

## Zmanda Cloud Backup 2.0 FAQ

The first sections of this document cover general questions regarding <u>features</u>, <u>cloud</u>, and <u>support</u>; the last section lists <u>error messages</u> and what to do about them.

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## Terminology

## What is Zmanda Cloud Backup?

Zmanda Cloud Backup (ZCB) for Amazon S3 is part of the Zmanda Cloud Backup family of products; ZIB and Zmanda Cloud Backup (ZCB) are one and the same.

# What do the terms "backup," "restore," "upload," and "download" mean in the context of Zmanda Cloud Backup?

When a backup is performed, ZCB creates a local backup archive, which consists of the data being backed up (compressed in a .ZIP file), the backup index, and metadata associated with the backup. The local backup archive is then uploaded to S3 storage.

ZCB allows you to schedule the local backup and remote upload as a single operation or as separate operations, depending on the backup type you select. For example, **Backup to S3** backup type copies the data to the local directory specified on the **Backup Where** tab and then immediately uploads the data to S3. Alternatively, **Backup to Disk** and **Upload to S3** backup types perform these same actions separately, which allows you to schedule the upload when Internet traffic is light.

## What is a backup set?

All activities in ZCB are applied to backup sets. A backup set defines the parameters (the what, where, and when) for backing up a group of directories or an application such as Exchange. Each backup set can only be of a single type. For example, you cannot back up an Exchange server and and Windows System state in the same backup set.

Backup sets are listed along the left edge of the ZCB display. You can create, edit, activate, and deactivate backup sets by right-clicking on them and choosing from the pop-up menu. Backup set names are limited to 32 alphanumeric characters. A backup set must be activated (which is the default state) for the backups it defines to actually be performed as scheduled.

## What is amandabackup user?

All ZCB services run as *amandabackup* user. The *amandabackup* user is added to "Backup Operators", "Administrators" and "Users" groups. This user is essential for ZCB functionality.

If ZCB machine is part of the domain and *amandabackup* user already exists in the domain, ZCB verifies the password of the *amandabackup* user. If the user does not exist in the domain and machine is the domain controller, the *amandabackup* user is created in the domain.

If the machine is not in a domain or the user does not exist in the domain and the machine is not a domain controller, a local user *amandabackup* is created with password that is provided.

The amandabackup local user may be deleted at the time of installation depending on whether or not you

choose to preserve data during uninstallation.

## What is Backup Folder (or why doesn't ZCB backup directly to cloud)?

ZCB provides disk based backup as well as cloud backup. The backup folder is a backup to disk location and can be used for restoration. To increase the performance as well improve reliability, ZCB writes backup images to Backup Folder before uploading the images to Amazon S3 cloud.

Backing up directly to cloud would be unreliable because the data transfer over internet is unreliable. Backup folder minimizes the impact of communication failure/interruptions.

## Features

## What are the new features in ZCB 2.0?

- SharePoint (MOSS 2007, WSS 3.0) and MySQL 5.x applications are supported.
- Support for SQL server 2008 and System state for Windows Server 2008.
- Backup and restoration of network mapped drives.
- Zmanda Cloud Backup is supported on Amazon EC2 running Windows Server 2003.
- Cloud features
  - Secure transfer to cloud can be turned off to increase upload or download performance. This is recommended only when data is encrypted.
  - Backup images can be stored in Amazon US or Europe data centers.
  - Backup images transferred to cloud are checked for data integrity using MD5 checksums.
  - Block size of the transfers to and from cloud. This can help in cases where are lots of network failures.
- Selective restoration of files. The user interface allows users select files that have to be restored. Please note that complete image will be transferred back to data center from the cloud.
- All events (backup, restore, upload and download) are logged in Windows events logs. Email address can be configured for each backup set. Email notification can also sent to Administrators.
- Files can be excluded from filesystem backup. Wild card characters are supported in exclude specification.
- Data encryption using a PFX Digital Certificate provided by a trusted Certificate Authority. Secure Encryption/Decryption process, using Industry standard RSA algorithms. Please note that this encryption certificate is different from Amazon S3 certificate.
- Backup set full backup size estimation functionality allows users to estimate the size of backup window.

- Automatic validation of backup sets before saving configuration. This step helps in reducing backup failures due to configuration errors.
- Improved installation process using InstallShield.

