please make sure the data entered in Arkeia version 5 matches the indications given below:

 A screenshot of the "Create drive" dialog box. The dialog has a title bar "Create drive". On the left, there is a list of drives with "DrvFile" selected. Above the list are icons for back, refresh, new, and delete. To the right of the list are fields for "Name:" (NullDrv), "Owner:" (root), "Type:" (NULL), and "Node:" (voyager). Below these are "Authorizations:" with checkboxes for Read, Write, Clean, and Delete, all of which are checked. There is a "Rewind device:" field containing "/dev/null" and a "Comment:" field which is empty. At the bottom right are "OK" and "Cancel" buttons.

In the field named:	Enter:
“Name”	A descriptive name for the drive.
“Type”	Select the type “Null” in the drop-down menu
“Rewind device”	/dev/null
“Comment”	A descriptive comment (optional)

Once the operations listed above have been completed, click on the “OK” button to create the drive.

5.4 Creating a “null” Drive Pack

A Drive Pack should be created in order to be able to use the “NULL” drive that has been created. To do this, follow the steps detailed below.



To create a “NULL” drive, click first on the “Hardware” button (pictured on the left) in the main menu of Arkeia version 5.

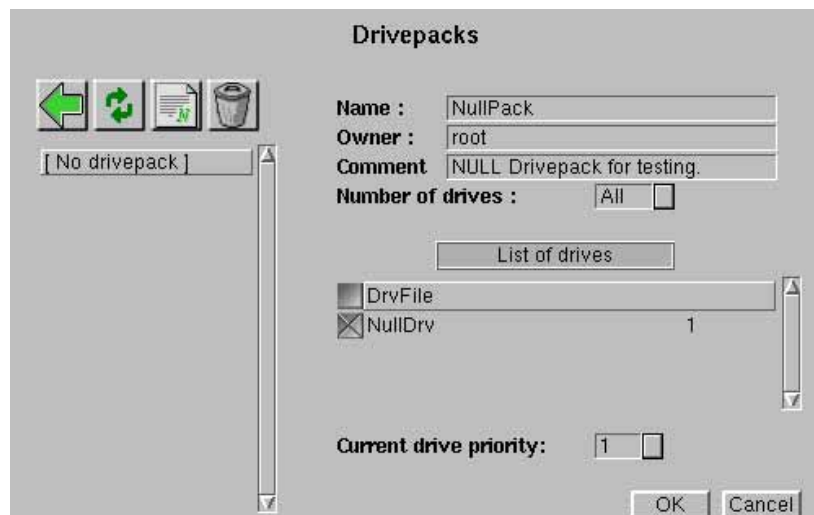


Then, click on the “Drivepacks” button (pictured on the left) that should be displayed in the “Hardware” menu.



Then, click on the “New” button (pictured on the left) that is displayed above the list of Drive Packs.

The following screen should now be displayed within the window of Arkeia version 5. Complete the relevant fields as indicated below and click on the “OK” button in order to create the Drive Pack.



In the field named:	Enter:
"Name"	A descriptive name for the drive pack.
"Type"	Select the type "Null" in the drop-down menu
List of drives	Select the "Null" drive that has been created
"Comment"	A descriptive comment (<u>optional</u>)

5.5 Creating a Savepack

A Savepack is an Arkeia object, which is designed to contain the files, directories, disks, etc., that are present on a client and that should be backed up by the Arkeia server. In Arkeia version 5, you cannot launch a backup unless a Savepack exists.

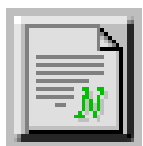
To create a Savepack, follow the steps described below. You'll need to have installed at least a client and a Server for this test to be effective.



To create a new Savepack, click on the "Backup" button (pictured on the left) in the main menu of Arkeia version 5.



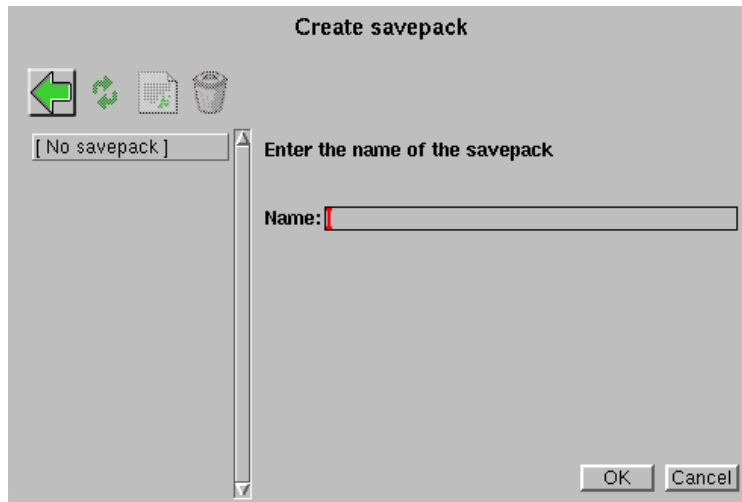
Then, click on the "savepacks" button (pictured on the left) in the "Backup menu".



Finally, click on the "New" button (pictured on the left) which should be displayed above the list of Savepacks.

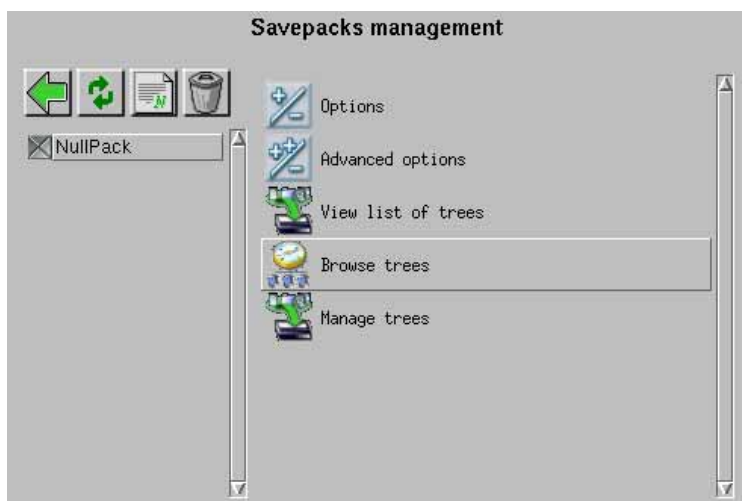
The following steps are going to detail the creation of a Savepack using the Arkeia Navigator and the default options. For more information on the creation of a Savepack, including the options that can be set for the files it contains, refer to the *"Arkeia User Manual"*.

