

Utilisation de Bacula dans un laboratoire

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Les besoins

Simplicité de mise en place sur les postes clients

Windows et Linux

Sécurité lors de l'accès aux données

Restauration simple pour l'utilisateur: interface graphique

Gratuit et maintenu

Performant, retour d'expérience des collègues

Visualisation Web, Modulable

Solution retenue: Bacula

Environnement: 40 utilisateurs, 90 machines bureautiques et 10 serveurs

Compression des données, disponibilité de 50 Go par utilisateur

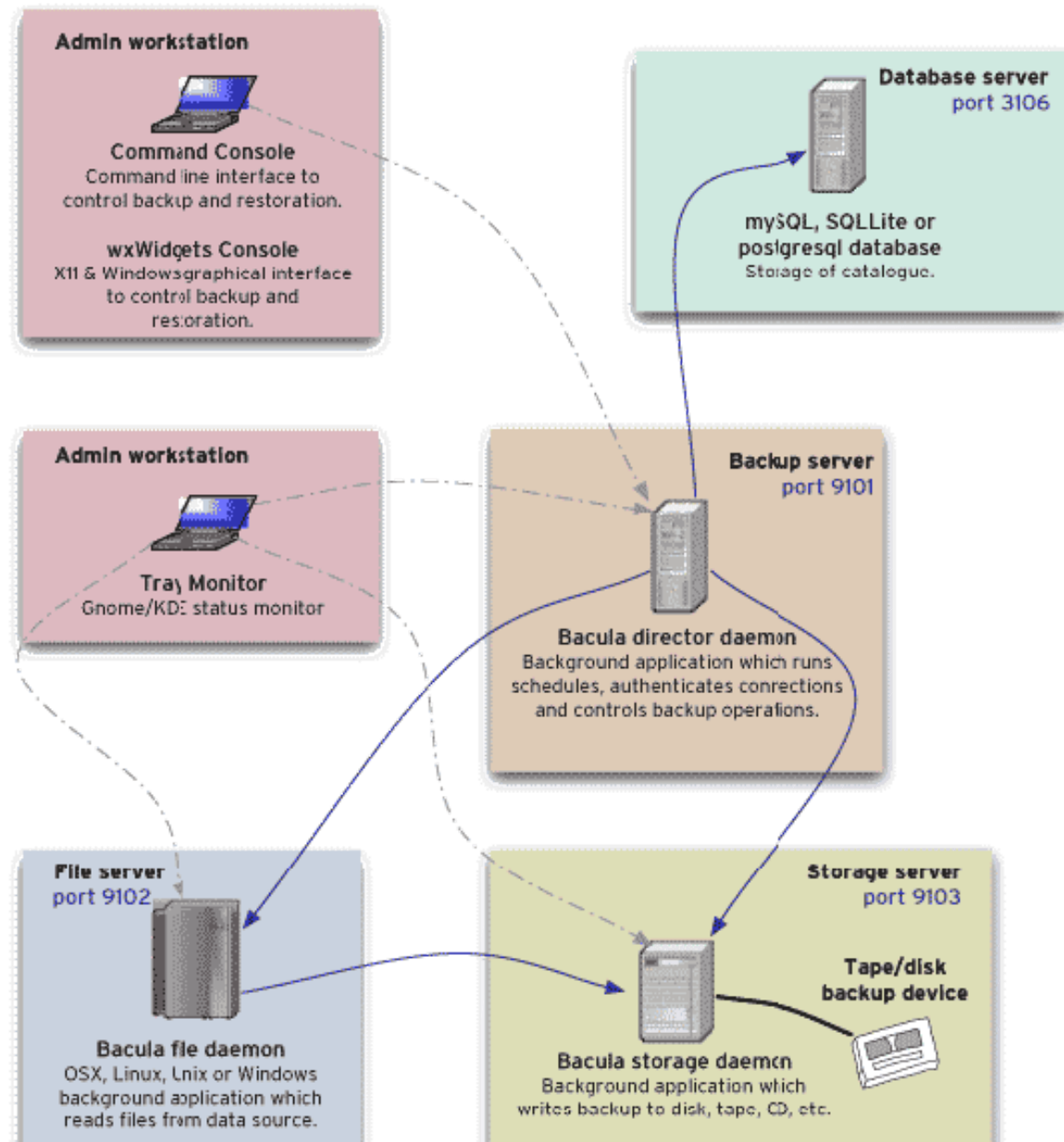
Transition de l'ancienne solution (Synchronisation) vers Bacula (sauvegardes totales, incrémentales et différentielles)

