Gladinet Cloud Backup V3.0 User Guide

Foreword

The Gladinet User Guide gives step-by-step instructions for end users.

Revision History

Date	Description	Version
8/20/2010	Draft Gladinet User Guide.	0.1
2/14/2011	Update with 3.0 features	3.0

CONTENTS

GLADINET CLOUD STORAGE ACCESS SUITE

Gladinet's suite of solutions facilitates seamless access, aggregation, synchronization and backup to cloud storage. Most cloud storage services require access through a RESTful API. As a result, legacy applications are unable to access the cloud and new applications must be developed. Gladinet's products provide connectivity to the cloud for existing applications using existing protocols. In other words, many existing applications, like SQL Server, do not know how to talk to a cloud storage service but they do know how to talk to a local disk or network share. Since Gladinet makes cloud storage accessible through a local disk or network share, products like SQL Server can use cloud storage without requiring any special customization.

Gladinet's access platform helps to addresses the primary barriers to cloud storage adoption, including:

- **Usability** – Files in the cloud are exactly as accessible as they would be on a local disk or network share. All files on Gladinet instances are available from any web browser, even on an iPad, iPhone, or Android device.
- **Data Ownership** – Data can easily be replicated to multiple providers or moved between providers giving users more control of their data.
- **Privacy** – Gladinet provides the assurance that data stored in the cloud is protected during transmission and while stored in the cloud.
- **Reliability**- The ease of duplication across multiple service providers can mitigate risks related to reliability.
- Flexibility – Gladinet's solutions are developed to operate over any mix of cloud storage infrastructures, enabling seamless integration into existing systems.

If you have any questions or problems with Gladinet's platform, please contact our Helpdesk via support@gladinet.com. More information is also available from the company website at http://www.gladinet.com.

PRODUCT OVERVIEWS

The Gladinet Access Suite consists of four products: **Cloud Desktop**, **Cloud AFS**, **Cloud Backup**, and **Cloud Space**.

1. Gladinet Cloud Desktop (GCD) is a desktop application with three main functions:

- Map a network drive to cloud storage for easy access.

- Perform simple backups to cloud storage

- 2-way synchronization using cloud storage

Figure 1 shows how a folder is created for each cloud storage service. These cloud storage folders can be manipulated exactly as if they were folders on the local disk. The same is true for the files within them. For example, dragging a file into the folder labeled "Cloud Storage" would cause that file to be uploaded to AT&T Cloud Storage.

Figure 1 : Gladinet Cloud Desktop's Network Drive
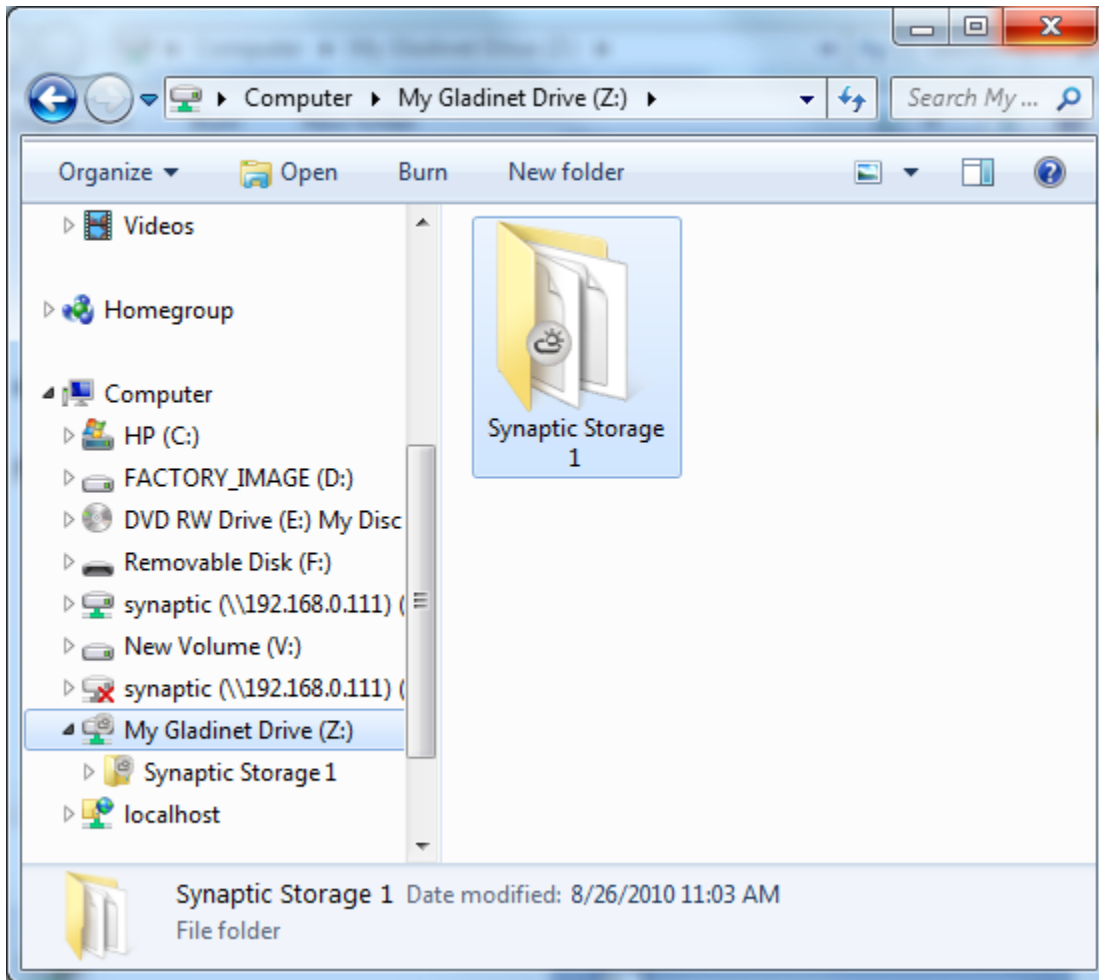
2. Gladinet Cloud AFS creates a gateway to cloud storage. It allows cloud storage to be mounted as a local disk on a file server. The contents of that disk can then be published as a network share that is accessible via CIFS or NFS.

Figure 2 shows an example of this with AT&T Cloud Storage.

Figure 2: Gladinet Cloud AFS Published Share
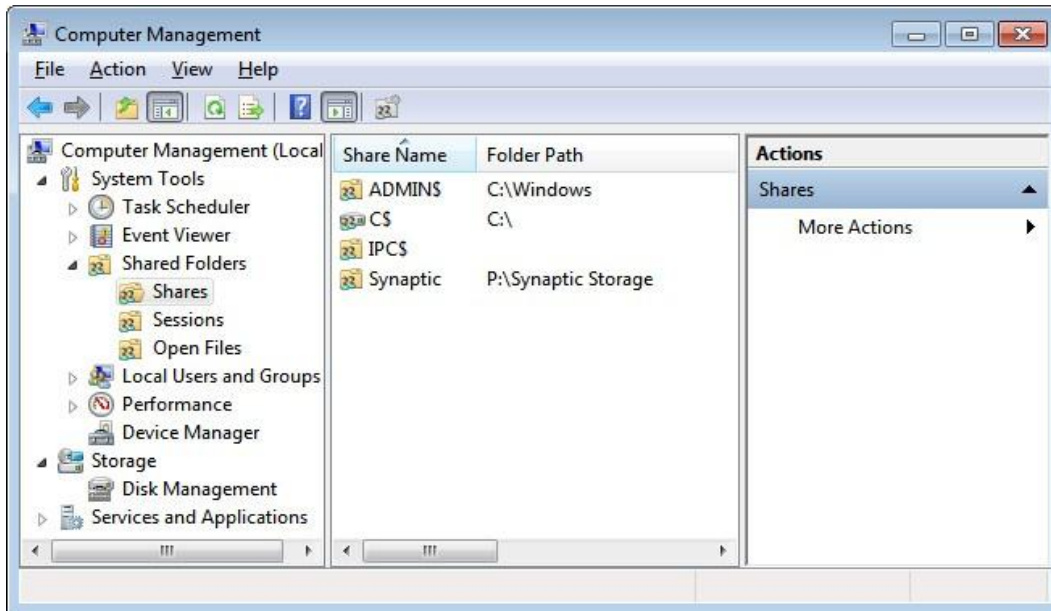
Here we see that Cloud Storage has been attached as a folder on a local disk which can now be published as a network share.

3. Gladinet Cloud Backup allows the backup of folders and files from Windows servers and clients. It allows the backup of SQL Server, Exchange Server and other live applications data to the cloud storage service of your choice. It supports full and incremental backups with the ability to easily recover data to any machine.

Figure 3: Gladinet Cloud Backup Management Console
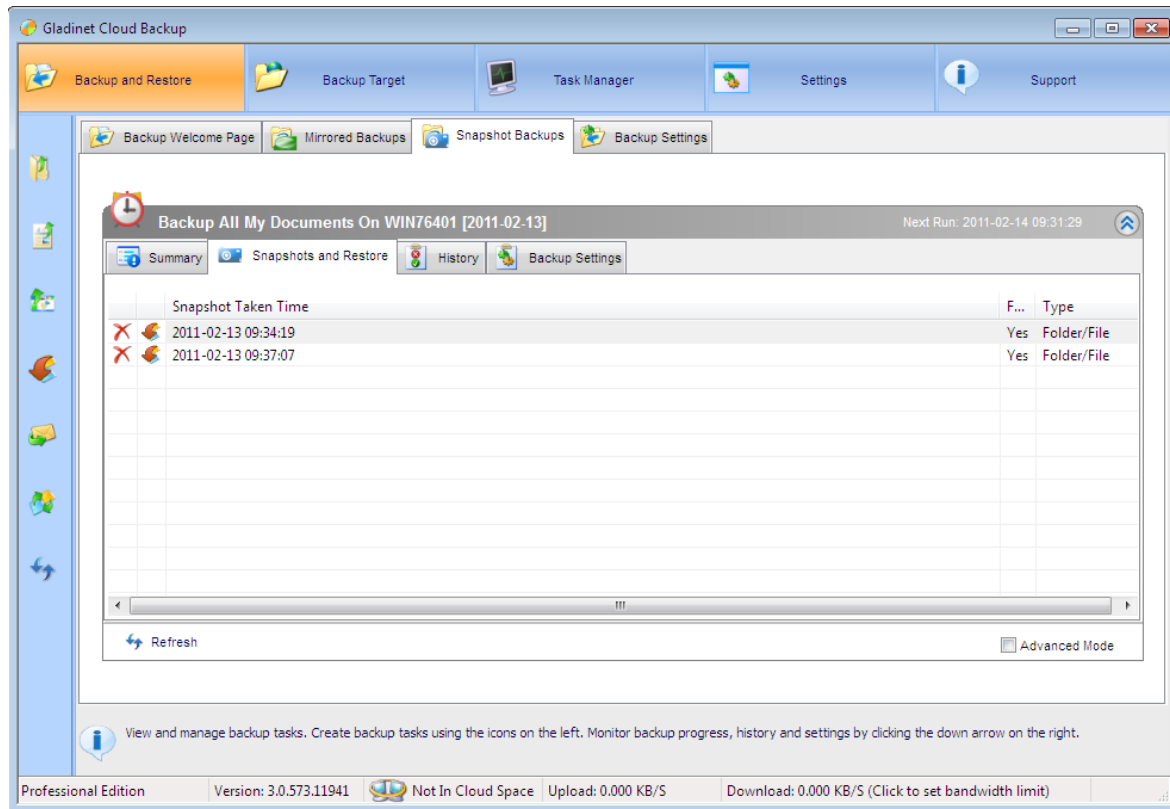
4. Gladinet Cloud Space ties these offerings together by creating a virtual, personal cloud to which Gladinet instances can be added. All files on each instance then become accessible through any web browser, including on an iPad, iPhone or Android device.

Figure 3: Gladinet Cloud Space
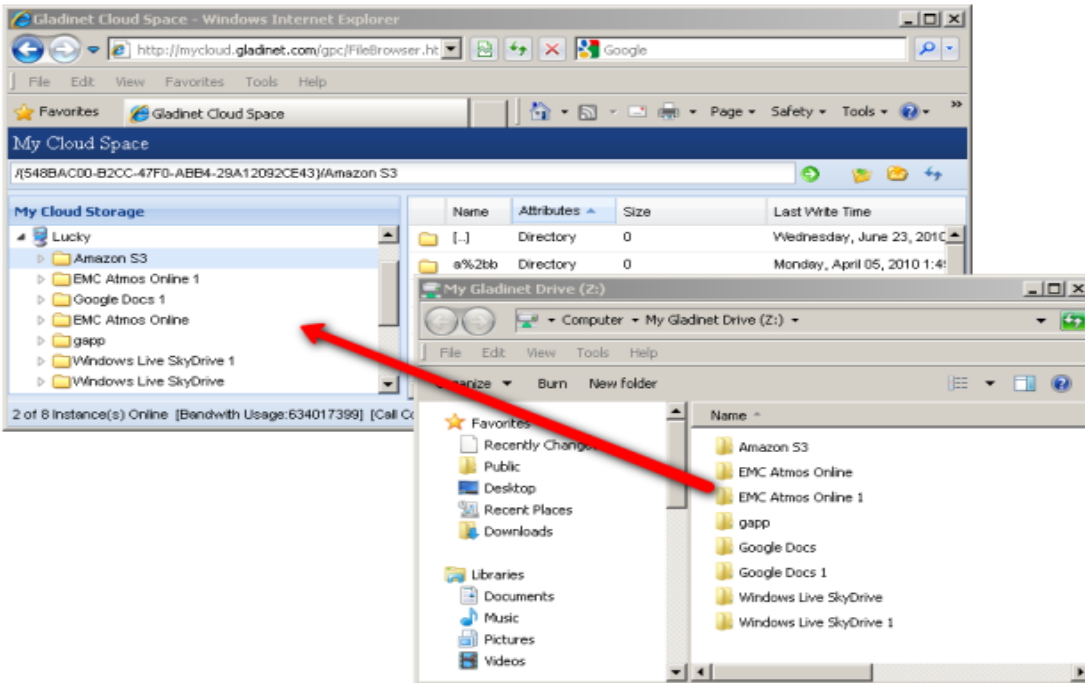
Gladinet Cloud Backup

Installing Gladinet Cloud Backup

First download the Cloud Backup MSI package from the Gladinet download page. This implies you are using a Microsoft Windows client and not Mac, Linux, UNIX, BSD, etc. If your Windows OS is 32-bit, you need to download the 32-bit MSI package. If your Windows OS is 64-bit, you need to download 64-bit MSI package.
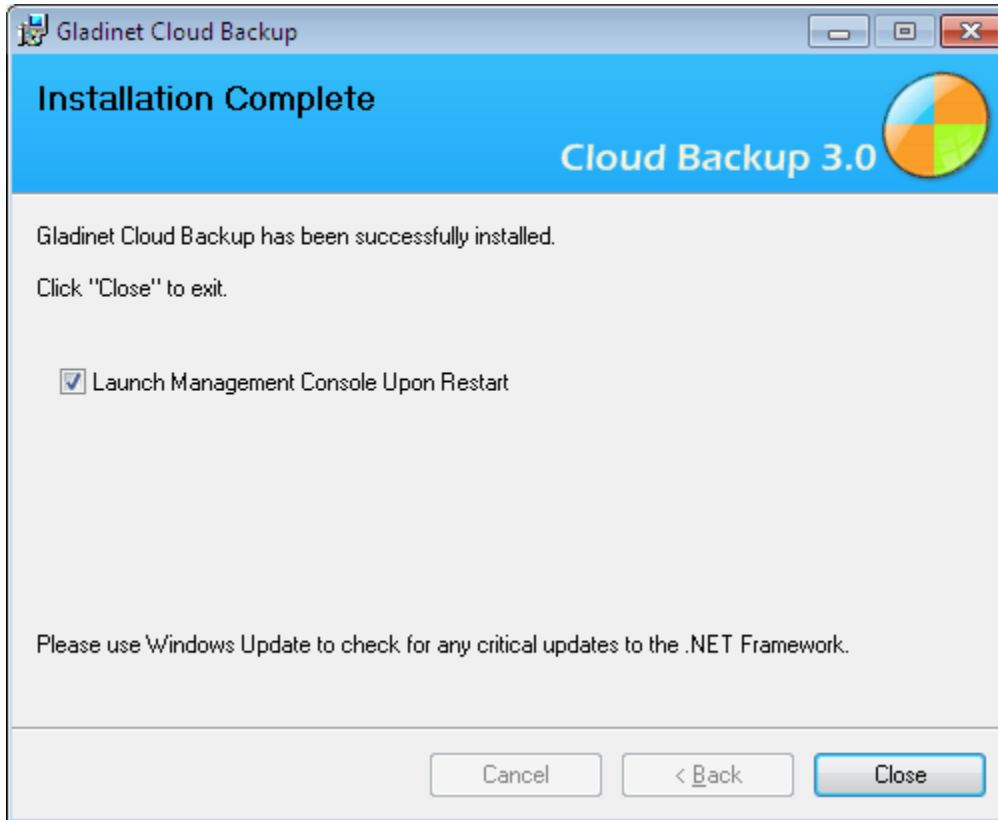
Double click the MSI package to start the installation.
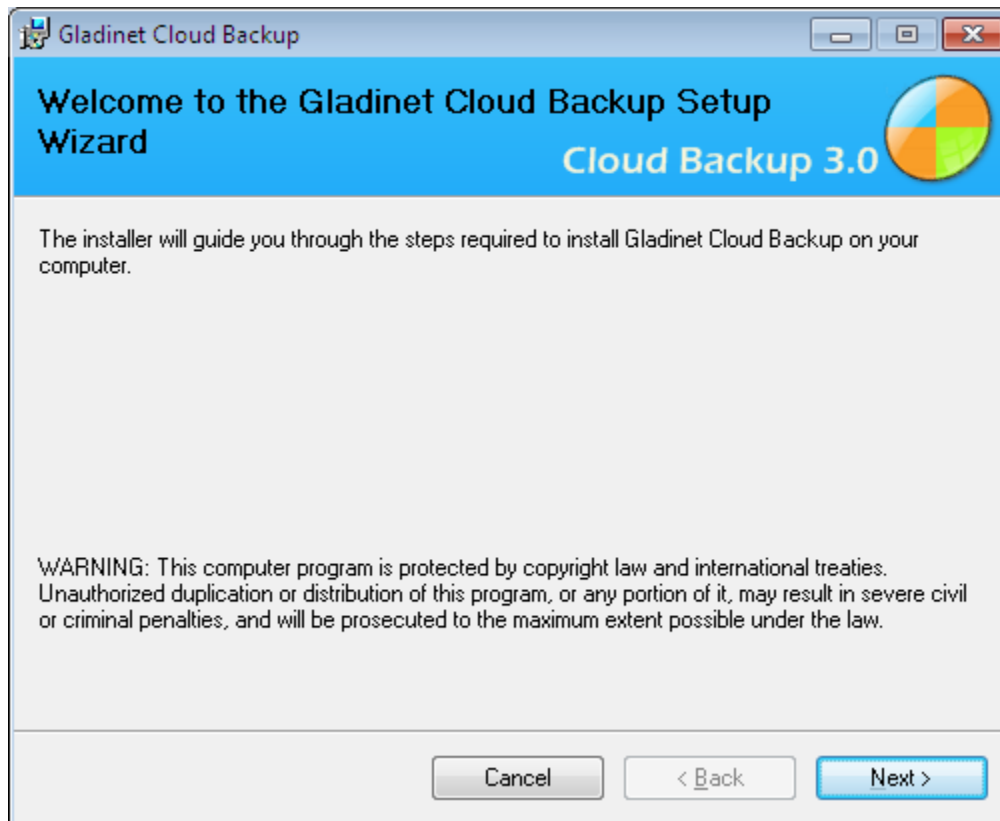
The Setup screen provides the option to add Cloud Backup to Windows Firewall exception list, if you are running Windows Firewall.

At the end of the installation, you can choose to start Cloud Backup Management Console automatically, after reboot.