Once the "New" button has been clicked, the following screen should be displayed within the main window of Arkeia version 5:

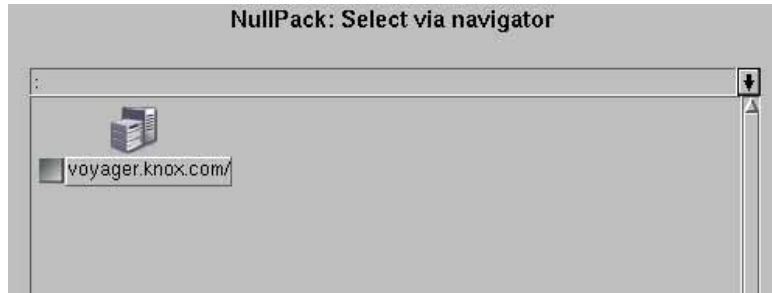


In the field “Name”, enter a descriptive name for the Savepack to be created. Once the name has been entered, click on the “OK” button to create the Savepack. Once created, its name should appear in the list of Savepacks, which is on the left of the “Savepacks management” screen.

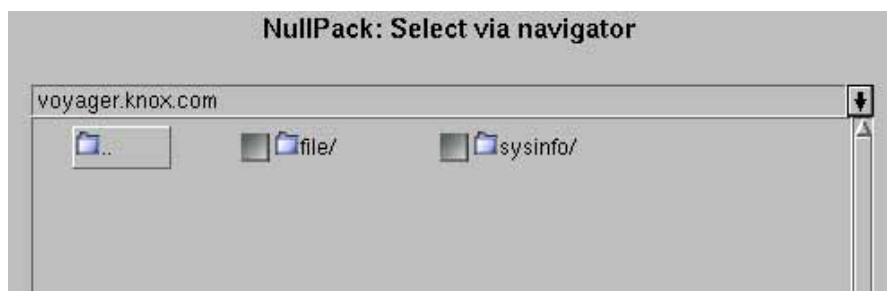
The next step is to add objects to the Savepack that was just created. To do this, select the new Savepack by clicking on the grey box next to its name and click on the “Browse trees” option in the list of options. This is shown in the screen printed below:



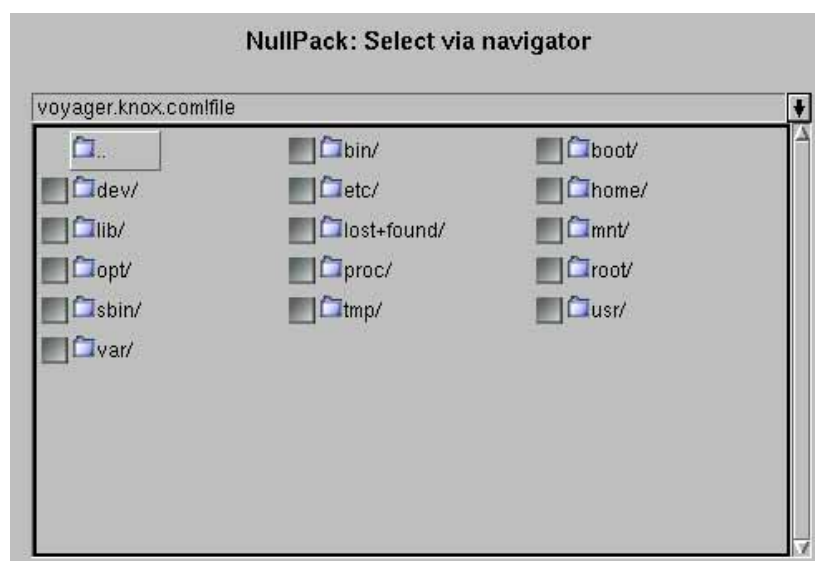
In the example above, the new Savepack has been named “NullPack”. Clicking on the “Browse trees” option displays the following screen in the main window of Arkeia version 5:



All the clients currently managed by the Arkeia server appear in the first Navigator screen (pictured above). To select a client, double-click on its name. The menu shown below should then appear in the main Arkeia window:

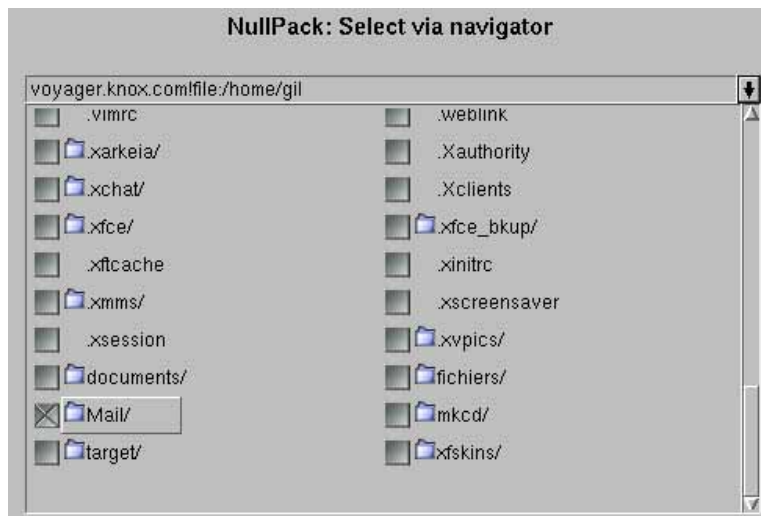


This menu allows you to choose the type of plug-in that should be used for the backup. The two default plug-ins of Arkeia version 5 are "file" (to select the hard disks and file systems of the client) and "sysinfo" (to save the system information for the Arkeia Disaster Recovery). As above, double click on the name of the plug-in to select some elements. Choosing the "file" plug-in is recommended for this test, and double-clicking on it will display the following elements:



As can be seen in the screen pictured above, the "voyager.knox.com" machine is a UNIX workstation. The "file" plug-in, by default, displays the content of the "root"

("/") file system. By moving within the tree structure, you can select any item (directory or file) that should be backed-up by the Arkeia server. To select an item, click on the grey box next to its name, as is shown in the screen below:



In the case shown above, the sub-directory "Mail/" has been selected in the directory "/home/gil", on the machine named "voyager.knox.com" (Feel free to adapt this example to your particular configuration). To complete the selection, click anywhere in this screen with the right mouse button and click on the "Validate" option in the contextual menu that should be displayed. This completes your selection and returns you to the main "Savepacks management" screen.