## What levels of backup are supported?

ZCB supports both full and incremental backups. Incremental backup (backup level 1) contains changes since the last full backup (backup level 0). Choosing incremental backup reduces the amount of data to be backed up and uploaded to Amazon S3. Current version of ZCB ZCB does not support incremental backups of MSSQL databases.

## Can I copy the backup folder to another machine?

Not directly. To move a backup folder to a different machine, first upload from the source machine to S3, then restore the backup catalog to the target machine as described in <u>How do I restore to different machine?</u>.

## Can I do backup and upload at the same time?

Yes. You can watch their progress in monitor page.

### Can I do upload and download at the same time?

Yes.

## Configuration

### What platforms/applications are supported?

Platforms: Windows 2003 server, 2008 server, Windows XP and Windows Vista.

**Applications:** can be NTFS file system, System state (active directory, registry, certificate server), SQL server 2000 and 2005, Microsoft Exchange 2003 and 2007, and Oracle 11g running on any of the listed platforms.

## Can I run ZCB as a user not belonging to Administrator group?

No. A Windows user belonging to Administrator's group can install and perform ZCB operations using the UI.

On Windows XP and Windows 2003 server, if an user that does not belong to Administrator's group launches ZCB UI, the error message **Write permission denied** is displayed. User can right click on ZCB UI short cut and select **Run As** option. Specify the Administrator user password to launch ZCB UI.

On Windows Vista and Windows 2008 server, if an user that does not belong to Administrator's group launches the UI using ZCB short-cut, the User Access Control dialog will appear. Enter Administrator user account name and password. ZCB UI will be launched.

## How do I enable VSS (Volume Shadow Services)?

The Volume Shadow Copy Service must be enabled for ZCB backups. Although the Volume Shadow Service is enabled by default, it may have been turned off after Windows installation. To ensure that it is running:

- 1. Right-click the My Computer icon and choose Manage from the popup menu.
- 2. Expand the Services and Applications tree and locate the Volume Shadow Copy Service.
- 3. If it is not started, do so.
- 4. If necessary, change the General Properties to make the Startup Type Automatic rather than Manual.

## How large should the backup folder be?

The size you should allocate for the backup folder depends on number of backup sets, backup levels, backup and upload schedule. You should allow sufficient space to hold the number of backups specified by the retention policy. In general, the size depends on

- 1. Size of backup images in the backup set (incremental or full)
- 2. Backup scheduling used for the backup set (Backup, Backup+Upload)
- 3. Upload success or failures which depends on Amazon data centers and communication reliability

# Do I need to restore a full backup and then restore the incremental backup(s) to restore to a point in time?

No. Zmanda Cloud Backup lets you select any point in time (based on when the last backup was performed, and then automatically determines which backups must be restored.

## How do I restore to a different directory?

The Restore Where tab includes an option to restore to a different directory.

## How do I restore to different machine?

The backup must reside in S3 storage; backups stored in the local backup folder cannot be restored to another machine.

- 1. Install and run Zmanda Cloud Backup on the restore target machine.
- 2. If the backup is encrypted, make the required encryption certificates must be available on the target machine.
- 3. From the Tools menu, choose Restore Catalog to restore the backup. You must supply a host (host

name of the original server) and backup set name to identify the backup used for the restore. If backup set name is not specified, all backup sets found in the original server, will be recovered on the new server.

- 4. You can also restore the catalog to a temporary directory instead of the ZCB directory for testing.
- 5. All the recovered backup sets will be named "<backup set name> (<original hostname>)"
- 6. Use ZCB to restore the files as if they were on the original machine. You can also look at the reporting information for the recovered backup sets.

## Can I backup data from a mapped network drive?

Yes. ZCB supports backing up mapped drives provided the shares have been mapped as user **amandabackup**. ZCB supports both Windows and SMB shares mapped as drives. Backup of NTFS encrypted files on mapped network drive will fail with **Access Denied** error.

Requirements:

- 1. On the machine where the share exists, make sure that **amandabackup** user exists and has the same password as the **amandabackup** user on ZCB client.
- 2. The **amandabackup** user needs to have read-write permissions on the shared folder, which will be mapped.