Cloud Backup installation requires a reboot of your system. Click 'Yes' here.
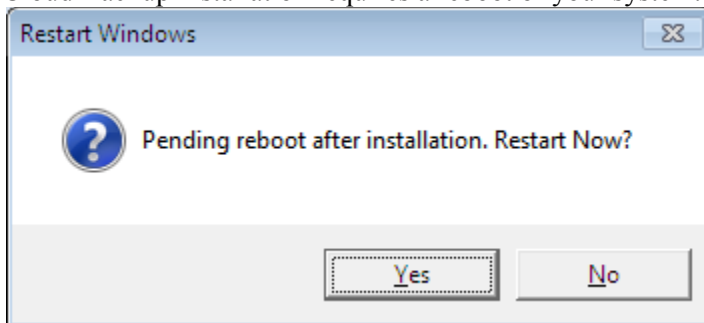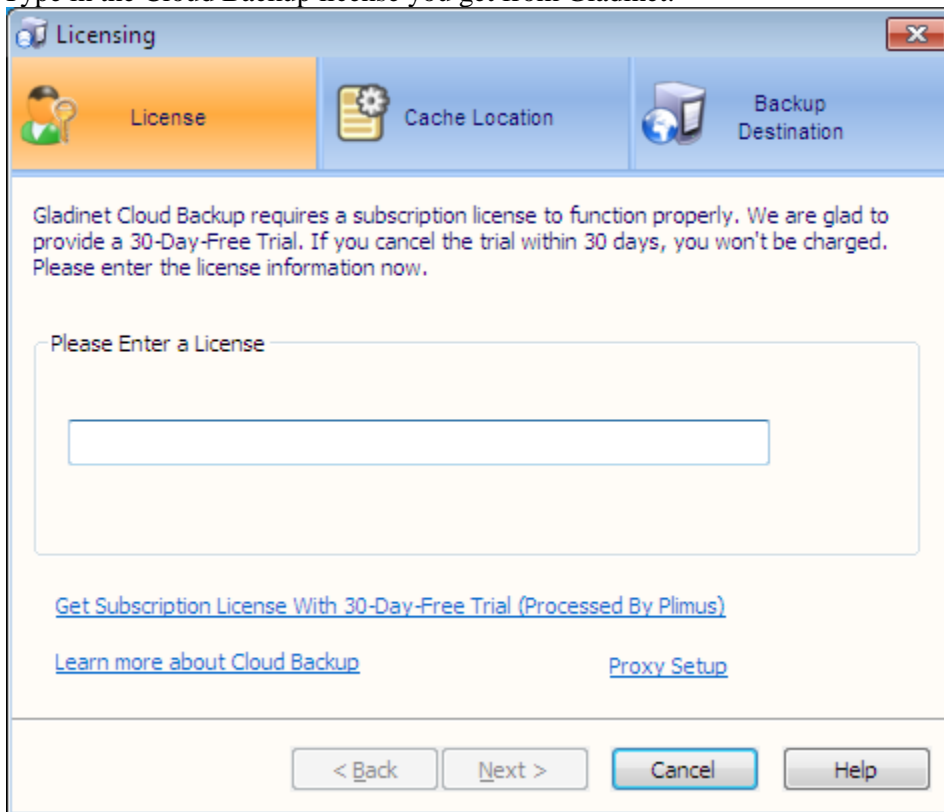
After the reboot, Cloud Backup Management Console will start automatically, if you have it checked in the last step of the installation. You can also start it from Windows Start Menu.
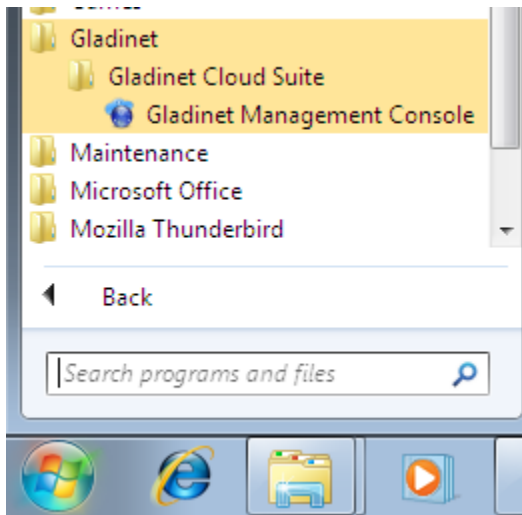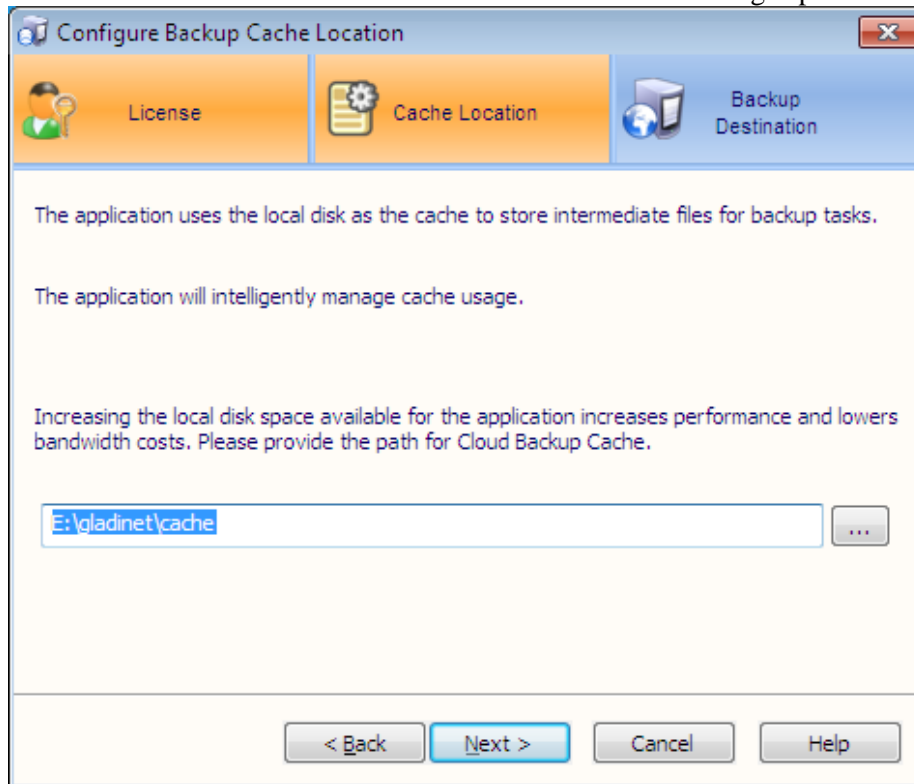

After starting Cloud Backup for the first time, you need to complete configuration of the initial settings.
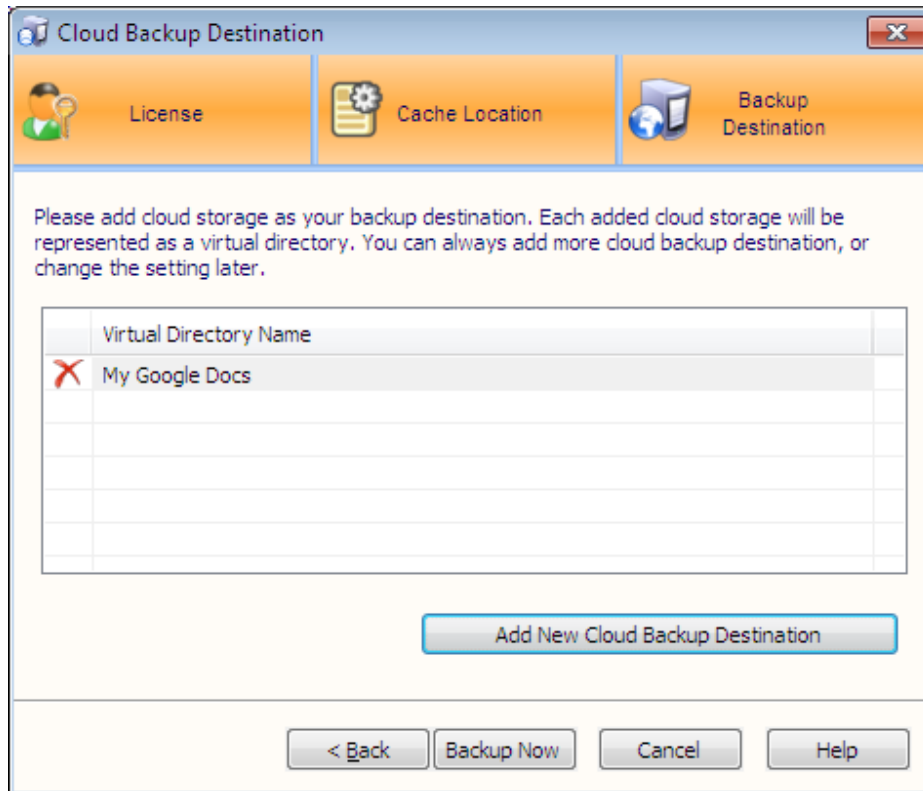
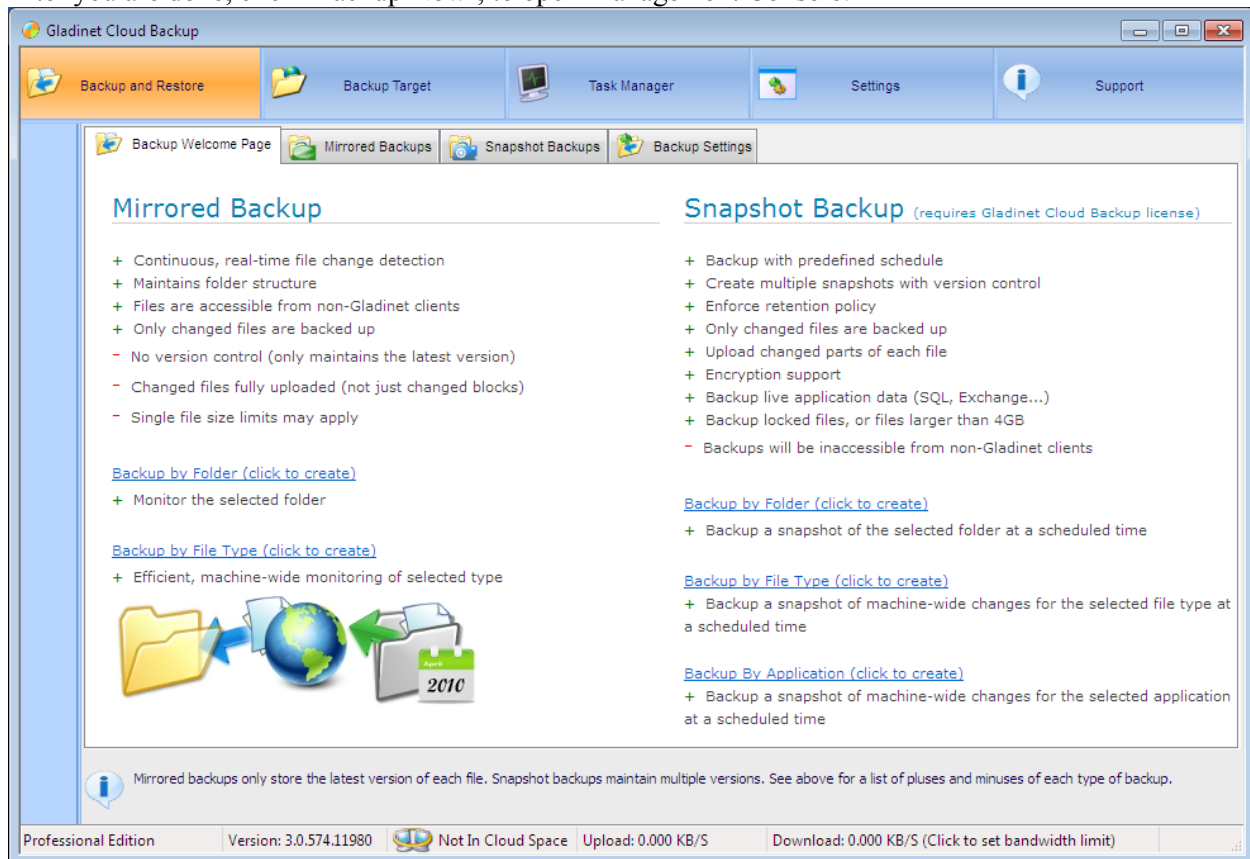Type in the Cloud Backup license you get from Gladinet.

Select the cache location. Please choose a drive which has enough space.

The next wizard page will ask you to mount cloud storage. You can do it now or skip and do it later, in Cloud Backup Management Console.
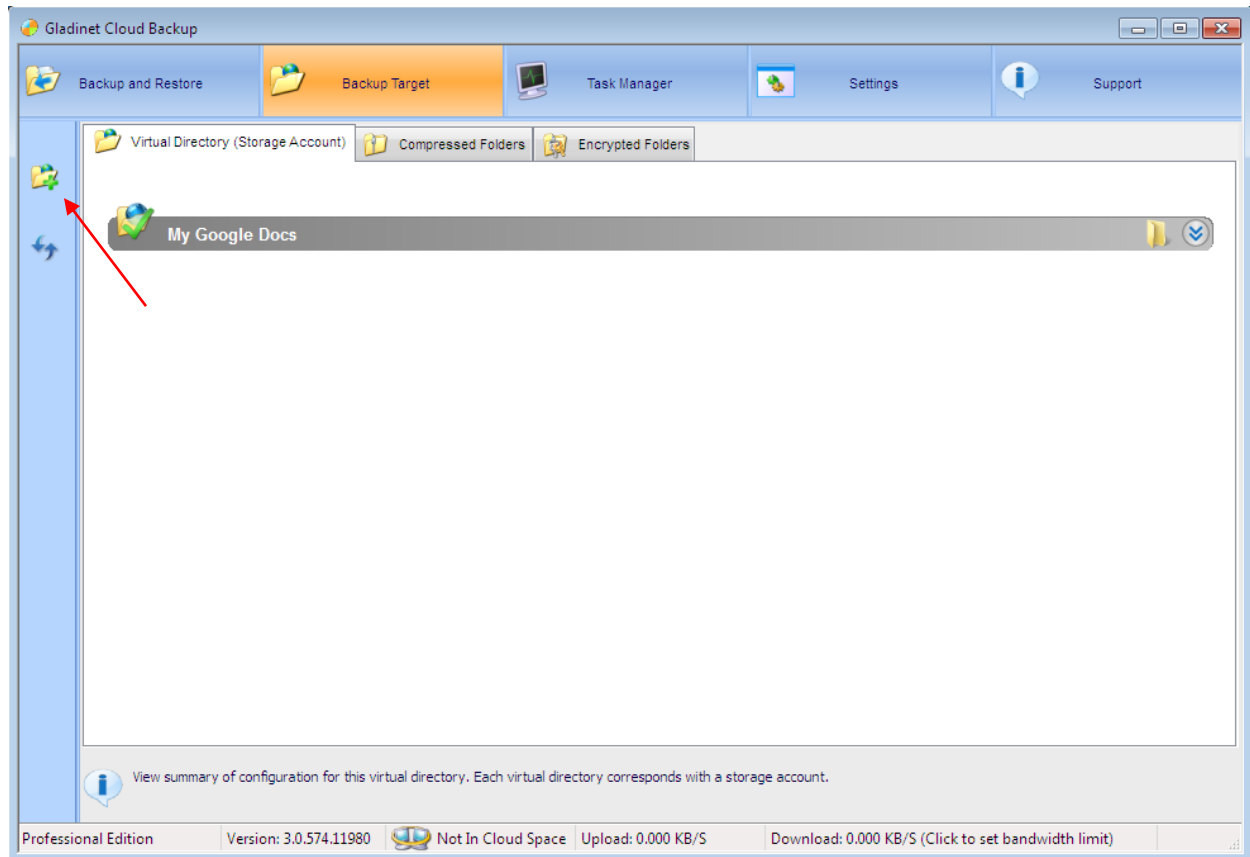
After you are done, click 'Backup Now', to open Management Console.

Mount Cloud Storage

To backup your data to your cloud storage service, you need to mount it in Cloud Backup first. During the installation, you can mount your storage. After the installation, you can mount more services in Cloud Backup Management Console.

When the mount virtual directory dialog appears, follow the wizard to mount cloud storage.
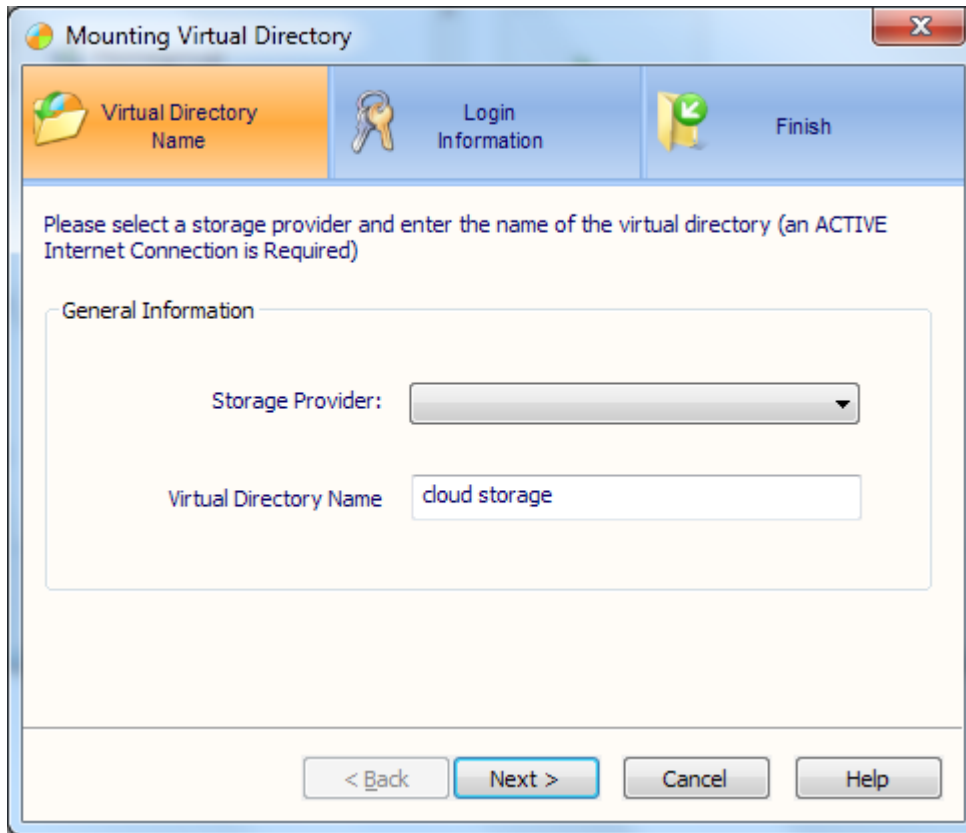
Mirrored Backup and Snapshot Backup

There are 2 types of backup in Cloud Backup.

Mirrored Backup:

Cloud Backup monitors the local source folders/files and uploads the source files with the same folder structure to the cloud storage, to create a mirror. There is only one copy of the source file mirrored in the cloud. If there is any file change locally, Cloud Backup will overwrite the copy in the cloud, with the new version. You can use this feature to create a second copy of the local files and folders for backup purpose.

Snapshot Backup:

Cloud Backup backs up the source folders/files to cloud as snapshots. Administrators can define how often to create a full snapshot. After a full snapshot, Cloud Backup will do an incremental upload of the changed files. There is no need to upload the whole file again. Snapshot Backup also supports uploading open/locked files.

Moreover, snapshot backup solution supports live backups of Windows State, SQL Server, Exchange Server, etc, to the cloud storage of your choice.

You can restore from any snapshot.

Summary:

Mirrored Backup

+ Continuous, real-time file change detection
+ Maintains folder structure
+ Files are accessible from non-Gladinet clients
+ Only changed files are backed up
- No version control (only maintains the latest version)
- Changed files fully uploaded (not just changed blocks)
- Single file size limits may apply

Snapshot Backup

+ Backup with predefined schedule
+ Create multiple snapshots with version control
+ Enforce retention policy
+ Only changed files are backed up
+ Upload changed parts of each file
+ Encryption support
+ Backup live application data (SQL, Exchange…)
+ Backup locked files, or files larger than 4GB
- Backups will be inaccessible from non-Gladinet clients

Mirrored Backup

Mirrored backup monitors local source folders/files and uploads the same folder structure to cloud storage, creating a mirror. Mirrored backups do not create multiple revisions. When a local file changes, the cloud copy will be overwritten.
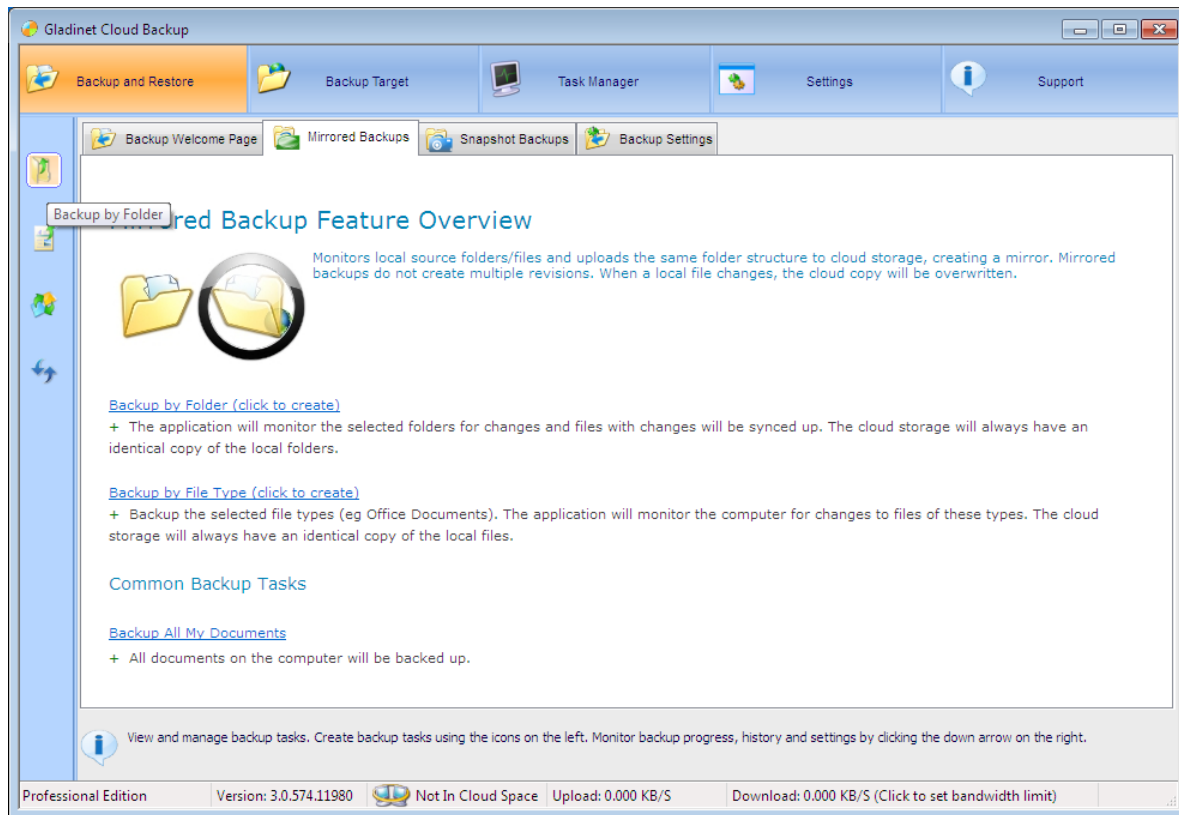
Backup by Folder

The application will monitor the selected folders for changes. Files with changes will be synced up. The cloud storage will always have an identical copy of the local folders.

