How to backup Zarafa with Arkeia

Zarafa is a powerful open source groupware system, which uses many free software such as Apache for HTTP/S services or MySQL and OpenLDAP as default backend for data storage (messages, events, folders, users ...).

Depending on the administrator objectives, there are several ways of implementing a backup strategy for a Zarafa server

This document will cover the following methods:

I - Using the Zarafa soft delete built-in feature
II - Using the Zarafa backup/restore tools
III – Using the Arkeia Hot Backup plugins
IV - Using the Arkeia Disaster Recovery module

I - Using the Zarafa soft delete built-in feature

For the backup/restore of items that have been recently deleted, using “soft delete” option provided by the server is a good solution. The soft delete feature of Zarafa enables to keep the deleted data in the database up to 30 days after the delete operation. This process is not a real backup method as it does not enable backups on external devices. It is however an easy to use quick restore method. Please refer to Zarafa documentations to configure and use the soft delete feature.

II - Using the Zarafa backup/restore tools

The Zarafa-backup program provides full and differential backups of the Zarafa data to enable point in time recovers of user data. You must notice that Zarafa-backup does not backup the meta data and the settings of the Zarafa server. Hence it is recommended to combine the data backup with a Disaster Recovery backup of your server to be able to fully restore the server.

II.1 - Backup

The principle is to launch a command before the Arkeia backup job that will run the Zarafa-backup tool and to backup the data in the folder on which the savepack is pointing.

II.1.1 - Create a savepack with a tree pointing on /tmp/zarafa-backup-dir
II.1.2 - Copy the following script on your local file system and make it executable:

```
#!/bin/bash

# this script will create a directory named zarafa-bkpdir
# in the /tmp directory of the zarafa server and populate
# the directory with the output of zarafa-backup tool

dir="zarafa-bkpdir"

if [ -d "/tmp/$dir" ]
    then
        cd "/tmp/$dir"&&\
        zarafa-backup -a
```

```
    else
        mkdir "/tmp/$dir"&&\
        cd /tmp/"$dir"&&\
        zarafa-backup -a
fi
echo "backup stored in /tmp/$dir"
```

II.1.3 - In the "command before savepack" field, enter the path to the script on the file system with the following syntaxe Host_FQDN:/path/to/the/script
II.1.4 - Launch the backup job

II.2 - Restore
II.2.1 - From the Arkeia database navigator, browse the Zarafa file system and select the Zarafa-backup folder
II.2.2 - Select the version of the folder corresponding to your restoration needs
II.2.3 - Launch the restoration job
II.2.4 - On the Zarafa server, open a terminal and use the zarafa-restore utility to restore the data as described below:

II.2.4.1 - Item restore
II.2.4.1.1 - locate the item that you want to restore by launching the readable-index.pl script provided by Zarafa:

example:

```
#/usr/share/zarafa/zarafa-backup-helpers/readable-
index.pl /tmp/zarafa-bkpdir/john.index.zbk
```

output:

```
# ./readable-index.pl /tmp/zarafa-backup-dir/john.index.zbk
```

RestoreKey	Type	Date	Item	Name
9000000	Folder	Mon Dec 10 13:46:34 2007	IPF.Note	Inbox
35000000	Message	Mon Dec 10 13:48:30 2007	IPM.Note	test
3D000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Note	new folder
0A000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Note	Outbox
0B000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Note	Deleted Items
0C000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Note	Sent Items
33000000	Message	Wed Jul 11 11:44:24 2007	IPM.Note	test
37000000	Message	Wed Jul 11 12:48:42 2007	IPM.Note	test
0D000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Contact	Contacts
0F000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Appointment	Calendar
39000000	Message	Mon Dec 10 13:46:42 2007	IPM.Appointment	test
3B000000	Message	Mon Dec 10 13:46:55 2007	IPM.Appointment	c'est No
0F000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Note	Drafts