Perform the following steps on the ZCB client to map the shared folder to be backed up:

- 1. Login as user **amandabackup**.
- 2. Map a network drive for the Share to a drive letter say Z:\. Make sure that **Reconnect at logon** option is selected.
- 3. Login to the ZCB client machine using the credentials that will be used for performing backups say **Administrator**. Map a network drive for the Share with the same drive letter as before i.e. Z:\. Make sure that **Reconnect at logon** option is selected.
- 4. You should be ready to backup the mapped drive.

# Can I use a mapped network drive as the backup folder (Local folder in Backup Where page)?

Yes. You can use a mapped network drive to store backup images. To configure mapped network drive as the backup folder, perform the following steps:

- 1. Ensure that **amandabackup** user has read and write access to the network share.
- 2. Map the network share as a mapped drive using the backup user (Administrator user).
- 3. In ZCB UI **Backup Where** page, use the browse button for the **Local Folder** to select the mapped drive.

## How do I backup NAS shares?

- 1. Login to the ZCB machine as *amandabackup* user.
- 2. Map a Network drive of the NAS share. While creating the share, make sure that you select the option "Reconnect at logon". Note the Drive letter assigned for the Mapped drive.
- 3. Logout and Login to the machine as Administrator or the Windows user who performs ZCB backups.
- 4. Map the network share as a drive with the same drive letter (as in Step 2).
- 5. You should be able to select the drive from the Backup What page in ZCB user interface. Add the drive or folders in the drive to the backup set.

## Can I backup Linux clients?

Yes using Samba. ZCB can backup data from mapped Samba shares from the Linux machine. There is no Linux ZCB client. <u>Amanda Enterprise edition</u> provides this functionality. Please contact Zmanda Sales (Email <u>zsales@zmanda.com</u>) for more information.

## Does ZCB support FAT32 filesystem?

ZCB can backup only NTFS filesystem. FAT32 filesystem can be used for Backup Folder if backup encryption is not required.

## How do I configure ZCB to back up an SQL Server 2000 database?

- 1. Install and run Zmanda Cloud Backup on the server you intend to back up.
- 2. Choose Backup from the Tasks menu in the upper right, then the What tab.
- 3. Choose SQL Server as the Backup Type.

Zmanda Cloud Backup will discover all the SQL Server 2000 instances and automatically adds them to the backup set. Automated server discovery works the same way for the other application types supported such as MS Exchange and Oracle.

# How long are the backups retained in the local backup folder and on S3 storage?

Local and S3 backups are retained as specified by the retention policies entered in the **Backup Where** tab. You can choose to retain backups for months, days, or even years based on space availability and recovery requirements. Make sure that you have sufficient space (both locally and on S3) to meet the requirements of your backup retention policy.

## My backups take a long time to complete. What can I do to speed it up?

The upload speed depends on bandwidth availability. If necessary, adjust the schedule so that uploads occur when maximum bandwidth is available.

## I cannot use the machine when backups are running. What can I do?

ZCB uses the Windows Volume Shadow Services (VSS) to perform backups. VSS minimizes impact on the application. But because system resources such as CPU cycles and memory are shared, the impact can not be entirely eliminated. Compression in particular can consume significant system resources.

This is why ZCB allows you to schedule backups separately from S3 uploads.

### **Does ZCB log events to Windows Event Viewer?**

Yes. All Backup, Upload, Download and Restore successful and failure events are logged. Following output shows an example of Backup failure. Windows log events can be used to trigger email and other notifications using various log monitoring tools available for Windows platform.

```
Event Type: Error

Event Source: ZCB

Event Category: Backup-Restore

Event ID: 501

Date: 7/7/2009

Time: 5:40:33 PM

User: N/A

Computer: EXCH-SERVER-1

Description:

BackupSet3 - Backup failed with errors.

Error Details : File system not supported.

Please check log files for details.
```

## Why is the Backup Size on the Backup pane different from the Total Upload Size on the Upload pane in the ZCB Monitor UI?

The **Backup Size** on the Backup pane shows the size of Backup archive. The **Total Upload Size** on the Upload pane includes the backup meta data and catalog for the archive in addition to the backup archive. So the **Total Upload Size** will be greater or equal to the **Backup Size** value. The backup archive meta data and catalog is required to recover the catalog in case of disaster recovery of ZCB machine.