1. To create a mirrored folder backup, in Cloud Backup Console, go to Mirrored Backups and click the 'Backup by Folder' icon on the left, to create a new mirrored folder backup task. Follow the wizard to create the task.
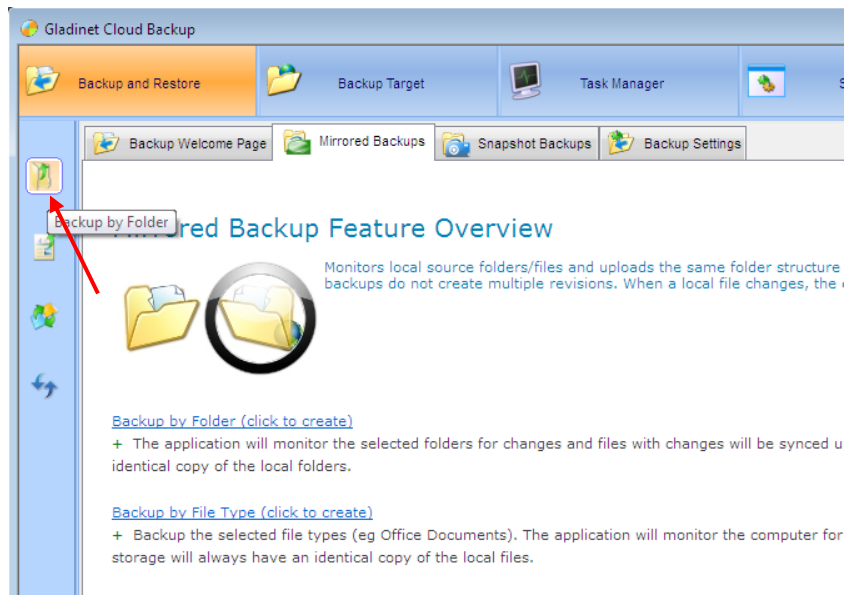

2. Select the source folder(s) which will be backed up. You may select multiple folders.
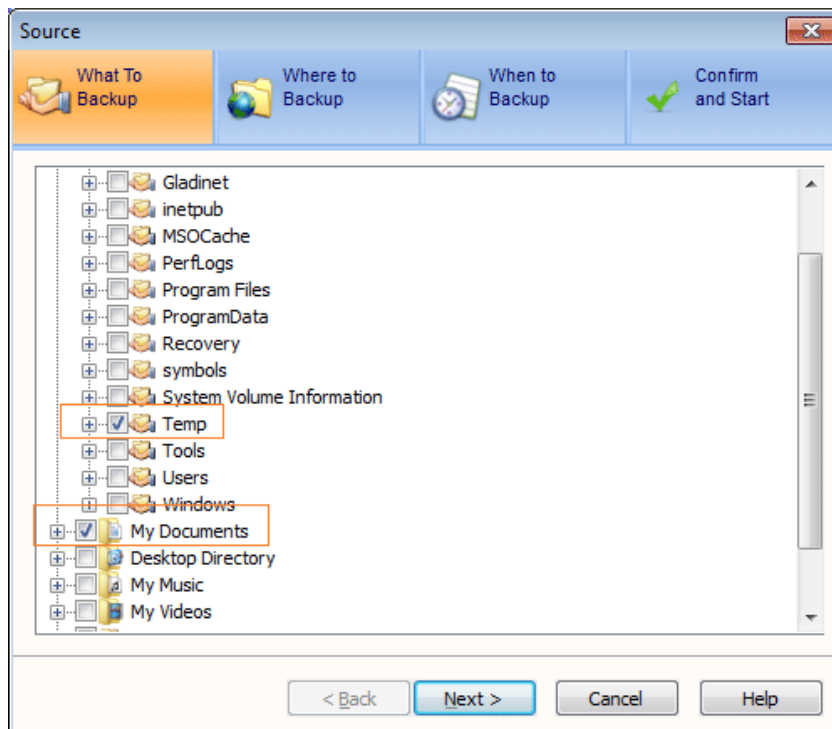
3. Next, select the target folders in the storage services which will be used to store the backups. Note that the backups can be made to multiple providers in parallel, reducing the risk of data loss in the event that one of the services is compromised.
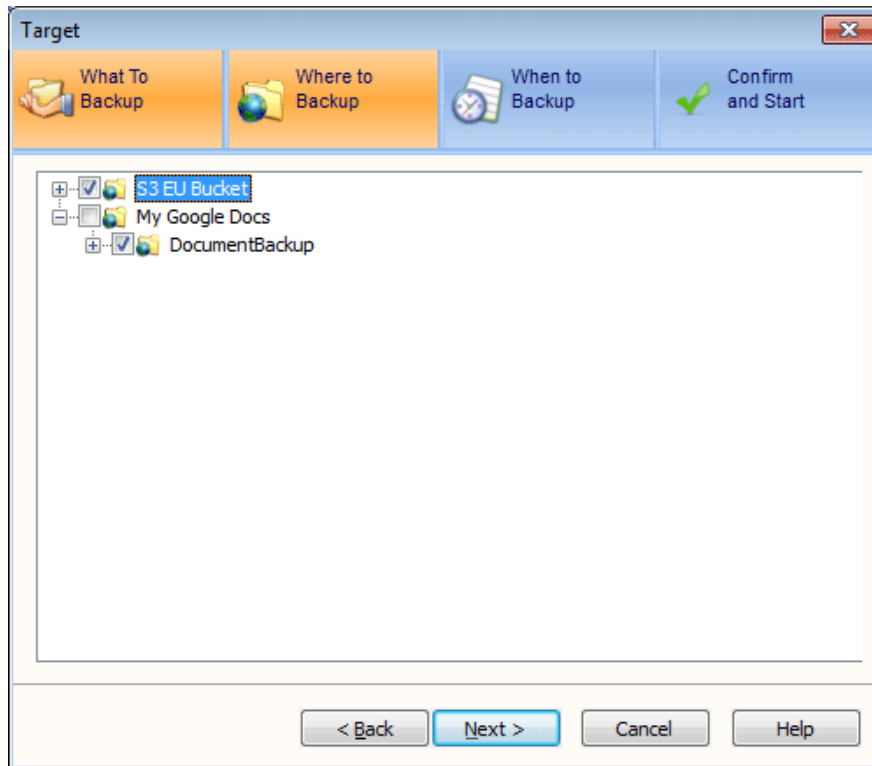

4. Select the backup schedule. There are 3 choices here.

- Automatic Backup (Changes are immediate): The backup task will run immediately after it is created.
- Daily Backup (changes are scheduled): You can define the specific time to run the backup task. It will run daily, at the specific time.
- Custom Backup Schedule (changes are schedule): You can define on which day of the week to run the backup task.
- You can also ask the backup task to skip initial upload. When it is checked, the backup task will skip a file if it is already in the target folder in the cloud. See here for more info.
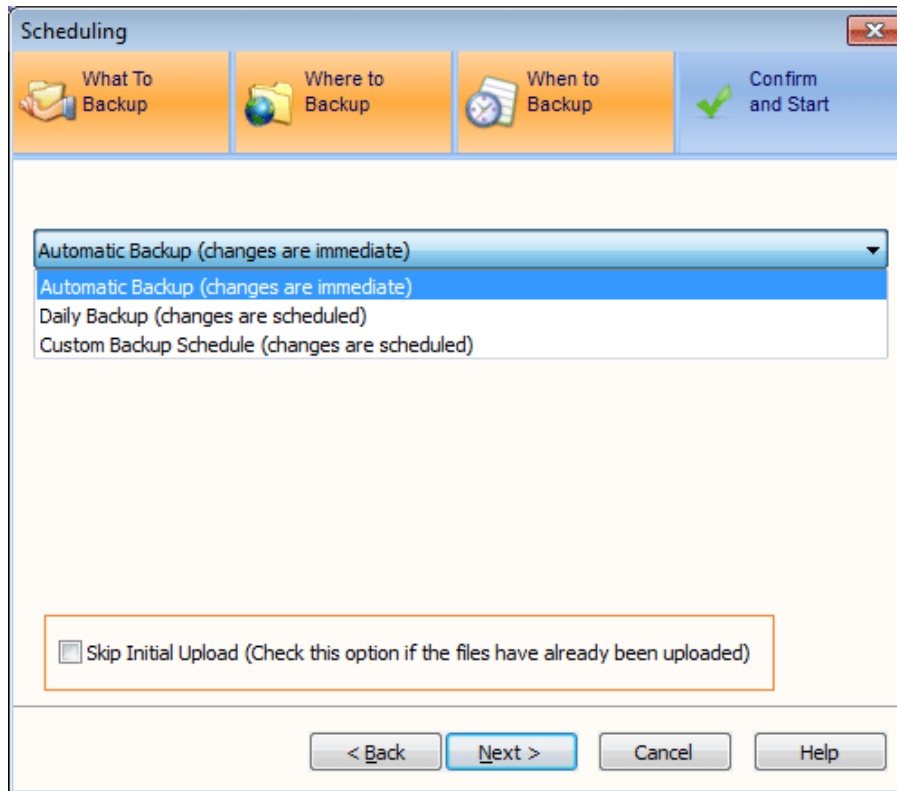
5. Finally, we finish the task creation by selecting a name for it. We can fine tune the backup task, by clicking 'Backup All Files In Selected Folder (Click to Change)' link.
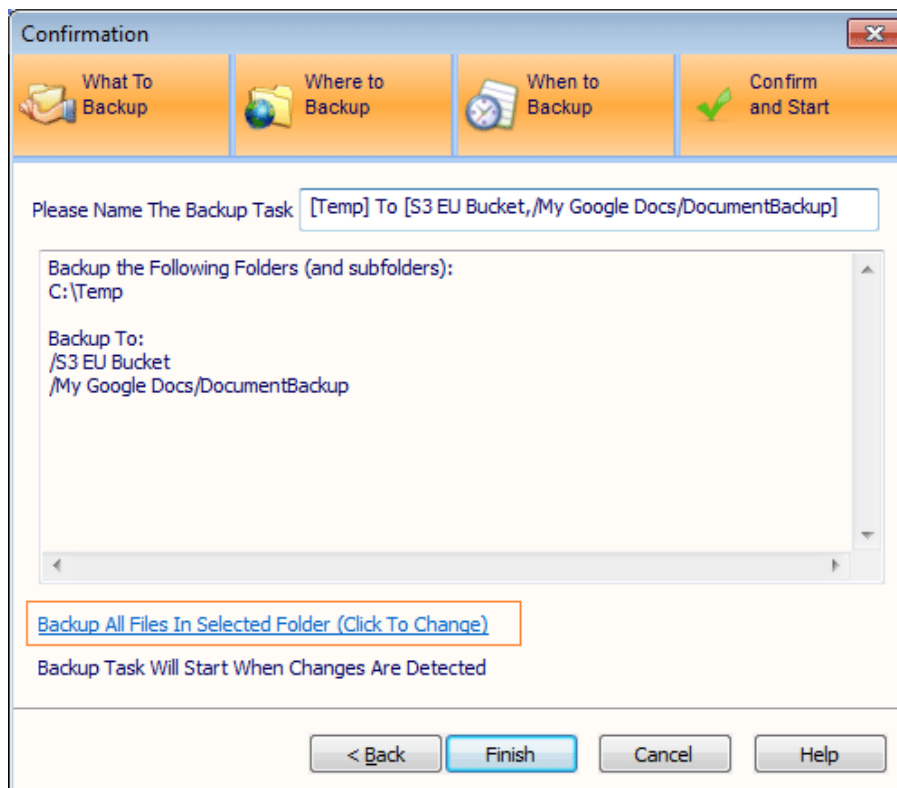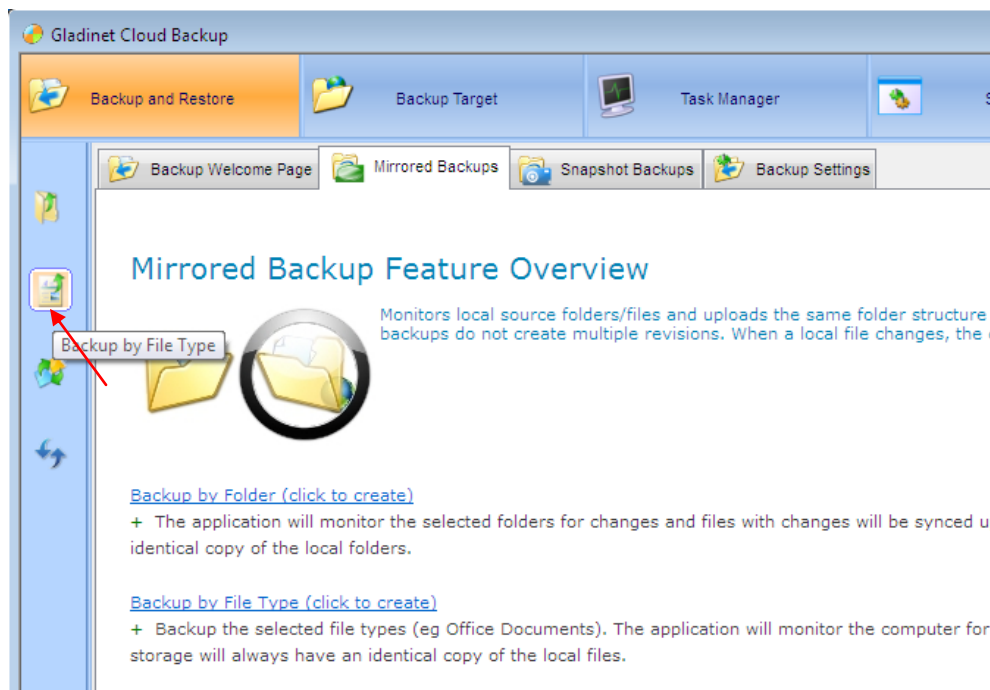
6. Here you can define what types of files to backup. And exclude certain types/files.
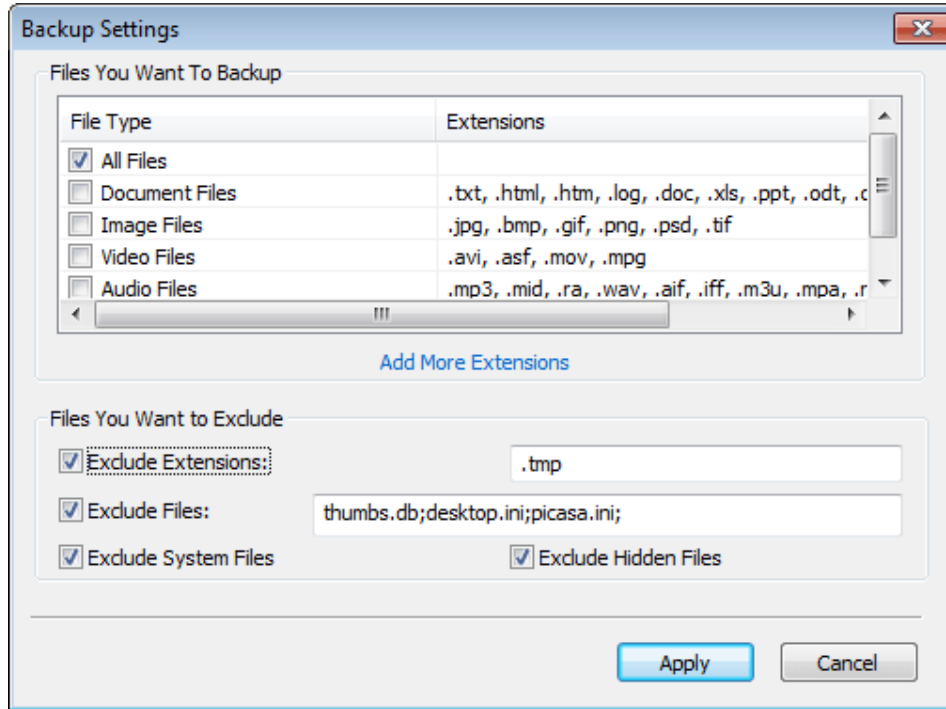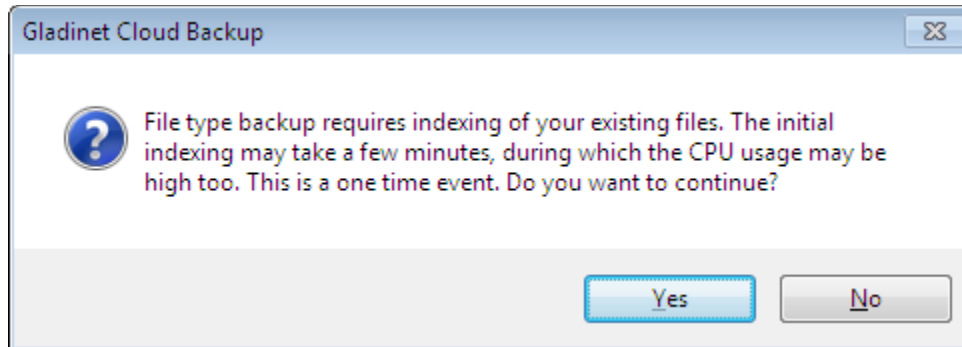

Backup by File Type

Backup the selected file types (e.g. Office Documents). The application will monitor the entire file system for changes to files of the predefined types. The cloud storage will always have an identical copy of the local files.

Setup mirrored backup by File Type is similar to mirrored backup by folder.

