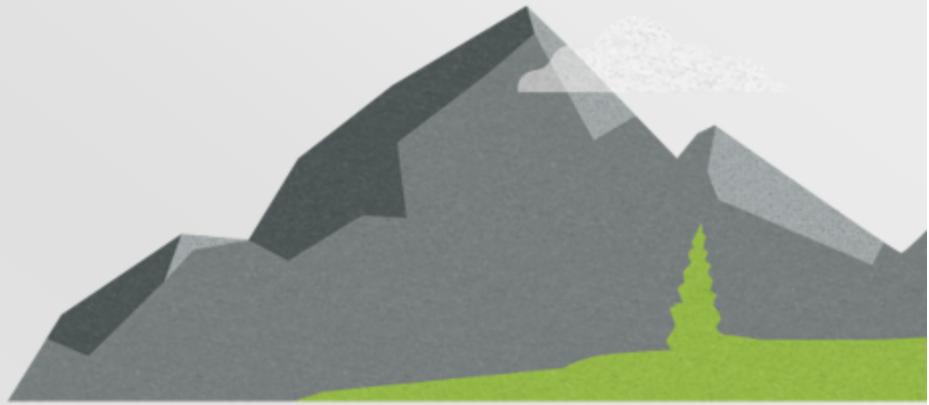


# Carbonite Availability and Carbonite Migrate

*Reporting Service User's Guide*



## Notices

Carbonite Availability and Carbonite Migrate Reporting Service User's Guide Version 8.2.2, Thursday, January 3, 2019

If you need technical assistance, you can contact CustomerCare. All basic configurations outlined in the online documentation will be supported through CustomerCare. Assistance and support for advanced configurations may be referred to a Pre-Sales Systems Engineer or to Professional Services.

Man pages are installed and available on Carbonite Availability and Carbonite Migrate Linux servers. These documents are bound by the same Carbonite license agreement as the software installation.

This documentation is subject to the following: (1) Change without notice; (2) Furnished pursuant to a license agreement; (3) Proprietary to the respective owner; (4) Not to be copied or reproduced unless authorized pursuant to the license agreement; (5) Provided without any expressed or implied warranties, (6) Does not entitle Licensee, End User or any other party to the source code or source code documentation of anything within the documentation or otherwise provided that is proprietary to Carbonite, Inc.; and (7) All Open Source and Third-Party Components ("OSTPC") are provided "AS IS" pursuant to that OSTPC's license agreement and disclaimers of warranties and liability.

Carbonite, Inc. and/or its affiliates and subsidiaries in the United States and/or other countries own/hold rights to certain trademarks, registered trademarks, and logos. Hyper-V and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries. Linux is a registered trademark of Linus Torvalds. vSphere is a registered trademark of VMware. All other trademarks are the property of their respective companies. For a complete list of trademarks registered to other companies, please visit that company's website.

© 2019 Carbonite, Inc. All rights reserved.

# Contents

---

- Carbonite Availability and Carbonite Migrate Reporting Service overview ..... 4**
- Reporting Service requirements ..... 5**
- Adding a Reporting Service server to the Carbonite Replication Console ..... 7**
- Configuring the Reporting Service server ..... 8**
  - Viewing Reporting Service server details ..... 10
- Reporting Service tables ..... 12**
- Replication Reporter ..... 22**

# Carbonite Availability and Carbonite Migrate Reporting Service overview

The Carbonite Availability and Carbonite Migrate Reporting Service is a centralized reporting and analysis tool that allows you to create detailed, custom reports of all Carbonite Availability and Carbonite Migrate servers in your environment. It can be used to show the overall effectiveness of Carbonite Availability and Carbonite Migrate protection over time and to analyze trends in a data protection scheme. After you install and configure Carbonite Availability and Carbonite Migrate Reporting Service, it monitors and collects data from the Carbonite Availability and Carbonite Migrate servers you specify. It sends the collected data to a SQL database that you create and maintain. You can use the Replication Reporter to generate reports from the data stored in the database.

If you want to use Reporting Service, you will need to complete the following steps, in order.