Please note: It is highly recommended to select large amounts of data for this test, and to select this data on an Arkeia client, and not on the server itself. Once the Savepack has been created, it can be re-used in a "real" backup, using real tape drives or libraries connected to the Arkeia server.

5.6 Launching the "null" backup

Once the tape, the Tape Pool, the Drive, the Drive Pack and the Savepack have all been defined, the test backup can be launched in order to test the connectivity of the Arkeia server with its clients. To do this, please follow the steps detailed below:



To launch the test backup, click on the “Backup” button in the main menu of Arkeia version 5.



Then, click on the “Interactive” button to display the following menu within the window of Arkeia version 5:

A dialog box titled "Interactive backup" with several configuration fields: Savepack (NullPack), Drivepack (NullPack), Pool (NullPool), Type (Total Backup, Standard), Tape strategy (Complete existing tapes), Valid for (30 Day(s)), Parallelism (Default, Use emails), Tag (empty), and Comment (NULL Backup for testing). It has OK and Cancel buttons at the bottom.

In this screen, make sure the “Savepack” selected is the test Savepack, and check the “Drivepack” and the (Tape) “Pool” in the same way. Leave the other fields unchanged with their default values and click on the “OK” button to start the backup.



Please note: All the options shown in the screen pictured above are detailed in the “*Arkeia User Manual*”. Refer to this Manual for more information.

Once the backup has been launched, the following screen should be displayed within the main window of Arkeia version 5. If a problem occurs during the backup, the Arkeia server should display an error. If this is the case, refer to the last chapter of this Quickstart Manual for more information on how to contact the Arkeia Technical Support.

Backup


Server: 00h00'52"

Savepack: voyager

Drivepack: NullPack

Pool: NullPool

Cruise: unlimited



View of drive: Global stats

Speed in MB/min

Instant: 0 Average: 93

10284 files

1 drive

Backup Speed

Name	Drive	Speed	Current directory	# flows:
>> 1 voyager.knox.c	1	0	End of flow	1

Status: End of backup

6 • SCSI drive configuration overview

6.1 SCSI device management under Linux

- *Standard devices*

Linux, like most other operating system in the UNIX category, offer several devices that are used to control the SCSI hardware connected to a server. These devices are the following:

- “/dev/sgX”: Under Linux, a device with a name such as “/dev/sgX” (where “X” is the device number) is a standard SCSI device. This type of device can be used by Arkeia version 5 to manage the robotic arm of an SCSI library.
- “/dev/stX”: Under Linux, a device with a name such as “/dev/stX” (where “X” is the device number), is a rewindable SCSI device. This type of device is used by Arkeia version 5 to read and write to the tapes present in drives.

- *Vendor-supplied device drivers*

Many companies that market backup hardware supply their own device drivers for their hardware. These drivers may have different names, and may even be just symbolic links to existing devices.

For instance, IBM supplies the following drivers with its LTO library:

- “/dev/IBMtapeX”: for rewindable devices, where “X” is the device number.

For more information on these (possible) drivers, refer to the documentation supplied with your backup hardware.

6.2 Quick SCSI setup and troubleshooting

Whenever a problem has been encountered while trying to use SCSI devices, please use the points indicated below as a quick check-list before trying to contact the Arkeia technical support team.

- *Hardware checks*

- Make sure all devices are properly connected. If necessary, check the connecting cable on another, correctly working, SCSI device and replace the cable if it is found to be defective.
- Make sure that all SCSI devices connected to the same adapter are of the same type! Mixing SCSI II and SCSI III devices is a very good way to either block all communications between the devices and the adapter or to slow down the transfer of data from the devices to

the server.

- Make sure that all devices are correctly configured within the SCSI chain, especially their device numbers.
- Do not use other SCSI devices, such as a hard disk or a CD-ROM, on the same SCSI adapter as the backup device.

- ***Software checks***

There are several programs and utilities available, under Linux and most UNIX operating systems, that can help with the configuration and troubleshooting of a SCSI chain. Some may be available only from the Internet, but all are pretty valuable in their own right.

- The first step in a troubleshooting procedure is to make sure that the SCSI peripherals have been correctly identified and detected during the bootstrapping procedure of your machine. To do this, display the messages returned by the system by using the “`dmesg`” procedure or display the content of the “`/var/log/boot.msg`” file (or the equivalent on your system). Printed below is a short section of these messages, showing the detection of the SCSI adapters.

```
(scsi0) <Adaptec AIC-7892 Ultra 160/m SCSI host adapter> found at PCI
0/9/0
(scsi0) Wide Channel, SCSI ID=7, 32/255 SCBs
(scsi0) Downloading sequencer code... 392 instructions downloaded
(scsi1) <Adaptec AHA-294X Ultra SCSI host adapter> found at PCI 0/11/0
(scsi1) Wide Channel, SCSI ID=7, 16/255 SCBs
(scsi1) Cables present (Int-50 NO, Int-68 NO, Ext-68 YES)
(scsi1) Downloading sequencer code... 422 instructions downloaded
scsi0: Adaptec AHA274x/284x/294x (EISA/VLB/PCI-Fast SCSI) 5.1.31/3.2.4
<Adaptec AIC-7892 Ultra 160/m SCSI host adapter>
scsi1: Adaptec AHA274x/284x/294x (EISA/VLB/PCI-Fast SCSI) 5.1.31/3.2.4
<Adaptec AHA-294X Ultra SCSI host adapter>
scsi: 2 hosts.

(scsi0:0:4:0) Synchronous at 160.0 Mbyte/sec., offset 63.
Vendor: IBM          Model: DDYS-T09170N      Rev: S80D
Type:   Direct-Access          ANSI SCSI revision: 03
Detected scsi disk sda at scsi0, channel 0, id 4, lun 0

Vendor: QUALSTAR    Model: TLS-4210          Rev: 2.09
Type:   Medium Changer        ANSI SCSI revision: 02
(scsi1:0:2:0) Synchronous at 20.0 Mbyte/sec., offset 14.

Vendor: ECRIX       Model: VXA-1            Rev: 2524
Type:   Sequential-Access     ANSI SCSI revision: 02
Detected scsi tape st0 at scsi1, channel 0, id 2, lun 0
(scsi1:0:3:0) Synchronous at 20.0 Mbyte/sec., offset 14.

Vendor: ECRIX       Model: VXA-1            Rev: 2524
Type:   Sequential-Access     ANSI SCSI revision: 02
Detected scsi tape st1 at scsi1, channel 0, id 3, lun 0

SCSI device sda: hdwr sector= 512 bytes. Sectors= 17916240 [8748 MB]
[8.7 GB]
sda: sda1
```