1. To create a mirrored file type backup, in Cloud Backup Console, go to Mirrored Backups and click the 'Backup by File Type' icon on the left, to create a new mirrored file type backup task. If it is the first time you setup the file type backup, Cloud Backup needs to indexing your existing file. You'll get a warning. It is a one-time issue and there is no full scan of your file system.
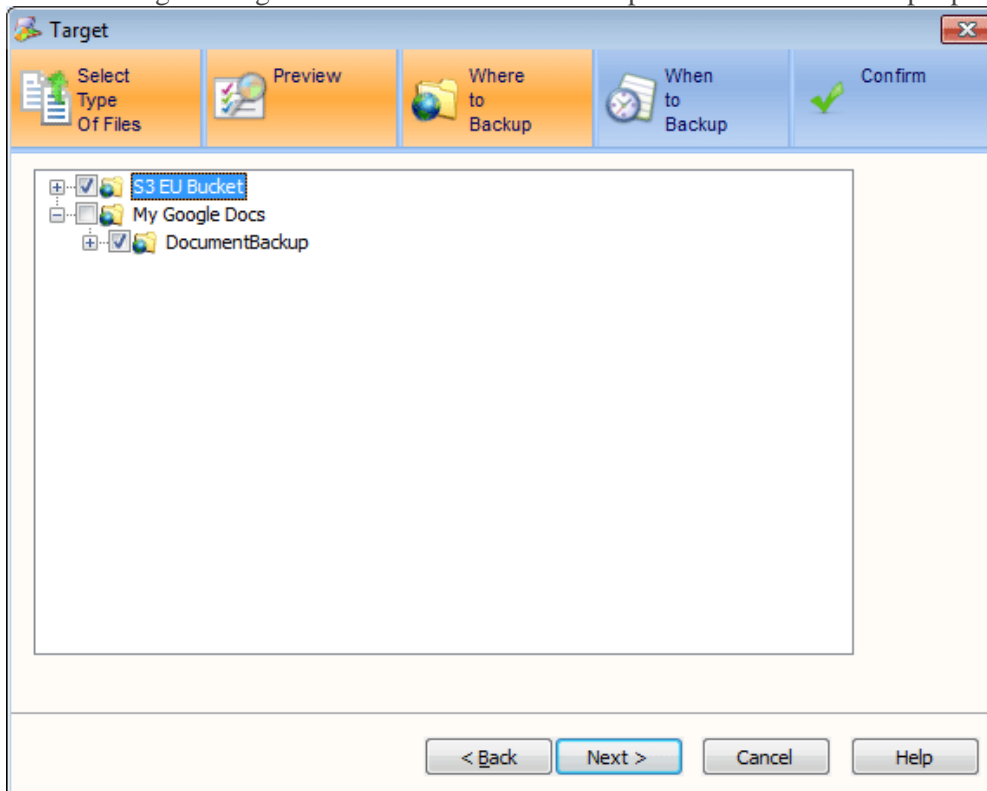

2. Select the file types you would like to archive.
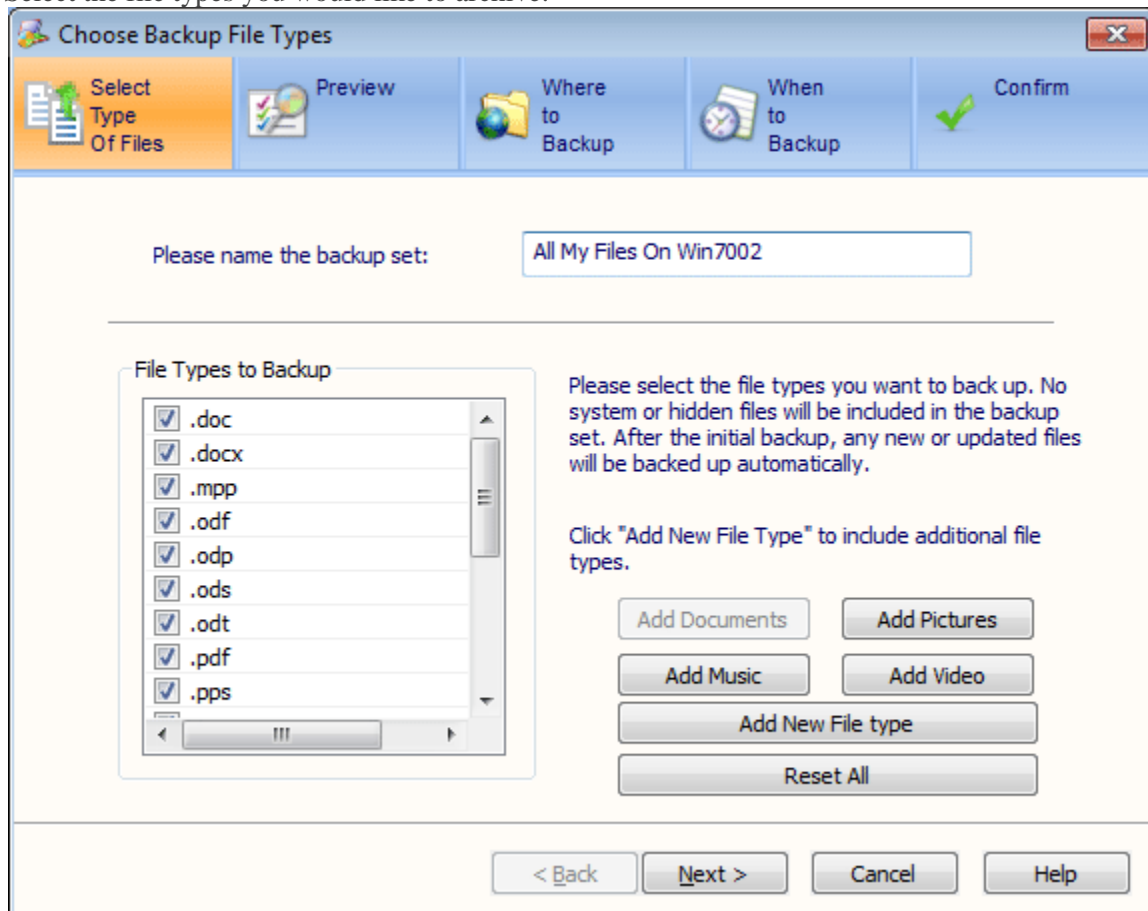
3. Cloud Backup shows all the files will be backed up. You can exclude some folders if you do not want to include them in the backup task.
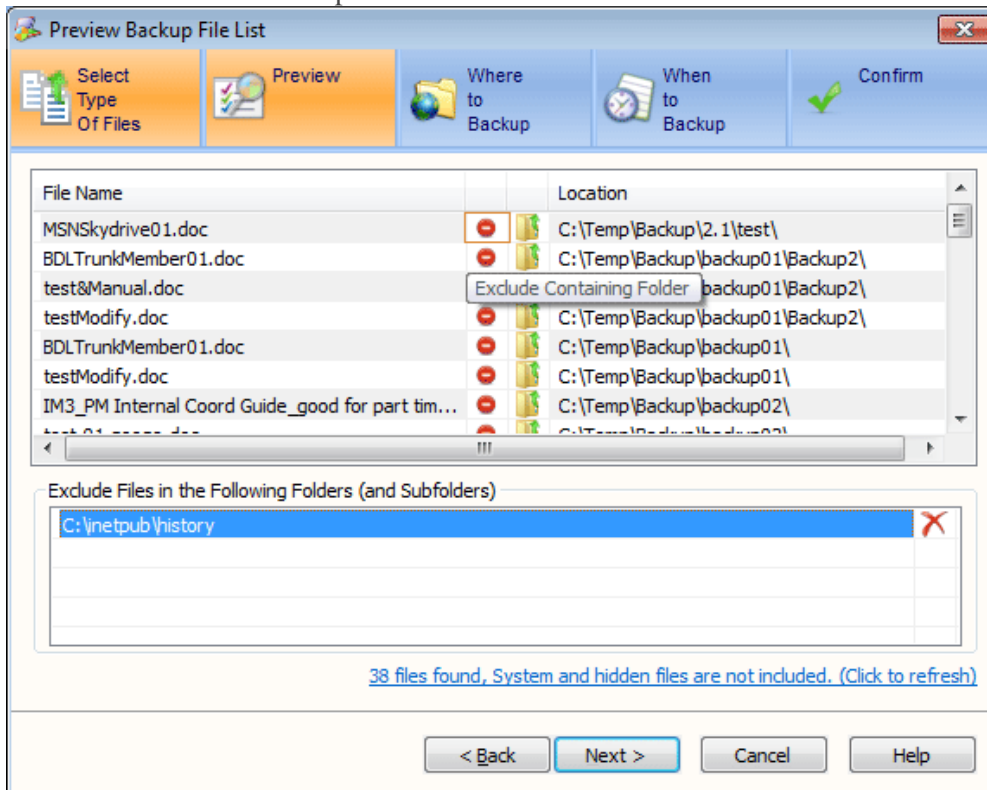

4. Select the target storage services. Note that the backups can be made to multiple providers in parallel.

5. Select the backup schedule. There are 3 choices here.

- Automatic Backup (Changes are immediate): The backup task will run immediately after it is created.
- Daily Backup (changes are scheduled): You can define the specific time to run the backup task. It will run daily, at the specific time.
- Custom Backup Schedule (changes are schedule): You can define on which day of the week to run the backup task.
- You can also ask the backup task to skip initial upload. When it is checked, Cloud Backup will skip a file if it is already in the target folder. See here for more info.
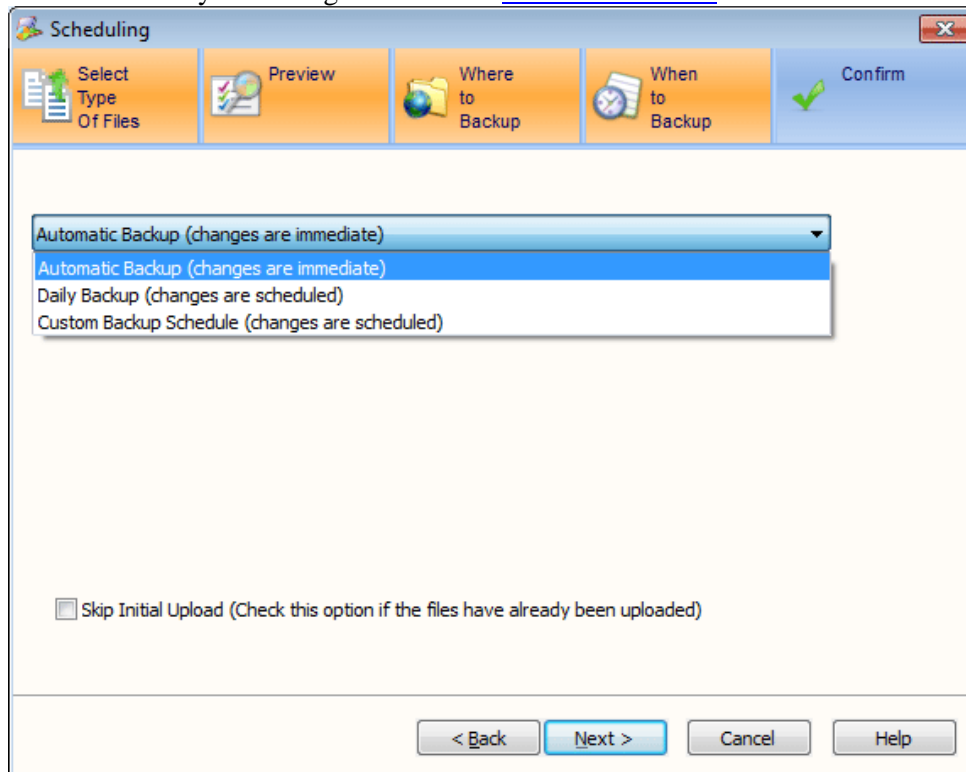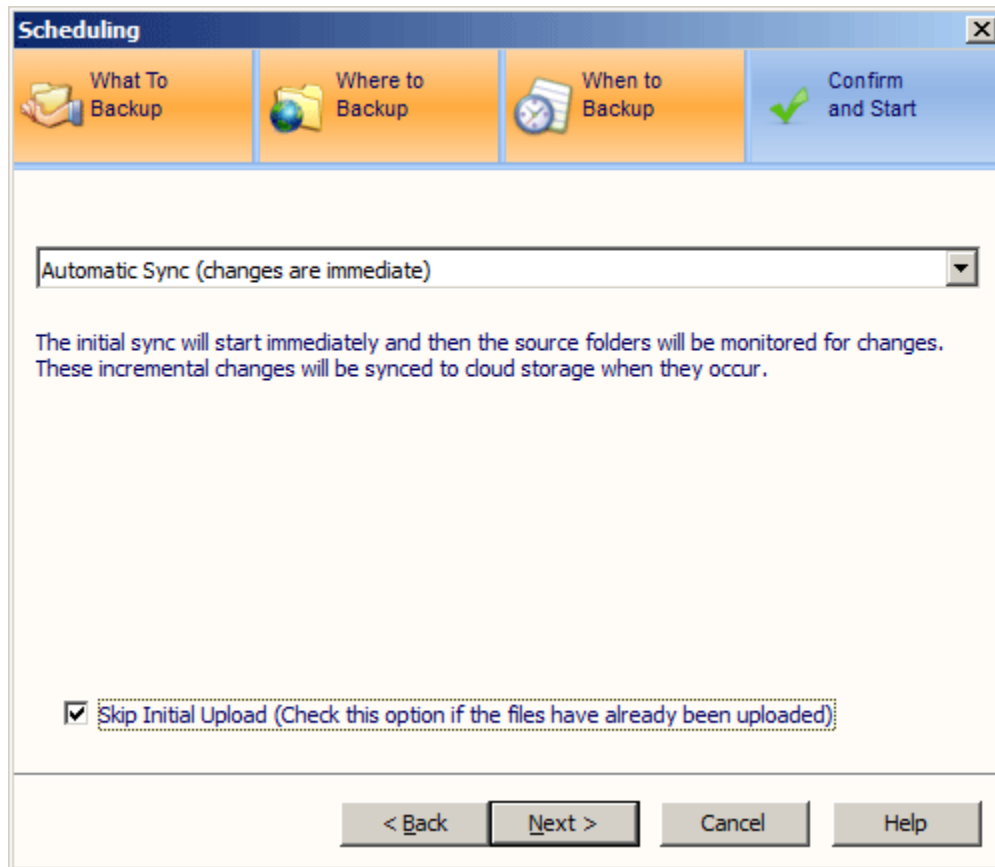
6. Confirm the task. Click 'Finish' to create it.
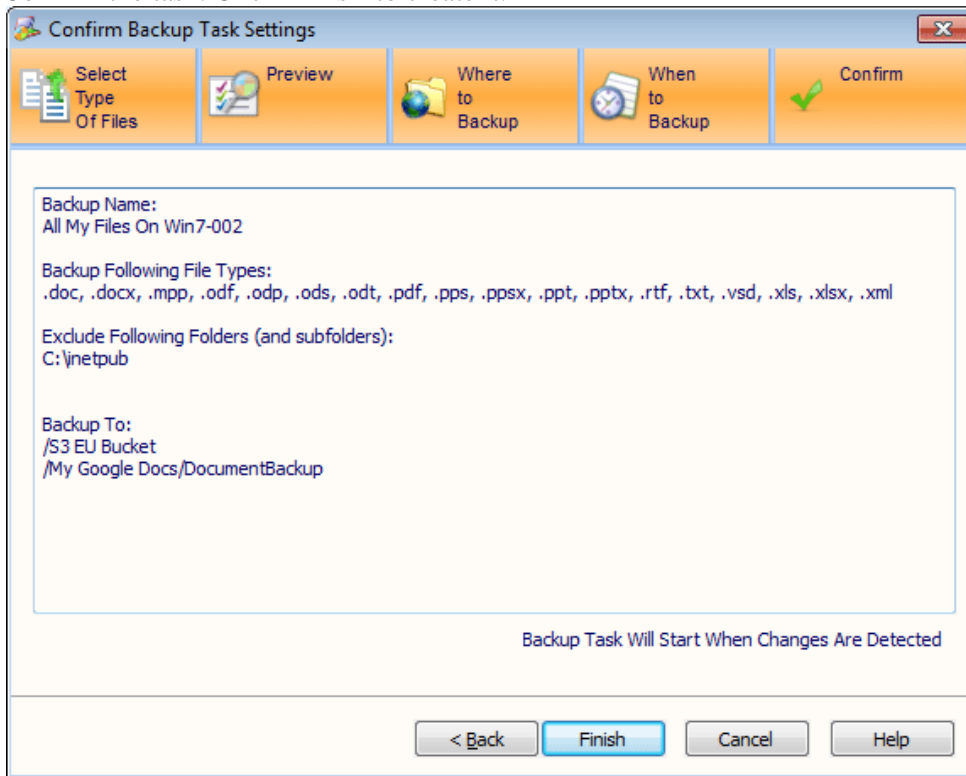
Skip Initial Upload

When scheduling a mirrored task, you can choose to skip the initial upload.

When this setting is enabled, the mirrored backup task will not upload the file to the target in the cloud, if there is an existing file with the same name there. This could happen when the source is uploaded by other means, like an early backup task or a manual upload.

Please notice that the Application will NOT compare the contents of the two files. Only the file name is used. Please make sure the local and cloud copies are in sync.

If new files are found in the source folder, they will still be uploaded.

Mirrored Backup Tasks

After the folder or the file type backup task is created, it will be displayed under Mirrored Backups tab. A corresponding task is created under 'My Tasks' in Task Manager.
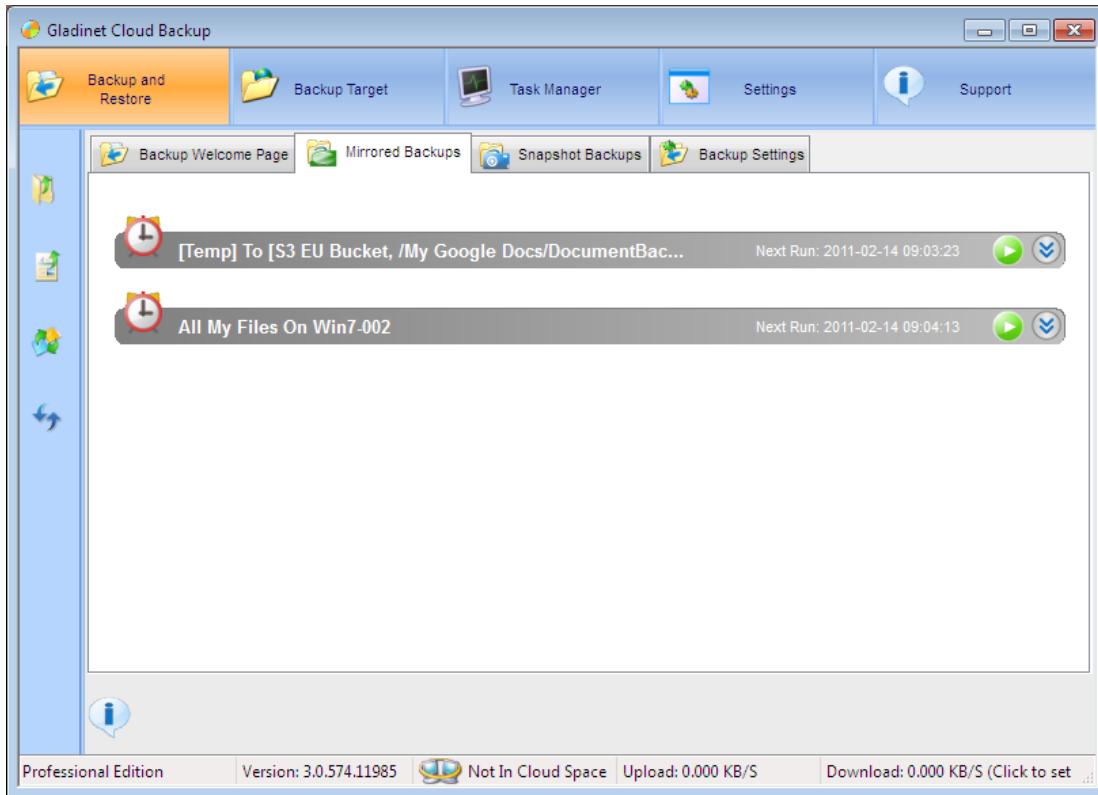
Click the task on Mirrored Backups, to check the backup summary, details and settings. You can also start/pause/delete the task here.
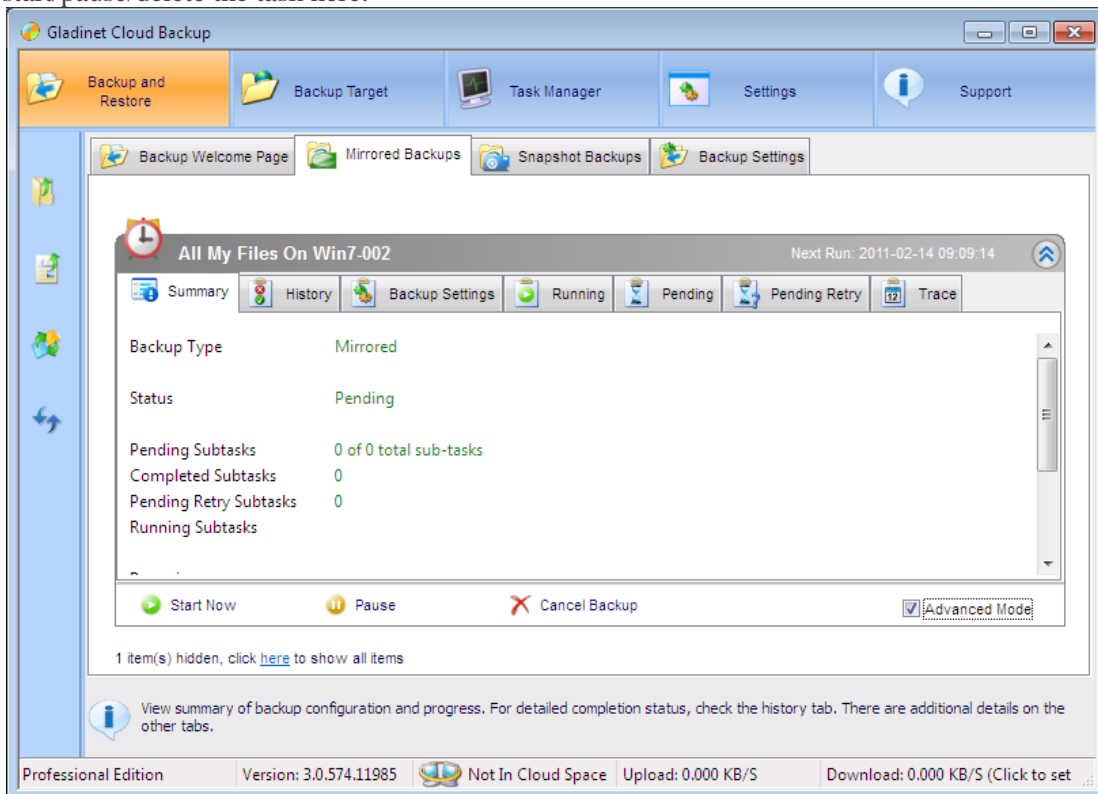
Snapshot Backup

Snapshot backups allow the backup of data that is in use or changing. A mirror backup just reflects the latest version of a file to the cloud and does not allow reversion to any older versions. A mirror backup is also limited to static files that are not locked or in use. In contrast, a snapshot backup allows the backup of dynamic data, like email and databases. It can even backup your registry or device drivers. This support is a direct result of integration with the Microsoft Volume Shadow Copy Service. Any application that is integrated with this service can be backed up.