Stockage sur disques durs en RAID1

1 serveur dédié à la sauvegarde pour le service directeur et le service de stockage et la base de données

Fonctionnement avec un ordonnanceur (possibilité en manuel)

Fonctionnement



Fonctionnement

Director:

- serveur de sauvegarde
- gère le déclenchement des tâches de sauvegarde et de restauration
- gère le catalogue

File Server:

- Programme client
- s'exécute en local
- prend en charge les transferts de fichiers vers et depuis le Storage Server

Storage Server:

- stocke sur les unités de stockages

Catalog

- Stocke les informations relatives aux fichiers dans une base de données

Installation coté client

En 3 étapes:

- Installation du client bacula-fd
- Configuration du fichier bacula-fd.conf
- Démarrer le service

```
# For Bacula release 2.4.4 (28 December 2008) -- debian lenny/sid
#
# There is not much to change here except perhaps the
# File daemon Name to
#
# List Directors who are permitted to contact this File daemon
#
Director {
  Name = bacula-dir
  Password = "mon mot de passe"
}

#
# Restricted Director, used by tray-monitor to get the
# status of the file daemon
#
Director {
  Name = bacula-mon
  Password = "le mot de passe pour le mon"
  Monitor = yes
}

#
# "Global" File daemon configuration specifications
#
FileDaemon {                                # this is me
  Name = pascalle-fd
  FDport = 9102                             # where we listen for the director
  WorkingDirectory = /var/lib/bacula
  Pid Directory = /var/run/bacula
  Maximum Concurrent Jobs = 20
  #FDAddress = 127.0.0.1
}

# Send all messages except skipped files back to Director
Messages {
  Name = Standard
  director = bacula-dir = all, !skipped, !restored
}
```

Suivi des sauvegardes

Coté utilisateur:

- **Tray monitor:**

Petit icône dans la barre des tâches qui donne l'information sur l'état des sauvegardes en temps réel

- **bw-console:** pour lancer manuellement une sauvegarde

Coté administrateur:

- **messaging:** Configuration au niveau du « Director » pour recevoir un message électronique en cas de problème ou de succès d'une sauvegarde

