Diario de instalación de BackupPC

por Sergi Baila

Versiones

v0.1 (07.02.05 SBM) : creación del documento
v0.2 (01.03.05 SBM) : añado sección sobre backup de estación linux (portatil)
v0.3 (03.03.05 SBM) : añado sección sobre creación de archivos

Instalación de paquetes

Servidor

Instalamos paquetes (backuppc, smbfs, libfile-rsyncp-perl):

```
genie:~# apt-get install backuppc smbfs libfile-rsyncp-perl
Reading Package Lists... Done
Building Dependency Tree... Done
The following extra packages will be installed:
  libarchive-zip-perl libcompress-zlib-perl perl-suid smbclient
wwwconfig-common
Suggested packages:
  w3m www-browser par2 postgresql-client
The following NEW packages will be installed:
  backuppc libarchive-zip-perl libcompress-zlib-perl
libfile-rsyncp-perl perl-suid smbclient smbfs wwwconfig-common
0 upgraded, 8 newly installed, 0 to remove and 0 not upgraded.
Need to get 3524kB of archives.
After unpacking 9803kB of additional disk space will be used.
Do you want to continue? [Y/n]
Get:1 http://ftp.es.debian.org testing/main libcompress-zlib-perl
1.33-3 [50.2kB]
Get:2 http://ftp.es.debian.org testing/main libarchive-zip-perl
1.14-1 [85.1kB]
Get:3 http://ftp.es.debian.org testing/main wwwconfig-common 0.0.42
[20.4kB]
Get:4 http://ftp.es.debian.org testing/main perl-suid 5.8.4-5
[31.7kB]
Get:5 http://ftp.es.debian.org testing/main smbclient 3.0.10-1
[2482kB]
Get:6 http://ftp.es.debian.org testing/main backuppc 2.1.0-8 [410kB]
Get:7 http://ftp.es.debian.org testing/main libfile-rsyncp-perl
0.52-1 [80.7kB]
Get:8 http://ftp.es.debian.org testing/main smbfs 3.0.10-1 [363kB]
Fetched 3524kB in 40s (88.1kB/s)
Preconfiguring packages ...
Selecting previously deselected package libcompress-zlib-perl.
(Reading database ... 27949 files and directories currently
installed.)
Unpacking libcompress-zlib-perl (from
.../libcompress-zlib-perl_1.33-3_i386.deb) ...
Selecting previously deselected package libarchive-zip-perl.
Unpacking libarchive-zip-perl (from
.../libarchive-zip-perl_1.14-1_all.deb) ...
Selecting previously deselected package wwwconfig-common.
Unpacking wwwconfig-common (from
.../wwwconfig-common_0.0.42_all.deb) ...
Selecting previously deselected package perl-suid.
Unpacking perl-suid (from .../perl-suid_5.8.4-5_i386.deb) ...
Selecting previously deselected package smbclient.
Unpacking smbclient (from .../smbclient_3.0.10-1_i386.deb) ...
Selecting previously deselected package backuppc.
```

```
Unpacking backuppc (from .../backuppc_2.1.0-8_all.deb) ...
Selecting previously deselected package libfile-rsyncp-perl.
Unpacking libfile-rsyncp-perl (from
.../libfile-rsyncp-perl_0.52-1_i386.deb) ...
Selecting previously deselected package smbfs.
Unpacking smbfs (from .../smbfs_3.0.10-1_i386.deb) ...
Setting up libcompress-zlib-perl (1.33-3) ...
Setting up libarchive-zip-perl (1.14-1) ...
Setting up wwwconfig-common (0.0.42) ...
Setting up perl-suid (5.8.4-5) ...
Setting up smbclient (3.0.10-1) ...
Setting up backuppc (2.1.0-8) ...
Adding password for user backuppc
Starting backuppc: ok.

Setting up libfile-rsyncp-perl (0.52-1) ...
Setting up smbfs (3.0.10-1) ...
```

Add aliases for /backuppc/ to your apache config files ? [yes]

Se crea por defecto un usuario para la web 'backuppc' con password 'backuppc'. Cambiar con `htpasswd /etc/backuppc/htpasswd backuppc`.