Snapshot backup includes the following features and benefits:

- Backup uses a predefined schedule

- Creates multiple snapshots with version control

- Enforces retention policies

- Only the changed files are backed up after the initial upload is complete

- Uploads only the changed parts of each file

- Encryption support

- Backup live application data (SQL, Exchange...)

- Backup locked files, or files larger than 4GB

Like Mirrored backup, Snapshot backup supports backup by folder and backup by file type too. Moreover, Snapshot backups support application backup, including SQL Server, Active Directory, etc. To create a snapshot backup, go to Backup and Restore, Snapshot Backups in the Console.
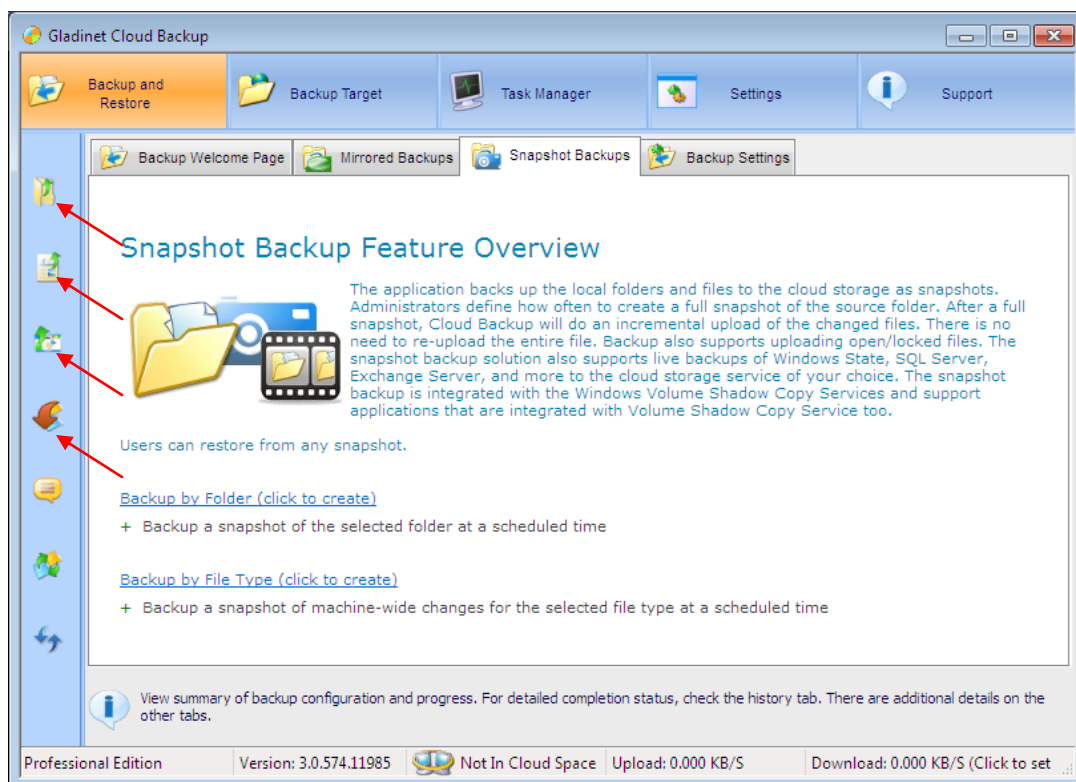
Selecting "by folder" simply means that a set of folders will be selected and everything in those folders will be backed. Whenever a change occurs in one of the folders, the change will also be backed up.
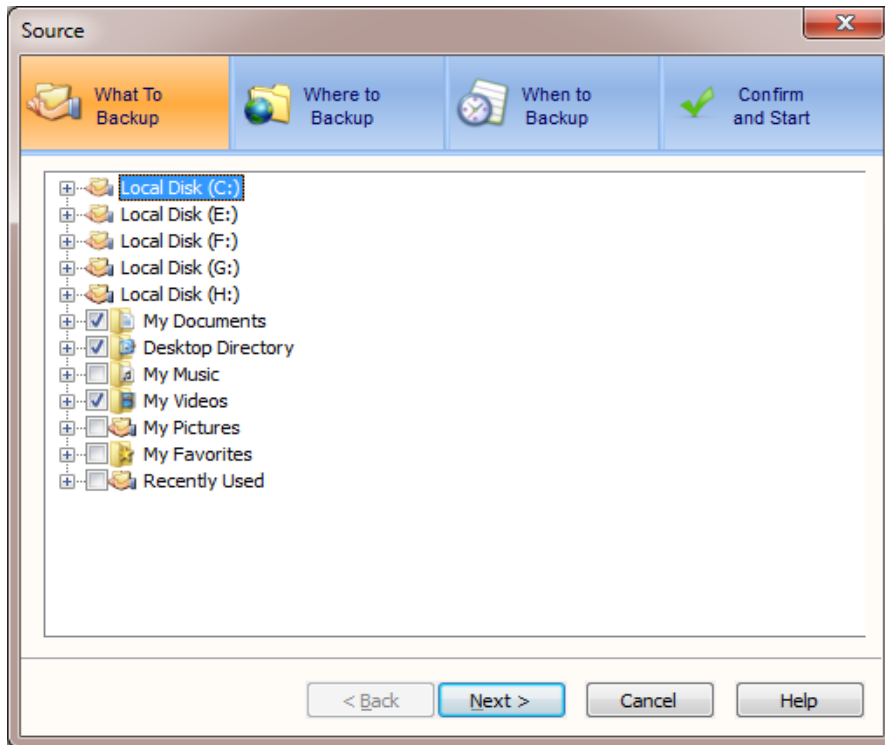
Backing up by file type is similar except that the entire system will be scanned for files with the matching type.
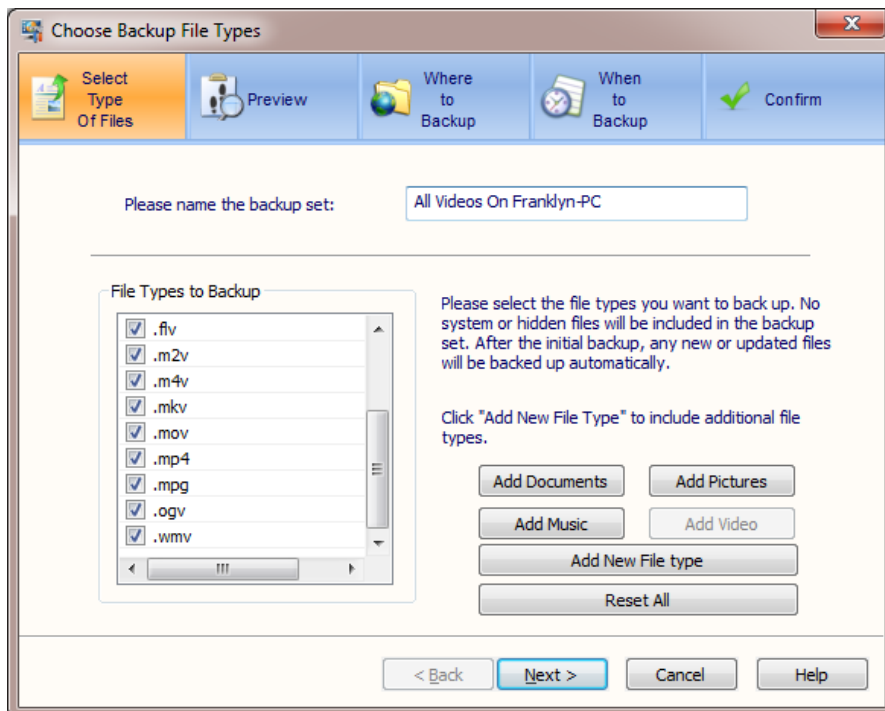
And finally, backup by application allows dynamic data to be backed up.
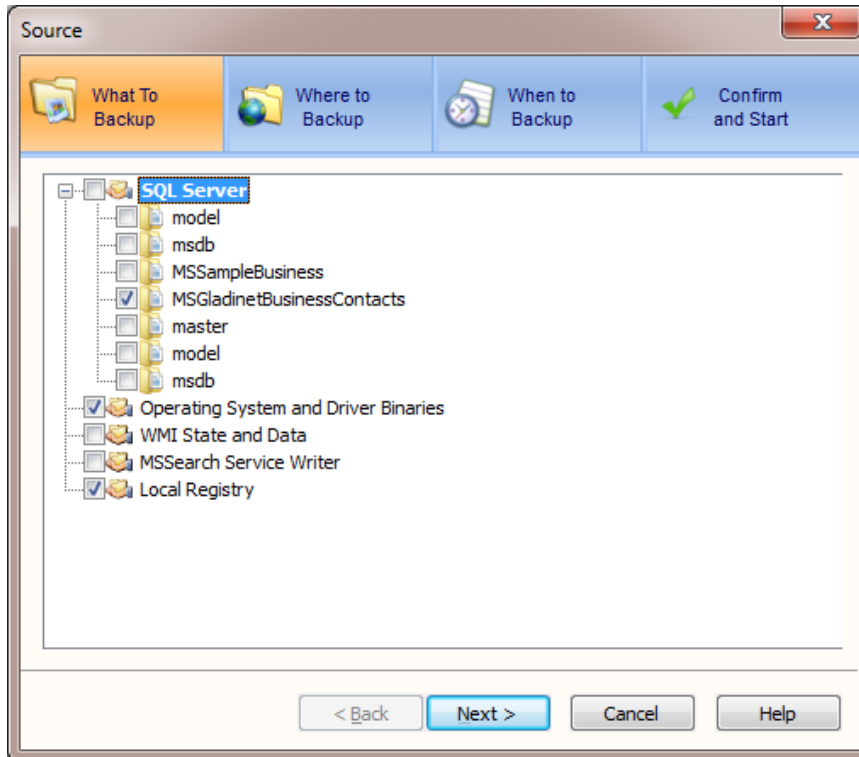
The wizard will display all installed applications that are supported. Gladinet supports anything that has a VSS writer so most Windows applications are covered. The machine where this screenshot was taken didn't have very many applications installed besides SQL Server.
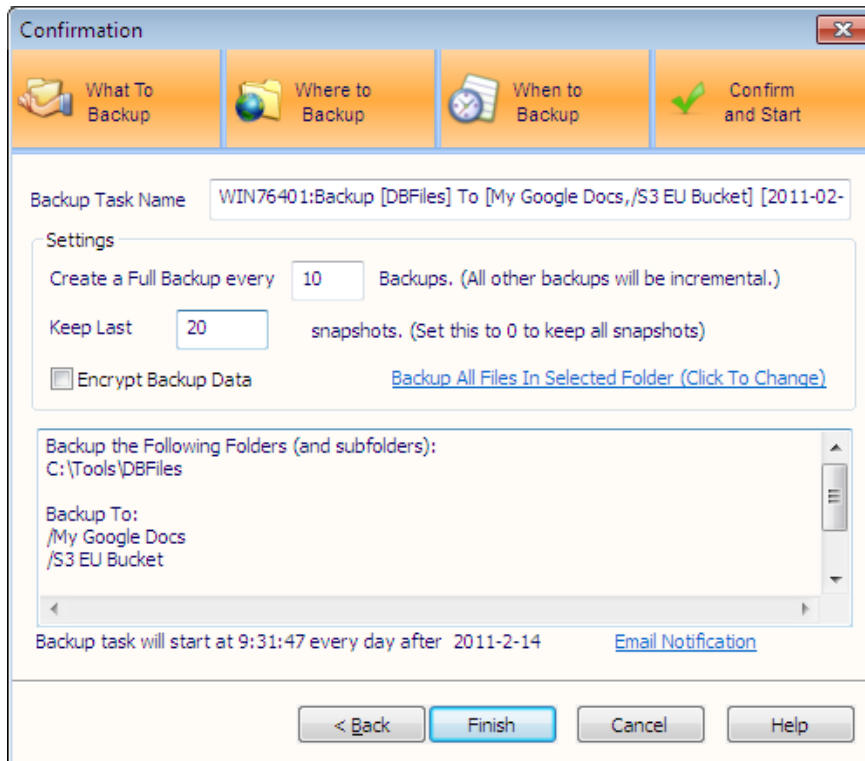
Once the backup set has been specified, the wizard allows you to specify the target storage to backup. Snapshot backup will be backed up to a specific folder in the storage.
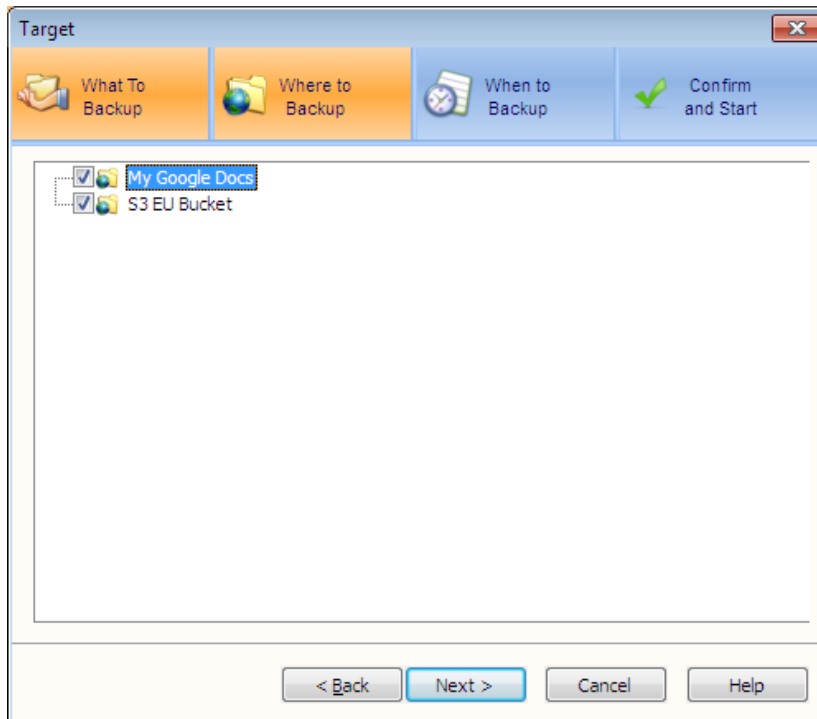
Specify the schedule for the task in the next step. You can choose to start the task immediately after it is created, or only start it when it reaches the start time.
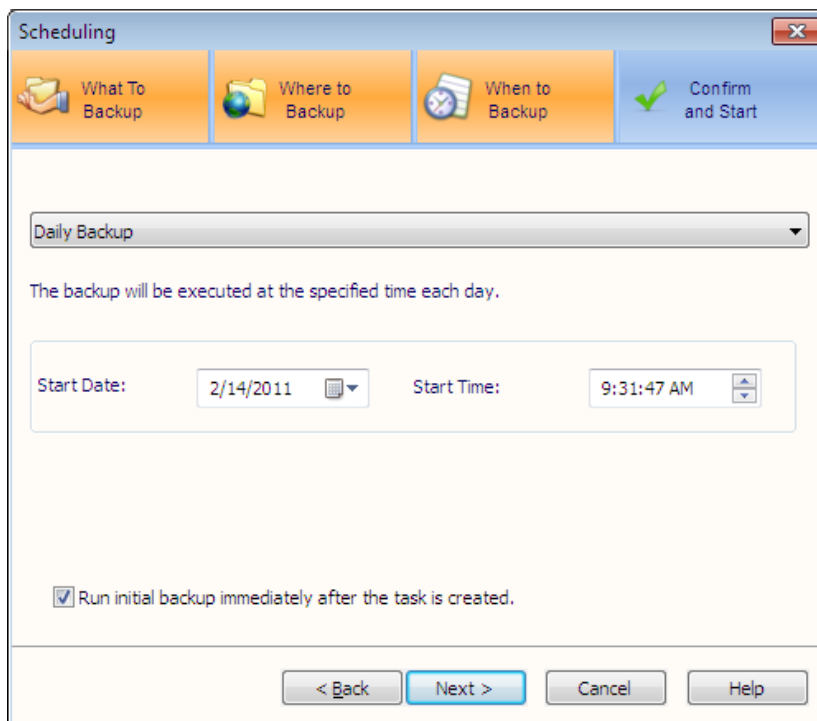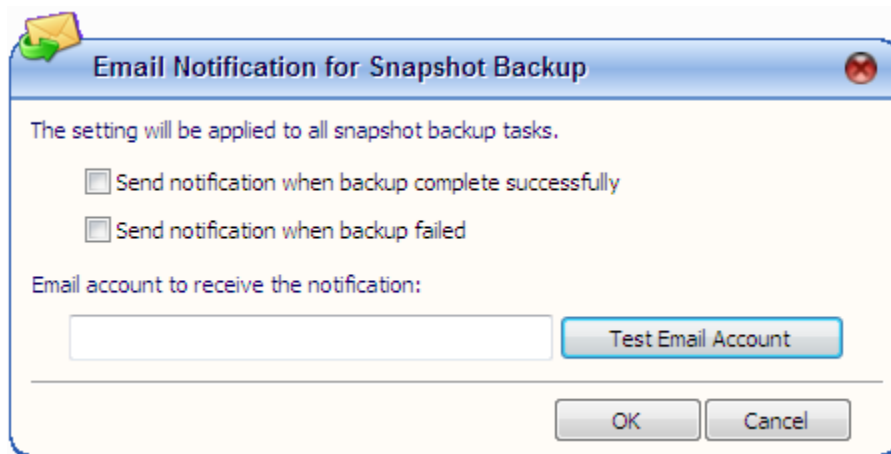
In last step, you can define how often a full backup should be performed. All others will be incremental. It also lets you specify how many snapshots should be kept and whether the backup should be encrypted.

You can send a notification to someone when the backup task finishes. Click the 'Email Notification' link here to set it up. The notification is global for all snapshot tasks.