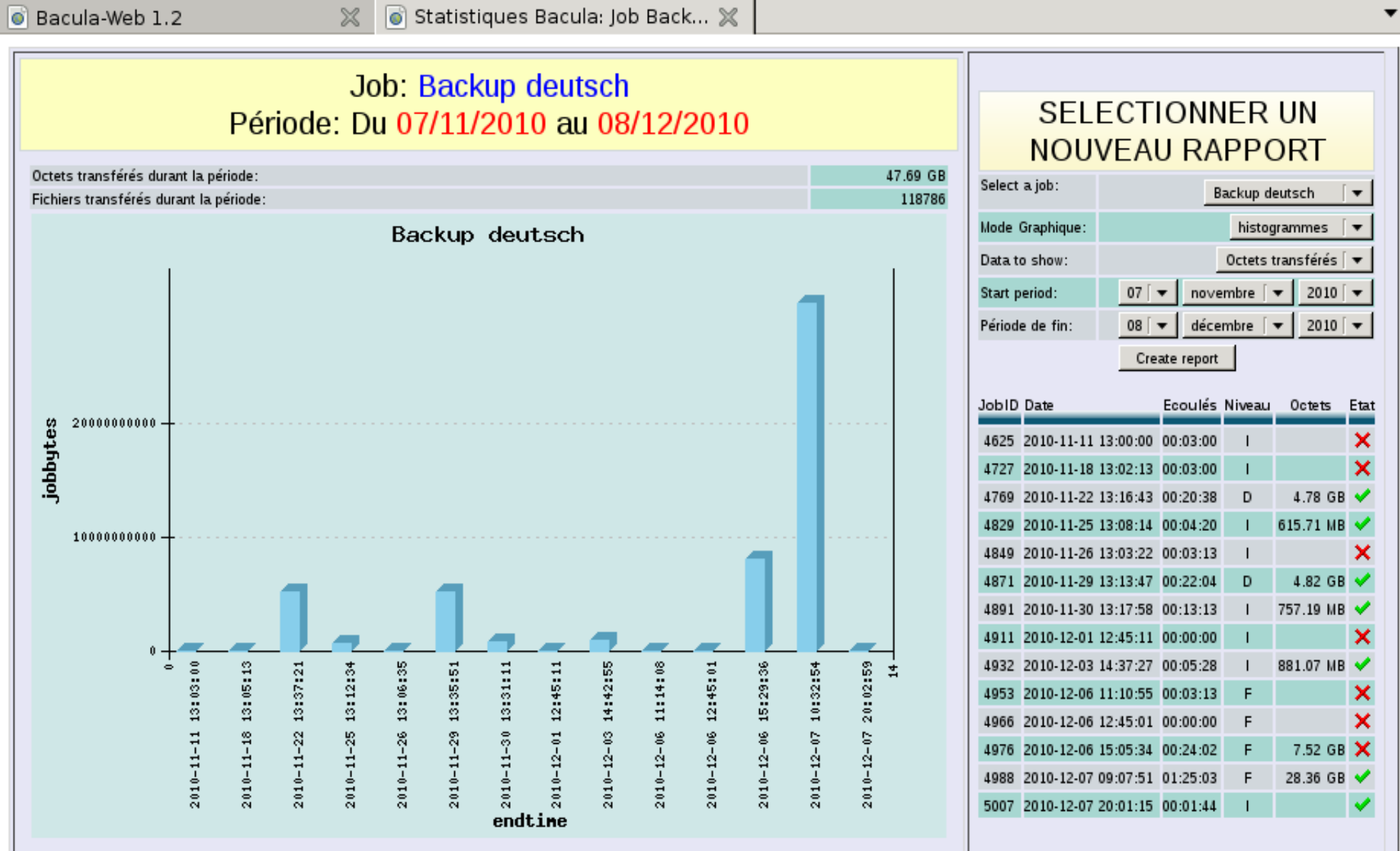
- **bconsole:** shell propre à bacula

Suivi des sauvegardes

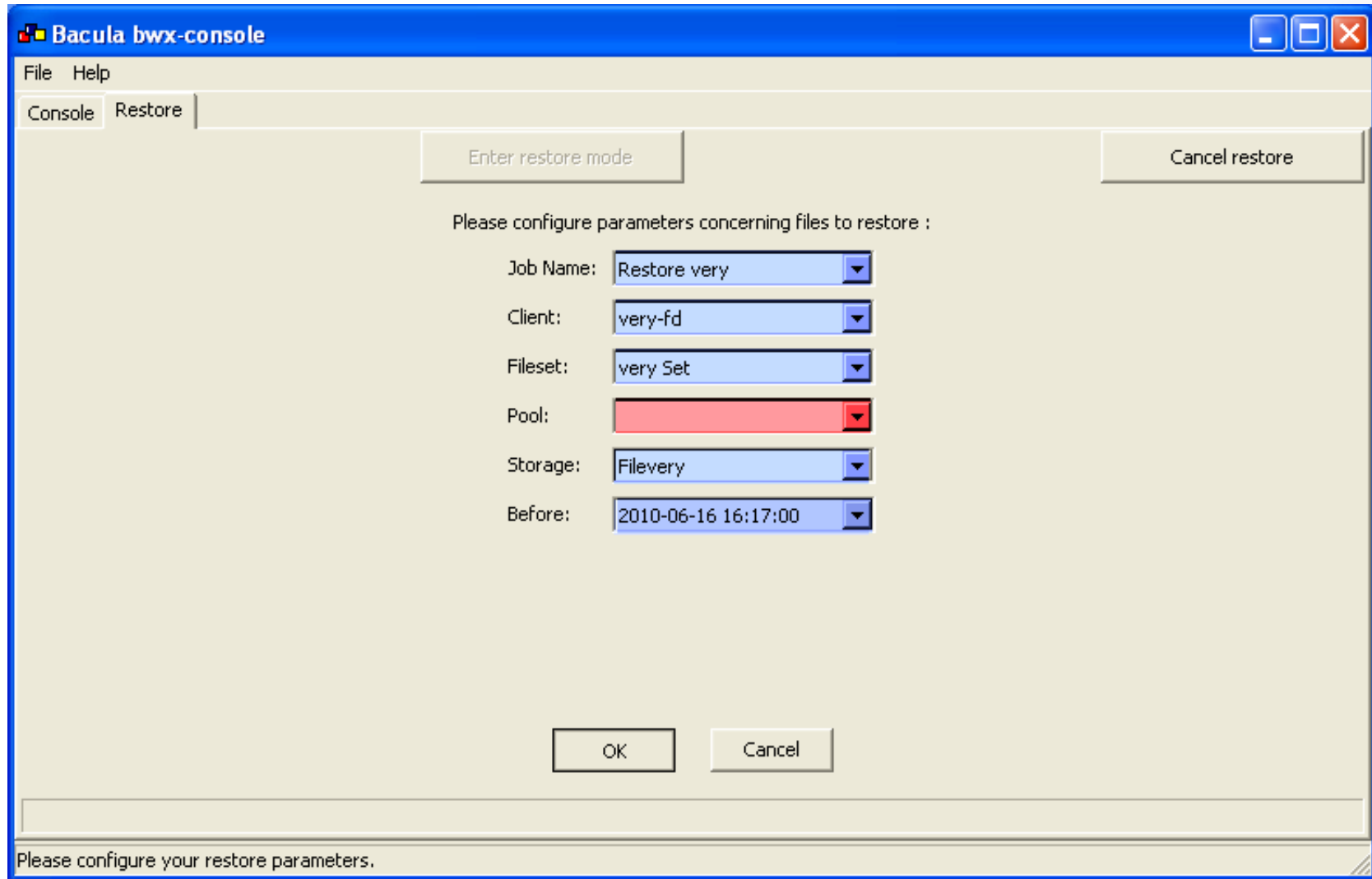


http://193.48.208.103/bacula-web/index.php?Full_popup=yes						
00:00:02	Backup alpha1	2010-12-07 19:47:43	2010-12-07 19:47:45	I	Alpha1-Incr-Pool	✓
00:00:04	Backup Catalog	2010-12-07 23:10:10	2010-12-07 23:10:14	F	Default	✓
00:00:04	Backup mussard	2010-12-07 20:17:14	2010-12-07 20:17:18	I	Mussard-Incr-Pool	✓
00:00:11	Backup dadda	2010-12-08 14:24:59	2010-12-08 14:25:10	F	Dadda-Full-Pool	✗
00:00:13	Backup pascale	2010-12-07 20:10:47	2010-12-07 20:11:00	I	Pascale-Incr-Pool	✓
00:00:18	Backup intranet	2010-12-07 19:47:22	2010-12-07 19:47:40	I	Intranet-Incr-Pool	✓
00:00:26	Backup intranet	2010-12-08 14:25:14	2010-12-08 14:25:40	I	Intranet-Incr-Pool	✓
00:00:29	Backup dadda	2010-12-08 12:12:05	2010-12-08 12:12:34	F	Dadda-Full-Pool	✗
00:01:44	Backup deutsch	2010-12-07 20:01:15	2010-12-07 20:02:59	I	Deutsch-Incr-Pool	✓