Siguiendo las instrucciones del manual de BackupPC, añadimos la siguiente opción a `/etc/samba/smb.conf`:

```
unix charset = ISO8859-1
```

Descomentamos el parámetro `'--checksum-seed=32761',` de las opciones `RsyncArgs` y `RsyncRestoreArgs` del fichero principal de configuración `/etc/backuppc/config.pl`.

Estaciones de trabajo Windows

Las copias de seguridad de las estaciones de trabajo Windows las haremos via rsyncd, tal como se recomienda en diversos lugares de la documentación de BackupPC. Para ello, instalamos el paquete autónomo rsyncd descargable desde la propia página del proyecto BackupPC. (seguir las instrucciones del README.txt).

Utilizaremos siempre el mismo nombre de usuario y password para los rsyncd, configurandolo en el fichero `c:\rsyncd\rsyncd.secrets` para cada estación de trabajo, y en las opciones `RsyncdPasswd` y `RsyncdUserName` en el fichero de configuración del servidor.

Estaciones de trabajo Linux

Para las estaciones de trabajo Linux utilizaremos rsyncd igualmente. Pese a que leyendo la documentación la opción recomendada parece SSH. Para utilizar rsync sobre ssh hemos de permitir que el servicio de backup se conecte a la estación de trabajo como root. Eso implicaria abrir el acceso root via ssh, que por seguridad yo siempre cierro. Aún peor, necesitariamos habilitar el acceso de manera automática, normalmente con un certificado, lo cual aún seria *mas grave*. Obviamente, tendriamos que limitar ese acceso a permitir sólo rsync mediante una herramienta como *rssh*.

Por todo lo anterior, creo que la opción de rsyncd es más útil en este caso, ya que separa claramente el servicio de copia de seguridad del acceso a la máquina.

