

Sauvegarde et restauration

Introduction

BlueMind automatically generates backups so that data can be easily restored through the admin console.

All system data (calendar/contacts/emails) is saved at regular intervals and placed in a system directory. An additional backup system (Bacula, TiNa, etc.) can be used to copy and externalize these backups on tapes or on the external system.

The backup data is organized so that you can go back in time and restore user data at a specific point.

Backup frequency can be configured and depends on the disk space you have available. Please note that the minimum time between backups is of one day.

Backups can then be linked to a centralized enterprise backup software (Time Navigator, NetBackup, etc.).

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Related:

What are the benefits of an integrated backup system?

- **Time-saving**
Backups are incremental. Only changes (new messages, deletions, etc.) since the previous backup are transferred.
- **More functionalities**
The system manages data history.
- **More space available**
The system historizes data without duplicating it. Each backup is stand-alone (snapshot-like), even if only differences have been transferred. As a result, 10 backups can occupy the same amount of space as your mail storage.
- **Optimization**
Data is deduplicated automatically.

Purpose

- **Comprehensiveness**
The main purpose of the backup tool is to ensure that current and future data is automatically saved, whether it be mail (messages stored as folders) calendar and address book data (stored in databases) or configuration files.
- **Compatibility**
Backups need to remain compatible with software versions, regardless of when they were performed. I.e., a backup in a given version must always be available in a more recent version of BlueMind.
- **Performance**
Backups must not cause service disruptions and must be designed and performed within a short time-frame to ensure data consistency when it is restored. This constraint is at the core of the design of the BlueMind backup system.
- **History**
Data needs to be backed up incrementally and its history saved at the same time. The historization feature is particularly interesting for those who lack a large backup infrastructure: one piece of data is only present in one backup and new data is stored in an increment. In addition, to ensure safe restoration, the program reconstructs the data to be saved from one backup and one or several increments. This is transparent for the administrator who is able to specify the date the data should be restored from.

Technical backup architecture

- **Storage and historization component**
BlueMind relies on the open-source software obnam. This outstanding tool allows you to make incremental copies while historizing data. The mail spool and the database backup are injected into obnam, which provides intricate historization and significant space savings.
- **BlueMind modules and backups**
BlueMind's architecture allows you to split services over distinct servers. Depending on the services hosted on each server, they can be assigned different backup methods and data can be stored on one application node (mail spool, database, index, archiving, etc.). As a result, each role assigned to BlueMind servers has its specific backup procedure, thus ensuring optimum and comprehensive data retrieval.
- **Backup location**
Backup data is usually stored on a stand-alone external backup server. BlueMind offers you ways of configuring backup storage space:
 1. set up an NFS mount on your production server's file system.
 2. use a dedicated node (a server) of the BlueMind architecture which acts exclusively as a backup server.You can use either option depending on your availabilities and your infrastructure type, bearing in mind to keep production and backup data separate to make sure that you are able to remount services in the event of lost or corrupted data .
- **Integration in a backup infrastructure**
Information systems are typically equipped with backup infrastructure. Software such as Atempo Time Navigator, Tivoli Storage Manager or Net Backup centralize backup methods and manage your backups' historization. These tools interface well with BlueMind. They require specific configuration to enable the storage of BlueMind's backup history.

The BlueMind server performs the backup of production data securely, comprehensively and immediately. The client's backup software must be configured not to historize data. That way, the third-party backup software retrieves the contents of the backup made by BlueMind and transfers it to another tape or other medium.

NFS mount configuration

For ext3 or ext4 NFS mount points, you need to apply the options *nodiratime* and *noatime* to speed up disk access. Advanced file systems such as NTFS, ext3/4 allow you to know the last file access date. For each file read, an additional writing operation is performed in order to modify the last file access date and check it. Here is an example of mount for the file */etc/fstab*:

```
# NFS mount point
nas.mydomain.lab:/backup /var/backups/bluemind nfs rw,soft,noatime,nodiratime,vers=3,exec 0 0
```

Next, we recommend that you test the mount to make sure it is running properly, using the following command lines:

```
cd /var/backups/bluemind
sudo touch test
sudo chown cyrus:mail
```

Make sure that rights are set properly:

```
ls -l /var/backups/bluemind/test
-rw-r--r-- 1 cyrus mail 0 Nov  6  2014 test
```

Then, delete this test file:

```
sudo rm test
```



Permanent path

To use the same path to access your latest backup all the time, you may want to use the following script which creates a "last" folder always pointing to the latest backup:

```
#!/bin/bash
parts=("bm/es" "bm/pgsql" "filehosting/data" "mail/imap" "mail/archive")
server_ip="192.168.124.72"

for part in ${parts[@]}
do
    echo "creating last directory for part : $part"
    # get last backup directory
    last_version=`ls -tr /var/backups/bluemind/dp_spool/rsync/$server_ip/$part | grep -v "last"
| tail -1`
    echo "last version : $last_version"
    # create link
    rm /var/backups/bluemind/dp_spool/rsync/$server_ip/$part/last
    ln -s /var/backups/bluemind/dp_spool/rsync/$server_ip/$part/$last_version /var/backups
/bluemind/dp_spool/rsync/$server_ip/$part/last
done
```

Backup configuration

The admin console allows you to configure the number of daily backups you want to keep.

To set up a backup policy, go to the BlueMind administration page > Backup and Restore > Settings > Configuration:

BlueMind Administration

Central administration > Backup and Restore > Settings > Configuration

admin0 admin0

bluemind.loc

Directories

System Management

Security

Monitoring console

Backup and Restore

RETENTION POLICY

The retention policy controls how long protected data is retained on backup partitions.

Daily * 7

BACKUP

Backup emails

Save Cancel

- **Retention policy:** sets the number of days to keep a backup (here, daily backups)
- **Backup emails:** when checked, emails are included in the backup, when unchecked, only contact, calendar and task data is backed up. This allows you to avoid double backups when messages are already backed up in another dedicated system.



Backup Performance

We strongly recommend against enabling this option if you have a large mail spool (~1Tb, although the backup system's effectiveness may vary depending on the backup space chosen).

There are several alternatives:

- hypervisor tools (backup of the spool's virtual disk, VMs...)
- internal system technologies (e.g. LVM snapshots)
- internal storage technologies (snapshots in the storage bay)

That way you can use BlueMind's backup system for other data only (contacts/agenda/tasks) which can be restored through the admin console and an external backup system for email – which can be bigger.

Restoration

One single BlueMind backup enables you to perform both a disaster recovery plan and single-user restoration (for a user's data or part of it).

Disaster Recovery Plan (DRP)



For data restoration to work, the server must have the same IP address and the same BlueMind version as the original server.

All data is restored when you install or re-install BlueMind.

When you install BlueMind using the Setup Wizard, you can choose either to install a blank BlueMind system, or perform a global restoration. A global data restoration allows you to rebuild your entire server from a backup, and is akin to a DRP restoration.

This solution is an easy, fast and safe way for you to rebuild a new BlueMind server.

Single-user Restoration

The single-user restoration functionality BlueMind offers is extremely useful if you want to restore a single user's data quickly. Restoration is done graphically and enables you to choose the object type (entity: user, mail, calendar, shared mailbox, etc.), and then the object whose data you want to restore itself. This functionality also relies on data historization to choose the date of the data to backup.