- The second step is usually to launch “`lspci`”, a utility which reports all the adapters found installed in a machine. If the utility “`lspci`” is not installed on your machine, it can be downloaded (and compiled) from the following URL:

<http://atrey.karlin.mff.cuni.cz/~mj/pciutils.html>

You'll find below an example of a normal output from “`lspci`” (Please note the two SCSI adapters detected in the machine):

```
00:00.0 Host bridge: VIA Technologies, Inc. VT8363/8365 [KT133/KM133]
(rev 03)
00:01.0 PCI bridge: VIA Technologies, Inc. VT8363/8365 [KT133/KM133
AGP]
00:07.0 ISA bridge: VIA Technologies, Inc. VT82C686 [Apollo Super
South] (rev 40)
00:07.1 IDE interface: VIA Technologies, Inc. Bus Master IDE (rev 06)
00:07.4 Host bridge: VIA Technologies, Inc. VT82C686 [Apollo Super
ACPI] (rev 40)
00:09.0 SCSI storage controller: Adaptec 7892A (rev 02)
00:0b.0 SCSI storage controller: Adaptec AIC-7881U (rev 01)
00:0d.0 Ethernet controller: VIA Technologies, Inc. Ethernet Control-
ler (rev 42)
01:00.0 VGA compatible controller: ATI Technologies Inc. 3D Rage P/M
Mobility AGP 2x (rev 64)
```

- The third step that allow a system administrator to check the configuration of a server is to use the auto-detection feature of Arkeia version 5. To do this, follow the steps outlined below:

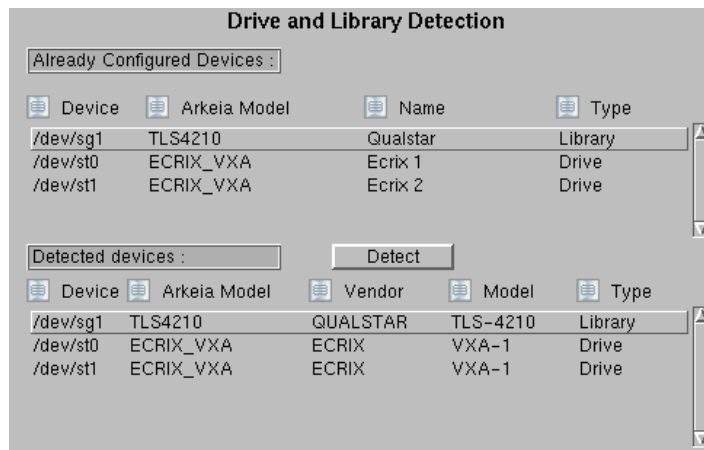


1. In the main menu of Arkeia version 5, click on the “Hardware” icon. This opens the main hardware menu in the window of Arkeia version 5.



2. In the “Hardware” menu, click on the icon labeled “Detect”.

This launches the Hardware auto-detection feature of Arkeia version 5, which searches for backup hardware on your server and reports its findings.



3. Once the auto-detection routine has been completed, it displays its results in the screen shown above. If no information appears in the “Detected devices” fields, clicking on the “Detect” button next to it will restart the hardware detection process.

- Another step that can be taken to check the configuration of an Arkeia version 5 server is the “`arkdetect`” utility. For more information on this utility, refer to the “Arkeia User Manual”.
- One final utility that should be mentioned is the “`mt`” (which stands for “**M**agnetic **T**ape”) command, which is present on most UNIX systems. For more information on this command, enter the following command on a standard UNIX shell:

```
$ man mt
```

The “`man`” page for “`mt`” should contain all the relevant information to use this UNIX utility, which allows you to send commands to a tape drive from a shell.

If you are using the GNU version of “`mt`” (used on Linux), the following command will display the on-line “`info`” manual of this command:

```
$ info mt
```

6.3 Basic installation procedure

This section will detail the installation of a single drive on an Arkeia server. To install more complex backup hardware, such as libraries and stackers, refer to the “Arkeia User Manual”.

To install a single tape drive on a machine running Arkeia version 5, follow the steps detailed below:

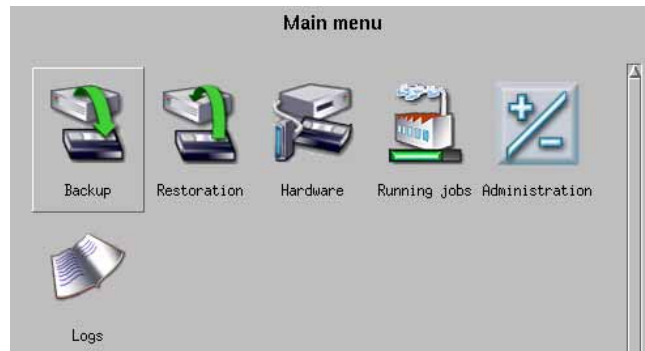
- *Auto-detection of the drive*

A good starting point for a successful installation is the auto-detection function, which is integrated into Arkeia version 5. This function is presented in more details in the previous section of this chapter.

The information supplied by the auto detection function will be very helpful in the next steps of the installation.

- ***Creating a drive in the Arkeia GUI***

Once Arkeia version 5 is launched, it should display its main menu in its window.



Within this menu, clicking on the “Hardware” icon will open the relevant menu in Arkeia main window.

For more information on the other options of the menu shown below, refer to chapter 6 of the “Arkeia User Manual”.



Within the “Hardware” menu, clicking on the “Drives” icon will open the “Drives” screen within the main Arkeia window.

The “Drives management” menu, shown below, is divided into two parts. In the left-hand part, the drives already configured are displayed, while the right-hand side shows the different actions that can be applied to the drives. If no drive has been defined in Arkeia (as is the case below), Arkeia will simply display “[No drive]” in the list of drives.



Within the “Drives management” screen, clicking on the “New” icon (pictured on the left) will open the creation screen in the main window of Arkeia version 5.