Configuración de estaciones a procesar

Para cada estación de trabajo Windows sobre la que queremos aplicar copias de seguridad, además de la instalación del servidor rsync (documentado anteriormente) hemos de configurar el fichero `c:\rsyncd\rsyncd.conf`:

```
#
# A sample rsyncd.conf file usable with BackupPC. This file does not
# completely document all of the settings for rsyncd.conf - see the
# man page that comes with the rsync ditribution for a comprehensive
# overview off all available settings.
#

#
# Allow rsync to change the root directory to the module location
# upon connection of a client. This is disabled for Win32 as we do
# not provide a full Cygwin environment.
#
# Warning: with a setting of "false", absolute symlinks will be
# stripped of their leading "/".  See "use chroot" in the
rsyncd.conf
# man page.  This is relevant for machines that support symlinks
# (WinXX machines do not).
#
use chroot = false

#
# Limit the simultaneous rsync connections to 4. Changing
# this to '1' should be sufficient for BackupPC.
#
max connections = 4

#
# Uncomment this line and change the path if
# you would like to log rsync messages.
#
# log file = c:/rsyncd/rsyncd.log

#
# The location of the rsync process ID file
#
pid file = c:/rsyncd/rsyncd.pid

#
# The locations of the rsync lock file
#
lock file = c:/rsyncd/rsyncd.lock

#
# This is where we define the rsyncd modules. Add as many
directories or
# files are you wish.  To backup this module using BackupPC, set
# $Conf{RsyncShareName} to "docs" in this client's config.pl.
#
[docs]
    #
    # Exact DOS style path to the file or directory to be rsync
accessible
    #
    path = c:/Documents and Settings

    #
    # A short description of the module. This is what is printed
when
    # using rsync to "browse" the server for what modules are
available.
    #
    comment = Documents and Settings

    #
    # Does rsyncd ensure that the secrets file is read only by the
    # user running the process? If this is false then no check is
    # performed (useful for Win32 systems). However, you can change
    # this to "true" and make the secrets file READ ONLY by the user
```

```
    # running the rysncd process. If running from the command line
    # or upon login, this should be the user who is logged in. If
    # running as a Win32 service, then the SYSTEM account should be
    # the only account that can read the secrets file.
    #
    strict modes = false

    #
    # What user(s) have access to this module. The user(s) must be
    # defined in the secrets file. A comma or space separated list.
    #
    # Example:
    #   auth users = backup, root, larry
    #   auth users = backup root larry
    #
    auth users = bkpuser

    #
    # The location of the secrets file. Permissions must be READ
ONLY
    # for the account running the rsyncd process unless
    # strict modes = false is set above.
    #
    secrets file = c:/rsyncd/rsyncd.secrets

    #
    # What hosts are allowed access to this module? By default, all
    # hosts are allowed access. If you wish to further strengthen
    # the security of your setup, uncomment and replace with the IP
    # address your BackupPC server. This is a flexible setting and
    # can be one of:
    #
    #   a dotted decimal IP address: 172.16.0.17
    #   a address/mask in the form  a.b.c.d/n: 172.16.0.0/24
    #   an address/mask in the form ipaddr/maskaddr:
172.16.0.0/255.255.255.0
    #   a hostname: backupserver
    #   a hostname pattern using wildcards: backup*
    #
    hosts allow = 192.168.1.1

    #
    # Only allow clients to READ from the server. This prevents
uploads
    # from remote machines. If you wish to allow uploads, change
this too
    # "true".
    #
    # WARNING: Setting this to true means that BackupPC restores via
    # rsyncd will fail. You most likely want to set this to "false".
    #
    read only = true

    #
    # Don't list this module if a client asks (provides another
modest
    # layer of security since an attacker also has to guess the
module
    # name - you could make it obscure if you want - but remember
the
    # module name is sent in plain text so it can be sniffed).
    #
    list = false

#
# Example of how to share the entire C: drive.  For BackupPC
"cDrive"
# is the share name (ie: the value of $Conf{RsyncShareName}).
#
[cDrive]
    path = c:
    comment = Entire Drive
    auth users = UUU
```

```
    secrets file = c:/rsyncd/rsyncd.secrets
    # hosts allow = 172.16.0.17
    strict modes = false
    read only = true
    list = false

[cc]
    path = c:/cc
    comment = compiladores y herramientas de desarrollo
    auth users = bkpuser
    secrets file = c:/rsyncd/rsyncd.secrets
    hosts allow = 192.168.1.1
    strict modes = false
    read only = true
    list = false

[almacen]
    path = c:/Almacen
    comment = almacen con datos a almacenar
    auth users = bkpuser
    secrets file = c:/rsyncd/rsyncd.secrets
    hosts allow = 192.168.1.1
    strict modes = false
    read only = true
    list = false

[prj]
    path = c:/prj
    comment = proyectos de desarrollo propios
    auth users = bkpuser
    secrets file = c:/rsyncd/rsyncd.secrets
    hosts allow = 192.168.1.1
    strict modes = false
    read only = true
    list = false
```