10000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Journal	Journal
11000000	Folder	Wed Jul 11 10:44:14 2007	IPF.StickyNote	Notes
3C000000	Message	Mon Dec 10 13:47:15 2007	IPM.StickyNote	une note ...
11000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Task	Tasks
12000000	Folder	Wed Jul 11 10:44:14 2007	IPF.Note	Junk E-mail

II.2.4.1.2 - launch the zarafa-restore command with the appropriate option depending on what object you want to restore

example:

```
# zarafa-restore -u john 35000000 /tmp/zarafa-
backup/john.index.zbk
```

output:

```
Wed 12 Dec 2007 11:19:46 AM CET: Reading index from disk
Items are restored
```

II.2.4.2 - Full restore of user data

```
#zarafa-demo:/tmp/zarafa-backup# /usr/share/zarafa/zarafa-
backup-helpers/full-restore.sh john
```

III - How to backup Zarafa data using Arkeia hot backup plug-ins

III.1 - Backup

III.1.1 - Donwload and install Arkeia LDAP & MySQL plugin on the Zarafa server

III.1.2 - Configure the plugins as described in the related Arkeia documentation

```
# Sample of MySQL configuration file
(/opt/arkeia/arkeiad/arkpmysql.prf)

ARKPMYSQLLOGLEVEL               "10"
ARKPMYSQL_USOCKET               ""
ARKPMYSQL_HOST                  "localhost"
ARKPMYSQL_USER                  "root"
ARKPMYSQL_PASSWD                "zarafa"
ARKPMYSQL_PORT                  "0"
ARKPMYSQL_ARCHLOG_PATH          "/var/log/mysql/"
ARKPMYSQL_ARCHLOG_BASENAME      "mysql-bin"
ARKPMYSQL_DLOPEN_LIB_FILENAME   "libmysqlclient.so"

# Sample of LDAP configuration file
(/opt/arkeia/arkeiad/arkpldap.prf)

ARKPLDAPLOGLEVEL                "80"
ARKPLDAP_PORT                   "389"
ARKPLDAP_LOGIN_DN               "cn=admin,dc=zarafa,dc=com"
```

```
ARKPLDAP_PASSWD                 "secret"
ARKPLDAP_ROOT                   "dc=zarafa,dc=com"
```

III.1.3 - Create a savepack containing the LDAP and the MySQL directories plugins
III.1.4 - Launch a full backup

III.2 - Restore

III.2.1 - From the Arkeia database navigator, browse the Zarafa file system and select the MySQL and LDAP directories
III.2.2 - Select the version of the folder corresponding to your restoration needs
III.2.3 - Launch the restore

IV - Disaster Recovery

In order to perform a Disaster Recovery of a Zarafa server you must backup all data through Arkeia hot backup plugins as described above. Moreover, you have to backup the configuration files of MySQL, LDAP and Zarafa stored in the /etc directory. If this process provides a full backup of Zarafa application it will require to reinstall the Operating System and Zarafa prior to be able to restore the services so that it cannot be considered as a real Disaster Recovery backup.

As a matter of fact, the best way to perform a Disaster Recovery of the server is to run a backup that will enable the total restore of the machine including the OS, the application and the user data. This solution can be implemented thanks to the Arkeia Disaster Recovery module as described below:

IV.1 - Disaster Recovery Backup

IV.1.1 - After having purchase and entered the DR license, create a new savepack containing all the file system of the Zarafa server with the following options:
IV.1.1.1 - In the advanced options of the tree, check the "Disaster Recovery info allowed" check box
IV.1.1.2 - In the "File system allowed" drop down menu select "all except NFS"
IV.1.2 - Launch the backup

IV.2 - Disaster Recovery Restore

IV.2.1 - Boot on the provided DR ISO image provided
IV.2.2 - Enter the network information of the client/server and their IP address when prompted
IV.2.3 - Select the DR backup to restore
IV.2.4 - Run grub to reinstall the boot loader
IV.2.5 - Reboot the server