00:01:46	Backup doudouh	2010-12-08 14:31:41	2010-12-08 14:33:27	I	Doudouh-Incr-Pool	✓
00:01:47	Backup pmay	2010-12-08 12:10:17	2010-12-08 12:12:04	F	Pmay-Full-Pool	✗
00:02:50	Backup richalet	2010-12-08 14:28:50	2010-12-08 14:31:40	I	Richalet-Incr-Pool	✓
00:03:00	Backup clausee	2010-12-08 14:25:48	2010-12-08 14:28:48	I	Clausse-Incr-Pool	✗
00:03:00	Backup lecomte	2010-12-07 19:38:15	2010-12-07 19:41:15	F	Lecomte-Full-Pool	✗
00:03:00	Backup wenger	2010-12-07 20:14:14	2010-12-07 20:17:14	F	Wenger-Full-Pool	✗
00:03:00	Backup pmay	2010-12-07 19:44:19	2010-12-07 19:47:19	F	Pmay-Full-Pool	✗
00:03:00	Backup mathiot	2010-12-07 19:41:16	2010-12-07 19:44:16	F	Mathiot-Full-Pool	✗
00:03:07	Backup rock	2010-12-08 14:33:33	2010-12-08 14:36:40	I	Rock-Incr-Pool	✓
00:03:13	Backup claiser	2010-12-07 20:11:00	2010-12-07 20:14:13	I	Claiser-Incr-Pool	✗
00:03:13	Backup doudouh	2010-12-07 19:54:13	2010-12-07 19:57:26	I	Doudouh-Incr-Pool	✗
00:03:13	Backup richalet	2010-12-07 19:51:00	2010-12-07 19:54:13	I	Richalet-Incr-Pool	✗