En el servidor hemos de añadir una linea al fichero `/etc/backuppc/hosts` y un fichero de configuración de esa estación de trabajo. Por ejemplo, para la anterior configuración (host `athlon`) los ficheros resultantes son:

```
genie:/etc/backuppc# cat hosts
#============================================================= -*-perl-*-
#
# Host file list for BackupPC.
#
# DESCRIPTION
#
#   This file lists all the hosts that should be backed up by
#   BackupPC.
#
#   Each line in the hosts file contains three fields, separated
#   by white space:
#
#     - The host name.  If this host is a static IP address this
#       must the machine's IP host name (ie: something that can
#       be looked up using nslookup or DNS).  If this is a DHCP
#       host then the host name must be the netbios name of the
#       machine.  It is possible to have a host name that contains
#       spaces, but that is discouraged.  Escape a space with "\", eg:
#
#                 craigs\ pc
#
#     - DHCP flag.  Set to 0 if this is a static IP address host
#       or if the machine can be found using nmblookup.  Otherwise,
#       if the client can only be found by looking through the DHCP
#       pool then set this to 1.
#
#     - User name (unix login/email name) of the user who "owns"
#       or uses this machine.  This is the user who will be sent
```

```
#       email about this machine, and this user will have permission
#       to stop/start/browse/restore backups for this host.  This
#       user name must match the name the user authenticates with
#       via apache.
#
#     - Optional additional user names (comma separated, no white space)
of
#       users who are also allowed to stop/start/browse/restore backups
#       for this client via the CGI interface.  These users are not sent
#       email.  These do not need to be valid email names; they simply
#       need to match the name the user authenticates with via apache.
#
# AUTHOR
#   Craig Barratt  <craig@arraycomm.com>
#
# COPYRIGHT
#   Copyright (C) 2001  Craig Barratt
#
#   See http://backuppc.sourceforge.net.
#
#==========================================================================

#
# The first non-comment non-empty line gives the field names and should
# not be edited!!
#
host        dhcp    user    moreUsers     # <--- do not edit this line
#farside    0       craig   jill,jeff     # <--- example static IP host
entry
#larson     1       bill                  # <--- example DHCP host entry
localhost   0       backuppc
athlon      0       sbaila@ticop.com
miniyo      0       anna@thewebspain.com
archive     0       sbaila@ticop.com

genie:/etc/backuppc# cat athlon.pl
#
# athlon
#
$Conf{XferMethod} = 'rsyncd';

$Conf{RsyncShareName} = ['docs','cc','almacen','prj'];
```

Estaciones linux

Para las estaciones linux sólo tenemos que instalar el paquete *rsync* en el cliente (la estación de trabajo). Crear los ficheros `/etc/rsyncd.conf` y `/etc/rsyncd.secrets` como por ejemplo:

```
enterprise:/etc# ls -l rsy*
-rw-r--r--  1 root root 415 Mar  1 09:39 rsyncd.conf
-rw-------  1 root root 483 Mar  1 09:40 rsyncd.secrets
enterprise:/etc# cat rsyncd.conf
#
# rsyncd para enterprise
#

pid file=/var/run/rsyncd.pid
lock file = /var/lock/rsyncd
read only = yes
list = false
auth users = bkpuser
strict modes = true
secrets file = /etc/rsyncd.secrets
hosts allow = 192.168.1.1

[root]
  comment = home de root
  path = /root
```

```
[home]
  comment = homes
  path = /home

[etc]
  comment = configuraciones
  path = /etc

[var]
  comment = datos de programas
  path = /var


enterprise:/etc# cat rsyncd.secrets
#
# The format of this file is user:password. You can have as many
entries
# as you wish. These accounts are sepecifc to the rsync daemon and
share
# no relation to Windows local/domain accounts, nor Cywin entries in
the
# passwd file.
#
# SECURITY WARNING: Don't use these defaults of UUU for the user
name
# and PPP for the password! Change them!!
#
# Also: make sure this file ends in a newline.  Otherwise the last
# username/password pair will be ignored.
#
bkpuser:xxxxxxxxx
```

La configuración para este caso de ejemplo del BackupPC sería básicamente añadir en el servidor una linea al fichero `/etc/backuppc/hosts` y crear el fichero `/etc/backuppc/enterprise.pl`:

```
genie:/etc/backuppc# cat enterprise.pl
$Conf{XferMethod} = 'rsyncd';
$Conf{RsyncShareName} = ['etc','home','var','root'];
```

También, en el servidor, es necesario que pueda encontrar el nombre de la máquina. En el caso de una IP fija, la opción más sencilla es mediante una entrada en `/etc/hosts`.

Por último tenemos que ejectuar el daemon rsync en el cliente. Tenemos dos opciones, ejecutarlo permanentemente o bajo demanda mediante inetd. Escogemos la primera opción, ya que en mi caso no uso inetd para nada y usarlo sólo para rsync no me parece procedente.