# What are the three files in the Total Backup Archives to Upload on the Upload pane in the ZCB Monitor UI?

The three files that are uploaded are always Backup meta data, Backup catalog for the archive and Backup archive. The size of Backup meta data and catalog are usually significantly smaller to the size of backup archive. During upload, **Upload so far (current file)** value shows the amount of data uploaded for the file being uploaded.

### Amazon S3 Cloud

### How can I verify the validity of the S3 Certificate and Connection?

Choose Tools->Check Amazon S3 Connection. This causes ZCB to connect to S3 and validate the required

S3 subscription and keys. You can use this test to validate your installation, or to troubleshoot failed uploads/downloads.

## How secure is my data with ZCB and Amazon S3?

There are several levels of security provided by ZCB and Amazon S3 that ensure privacy and security of your data:

- ZCB provides an option to encrypt your backup data by using Digital Certificates from Trusted Certificate Authorities. This is available in Windows XP, Vista and Windows 2003 and Windows 2008 Servers.
- In addition to encrypting the backup data, ZCB provides an option to transfer your data from your computer to Amazon S3 via secure 128-bit SSL.
- Amazon S3 provides access controls that only permit authenticated access by ZCB with your own unique security certificate. You, and only you, maintain full control over who has access to your backup data. See <u>this white paper from Amazon (requires Adobe Acrobat reader)</u> for details.

## How to purchase Amazon S3 subscriptions?

Please click on **Tools-> Purchase Subscription** to buy Amazon S3 subscriptions for Zmanda Cloud Backup. The purchase process requires Zmanda Network login information. Please join Zmanda Network for free at <u>http://network.zmanda.com/</u>

After your purchase, Amazon S3 certificate will be available for download from Zmanda Network. Please download the certificate to the ZCB Windows server and import the certificate into ZCB configuration.

## How much are we spending? How much have we spent in the past?

Please click on **Tools-> S3 Billing** to get browse monthly billing activity and see what is being spent so far this month. You will need your Amazon account information to access the bill.

## How do I use a different Amazon S3 account?

An additional S3 account requires an additional subscription, available from the Zmanda Network.

## Who sends the monthly bill?

Monthly bill for ZCB storage and transfer cost will be provided by Amazon. Zmanda does not bill the customer directly. The bill will have specific entries for Zmanda Cloud Backup in addition to entries for other Amazon Web Services if you are using them.

## Support

## I have a question not covered here. How do I get an answer?

Please click on **Help->Contact Support.** This will open your browser and direct it to the Zmanda Support Forums. Once logged in, you can ask your question in the Zmanda Cloud Backup support forum. If there is specific problem, you can open a support case using your Zmanda Network account.

# How do I access the forums to see if my question has been answered previously?

Use your browser to access http://forums.zmanda.com and search the ZCB forums.

## Error Messages

### backup failed

This error appears when the backup failed for any of a number of reasons, such as snapshot failure or running out of physical volume extents. Before contacting the Zmanda Support Team, choose **Collect Logs** from the ZCB **Tools** menu. ZCB then collects all the relevant files into an archive, displaying its name and location. Be patient; collecting the logs can take a few minutes. Attach the log file to your support request. Zmanda Support may ask you to set the log level to Debug (Tools->Log level->Debug) when troubleshoot.

### Backup root directory not found

This error indicates either of the following:

- An invalid/non-existent Backup Folder has been specified in the backup set.
- ZCB lacks the necessary permissions on the directory.

**Note:** The Backup Folder refers to the directory path specified for the backup set in the **Backup Where** tab. Make sure that Backup Folders are present and accessible to ZCB.

### **Backup Set directory not found**

This error indicates either of the following:

- An invalid/non-existent Backup Folder has been specified in the backup set.
- ZCB lacks necessary permissions on the directory.

**Note:** The Backup Folder refers to the directory path specified for the backup set in the **Backup Where** tab. Make sure that Backup Folders are present and accessible to ZCB.

### can not parse this index file

This error indicates either of the following:

- An invalid/non-existent Backup Folder has been specified in the backup set.
- ZCB lacks necessary permissions on the directory. (Backup Folder)

**Note:** The Backup Folder refers to the directory path specified for the backup set in the **Backup Where** tab. Make sure that Backup Folders are present and accessible to ZCB.