00:03:13	Backup clausee	2010-12-07 19:47:47	2010-12-07 19:51:00	I	Clausse-Incr-Pool	✗
00:03:13	Backup pignatelli	2010-12-07 20:07:33	2010-12-07 20:10:46	I	Pignatelli-Incr-Pool	✗
00:03:40	Backup rock	2010-12-07 19:57:31	2010-12-07 20:01:11	I	Rock-Incr-Pool	✓
00:04:30	Backup schaniel	2010-12-07 20:03:01	2010-12-07 20:07:31	I	Schaniel-Incr-Pool	✓
00:04:52	Backup mathiot	2010-12-08 14:36:43	2010-12-08 14:41:35	I	Mathiot-Incr-Pool	✓
00:10:11	Backup paubert	2010-12-08 12:00:03	2010-12-08 12:10:14	I	Paubert-Incr-Pool	✓
00:41:56	Backup lecomte	2010-12-08 10:18:27	2010-12-08 11:00:23	F	Lecomte-Full-Pool	✓
01:29:54	Backup brezgunova	2010-12-07 15:46:48	2010-12-07 17:16:42	F	Brezgunova-Full-Pool	✓
02:12:21	Backup guillot	2010-12-08 12:12:36	2010-12-08 14:24:57	F	Guillot-Full-Pool	✗
02:21:29	Backup durand	2010-12-07 17:16:45	2010-12-07 19:38:14	F	Durand-Full-Pool	✓
05:06:59	Backup paubert	2010-12-07 10:39:41	2010-12-07 15:46:40	F	Paubert-Full-Pool	✓