Cambio la configuración en `/etc/default/rsync` para que el daemon esté activo por defecto y ejecuto `dpkg-reconfigure rsync` para que me prepare el entorno y auto-ejecute el servicio.

Creación de archivos

Aunque este software nos crea varias copias de seguridad, y aunque podamos proteger ese servidor usando un RAID 1 o mejor aún un RAID 5, sigue siendo un sólo punto de copias de seguridad. Además, está en la misma red que los PCs que protege (normalmente). Es posible que nuestros requerimientos nos lleven a hacer copias de seguridad externas al servidor, en soporte DVD, cinta... cualquier cosa.

BackupPC proporciona un mecanismo para generar archivos bajo demanda. Su uso es similar a configurar un nuevo host, pero indicando como método la palabra 'archive'. Por ejemplo, en mi caso tengo el fichero `/etc/backuppc/archive.pl` para preparar copias de seguridad externas en DVD:

```
sargue@genie:~$ cat /etc/backuppc/
```

```
apache.conf    athlon.pl      enterprise.pl  htgroup
localhost.pl
archive.pl     config.pl      hosts          htpasswd
miniyo.pl
sargue@genie:~$ cat /etc/backuppc/archive.pl
#
# archivo de backups externo (en DVD-5)
#

$Conf{XferMethod} = 'archive';


sargue@genie:~$
```

Como véis es muy sencillo, pero claro, porque he modificado las opciones globales de archivado. Se pueden crear tantos *hosts* para archivo como se necesiten, con opciones específicas. Las opciones de archivado están en el fichero general de configuración y son estas:

```
#
# Archive Destination
#
# The Destination of the archive
# e.g. /tmp for file archive or /dev/nst0 for device archive
#
$Conf{ArchiveDest} = '/var/lib/backuppc/archives';

#
# Archive Compression type
#
# The valid values are:
#
#   - 'none':  No Compression
#
#   - 'gzip':  Medium Compression. Recommended.
#
#   - 'bzip2': High Compression but takes longer.
#
$Conf{ArchiveComp} = 'gzip';

#
# Archive Parity Files
#
# The amount of Parity data to generate, as a percentage
# of the archive size.
# Uses the commandline par2 (par2cmdline) available from
# http://parchive.sourceforge.net
#
# Only useful for file dumps.
#
# Set to 0 to disable this feature.
#
$Conf{ArchivePar} = 0;

#
# Archive Size Split
#
# Only for file archives. Splits the output into
# the specified size * 1,000,000.
# e.g. to split into 650,000,000 bytes, specify 650 below.
#
# If the value is 0, or if $Conf{ArchiveDest} is an existing file or
# device (e.g. a streaming tape drive), this feature is disabled.
#
$Conf{ArchiveSplit} = 4500;

#
# Archive Command
#
# This is the command that is called to actually run the archive process
# for each host.  The following variables are substituted at run-time:
```

```
#
#   $Installdir    The installation directory of BackupPC
#   $tarCreatePath The path to BackupPC_tarCreate
#   $splitpath     The path to the split program
#   $parpath       The path to the par2 program
#   $host          The host to archive
#   $backupnumber  The backup number of the host to archive
#   $compression   The path to the compression program
#   $compext       The extension assigned to the compression type
#   $splitsize     The number of bytes to split archives into
#   $archiveloc    The location to put the archive
#   $parfile       The amount of parity data to create (percentage)
#
$Conf{ArchiveClientCmd} = '$Installdir/bin/BackupPC_archiveHost'
        . ' $tarCreatePath $splitpath $parpath $host $backupnumber'
        . ' $compression $compext $splitsize $archiveloc $parfile *';
```

Hay que tener en cuenta que el tipo de compresión, la paridad si se quiere y el tamaño nos los pide de nuevo al ordenar el archivo, por si los queremos modificar.

Referencias

Proyecto BackupPC

Esta obra está bajo una licencia de Creative Commons.