Restore Snapshot

1. To restore a snapshot, go to the Console, Backup and Restore, Snapshot Backups. Click Restore icon on the left.
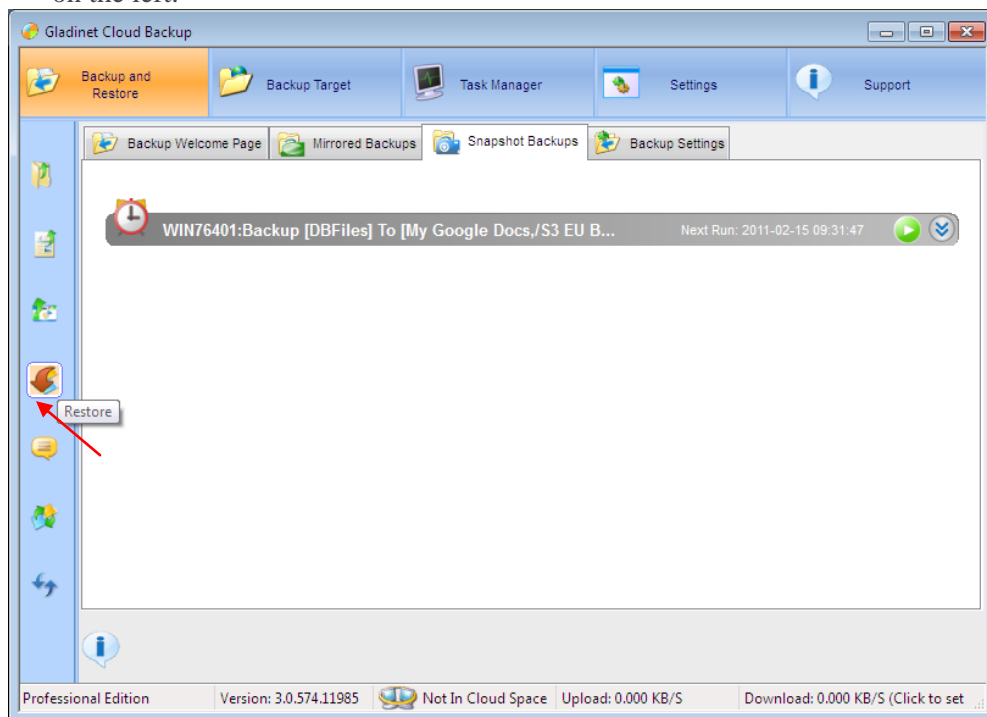
2. Select the storage to restore from.
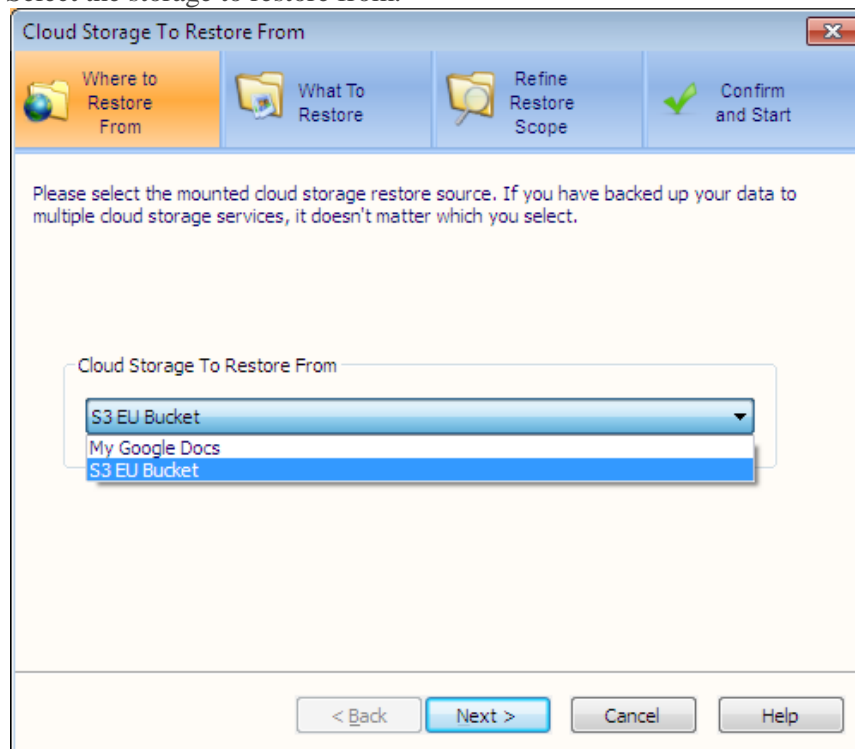
3. Select the backup task and the specific snapshot to restore.
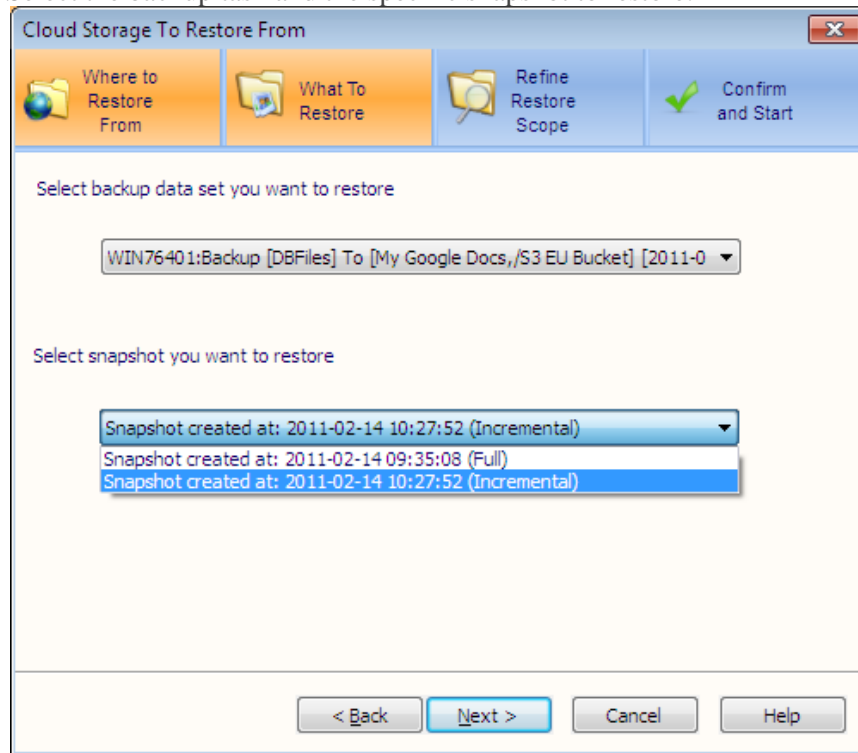
4. Select the target folder to restore.
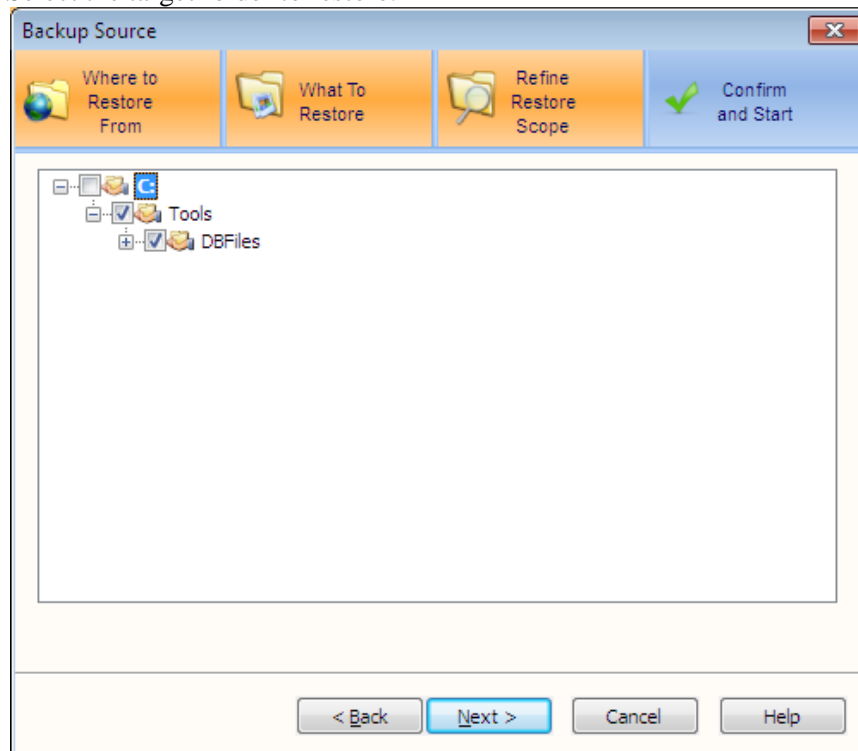
5. Specify where to restore.

Cloud Backup Console

Cloud Backup Console is the central location to manage backup tasks.
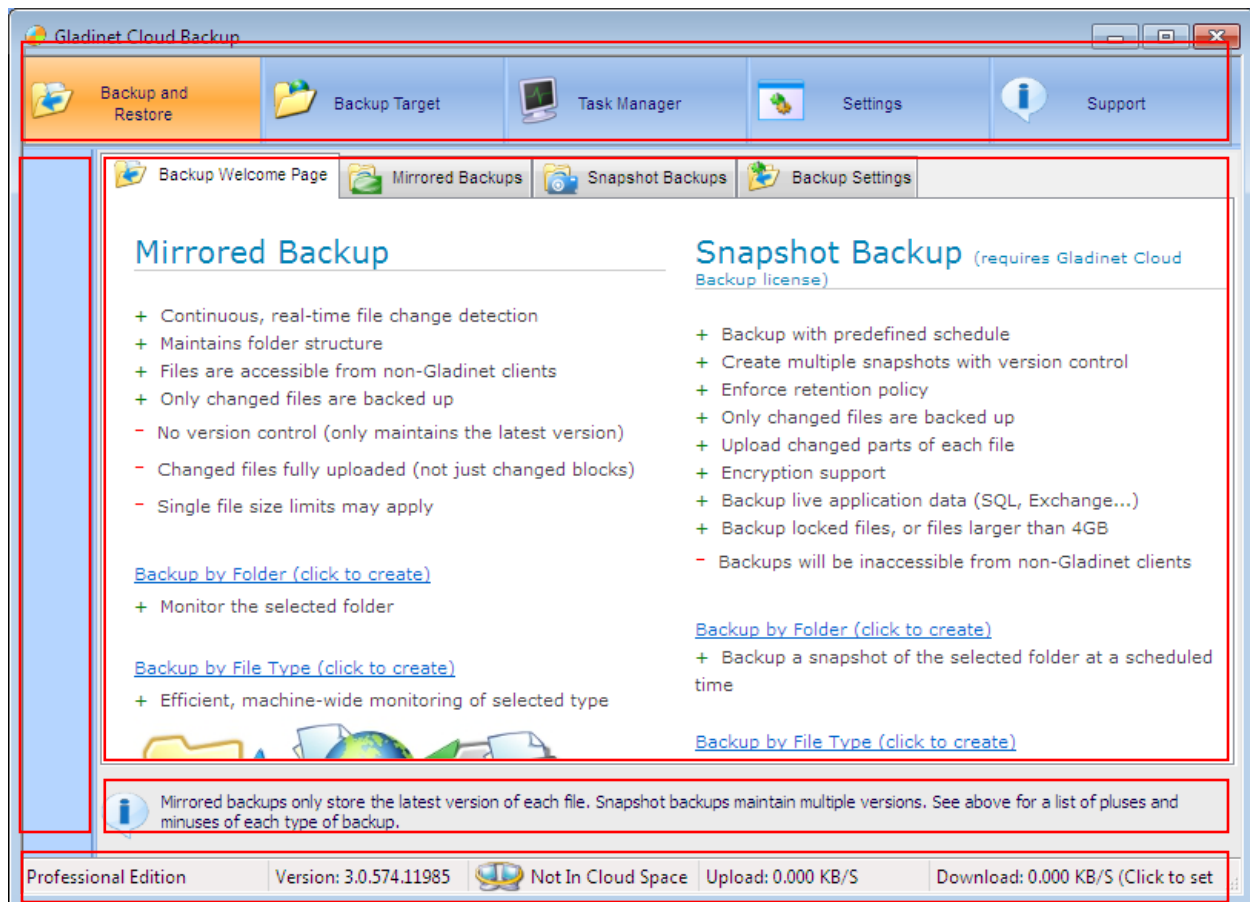
The Console has 5 areas.

- Top Menu

  Top Menu shows the main functions in the Application.
  - Backup and Restore:

    Manage backup and restore tasks, including Mirrored Backup and Snapshot Backup tasks.
  - Backup Target:

    Shows all cloud storage mounted. Allow you to: Mount new cloud storage; dismount existing storage; or setup compressed and encrypted folders.
  - Task Manager:

    Manage all tasks. You can pause/resume/delete tasks here.
  - Setting:

    Customize the Application.
  - Support:

    Access Audit Trace and featured articles.
- Left Context Menu

  Left menu shows the corresponding actions for the current visiting panel.
- Main Area

  Main display area based on your selection
- Help Text

Based on your selection, display quick help.
- Status Bar
Shows Version, Cloud Space status. Moreover, it shows the current upload and download speed. Can click the speed displayed here, to set speed limit.

Backup and Restore

Backup Welcome Page
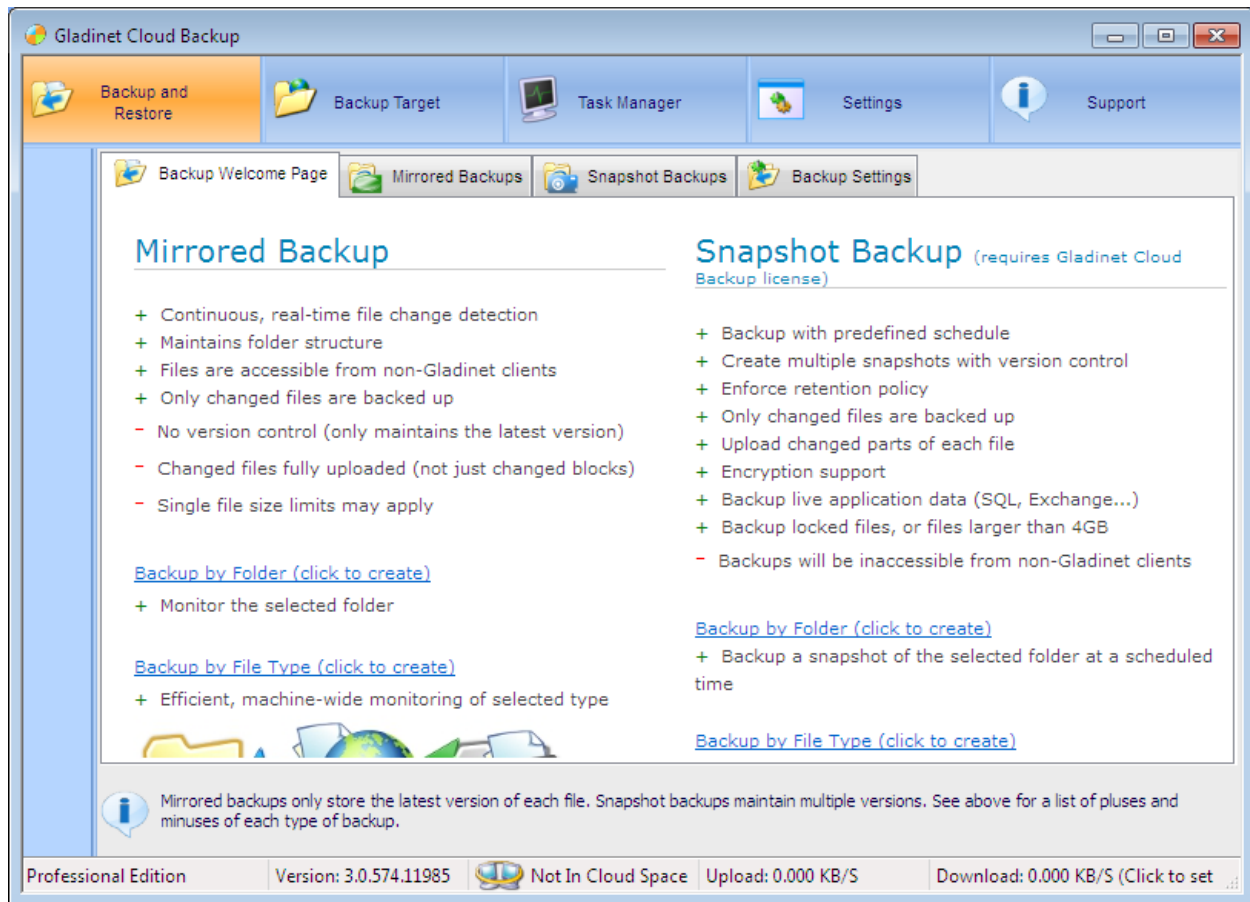
The page shows a summary of the two types of backup tasks, Mirrored Backup and Snapshot Backup.

Users can follow the links here to create backup tasks.

Mirrored Backups
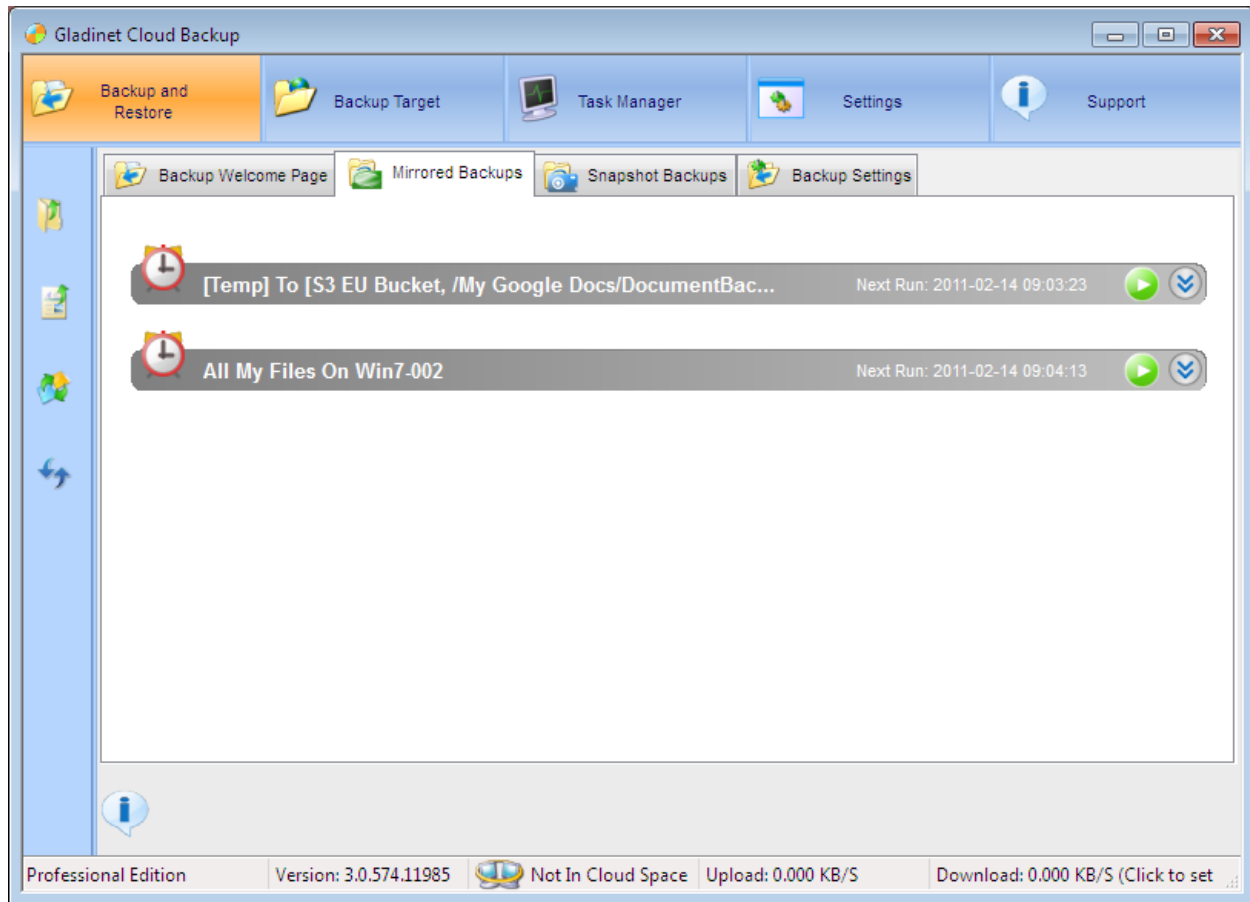
Mirrored Backups show the list of mirrored backup tasks here.

Users can create new backup tasks and manage existing tasks.

Left menu shows the icons to:

- Create new mirrored folder backup task
- Create new mirrored file type backup task
- Re-index the file system for file type backup.

Mirrored Backup Task Details
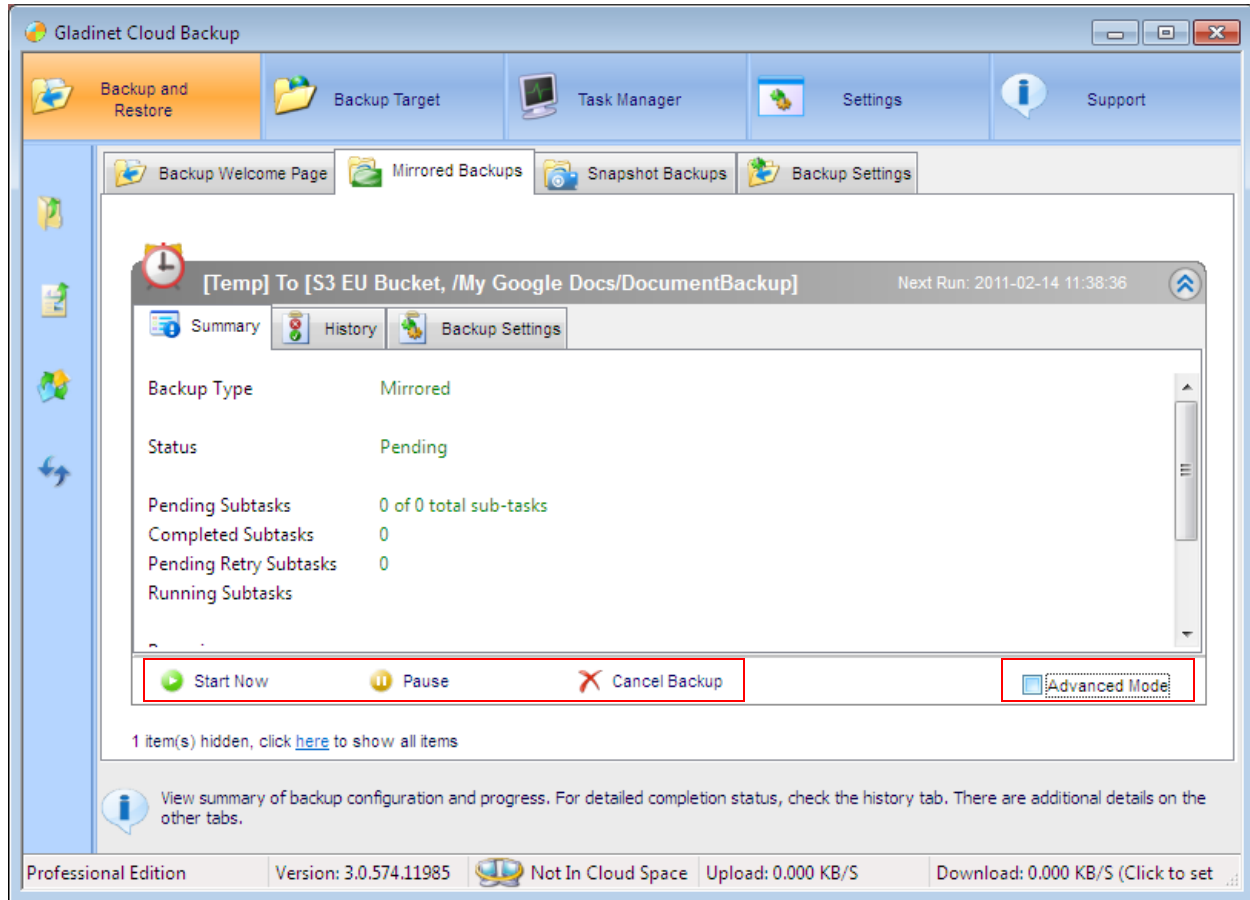
Users can click an existing backup task, to check the task details.

- Summary: Show task status, schedule (when it was last run, when it will run again), source and target.
- History: Show a summary for each run of the backup task
- Backup Settings: Customize the backup task. For example, re-schedule, add new source/target folder. Remember to save it if make any changes here.