1. Create your SQL database according to the requirements. See *Reporting Service requirements* on page 5 for details on requirements for your environment and your SQL documentation for detailed instructions on configuring SQL server and databases.
2. Install Carbonite Availability and Carbonite Migrate Reporting Service.
3. Using the Carbonite Replication Console from another machine, add the server where you installed Reporting Service to your console. See *Adding a Reporting Service server to the Carbonite Replication Console* on page 7.
4. Using the Carbonite Replication Console, configure the Reporting Service server. See *Configuring the Reporting Service server* on page 8.

Once your configuration is complete, Carbonite Availability and Carbonite Migrate data will be collected. You can launch the Replication Reporter from the console to generate pre-defined reports. You can also use standard SQL queries and tools to create your own customized reports. See your SQL documentation for detailed instructions on creating queries and reports. For a complete list of the data stored in the Reporting Service tables, see *Reporting Service tables* on page 12.

# Reporting Service requirements

To use Carbonite Availability and Carbonite Migrate Reporting Service, your environment must meet the following requirements.

- The reporting service must be installed on a Windows operating system.
- The reporting service cannot be installed on a Carbonite Availability and Carbonite Migrate source or target server.
- You will need the Carbonite Replication Console installed on a Windows machine in order to configure Reporting Service. The console can be on your Carbonite Availability and Carbonite Migrate source or target server, or it can be on a Carbonite Availability and Carbonite Migrate client-only machine. The reporting service can be run with a Carbonite Availability and Carbonite Migrate client-only installation.
- You must have an existing server running Microsoft SQL Server 2005 or later.
- The reporting service can be run on the SQL server or a different server.
- A new SQL database needs to be created, however no tables should be created because Carbonite Availability and Carbonite Migrate Reporting Service will automatically create the tables it needs.
- The newly created SQL database needs established security credentials. The database user role membership must initially include db\_owner and public to allow Reporting Service to create the tables it needs. Once the tables have been created, the database user role membership can be changed, if desired, to db\_datareader, db\_datawriter, and public.



You need to use Management Studio to set your security credentials. Under **Security, Logins**, right-click on the SQL user (the SQL user, not a Windows user) and open the properties. In the Login Properties window, select **User Mapping** to see a list of databases and role memberships for the selected database. Select **Map** for the database and select the database roles. See your SQL documentation for complete details.

- 
- Your SQL server authentication must be set to SQL Server and Windows Authentication mode.
  - The following networking requirements apply. See your SQL documentation for details on these settings.
    - Your SQL server must have TCP/IP enabled.
    - The SQL server must be set to listen on all IP addresses.
    - All IP addresses on the SQL server must be using the same port, however the addresses do not have to be using the default port. If you are not using the default port, you must change the following configuration file to specify the port you are using.
      1. Remove the read-only attribute from \Program Files\Carbonite\Replication\Reporting Service\reporting-service.properties.
      2. Modify the following line, changing 1433 to the SQL port you are using.  
visionsolutions.management.service.dbport=1433
      3. Reapply the read-only attribute to the file.
      4. Stop and restart the Reporting Service.

5. Verify that the database configuration in the Carbonite Replication Console successfully connects.
- If you are using a firewall on your SQL server, make sure it does not block SQL or Reporting Service traffic.

# Adding a Reporting Service server to the Carbonite Replication Console

You will need the Carbonite Replication Console installed on a Windows machine in order to configure Reporting Service. The console can be on your Carbonite Availability and Carbonite Migrate source or target server, or it can be on a Carbonite Availability and Carbonite Migrate client-only machine. The reporting service can be run with a Carbonite Availability and Carbonite Migrate client-only installation.

See the Carbonite Replication Console help for complete details on the console.

1. Click **Servers** from the main toolbar.
2. Click **Add Servers** from the **Servers** page toolbar.
3. On the **Manual Entry** tab, specify the server information.
  - **Server**—This is the name or IP address of the Reporting Service server.
  - **User name**—Specify a user that is a member of the **Double-Take Admin** security group on the server.
  - **Password**—Specify the password associated with the **User name** you entered.
  - **Domain**—If you are working in a domain environment, specify the **Domain**.
4. After you have specified the server information, click **Add**.
5. Click **OK** to add the server to your console.