Within the creation screen, a number of fields have to be filled-up. These fields are detailed below:

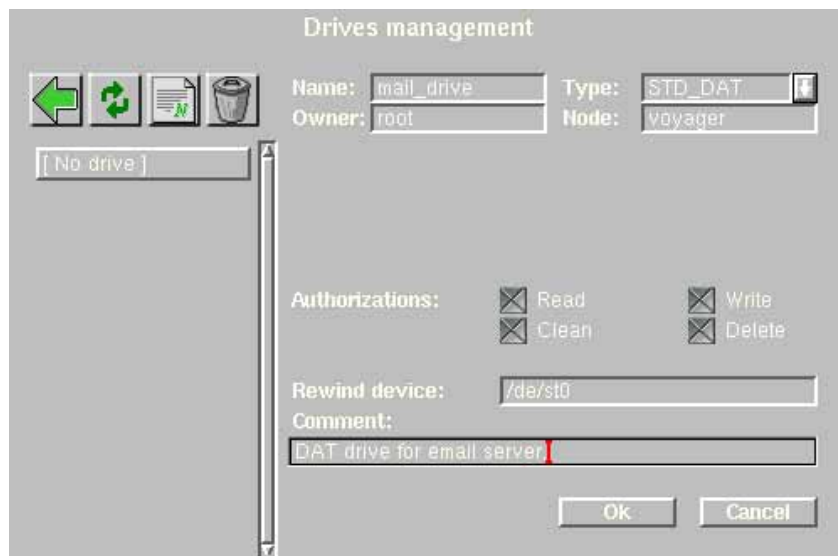


The options that can be modified in this screen are the following:

- “Name”: This field is used to assign a name to the drive being created. This name will be used by Arkeia version 5 in its logs and messages.

- **“Type”**: This drop-down list is used to select one of the type of drives that can be managed by Arkeia version 5.
- **“Owner” / “Node”**: These fields are filled-up automatically by Arkeia version 5, based on the owner and machine which has launched the creation process.
- **“Authorizations”**: These check boxes are used to set the authorizations that will be applied by Arkeia version 5 to every operation that will be performed on the drive. The four possible authorizations are **“Read”**, **“Write”**, **“Delete”** and **“Clean”** (they should be self-explanatory).
- **“Rewind device”**: This field should contain the UNIX device that will be used to write/read data to the tapes in the drive. It is possible to automatically detect the device to be used. Please refer to the **“Arkeia User Manual”** for more information.
- **“Comment”** (optional): This field can contain an optional comment, to describe the drive or to supply more information on its location, type, supplier, etc.

In the screen shown below, the drive being created is a standard DAT drive (**“Type”** = **“STD_DAT”**), named **“mail_drive”**, which will be used for E-mail-related backup tasks. All the authorizations have been checked, which gives Arkeia version 5 complete control over the drive:



Once the different fields have been selected, clicking on the **“OK”** button will create the drive within Arkeia version 5. The display then returns to the main **“Drives”** screen, updated to display the new drive:



Once this screen is displayed, the creation of a drive is completed. For more information on adding drives to a drivepack, please read the next section.

6.4 Adding drives to a Drivepack

Drivepacks are, within the Arkeia architecture, the equivalent of Save Packs and Tape Pools. A Drive pack allows system administrators to combine several drives in a single unit, which can then be managed by Arkeia version 5.

The advantages are obvious: with a Drivepack, an Arkeia backup server can use several drives at the same time and therefore complete its backup tasks faster. Through the use of Drivepacks, it is also possible to use larger capacity drives for the most important tasks, while using drives that are slower, or drives that have a smaller capacity, for less urgent or smaller backups.



Please note: Within a given Drivepack, it is highly recommended that all the drives should be of the same type. Using different types of drives within the same Drivepack, while possible, can create many unforeseen problems.

To add a drive to a Drivepack, follow the steps below:

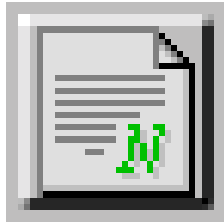


From the main menu of Arkeia version 5, click first on the “Hardware” button.

Then, within the “Hardware” menu, click on the “Drivepacks” icon.

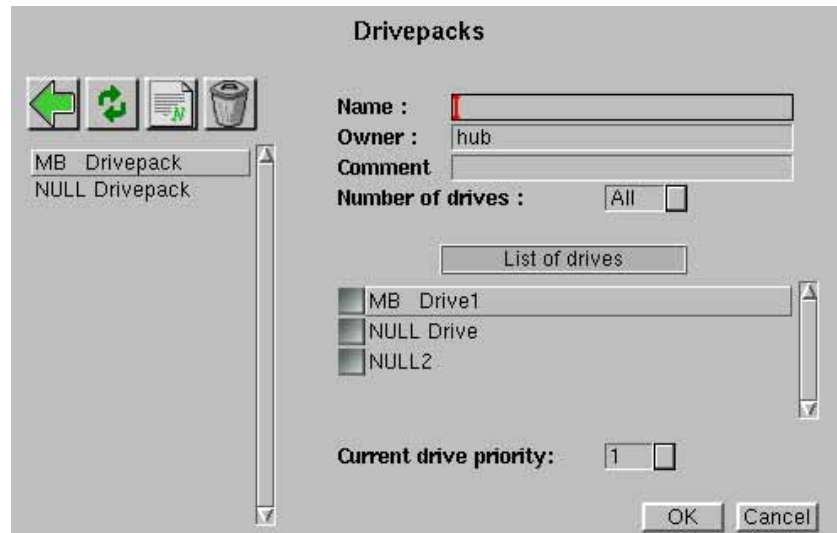
These two buttons are pictured on the left.

This should open the main Drivepack menu within the main Arkeia window.



Above the list of Drivepack, click on the “New” button (which is pictured on the left).