### Can not open index file

This error indicates either of the following:

- An invalid/non-existent Backup Folder has been specified in the backup set.
- ZCB lacks necessary permissions on the directory.

**Note:** The Backup Folder refers to the directory path specified for the backup set in the **Backup Where** tab. Make sure that Backup Folders are present and accessible to ZCB.

### **Restore failed**

There can be many reasons for a restore to fail. Before contacting the Zmanda Support Team, choose **Collect Logs** from the ZCB **Tools** menu. ZCB then collects all the relevant files into an archive, displaying its name and location. Be patient; collecting the logs can take a few minutes. Attach the log file to your support request.

### A backup set with the same name already exists.

Duplicate backup set names are not allowed. Choose a different name.

### Restore Catalog command failed. Please look in the log file for more details.

The restore catalog command failed for any of a number a reasons, perhaps due to S3 connection problems or insufficient space on the local folder. Check the logs for further information.

### Unable to create backup set *Backup\_set\_name*

Check that the local disk has not run out of space.

### Backup Set with name *Backup\_set\_name* already exists.

Duplicate backup set names are not allowed. Choose a different name.

### Unable to create temp file

Make sure that ZCB has permission to write to ZCB installation directory\misc.

### Unable to save Backup Where parameters for backup set *Backup\_set\_name*

Make sure that ZCB has permission to write to ZCB\_installation\_directory\conf\Hostname+Backup\_set\_name.

### Failed to save Backup What parameters for backup set Backup\_set\_name

Make sure that ZCB has permission to write to ZCB\_installation\_directory\conf\Hostname+Backup\_set\_name.

### The format of the restore time not correct.

Restore time must be specified in HH:MM format.

### Collection of ZCB logs failed.

On Windows Vista and 2008 Server, the Tools->Collect Logs can have errors if they are not run as *Administrator* user. To resolve this issue, right click on **ZCB Support** in **Start->Programs** menu and click on **Run as Administrator**.

### Failed to Validate encryption certificate : <CertificateName>

The encryption certificate name entered in ZCB UI **Backup What** for the backup set is invalid. Encryption certificate name must have been imported into the *amandabackup* user profile on the ZCB machine.

### Decryption initialization failed while finding certificate : <CertificateName>

The encryption certificate **CertificateName** used at the backup time must be available for restoration of encrypted backup images. It should be have been imported into the *amandabackup* user profile on the ZCB machine where restoration is being done.

### Decryption initialization failed while importing session key.

You might encounter this error, if you are restoring on a machine different from where the archive, or if the amandabackup user profile on the same machine was deleted manually or as part of uninstallation. This is a result of not importing the encryption key container used during encryption. To resolve this, you will have to import the necessary key container from the machine where the archive was backup encrypted. See **Getting Started** (Help>Getting Started in the UI or Zmanda Network documentation) guide for information on how to import key containers.

Failed to initialize COM for VSS. Failed to initialize VSS. Failed to collect writers information. Error Backup failed for more than 100 or 50% of the selected files. Check Volume Shadow Copy services.

## Writers status is not stable. Try after restarting Volume Shadow Copy service. Please run 'vssadmin list writers' to identify the problem vss writer.

These error messages related to VSS (Volume Shadow Services) can be seen during backup or validation of backup set. The application event logs should be checked for errors. Based on error codes in the logs, corrective action should be performed. The Windows command "*vssadmin list writers*" can also be useful to identify VSS writer problems. Restarting Volume Shadow Copy service fixes most VSS writer problems.

The list of files that were not backed up in the last backup run can be found in *BackupErrors.txt* file in the ZCB Debug folder. A similar debug file is available for restore failures (*RestoreErrors.txt* in the ZCB Debug folder)

## Amazon S3 Certificate not found in the installation directory. Backups and Restores to the S3 cloud will not work. Please purchase S3 subscription or download S3 certificate from Zmanda network.

Backing up to Amazon S3 and restoring from S3 requires an authentication certificate. This certificate is available as part of product subscription. Please use **Tools->Purchase Subscription** to purchase a subscription. If you are already a product subscriber, download the certificate from Zmanda network account and import the certificate into ZCB using **Tools->Import Cloud Certificate**.