# Configuring the Reporting Service server

1. Make sure you have inserted your Reporting Service server into your console. See the console help for details on adding a server to the console.
2. From the **Servers** page, highlight your Reporting Service server and click **Edit Server Properties** from the **Servers** page toolbar.
3. The Reporting Service properties identify the SQL database configuration, the data collection configuration, and the Carbonite Availability and Carbonite Migrate servers you are collecting from.
  - **Database server name**—Specify the name of the SQL server that contains your SQL database that will store the collected Carbonite Availability and Carbonite Migrate data.
  - **Database name**—Specify the name of the SQL database that will store the collected Carbonite Availability and Carbonite Migrate data.
  - **Database instance name**—If necessary, specify the database instance name of the SQL database that you specified.
  - **Use reporting service credentials**—Select this option if you want to use the credentials the Reporting Service is running as.
  - **Use database credentials**—Select this option if you want to specify SQL database credentials.
  - **Test**—This button will test the specified credentials and check to see if the tables exist in the specified database. If they do not exist, they will be created. The database user role membership must be db\_owner and public to create the tables. If the tables already exist, they will be updated to the correct version, if necessary. Once the test (and therefore the table creation or verification) is complete, the database user role membership can be changed, if desired, to db\_datareader, db\_datawriter, and public.
  - **Collection interval**—Specify the amount of time to wait between data collections.
  - **Retention interval in days**—Specify how long to retain the collected data. Data older than the specified number of days will be deleted from the database.
  - **Port**—Specify the port you want to use to launch the report viewer.
  - **Identify the servers to collect data**—Only the servers in your console session will be listed. Highlight the servers you want to collect data from and click **Add >**. If you want to add all of the servers click **Add >>**. If the server you want to collect data from is not listed, you need to add it from the **Servers** page.

If desired, specify the **Route** and **Port** to use for communication to the server you are collecting data from.

If you need to remove a server from the **Collect data from** list, click **< Remove**. If you want to remove all of the servers, click **<< Remove**.



Reporting Service version 8.2 is interoperable back to version 8.0, meaning you can collect data from Carbonite Availability and Carbonite Migrate 8.0 and 8.1 servers. However, the failover reporting functionality was not added to Carbonite Availability until version 8.1, so that feature of the Reporting Service is not applicable to version 8.0 servers.

^ **Reporting Service**

**Database configuration**

Database server name:

Database name:

Database instance name (Optional):

Use reporting service credentials  
 Use database credentials

User name:

Password:

Test credentials and database connection:

**Collection Configuration**

Collection interval:  
   Minutes

Retention interval in days:

**Report View Settings**

Port

Identify the servers to collect data:

Available servers:

		Server ▲
🖥️	🔑	alpha
🖥️	🔑	beta

Collect data from:

Server	Route	Port	

- When you have finished your Reporting Service server configuration, click **OK** to return to the **Servers** page.

# Viewing Reporting Service server details

The **View Collector Details** page allows you to view details about a Reporting Service server.

---

## Server name

The name or IP address of the server.

## Roles

The role of this server in your Carbonite Availability and Carbonite Migrate environment. In some cases, a server can have more than one role.

- **Engine Role**—Source or target server
- **Reporting Service**—Reporting Service server

## Status

There are many different **Status** messages that keep you informed of the server activity. Most of the status messages are informational and do not require any administrator interaction. If you see error messages, check the rest of the server details.

## Activity

There are many different **Activity** messages that keep you informed of the server activity. Most of the activity messages are informational and do not require any administrator interaction. If you see error messages, check the rest of the server details.

## Connected via

The IP address and port the server is using for communications. You will also see the Carbonite Availability and Carbonite Migrate protocol being used to communicate with server. The protocol will be XML web services protocol (for servers running Carbonite Availability and Carbonite Migrate version 5.2 or later) or Legacy protocol (for servers running version 5.1 or earlier).