This opens the Drivepacks creation screen, as pictured below:



Within this window, the following options are available:

- **“Name”**: This field contains the name of the Drivepack. This name will be used by Arkeia version 5 in its log and in other informative messages.
- **“Owner”**: This field contains the name of the owner of the Drivepack.
- **“Comment”**: This field can contain additional information on the Drivepack being created.
- **“Number of drives”**: This drop-down box contains the number of drives that can be used at any one time by the Drivepack. For instance: a Drivepack can contain 6 different drives (in the “List of Drives” – see below), but if “Number of Drives” is set to “4”, Arkeia will only use 4 drives in the Drivepack, based on their priority. If in doubt, leave this drop-down box set to “ALL”.
- **“List of drives”**: This list contains all the drives available on the Arkeia server. To select a drive and assign it to the Drivepack, click on the square selection box next to its name. If a “priority” has been assigned to a drive (see below), it will appear on the right of its name.
- **“Current drive priority”**: This drop-down box allows the system administrator to assign a given priority to the drive currently selected in the “List of drives”. A priority of “1” is the highest priority that can be assigned to a drive.
- **“OK”**: Clicking on this button confirms the configuration of the Drivepack, creates it with the assigned name and returns the user to the “Hardware” menu.

- “Cancel”: Clicking on this button cancels the creation and returns the user to the “Hardware” menu.

For instance, in the screen shown below, a Drivepack named “MB Drivepack” has been created, with only one drive assigned (“MB Drive1”). Clicking on the “OK” button would create the Drivepack exactly as it is:



7 • Interactive backup

7.1 Creating tapes

The first step any user of Arkeia version 5 should take is to create tapes within the system in order to be able to backup data.

Creating tapes within Arkeia is a simple task, which we are going to detail step by step below:



To create a tape, click on the “Hardware” button of the main menu. This button is pictured on the left.

This will open the “Hardware menu” of Arkeia version 5.



Within the “Hardware” menu, click on the “Tapes” button.

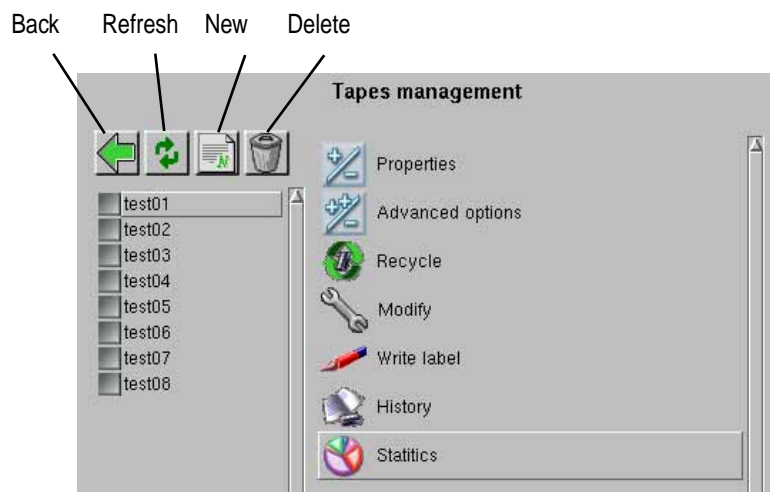
Arkeia then opens the main “Tapes” menu, which is a list of all the tapes defined on the selected server.



Please note: If no tapes have been defined on the selected Arkeia server, a message will appear in the tape list, saying:

[No tapes]

Once the “Tapes management” screen has been displayed, it is possible to create tapes by using the buttons displayed above the main list of tapes. The options of this screen are detailed below:



To create a new tape, click on the “New” button. This will open the tape creation screen, which is pictured below.

Enter the following information in the fields detailed below, leaving all the other fields unchanged. Once these parameters have been set, clicking on the “OK” button at the bottom of the “Create tape” screen will automatically create the tape(s).

In the field named:	Enter or select:
Tape name	Enter a descriptive name
Type	Select the type of the tape in the drop-down list
Pool	Select a Tape Pool or the “Scratch” Tape Pool
Comment	Enter a comment (<i>optional</i>)

Once a tape has been created, it should appear in the list of tapes, which is displayed in the left-hand side of the tapes-related screens. Double-clicking on its name will then display the relevant information for this tape.

The tapes you create on your system may have different values, instead of the ones shown above. For more information on tape types, refer to the “Arkeia User Manual”, or to the “Tape types” list integrated in Arkeia version 5.

7.2 Creating tape pools

Tape pools are groups of tapes that are created to perform a well-defined backup/restore task. For instance, an Arkeia administrator can create one tape pool for every server that he has to manage:

- Tape pool: “FTP” (for the FTP server backups and restorations).
- Tape pool: “www” (for the World wide web server)
- etc....

Or a tape pool that spans several servers of the same type.



Please note: Tape pools should only contain one type of tape. Tape pools containing more than one type of tapes may end up producing serious errors and incompatibilities.

Creating a tape pool is a very simple task, since it is, at first, an “empty” object. To add tapes to a tape pool means entering the name of the pool while creating the tape.

To create tape pools, follow the steps detailed below:

Once logged on the server where a tape pool should be created, Arkeia’s main menu is displayed on the screen.



To create a tape pool, click on the “Hardware” button of the main menu. This button is pictured on the left.

This will open the “Hardware menu” of Arkeia version 5.



Within the “Hardware” menu, click on the “Pools” button.

Arkeia then opens the main “Pools management” menu, which is a list of all the tape pools defined on the selected server.

A list of the tape pools already defined on the server should then be displayed, in a window titled: “Pools management”, which you will find below. This window is divided into two list: the left-hand list contains all the pools that are defined on the Arkeia server, while the right-hand list contains the functions that can be applied to the different pools.



In the example above, there is only one tape pool defined on the Arkeia server, the “Scratch pool”, which is the default Arkeia pool. Note that the four icons (“Back”, “Refresh”, “New” and “Delete”) above the left-hand pool list are the same than the ones described in the “Tapes management” screen.

To create a new tape pool, click on the “New” button above the left-hand pool list to display the “Pool creation” screen. This screen, along with a description of its different options, is detailed below.



Please note: To perform the “Delete” and the “Statistics” operations offered in the pool management screen, a tape pool should be selected first with the help of the left mouse button.

Clicking on the “Create pool” option in the contextual menu will display the creation menu, that you’ll find below.

The information to be entered in this window is just the name of the tape pool (“Pool name” field), the “owner” of the tape pool and a short “comment” if necessary. By default, the “owner” of the tape pool is the user currently logged on the Arkeia server.

To go from one field to the next, use the “Tab” key on your keyboard. To create the tape pool, just press the “Enter” on your keyboard, or right-click anywhere on the screen to display the contextual menu and click on the “OK” option of this menu.

Once a tape pool has been created, it should appear within the list of tape pools.