Suivi des sauvegardes



Restauration par l'utilisateur



The screenshot shows the 'Bacula bwx-console' window with the 'Restore' tab selected. The window contains a 'Console' tab and a 'Restore' tab. The 'Restore' tab has a button 'Enter restore mode' and a button 'Cancel restore'. Below these buttons, there is a section titled 'Please configure parameters concerning files to restore :'. This section contains several dropdown menus for configuration: 'Job Name' (Restore very), 'Client' (very-fd), 'Fileset' (very Set), 'Pool' (a red bar), 'Storage' (Filevery), and 'Before' (2010-06-16 16:17:00). At the bottom of the window, there are 'OK' and 'Cancel' buttons. A status bar at the very bottom says 'Please configure your restore parameters.'

Bacula bwx-console

File Help

Console Restore

Enter restore mode Cancel restore

Please configure parameters concerning files to restore :

Job Name: Restore very

Client: very-fd

Fileset: very Set

Pool:

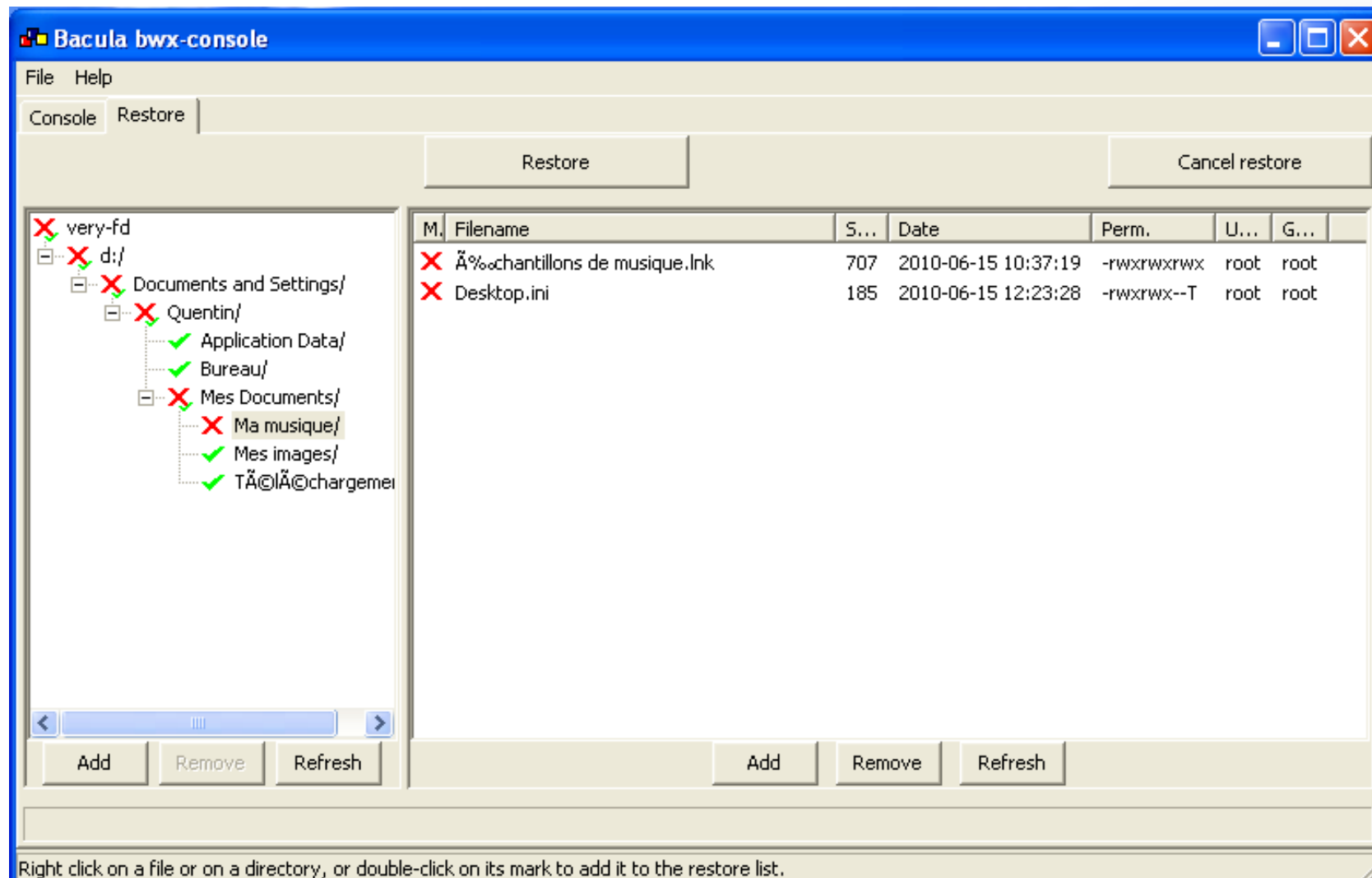
Storage: Filevery

Before: 2010-06-16 16:17:00

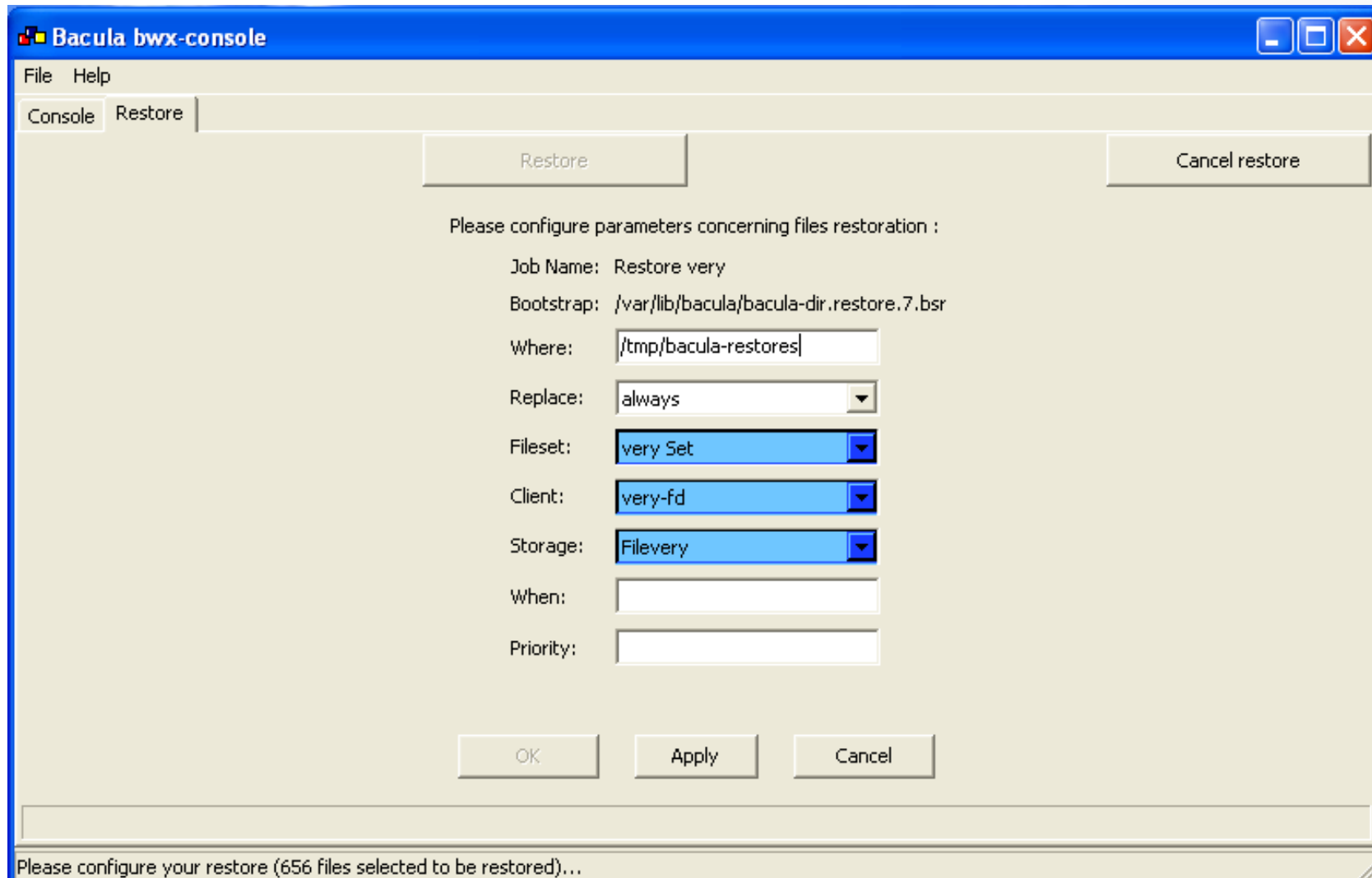
OK Cancel

Please configure your restore parameters.

Restauration par l'utilisateur



Restauration par l'utilisateur



The screenshot shows the 'Bacula bwx-console' window with the 'Restore' tab selected. The window contains a 'Restore' button and a 'Cancel restore' button. Below these buttons, a message reads: 'Please configure parameters concerning files restoration :'. The configuration parameters are as follows:

- Job Name: Restore very
- Bootstrap: /var/lib/bacula/bacula-dir.restore.7.bsr
- Where: /tmp/bacula-restores
- Replace: always
- Fileset: very Set
- Client: very-fd
- Storage: Filevery
- When: (empty field)
- Priority: (empty field)

At the bottom of the window, there are three buttons: 'OK', 'Apply', and 'Cancel'. A status bar at the very bottom of the window displays the text: 'Please configure your restore (656 files selected to be restored)...'.

Installation coté serveur

- Ajout d'un bloc dans le fichier `/etc/bacula/bacula-dir.conf`
- recharger la configuration du « Director »: `/etc/init.d/bacula-dir reload`
- Ajout d'un bloc dans le fichier `/etc/bacula/bacula-sd.conf`
- redémarrer le service bacula-sd: `/etc/init.d/bacula-sd restart`

Installation coté serveur

```

Console {
  Name = pascale-user
  Password = ""
  JobACL = "Restore pascale", "Backup pascale"
  ClientACL = pascale-fd
  StorageACL = Filepascale
  ScheduleACL = *all*
  PoolACL = *all*
  FileSetACL = "pascale Set"
  CatalogACL = MyCatalog
  CommandACL = *all*
  WhereACL = *all*
}
Job {
  Name = "Backup pascale"
  JobDefs = "Jobpascale"
}
Job {
  Name = "Restore pascale"
  Type = Restore
  Client = pascale-fd
  FileSet = "pascale Set"
  Storage = File
  Pool = Default
  Full Backup Pool = Pascale-Full-Pool
  Differential Backup Pool = Pascale-Diff-Pool
  Incremental Backup Pool = Pascale-Incr-Pool
  Messages = Standard
  Where = /tmp/bacula-restores
}