## Version

The product version information

## Access

The security level granted to the specified user

## User name

The user account used to access the server

## Database server

The name of the server that contains your SQL database that storing your collected Carbonite Availability and Carbonite Migrate data

**Database name**

The name of the SQL database that is storing your collected Carbonite Availability and Carbonite Migrate data

**Database instance**

The optional database instance name

**Database status**

The status of the database configuration

**Collection interval**

The amount of time Reporting Service waits between data collections

**Retention interval**

The length of time to retain collected data. Data older than the specified number of days will be deleted from the database

**Reporting web host port**

The port used to launch the report viewer

**Server**

The server Reporting Service is collecting Carbonite Availability and Carbonite Migrate data from

**Route**

The route the reporting service is using to communicate with the server data is being collected from

**Port**

The port the reporting service is using to communicate with the server data is being collected from

**User**

The user the reporting service is using to authenticate with the server data is being collected from

**Status**

The status of the collection of data from the server

---

# Reporting Service tables

The following data is available in the Reporting Service tables. Each time data is collected from a Carbonite Availability and Carbonite Migrate server, it is written to a new row in the table. You can link data together using time stamps and unique IDs to see how data and states change over time.

## ***Connection table***

---

### **ManagedConnectionId**

The incremental counter used to number connections. The number is incremented when a connection is created. The counter is reset if there are no existing jobs and the Double-Take service is restarted.

### **JobId**

The unique job ID

### **Timestamp**

The date and time the connection data was collected

### **SourceUniqueID**

The unique ID Carbonite Availability and Carbonite Migrate assigns to the job's source server

### **TargetUniqueID**

The unique ID Carbonite Availability and Carbonite Migrate assigns to the job's target server

### **BandwidthCollar**

The bandwidth limiting that has been set or the keyword **Unlimited** if no bandwidth limit has been set

### **CompressionEnabled**

Indicates if data is being compressed before it is sent to the target

### **CompressionLevel**

The level of compression

### **DiskQueueBytes**

The amount of disk space being used to queue data on the source

### **InitialMirrorComplete**

Indicates if the initial mirror has been completed

**MirrorBytesRemaining**

The total number of mirror bytes that are remaining to be sent from the source to the target.

**MirrorBytesSent**

The total number of mirror bytes that have been transmitted to the target

**MirrorBytesSkipped**

The total number of bytes that have been skipped when performing a difference. These bytes are skipped because the data is not different on the source and target.

**MirrorBytesTransmitted**

The total number of compressed mirror bytes that have been transmitted to the target. If compression is disabled, this will be the same as MirrorBytesSent.

**MirrorOpsQueued**

The total number of mirror operations in the queue

**MirrorPermillage**

The percentage of the mirror that has been completed

**MirrorState**

The state of mirroring. This value equates to the **Mirror Status** column in the top right pane on the **Jobs** page.

**PeerMemoryLow**

Indicates if the target is running low on memory based on the **Amount of system memory to use** setting on the target server's queue properties.

**ReplicationBytesQueued**

The total number of replication bytes in the source queue

**ReplicationBytesSent**

The total number of replication bytes that have been transmitted to the target

**ReplicationBytesTransmitted**

The total number of compressed replication bytes that have been transmitted to the target. If compression is disabled, this will be the same as ReplicationBytesSent.

**ReplicationOpsQueued**

The total number of replication operations in the queue

**ReplicationState**

The state of replication. This value equates to the **Replication Status** column in the top right pane on the **Jobs** page.

**Restoring**

Identifies if the connection is actively restoring

**SourceAvailable**

Identifies if the target was able to communicate with the source server

**SourceEngineAvailable**

Identifies if the target was able to communicate with Carbonite Availability and Carbonite Migrate on the source

**SourceMachineName**

The name of the server associated with this connection

**StartTime**

The date and time the connection was initiated

**TargetAvailable**

Identifies if the source was able to communicate with the target server

**TargetEngineAvailable**

Identifies if the source was able to communicate with Carbonite Availability and Carbonite Migrate on the target

**TargetRoute**

The IP address identifying the route to the target

**TargetMachineName**

The name of the target server associated with this connection

**TargetQueueBytes**

The number of bytes queued on the target

**TargetState**

The state of the target

**TotalBytesSent**

The total number of mirror and replication bytes that have been transmitted to the target

**TotalBytesTransmitted**

The total number of compressed mirror and replication bytes that have been transmitted to the target. If compression is disabled, this will be the same as TotalBytesSent.