Please note: It is possible to create tapes from within a tape pool. To do this, double-click on the name of a tape pool in the “**Pools Management**” screen, and click on the “**New**” button above the tape list.

It is possible to create tape pools that do not contain any tape. If a tape pool is created empty, it will request “free” tapes from the “**Scratch pool**” when tapes are needed to perform a backup operation. If that is the case, it is up to the Arkeia administrator to make sure the “**Scratch pool**” contain enough tapes to supply them when needed.

7.3 Creating savepacks

- **Overview**

Within Arkeia version 5, a Savepack can be defined as a group of objects that should be saved to tape by a backup operation. The objects that Arkeia can backup can be machines, entire disks, directories, individual files or plug-ins. Within the Arkeia architecture, a plug-in is an additional program that is treated as a file system by Arkeia.

For instance, within a Savepack named “**Large B/U**”, it is possible to add:

- Six entire disks from a machine named “**foobar**”.
- Several directories from a machine named “**sna fu**”.
- One plug-in from a machine named “**rtfm**”.

Whenever the “**Large B/U**” Savepack is chosen as the target of a backup operation, all these objects, from the three different machines, all these object will be saved together, from the three different Arkeia client to the Arkeia server.

Furthermore, all the objects (or “trees”) can have different options applied to them. For instance, in the example detailed above, all the directories from the machine named “**sna fu**” can be compressed if they are quite large, while the data from the plug-in should be encrypted to protect its confidentiality. All these operations are made possible through the definition of the Savepack.

A Savepack is therefore a very powerful tool in the hands of the person responsible for protecting the data of a network. This section will study the creation of a Savepack, as well as the different options that can be applied to a Savepack.

- **Creating an empty Savepack**

To create an empty Savepack, refer to the section “Creating a ‘null’ backup” of this Quickstart Manual, or follow the steps detailed below.

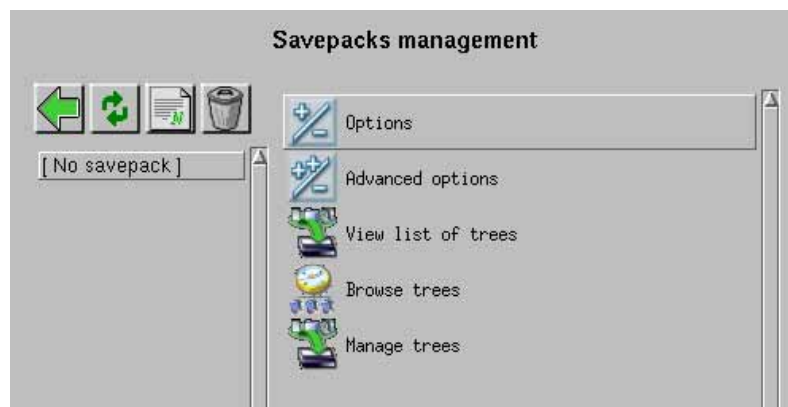
Click on the “**Backup**” icon in Arkeia’s main menu:



Then, click on the “Savepack” icon in the “Backup” menu:

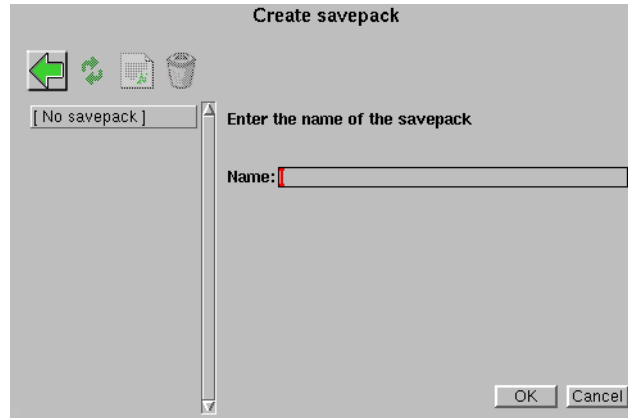


The “Savepacks management” screen should then be displayed within the main window of Arkeia version 5:

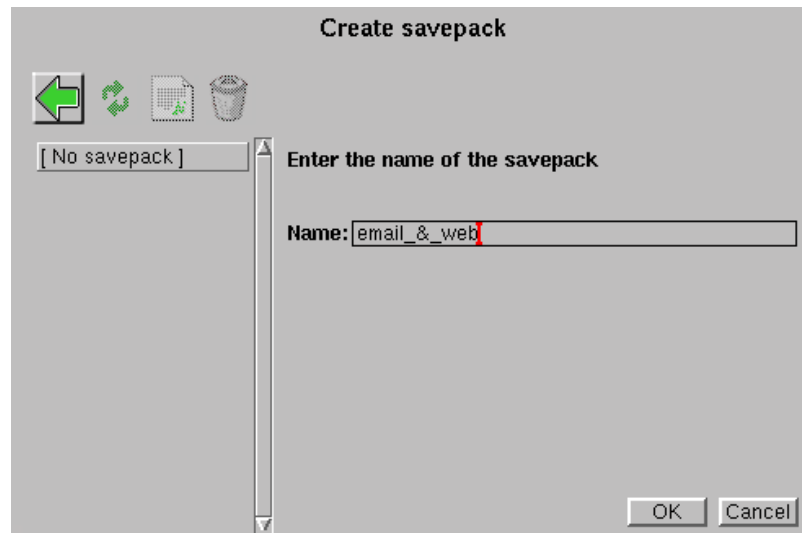


If there are no Savepacks defined in Arkeia (as is the case in the screen pictured above), Arkeia will simply display the following message: “[No Savepack]”.

Within the “Savepacks management” window, clicking on the “New” icon – above the list of Savepack – will open the “Create Savepack” screen:



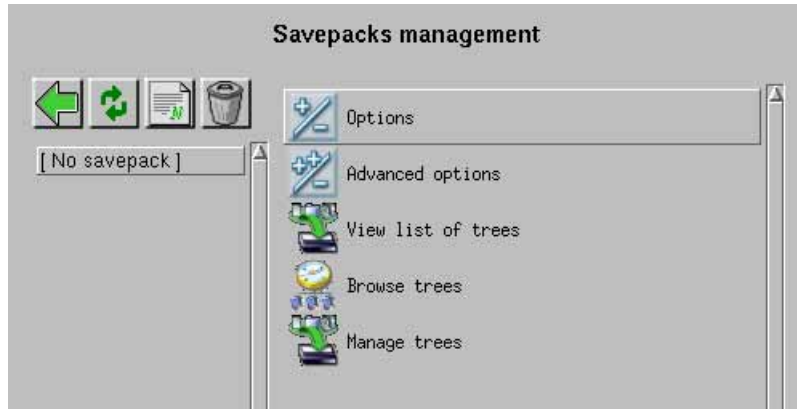
After entering the name of the Savepack, clicking on the “OK” button will return to the Savepacks management screen. In the example below, a Savepack named “email_&_web” has been created.