```

```

JobDefs {
  Name = "Jobpascale"
  Type = Backup
  Client = pascale-fd
  FileSet = "pascale Set"
  Schedule = "WeeklyCycle"
  Storage = Filepascale
  Messages = Standard
  Pool = Default
  Full Backup Pool = Pascale-Full-Pool
  Differential Backup Pool = Pascale-Diff-Pool
  Incremental Backup Pool = Pascale-Incr-Pool
  Write Bootstrap = "/var/lib/bacula/pascale.bsr"
  Priority = 10
}
Client {
  Name = pascale-fd
  Address = pascale.crm2.uhp-nancy.fr
  FDPort = 9102
  Catalog = MyCatalog
  Password = ""
  File Retention = 50 days
  Job Retention = 50 days
  AutoPrune = yes
}
# Prune expired Jobs/Files

```

Installation coté serveur

```
FileSet {
  Name = "pascale Set"
  Include {
    Options {
      signature = MD5
      compression=GZIP9
    }
    File = /home/fabien/.mozilla
    File = /home/fabien/Desktop
    File = /home/fabien/bin
    File = /home/fabien/public_html
    File = /mnt/vfat/crm2/
  }
  Exclude {
    File = Cache
    File = extensions
    File = .[a-z]*
  }
}
Storage {
  Name = Filepascale
  Address = bacula.crm2.uhp-nancy.fr
  SDPort = 9103
  Password = "
  Device = Filepascale
  Media Type = File
}
Pool {
  Name = Pascale-Full-Pool
  Pool Type = Backup
  Recycle = yes
  AutoPrune = yes
  Volume Retention = 59 days
  LabelFormat = "Pascale-Full-"
  Maximum Volumes= 2
  Maximum Volume Jobs= 1
  UseVolumeOnce = yes
}
```

```
Pool {
  Name = Pascale-Diff-Pool
  Pool Type = Backup
  Recycle = yes
  AutoPrune = yes
  Volume Retention = 13 days
  LabelFormat = "Pascale-Diff-"
  Maximum Volumes= 2
  Maximum Volume Jobs= 1
  UseVolumeOnce = yes
}
Pool {
  Name = Pascale-Incr-Pool
  Pool Type = Backup
  Recycle = yes
  AutoPrune = yes
  Volume Retention = 6 days
  LabelFormat = "Pascale-Incr-"
  Maximum Volumes= 7
  Maximum Volume Jobs= 1
  UseVolumeOnce = yes
}
```

Installation coté serveur

```
Director {
    # define myself
    Name = bacula-dir
    DIRport = 9101          # where we listen for UA connections
    QueryFile = "/etc/bacula/scripts/query.sql"
    WorkingDirectory = "/var/lib/bacula"
    PidDirectory = "/var/run/bacula"
    Maximum Concurrent Jobs = 1
    Password = "          " # Console password
    Messages = Daemon
    DirAddress = 193.48.208.103
}
Messages {
    Name = Standard
    mailcommand = "/usr/lib/bacula/bsmtp -h poincare.uhp-nancy.fr -f \"\\(Bacula\\) \\<%r\\>\" -s \"Bacula: %t %e of %c %l\\\" %r"
    operatorcommand = "/usr/lib/bacula/bsmtp -h poincare.uhp-nancy.fr -f \"\\(Bacula\\) \\<%r\\>\" -s \"Bacula: Intervention needed for %j\\\" %"
    mail = "fpascale@uhp-nancy.fr" = all, !skipped
    operator = "fpascale@uhp-nancy.fr" = mount
    console = all, !skipped, !saved
    append = "/var/lib/bacula/log" = all, !skipped
}
Messages {
    Name = Daemon
    mailcommand = "/usr/lib/bacula/bsmtp -h localhost -f \"\\(Bacula\\) \\<%r\\>\" -s \"Bacula daemon message\\\" %r"
    mail = root@localhost = all, !skipped
    console = all, !skipped, !saved
    append = "/var/lib/bacula/log" = all, !skipped
}
```

Installation coté serveur

```
Device {  
  Name = Filepascale  
  Media Type = File  
  Archive Device = /home/bacula/pascale  
  LabelMedia = yes;           # lets Bacula label unlabeled media  
  Random Access = Yes;  
  AutomaticMount = yes;      # when device opened, read it  
  RemovableMedia = no;  
  AlwaysOpen = no;  
}
```

Évolution

- Ajouter Verify aux Jobs existants Backup et restore
- Ajouter un serveur de stockage dans un autre batiment
- Mise en place de VirtualBackup
- Discussion avec les utilisateurs pour fixer la politique de sauvegarde.
Expliquer la différence entre archivage et sauvegarde