**TotalOpsQueued**

The total number of mirror and replication operations that are in the source queue

**TransmissionMode**

Indicates if data is actively being transmitted to the target

**SourceClusterResourceState**

The state of the Double-Take Source Connection resource, if it is being used by a cluster-aware job on a Carbonite Availability and Carbonite Migrate source cluster

**CurrentTime**

The date and time the connection data was written to the database

**MirrorStartTime**

The data and time when the mirroring process started

**MirrorEndTime**

The data and time when the mirroring process ended

**RecoveryPointTime**

The date and time replication is synchronized between the source and target. The difference between the TimeStamp and this time is the time period of replication data that would be lost if a failure were to occur at the TimeStamp. This value represents replication data only and does not include mirroring data. If you are mirroring and failover, the data on the target will be at least as far behind as the recovery point time. It could potentially be further behind depending on the circumstances of the mirror. If mirroring is idle and you failover, the data will only be as far behind as the recovery point time.

**RecoveryPointLatency**

The length of time replication is behind on the target compared to the source. This is the time period of replication data that would be lost if a failure were to occur at the current time. This value represents replication data only and does not include mirroring data. If you are mirroring and failover, the data on the target will be at least as far behind as the recovery point latency. It could potentially be further behind depending on the circumstances of the mirror. If mirroring is idle and you failover, the data will only be as far behind as the recovery point latency time.

---

## ***EmailAddress table***

---

### **EmailAddressID**

The unique ID of the email address

### **EmailAddress**

The email address

---

## ***Failover table***

---

### **FailoverGUID**

The unique ID assigned to the failover

### **Timestamp**

The date and time when the failover data was written to the database

### **JobName**

The job name

### **JobId**

The unique job ID

### **JobType**

The job type

### **FailoverType**

The type of failover performed

### **IsReverse**

Indicates if the failover is a reverse

### **SnapshotLabel**

The snapshot label if the type of failover is snapshot

### **FailoverSuccess**

Indicates if failover was successful

### **TargetedMachineOs**

The type of operating system on the target

---

**TargetedMachineOsVersion**

The operating system version on the target.

**StartProcessingTime**

The time when failover was started

**StartRebootTime**

The time when a reboot was started

**CompletedTimes**

The time when failover completed

---

***Job table***

---

**JobId**

The unique job ID

**Timestamp**

The date and time the job data was collected

**SourceUniqueID**

The unique ID Carbonite Availability and Carbonite Migrate assigns to the job's source server

**TargetUniqueID**

The unique ID Carbonite Availability and Carbonite Migrate assigns to the job's target server

**SourceHostUri**

The source's URI (uniform resource identifier)

**TargetHostUri**

The target's URI (uniform resource identifier)

**Name**

The job name

**Workload**

The type of workload the job is using

**Type**

The job type

**CreatorUserName**

The name of the user that created the job

**Health**

The high level health, or state, of the job. This value equates to the colored icons seen in the first column in the top right pane on the **Jobs** page. See the managing and controlling jobs topic for any job type for additional details.

**HighLevelState**

The overall state of the job. This value equates to the **Activity** column in the top right pane on the **Jobs** page. See the managing and controlling jobs topic for any job type for additional details.

**LowLevelState**

The low level state of the job. This value equates to the **Additional Information** field in the bottom right pane on the **Jobs** page. See the managing and controlling jobs topic for any job type for additional details.

**TargetState**

The state of the data on the target. This value equates to the **Target data state** field in the bottom right pane on the **Jobs** page. See the managing and controlling jobs topic for any job type for additional details.