- ***Adding trees to a Savepack through the Navigator***

Adding trees to a Savepack can be done in two different ways: by entering the complete path to a given object or by choosing the object within the Arkeia Navigator. It is highly recommended to use the browser, but both methods are described in the “Arkeia User Manual”.

To add a tree to a Savepack by using the Navigator, click on the “Browse trees” option, within the main “Savepacks management” screen:



This opens the navigator in the main window of Arkeia version 5:



All the clients that have been declared on the Arkeia backup server appear in this list. In the example above, there is only one client, named “`voyager.knox.com`”, that will be assigned to the Savepack named “`email_ &_ web`”. To browse the file systems contained in a client, double-click on its name, then on the “`file/`” directory. The entire disk layout of the client is then displayed within the Navigator.

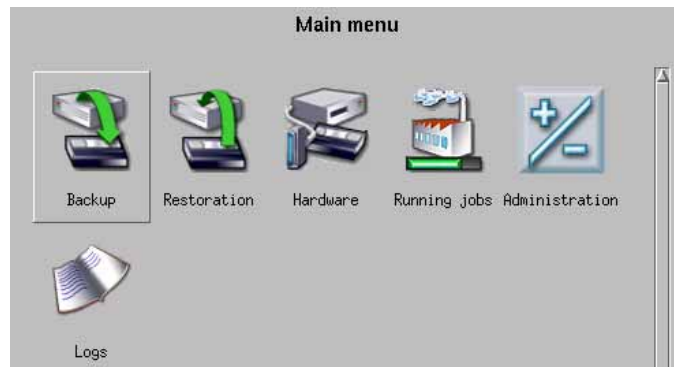


In the example represented above, the entire disk structure of a Slackware 8.0 machine is available for backup. To select a single directory (as well as all its subdirectories), the

System Administrator using Arkeia can click on the grey check box next to its name. Clicking on the name of the directory allows the administrator to open the directory and select individual files or subdirectories. Once the selection is over, clicking on the right mouse button, then on the “*v a l i d a t e*” option will confirm the choices of the system administrator and return to the Savepack main menu.

7.4 How to access the Interactive backup

When Arkeia version 5 is launched and the user is logged on an Arkeia server, the main menu of the Graphical User Interface (GUI) is displayed on the screen.



Within the main menu, click with the right mouse button on the “*B a c k u p*” icon to access the related menu.

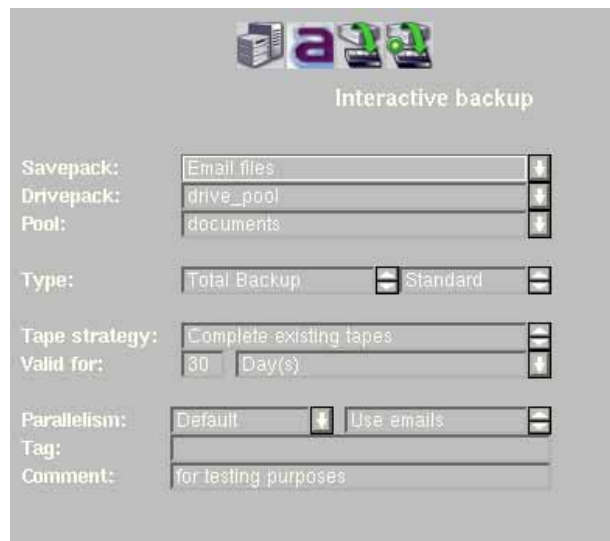
The “*B a c k u p m e n u*” is then displayed within the GUI:





Within the “Backup menu” of Arkeia version 5, click on the “Interactive” icon to access the Interactive backup functions.

The main “Interactive backup” functions are then displayed on the screen. The rest of this section will detail these functions and their usage.



Please make sure the following fields contain the information indicated in the table below, leaving all other fields unchanged. For more information on these different fields, refer to the “Arkeia User Manual”.

In the field named:	Enter or select:
Savepack	Select a Savepack (named, above, “E-mail files”)
Drivepack	Select a Drivepack (named above “drive_pool”)
Pool	Select a Tape Pool (named, above, “documents”)
Type	Choose “Total Backup” in the drop-down list
Comment	Enter a comment on the backup (optional)

Once the Interactive backup has been defined, it can be launched by clicking on the “OK” button at the bottom of the window.

Once the backup has been launched, Arkeia displays the main backup window and proceeds with the defined operation. This window, the information it contains and the modifications it allows, is described in the “Arkeia User Manual”.

Backup

Server: 00h00'25"
voyager


Savepack: email_&_web

Drivepack: email

Pool: email

Cruise: unlimited

000020



Global: [dropdown]

Speed in MB/min

Instant	Average
62	43

4286 files

1 drive

Backup Speed

Name	Drive	Speed	Current directory	# flows:
>> 1 voyager.knox.c	1	53	voyager.knox.com!file:/home/gil/Mail/inbc	1

8 • Conclusion

8.1 For more information on Arkeia version 5

This may seem really obvious, but the next step after reading this Quickstart Manual is to read the Arkeia User Manual.

The Arkeia User Manual details the different subjects contained in this Quickstart Manual and adds a wealth of information that will allow you to properly configure, test and use your Arkeia version 5 installation.

Or, to use an often-used acronym: “RTFM”! (Read The “Fine” Manual).

8.2 Other sources of help

If you have a serious problem with the installation of Arkeia version 5, the Arkeia Technical Support Staff is ready to help you. You can contact the Arkeia Technical Support by typing the following URL in your world-wide-web browser:

```
http://www.arkeia.com/ccpagefree.html
```

If a Technical Support contract is needed, you can obtain more information on the Arkeia Technical Support Programs at the following URL:

```
http://www.arkeia.com/supportprogs.html
```

Arkeia offers several high-quality Technical Support programs that are able to answer the needs of even the most demanding environments. Please contact a representative from Arkeia Corporation for more information on this subject.