User can enable Advanced Mode, to check the related subtask information.
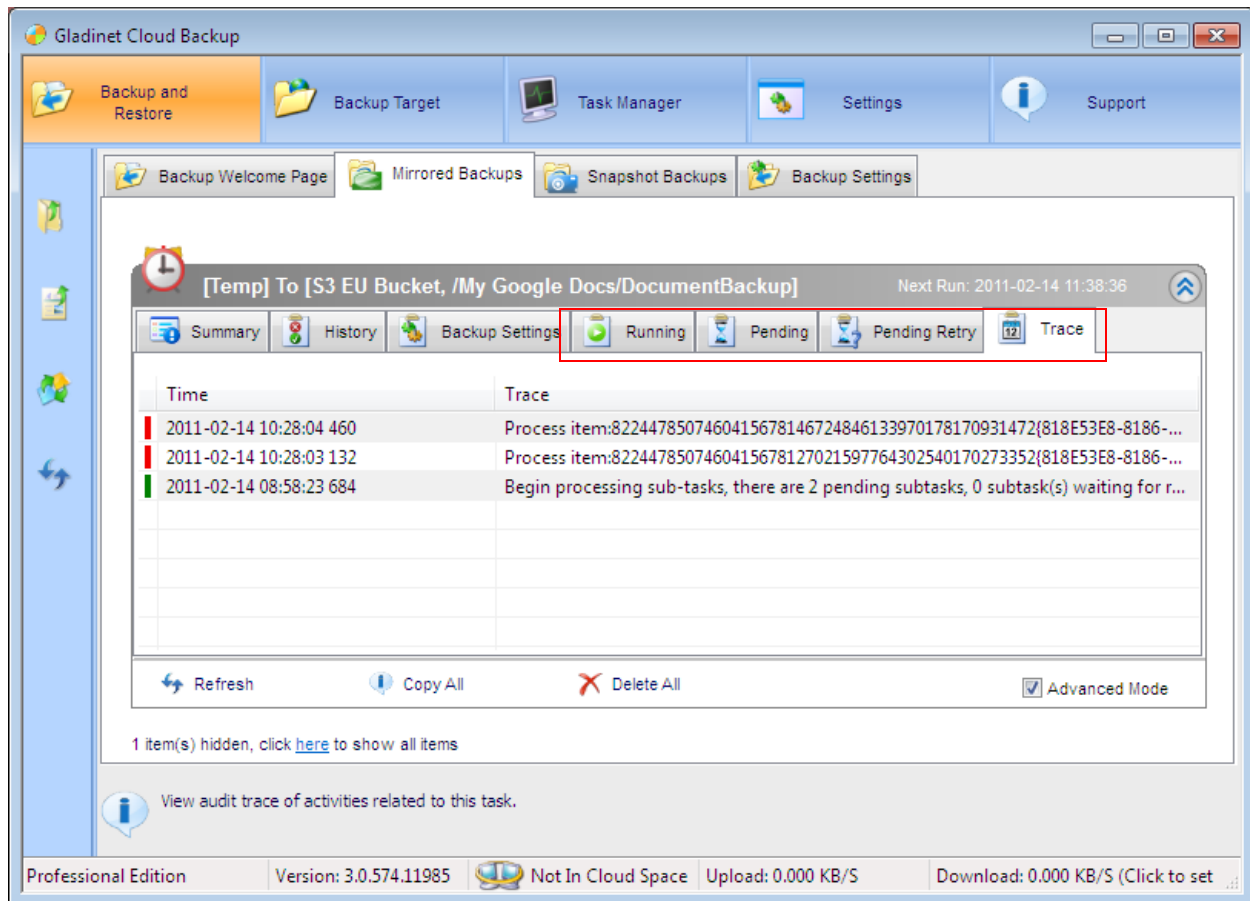
- Running: Currently running subtasks
- Pending: Pending subtasks. Will run later
- Pending Retry: Subtasks that have been processed but encountered an error. These will be retried later
- Trace: Audit trace for the task. Use 'Copy All' to copy to clipboard.

Snapshot Backups

Snapshot backup backs up the data as snapshots. You may create new snapshot tasks and manage existing tasks here.
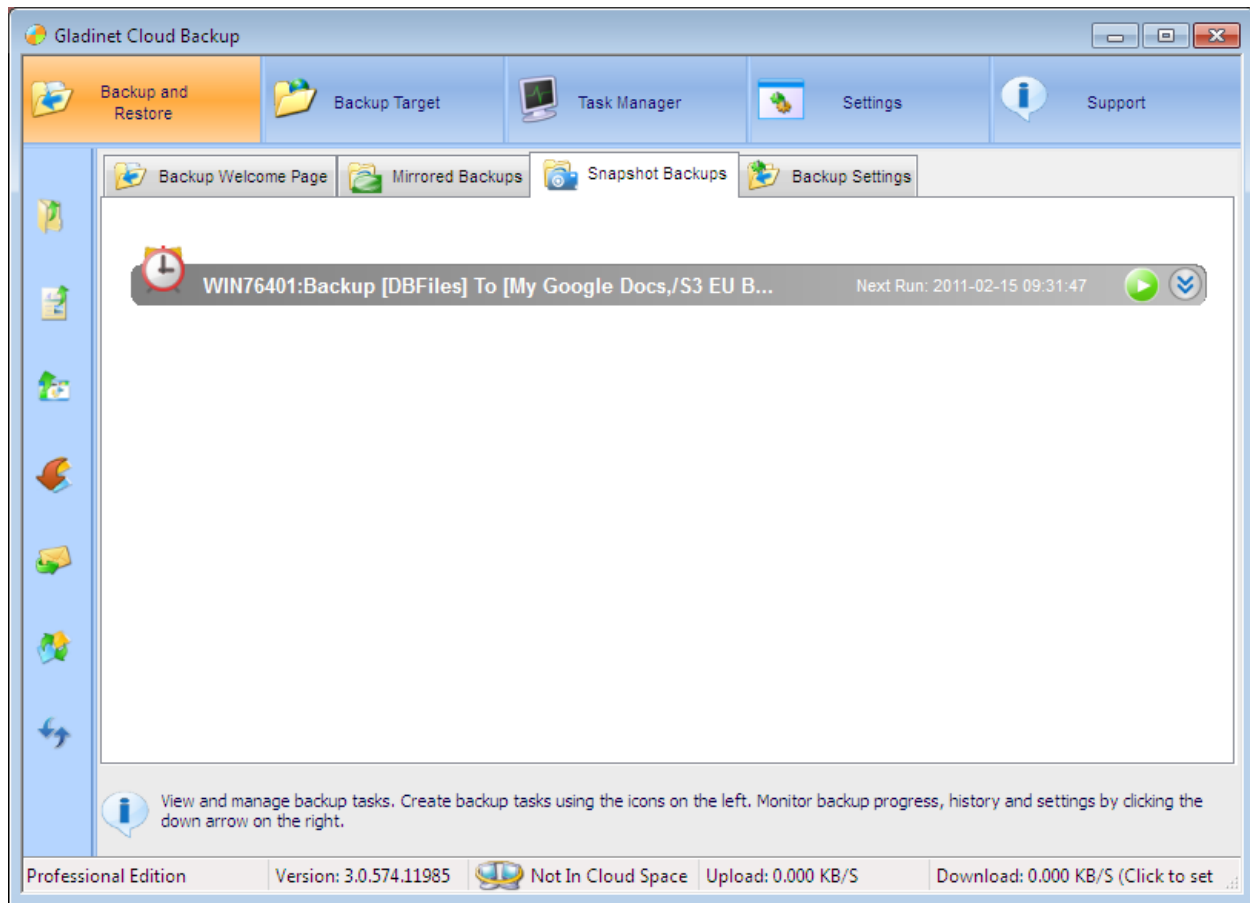
Left menu shows the icons to:

- Create new snapshot folder backup tasks
- Create new snapshot file type backup tasks
- Create new snapshot application backup tasks
- Restore from a snapshot
- Email Setting: When a snapshot task finishes, Gladinet can send a status report email to the admin. The email setting applies to all snapshot backup tasks.
- Re-index the file system for file type backup.

Snapshot Backup Task Details
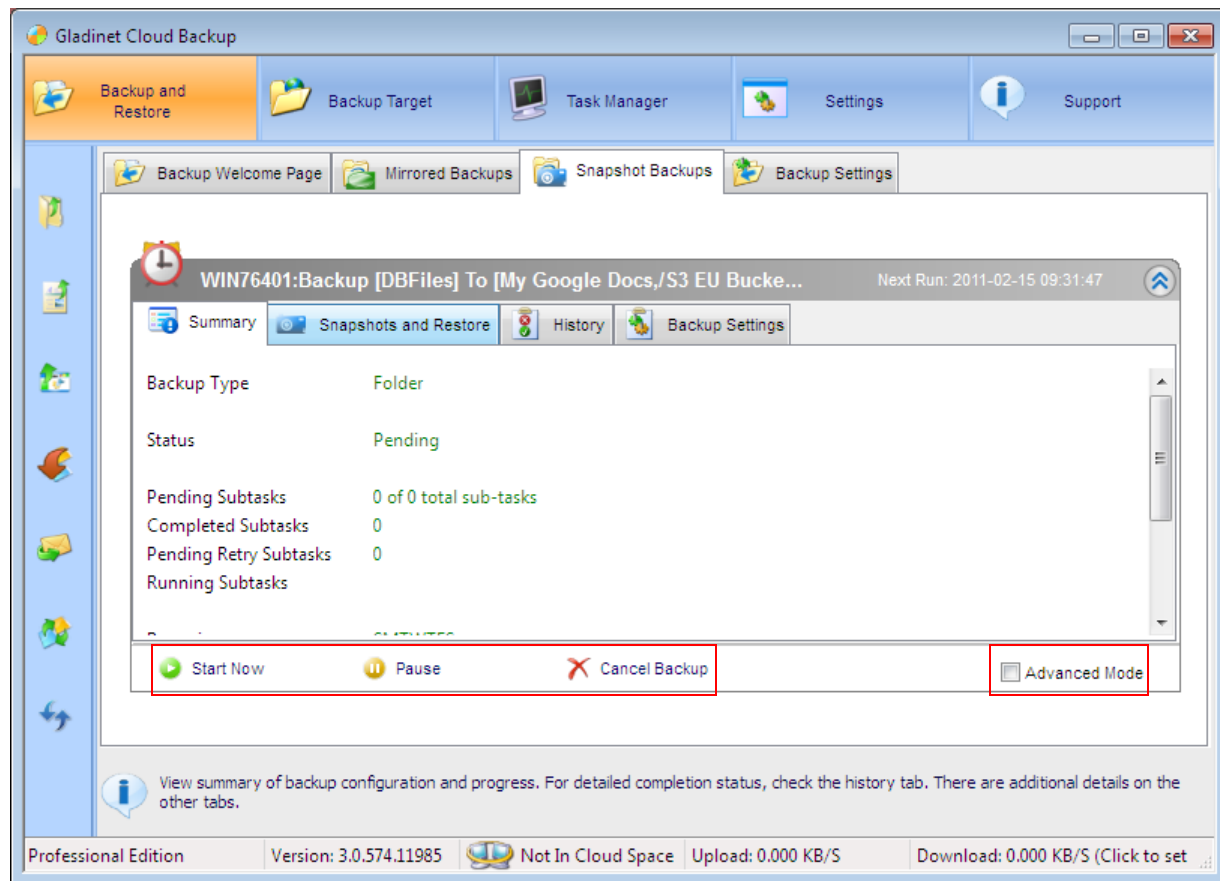
Users can click an existing snapshot backup task, to check the task details.

- Summary: Show task status, schedule (when it was last run, when it will run again), source and target.
- Snapshot and Restore: Show the existing snapshots created. Can restore from the snapshot directly here.
- History: Show a summary for each run of the backup task
- Backup Settings: Customize the backup task. For example, reschedule it or change how many snapshots to keep.

Users can enable Advanced Mode, to check the related subtask information. Advanced Mode includes these extra panels.

- Running: Currently running subtasks
- Pending: Pending subtasks. These will be run later
- Pending Retry: Subtasks that have been processed but encountered an error. These will be retried later
- Trace: Audit trace for the task. Use 'Copy All' to copy to the clipboard.

Backup Settings

Mirrored Backup:

Attribute	Default Value	Comments
Force Refresh Cloud Directory When Verify Against Cloud Storage	False	After a mirrored backup task uploads all the files to the cloud, it will verify the files are uploaded. The setting defines whether the task will refresh the directory during the process. Refreshing the directory will get the latest file/folder view of the target folder. However, it will be slower.
Delete Mirrored File when Source File is Deleted	False	Whether Gladinet should delete the target file, when the source file is deleted
Ignore source root folder	False	When set to false, the mirrored backup task will create the root folder in the target. For example, if the task source folder is C:\data and target is Z:\Google Docs\backup. The backup task will create Z:\Google Docs\backup\data first, then upload all files to data folder on target. When set to true, the mirrored task will not create the root folder on the target. In the same example, the task will upload files to Z:\Google Docs\backup directly.
Mirror Task Wake up Interval	300	How often the mirrored backup task runs by default

General:

Attribute	Default Value	Comments
Include Hidden Files	false	Whether to backup hidden files in the source folders. It is a global setting. Each backup task can define its own behavior for hidden files. However, if the global setting is false, the setting in individual backup task will be ignored.
Include System Files	false	Whether to backup system files in the source folders. It is a global setting. Each backup task can define its own behavior for system files. However, if the global setting is false, the setting in individual backup task will be ignored.

Backup Target

Virtual Directory
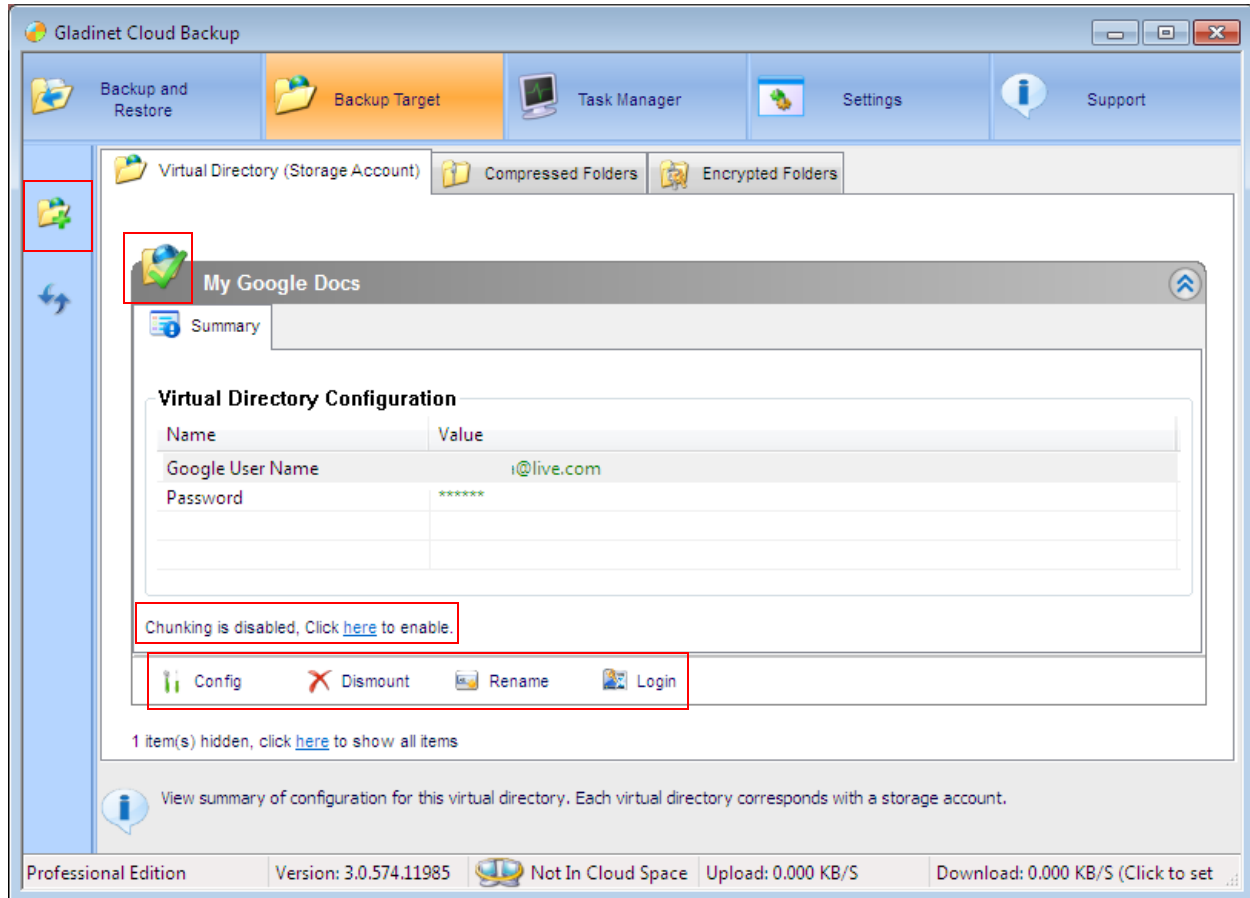
When a user mounts cloud storage in Cloud Backup, the mounted cloud storage is called a 'Virtual Directory'. Backup Target manages these virtual directories.

Virtual Directory Panel lists all the virtual directories mounted. The icon at the title is a status indicator.

Green check mark means the virtual directory is OK.

Blue question mark means Gladinet either has a problem with the virtual directory, or Gladinet is connecting to the cloud service.

At the bottom of the virtual directory summary, there are 4 actions.
- Config: Changes the virtual directory login information. Enable/disable the chunking feature and define the chunk size.
- Dismount: Removes the virtual directory.
- Rename: Gives the virtual directory a new name. Please notice that existing backup tasks will not work after a rename. In that case, they need to be reconfigured.
- Login: Forces the Application to re-connect with the Cloud Service.

Auto Chunking

If supported by the cloud storage service provider, the Application can split large files into smaller chunks before uploading them. This is especially useful when the provider posts a limit on file size. It also improves transfer speed since each chunk can be uploaded simultaneously. Moreover, if one chunk transfer fails, it will only retry that single chunk, instead of the entire file, which could be very large. In general, smaller files are much easier to upload or download.

Users can enable or disable chunking here by following the link on the Virtual Directory Summary panel. Or they can do it with 'Config'. They can define the size for each chunk here too.

NOTICE: Once the file is chunked, it will be stored as multiple files in cloud storage. Accessing it from the storage directly, for example, from cloud storage's own web interface, will only show the stored chunks. It has to be downloaded by Gladinet client to be restored to the original format.

## Compressed Folders
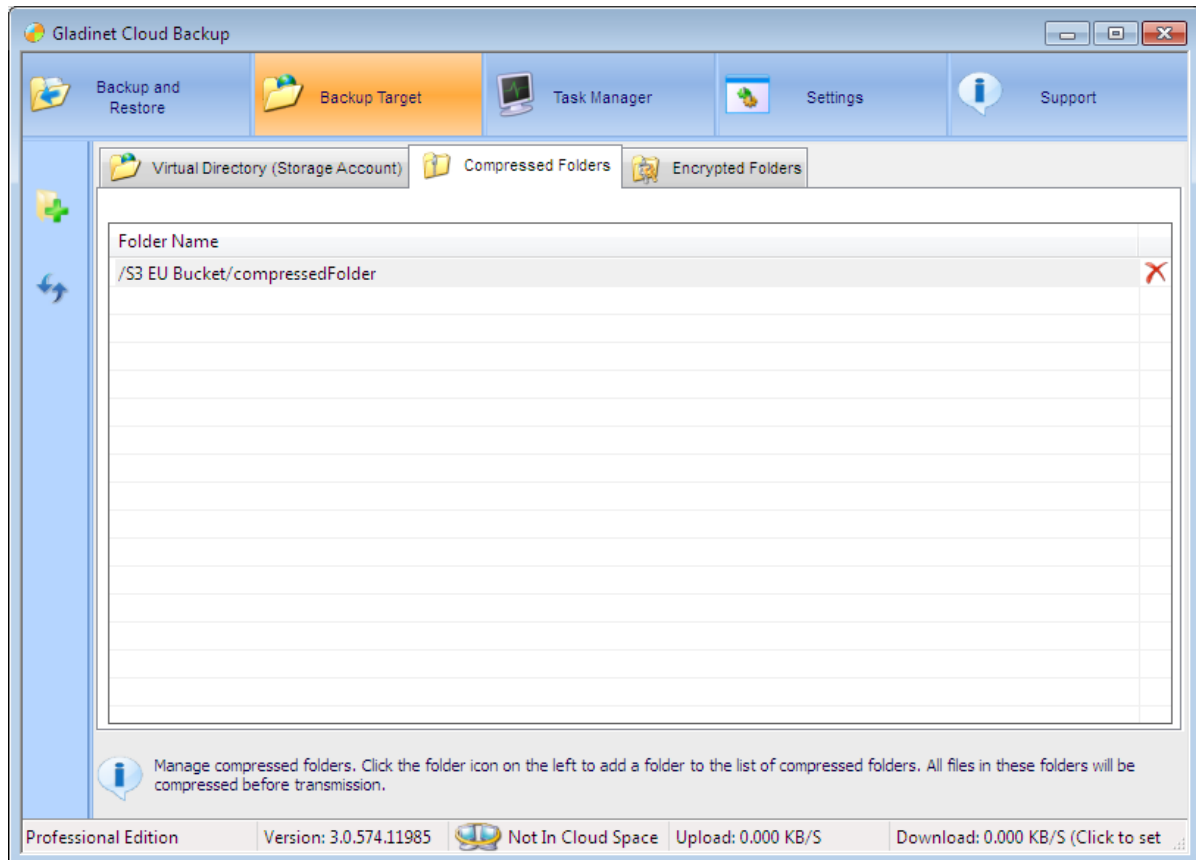
Users can define a folder in cloud as a compressed folder. Once this is done, when uploading files to the folder, the Application will compress the file first, then upload the compressed copy to the virtual directory. When downloading the file, it will be decompressed automatically.