## Time-mismatch: Difference between Amazon S3 time and System time is too large. Please check your server date and time.

Amazon cloud requires the system time of ZCB machine to be correct. Please synchronize the system time with valid time (NTP) server.

## Invalid User token: The provided token is malformed or otherwise invalid.

Failed to connect to Amazon S3 due to invalid certificate

Invalid access key: The AWS Access Key Id you provided does not exist in our records. Invalid Secret key: The request signature we calculated does not match the signature you provided. Check your key and signing method.

The Amazon S3 certificate installed on the machine is not valid. Please download S3 certificate from Zmanda Network and import the certificate to ZCB. Check Amazon S3 subscription using **Tools->S3 Billing**.

### Storage cloud communication errors

Communication with Cloud failed. Detailed error message is available in the log files. Use **Tools-**>**Check Amazon S3 Connection** to verify connectivity to the cloud. If the connection is good, try resuming the upload operation will work. Failed uploads can be resumed from Reports page. Select the backup job report and right click to perform retry upload operation. The failed upload resumes from the failed block (not from the beginning of the backup image).

## mysqldump: Got error: 2003: Can't connect to MySQL server on <IP address/name> (10061) when trying to connect

Backup of MySQL database fails with this error message. Check to see if the MySQL server is running on the server with the IP address or name mentioned in the message. Backup of MySQL database requires MySQL server to be running.

### Upload failed due to backup run failure

This message appears in Upload pane of Monitor page. Failed backups cannot be uploaded. Look at Backup pane in the Monitor page for backup errors.

# ERROR: You have launched 'Collect Logs' using <user name> user. The tool will fail to collect logs correctly for any user other than Administrator. Please run 'Start Menu > Programs > Zmanda > Zmanda Cloud Backup > ZCB Support' using 'Run as Administrator' option

ZCB log collection for Zmanda support must be performed as Administrator user.

## Validation of backup set <br/>backup set name> failed. Check if ZCB service ports (see Tools > Advanced Options) are used by another software using netstat command

ZWC service could not be started. Please check if ZCB ports (Tools > Advanced Options) are in use ZCB uses two TCP ports for its operations. Default port numbers are 10080 and 10081. If these ports are used by some other software installed on the ZCB machine, the above error message is displayed. Users can change ZCB ports from the UI using Tools > Advanced Options. Use netstat command from the Windows command shell to determine the list of ports used by software applications running on the machine.

### Could not open file

ZCB does not have the necessary read/write permission on the Backup Folder. Ensure that ZCB has write permissions on the Backup Folder.

### Nothing to do

This message indicates you are trying to restore an unsuccessful backup.

### Backup root directory not specified, Assigning default value

This error indicates either of the following:

- An invalid/non-existent Backup Folder has been specified in the backup set.
- ZCB lacks necessary permissions on the directory.

**Note:** The Backup Folder refers to the directory path specified for the backup set in the **Backup Where** page. Make sure that Backup Folders are present and accessible to ZCB.

### **Backup info fields not specified**

This error indicates either of the following:

- An invalid/non-existent Backup Folder has been specified in the backup set.
- ZCB lacks necessary permissions on the directory.

**Note:** The Backup Folder refers to the directory path specified for the backup set in the **Backup Where** page. Make sure that Backup Folders are present and accessible to ZCB.

#### Restoring from a backup which was not successful

This message indicates you are trying to restore an unsuccessful backup.

#### Backup status is not available in the index file

This message indicates you are trying to restore an unsuccessful backup.

#### Restoring from this may not be successful

This message indicates you are trying to restore an unsuccessful backup.

## Unable to access following File(s)/Folder(s) that are part of the <backup set name> backup configuration:

<list of file(s)>

### Please save backup set.

This warning message appears if some files that were part of backup set are no longer in the system. The message identifies the list of files that are missing. Users are expect to save the backup set so that the missing files are removed from the backup set.

#### Please perform a Full Backup before an Incremental backup

At least one full backup must be performed for a backup set before incremental backup can be performed. Incremental backup contains all changes since the full backup of the backup set.

#### Validation of backup set not done. Another operation already in progress

Validation of a backup set cannot be performed when backup or restore operation in the backup set is in progress. The backup set configuration is saved. The backup set should be validated later using **File>Validate Backup Set**.