**CanEdit**

Indicates if the job can currently be edited

**CanDelete**

Indicates if the job can currently be deleted

**CanStart**

Indicates if the job can currently be started

**CanStop**

Indicates if the job can currently be stopped

**CanPause**

Indicates if the job can currently be paused

**CanFailover**

Indicates if the job can currently be failed over

**CanFailback**

Indicates if the job can currently be failed back

**CanRestore**

Indicates if the job can currently be restored

**CanReverse**

Indicates if the job can currently be reversed

**CanUndoFailover**

Indicates if a failed over job can currently be undone

---

***Report table***

---

**ReportID**

The unique ID of the report

**FromAddressID**

The unique ID of the email address

**SMTPServerID**

The unique ID assigned to the SMTP server

**Name**

The name of the report

**IsPDF**

Indicates if the report is PDF format

**IsCSV**

Indicates if the report is CSV format

**EmailSubject**

The subject line of the email

**Frequency**

The frequency of scheduled reports

- 0—Daily
- 1—Weekly
- 2—Monthly

**DayOfWeek**

Indicates the day of the week for weekly scheduled reports

---

**DayOfMonth**

Indicates the day of the month for monthly scheduled reports

**Hour**

Indicates the time of day for scheduled reports

**CreatedTimestamp**

The data and time the report was generated

---

***ReportsToEmails table***

---

**EmailAddressID**

The unique ID of the email address

**ReportID**

The unique ID of the report

---

***ReportsToServersToJobsToActivites table***

---

**ReportID**

The unique ID of the report

**ServerGUID**

The unique ID Carbonite Availability and Carbonite Migrate assigns to the server

**JobId**

The unique job ID

**ActivityId**

The unique activity ID

---

***Server table***

---

**ServerGUID**

The unique ID Carbonite Availability and Carbonite Migrate assigns to the server

**Timestamp**

The date and time the server data was collected

**Name**

The name of the server

**Status**

The status of the server

---

***SMTPServer table***

---

**SMTPServerID**

The unique ID assigned to the SMTP server

**Host**

The name of the SMTP server

**Username**

The user with access to the SMTP server

**Password**

The password associated with the user

---

***Version table***

This table is used internally by Reporting Service for versioning. Do not modify or use this table.

# Replication Reporter

The Replication Reporter queries the Reporting Service database and provides job, failover, and server information. It also gives you the ability to generate reports (PDF or CSV) of this data.

- **Accessing the reporter**—You can access the reporter from the Carbonite Availability and Carbonite Migrate Replication Console. From the **Servers** page or the **Reporting Servers** page, highlight a Reporting Service server and click **Launch Reporting** in the toolbar.
- **Tabs in the reporter**—There are three tabs on the reporter showing different categories of data.
  - **Job Health**—This tab of the reporter shows the most recent status of each job in your database. Keep in mind, a few things when you are looking at your job health. If you deleted and re-created a job using the same servers and job name, it may look like you have multiple entries in the table for that job, but what you are seeing is actually a list of unique job IDs. Also, you may see jobs that you have deleted because those jobs will remain in the database (but not updated) until the retention interval you specified in your collection settings has elapsed.
  - **Failover Activity**—This tab of the reporter shows any jobs that have been failed over. These are all failovers within the retention interval specified in your collection settings.
  - **Server Status**—This tab of the reporter shows the most recent status of the servers you are collecting data from. You may see server that you are no longer collecting data from because those servers will remain in the database (but not updated) until the retention interval you specified in your collection settings has elapsed.
- **Filters**—On the job and server tabs, you can filter the displayed list by clicking a group filter. On any of the tabs, you can filter the displayed list by entering search criteria. Only the rows that contain the search criteria will be displayed.

- **Export PDF**—You can create a PDF file of the information displayed on a tab in the reporter.

1. Select one or more rows in a table and click **Export PDF**.
2. Enter a **Report Name**.
3. Click **Download**.

The same information that was displayed in the table (for the selected rows) will be included in the PDF file.

- **Prepare Report**—You can create a CSV file of all information stored in the database.

1. Select one or more rows in a table and click **Prepare Report**.
2. Enter a **Report Name**.
3. Specify how you want to receive the report
  - **Download Now**—You will be prompted to save or open the file.
  - **Email**—You will be prompted for email configuration.
    - **Configure SMTP Server**—If you have not previously saved your SMTP server configuration, enter it and save it. If you have previously saved it, you will not see this section.
    - **Enter Email Information**—Specify the email addresses to send the report to, separating multiple addresses by a comma. Add a subject line for the email that describes the report you sending. You can also modify the from email address, if desired.

- **Choose When to Receive Your Report**—Specify when you want the report sent.
  - **Send Now**—The report will be emailed as soon as click the **Prepare Report** button.
  - **Schedule**—Specify if you want the same report to be mailed on a schedule and specify the **Frequency** for the schedule.
- 4. Click **Prepare Report**.
  - **Report Settings**—Click this link to view your scheduled reports. You can filter the displayed list by entering search criteria. Only the rows that contain the search criteria will be displayed. If you want to delete a scheduled report, click on that row in the table and click **Delete**.
  - **SMTP Server Settings**—To modify your saved SMTP server settings, click the **Report Settings** link and then click **SMTP Server Settings**. Make any necessary changes and then click **Save**.