Compression enhances data security, saves cloud storage space and accelerates transfers.

NOTICE: Once the file is compressed, it will be stored in compressed form in cloud storage. Accessing it from the storage directly, for example, from cloud storage provider's native Web interface, will only show the compressed version. It has to be downloaded by Gladinet to be restored to the original format.

Encrypted Folders
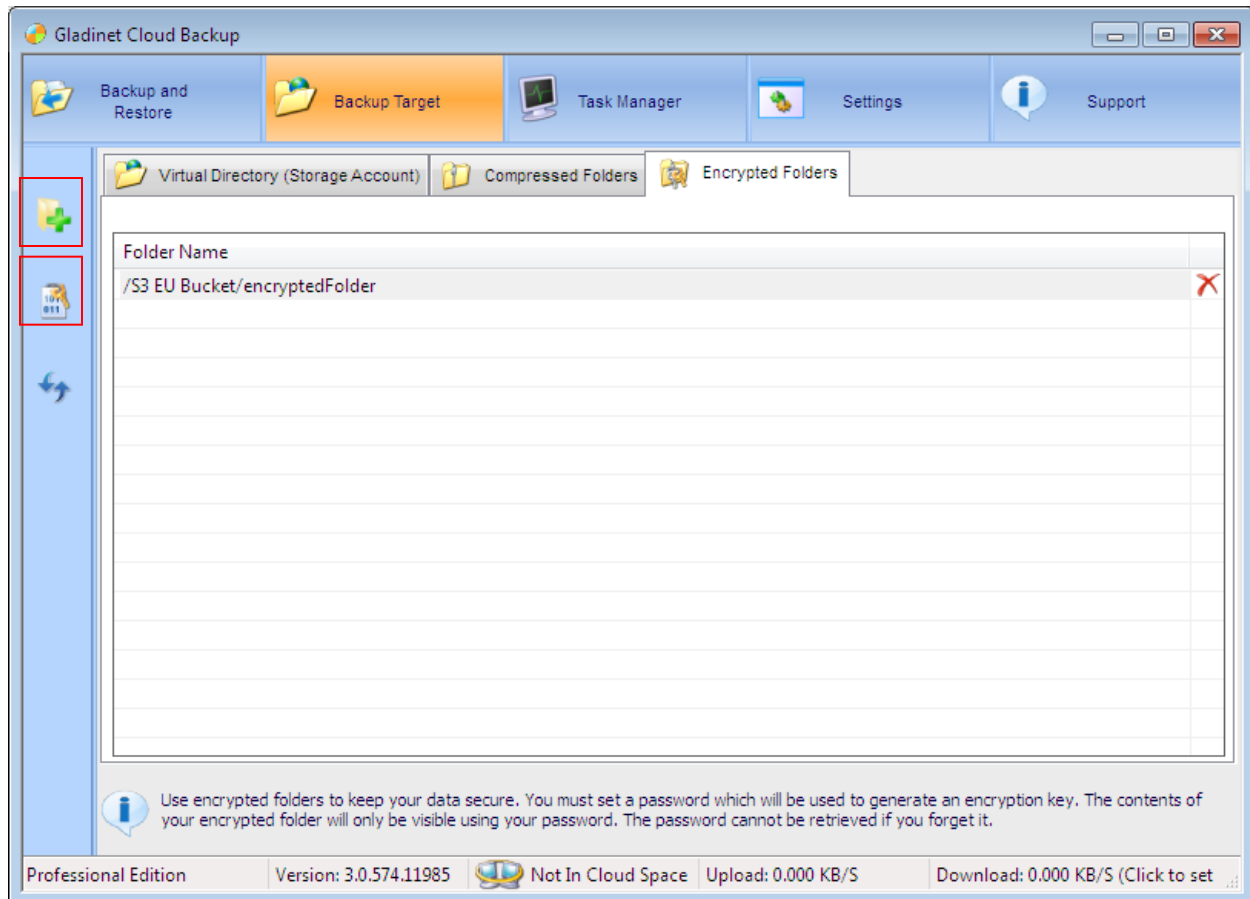
Users can define a folder in the cloud as an encrypted folder. When uploading files to the folder, the Application will encrypt the file first, with a user defined encryption key, then upload the encrypted copy to the virtual directory. When downloading the file, it will be decrypted automatically. The encryption is done with AES-128 from openssl library.

To use encryption, users need to define an encryption key. The key has to be remembered. If it is lost, there is no way to retrieve the file.

Please note that the existing files in the folder won't be encrypted. Only the newly uploaded files will be.

NOTICE: Once the file is encrypted, it will be stored encrypted in cloud storage. Accessing it from the storage directly, for example, from cloud storage's own Web interface, will only show the encrypted version. It has to be downloaded by Gladinet to be decrypted.

Task Manager

Task Manager manages tasks. There are two types of tasks.

- My Tasks: User initiated tasks. For example, all the backup tasks configured by user.

- System Tasks: System created tasks. The tab only shows in Advanced Mode

Task Details
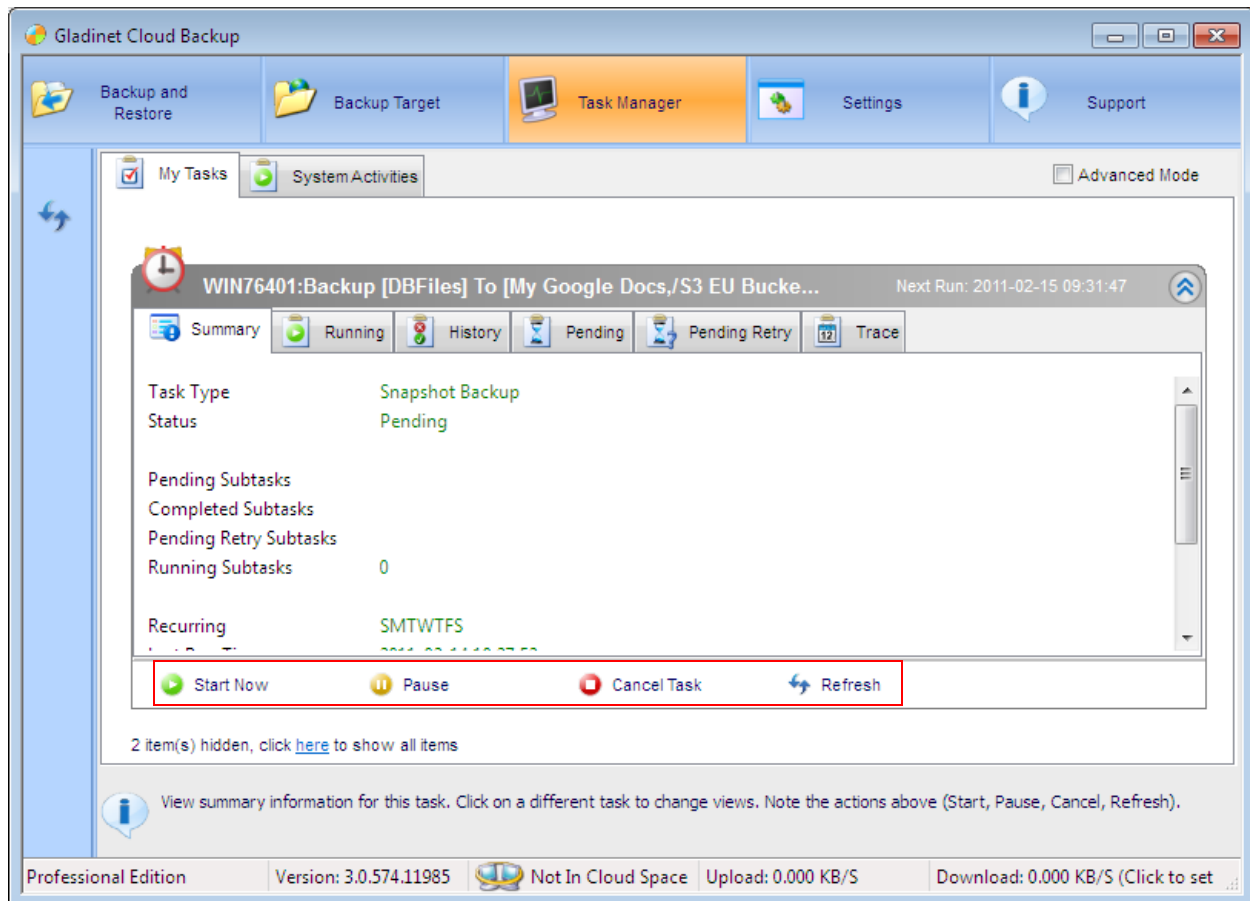
Users can click the task to check the details.

- Summary: Show task schedule, source and target folder. Can force the task to start, pause the task and cancel (delete) the task.
- Running: Currently running subtasks
- History: History of the running status
- Pending: Pending subtasks. Will run later
- Pending Retry: Subtasks that have been processed but hit an error. Will retry later
- Trace: Audit trace for the task. Use 'Copy All' to copy to clipboard

System Activities

System Activities shows the currently running subtasks. It gives users a quick idea of what Gladinet is doing.
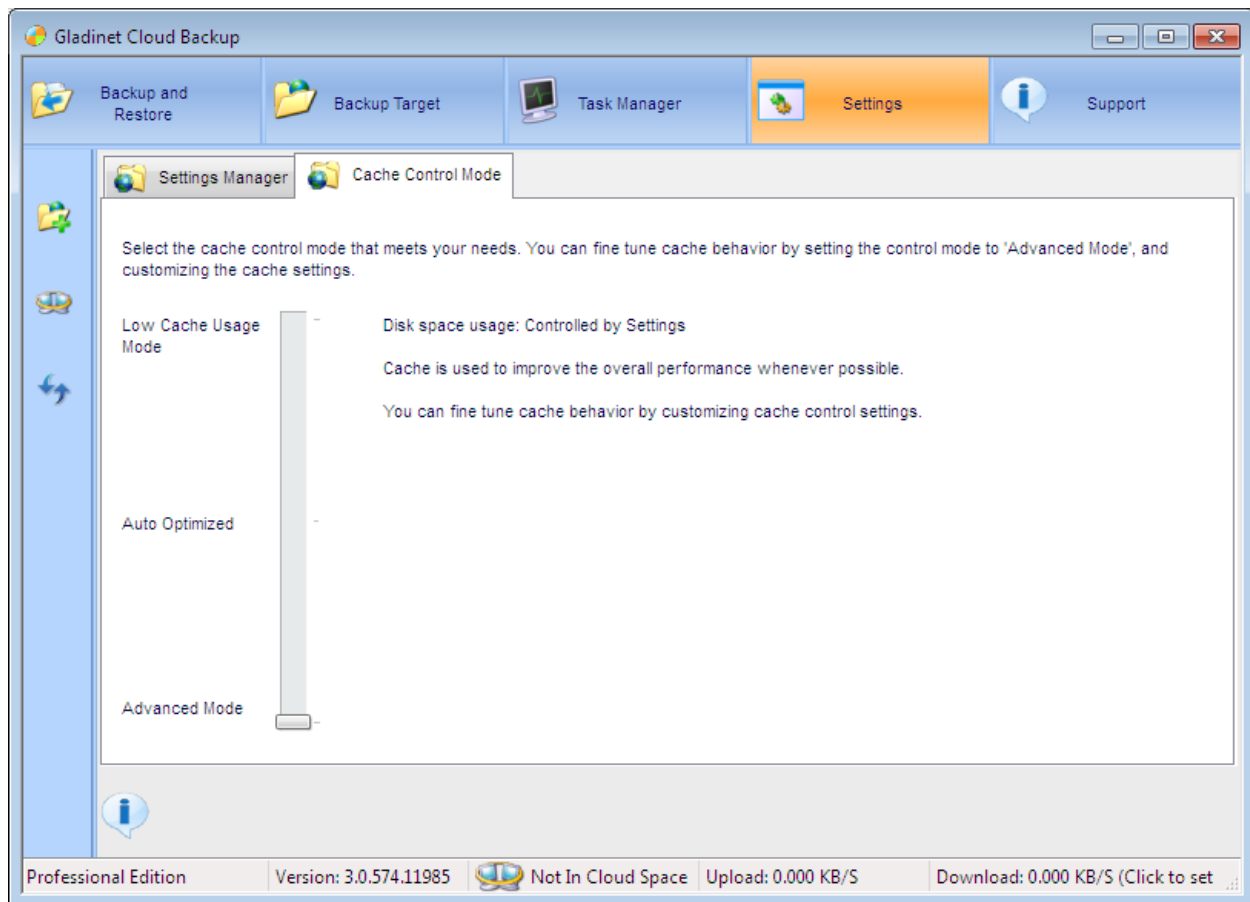
Settings

Settings Manager

Cloud Backup runs well with all the default settings. Advanced users can customize it by changing all the settings.

You can also define proxy settings here.
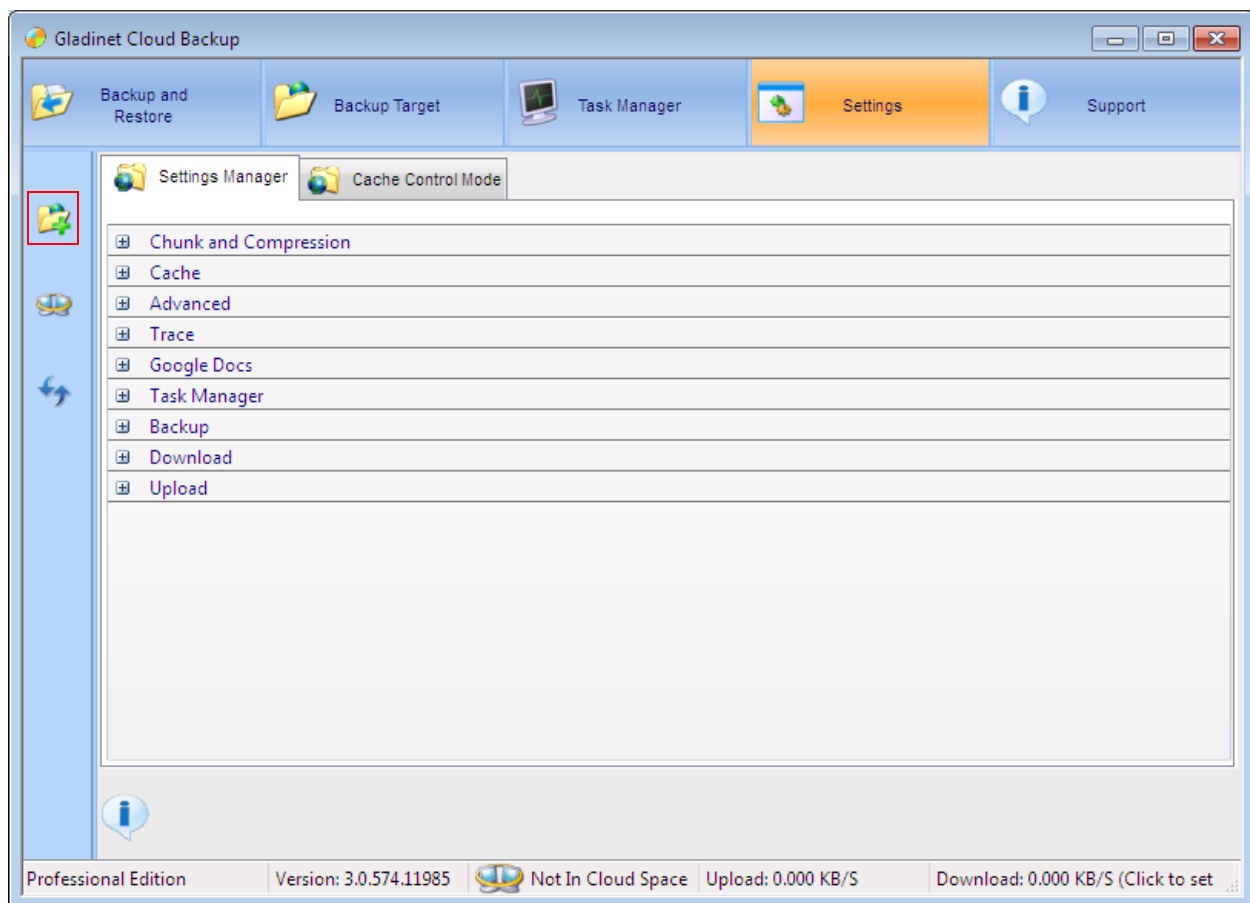
Cache Control Mode

Users can select the best fit cache control mode. By default, Cloud Backup uses Advanced Mode, to take advantage of the cache. Please avoid changing the cache mode if possible for Cloud Backup.

Support

The support section provides helpful information about Cloud Backup.

Users can send feedback to Gladinet. Please keep the feedback short and leave an email address if a reply is desired. If the space provided by the feedback window is insufficient, please email us at support@gladinet.com directly.

Audit Trace
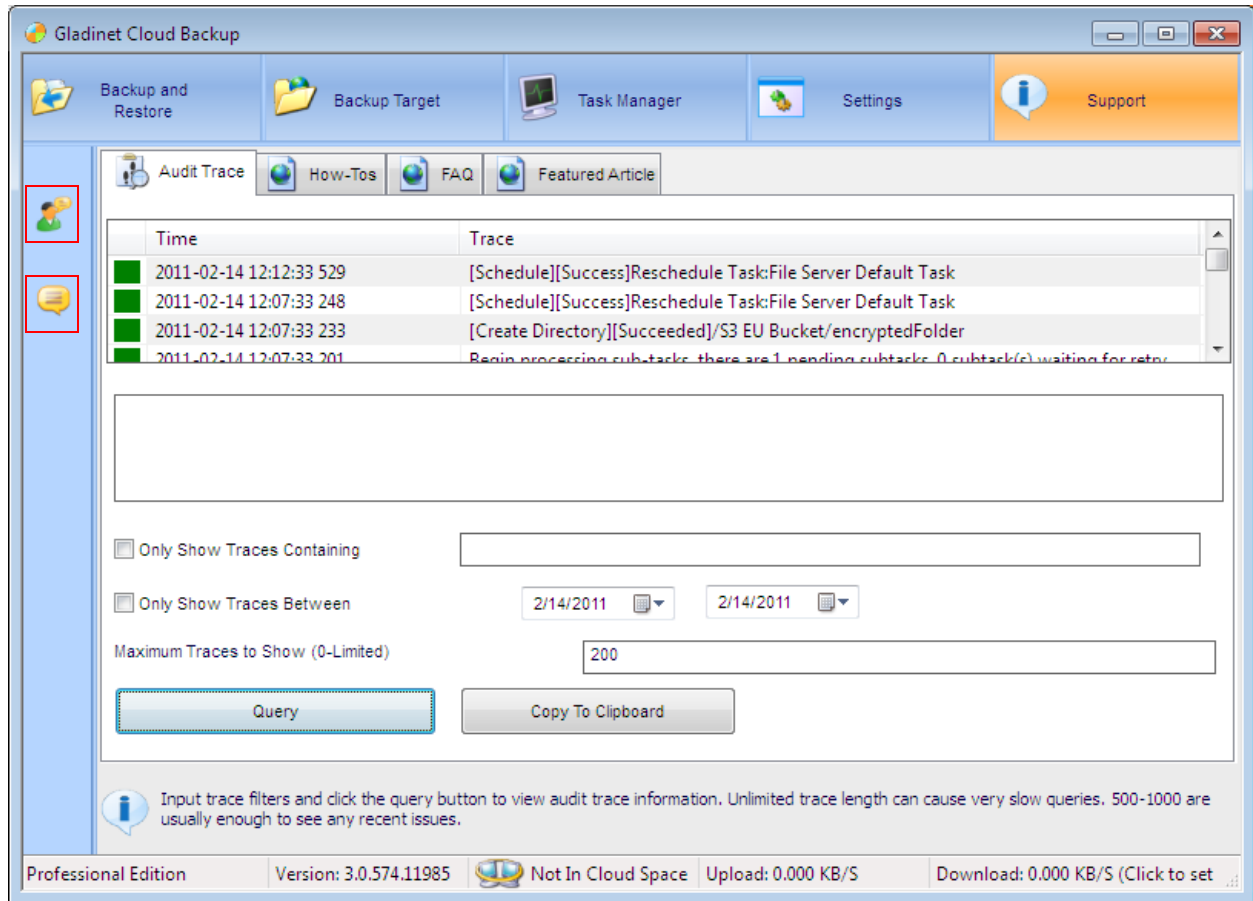
Audit traces are very useful when diagnosing problems. Users can specify the string to query, the time frame to query and how many records to display. Remember to click Query button to display the audit. Users can copy the audit.