

estos EWS Calendar Replicator

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1 Welcome to the estos EWS Calendar Replicator

Calendar data counts as the most basic information for the determination of a contact's presence. The estos UCServer obtains this information via an agent-based mechanism which is based on estos ProCall. Because of this, up to date data is always available on the system as long as estos ProCall is logged on.

Until now, people who are often out of office had the problem that they had no client online which updates the changes of appointments to the system.

With estos EWS Calendar Replicator it is possible to keep Exchange server calendar information updated even if users' ProCall is not logged on to the estos UCServer.

estos EWS Calendar Replicator consists of the following components:

- The estos EWS Calendar Replicator itself
- The installation and configuration program for estos EWS Calendar Replicator
- Online help

The configuration program and online help is always available via the Start Menu.

Setup and operation

The chapter Functionality briefly describes how the replication works.

Requirements contains the system requirements for the installation and the operation of the service.

The chapter Installation specifies the recommended installation procedure.

Configuration and subsidiary chapters describe the required settings and authorizations.

2 Requirements

For the operation of the estos EWS Calendar Replicator the following requirements must be fulfilled:

- **Operating system**

The service can be installed on the following operating systems:

- Windows® 8.1
- Windows® 10
- Windows Server® 2012
- Windows Server® 2012 R2
- Windows Server® 2016
- Windows Server® 2019

- **.Net Framework 4.0 has to be installed.**

For execution, estos EWS Calendar Replicator requires the .Net Framework 4.0, Full Profile. The Client Profile of .Net 4.0 is insufficient.

This version of the framework can be downloaded from Microsoft®.

- **UCServer must be setup using Active Directory® User Administration.**

UCServer's User Administration system must be setup using Active Directory® in order to ensure that the association between the users and mailboxes on the Exchange Server are unique.

- **Exchange Web Services must have been activated in Exchange Server.**

Exchange Server 2013, Exchange 2016, Exchange 2019 or later.

estos EWS Calendar Replicator requires the interface services provided by Exchange Web Services for access to Exchange Server.

Any web browser can be used to check if the interface is active. Simply open the browser and enter the following line (remember to modify the computer name properly):

`https://myexchange.domain.com/ews/Services.wsdl`

After a login request, an XML document should be displayed. The Exchange Web Services should be activated then.

- **The Exchanger Server certificate must be setup.**

In order to run secure communications over SSL, the Exchange Server certificate must have been installed on the computer, where the estos EWS Calendar Replicator will run.

- **Domain user account with reading rights on Active Directory® and Exchange must exist.**

In order to read the necessary data from the listed services, a user account must exist which has read access on the following data:

Service	Required Rights
Active Directory®	Read rights for User Objects. The ProxyAddress field will be read.
Exchange Server	Login access on Exchange Server and read access for other users' free-busy data.

- The authorizations for the free-busy data normally depend on the permissions of the individual users (regarding this, see the Exchange Server Connection section).

Note that by operating the estos EWS Calendar Replicator, an additional burden for the Exchange Server (Reading calendar information) as well as for the estos UCServer (Writing of calendar information) is created. This burden depends on the number of users and their online status.

Default is 15 minutes. A replication interval less than 5 minutes for 200 users is not recommended.

3 Operating mode

The estos EWS Calendar Replicator is implemented as a system service which automatically updates the estos UCServer calendar data at certain periods of time.

The data transfer after the installation and the initial setup is carried out according to the following model:

1. Establish the estos UCServer users for which the calendar data should be replicated.
This affects users which are activated for the estos UCServer but haven't logged onto the estos ProCall.
2. For each user whose mailbox is read from the Active Directory®.
3. Reading of the calendar data from the respective mailbox and the transfer of the relevant data to the estos UCServer.
4. Wait the set time and repeat the cycle.

4 Installation

For the installation and setup of the estos EWS Calendar Replicator, the following sequence is recommended:

1. **Setting up a user account with the Active Directory® that has read authorizations for Active Directory® User Objects and all necessary mailboxes in the Exchange Server.**
Which authorizations are necessary is described in Active Directory® connection and Exchange Server connection.
2. **The Exchange Web Services interface must have been setup on Exchange Server.**
For the test, open a web browser and enter the following URL. Make sure to use the correct Exchange Server host name for this:
`https://exchangeserver/ews/Services.wsdl`
An XML file should now be displayed in the browser.
A security warning may indicate that the Exchange Server certificate cannot be verified locally.
3. **Install estos EWS Calendar Replicator.**
Simply double click on the MSI package and follow the instructions on the screen.
Once the programs are installed, the initial setup for the administration program is started.
The following data should be available for the configuration:
 - Computer name and port number of the computer on which the estos UCServer service runs.
The required port number is usually 7222. The user is the one which is set in estos UCServer as administrator.
 - Computer name and Port number of the Active Directory® Server.
 - Computer name and Port number of the Exchange Server.

Settings for the log file can be made at the end of the initial setup.

If later changes to the service configuration are necessary, the administration program can be opened from the Start Menu.

5 Configuration

For the operation of estos EWS Calendar Replicator various data is needed, which has to be entered by the user. The estos EWS Calendar Replicator administration program exists for this purpose.

The administration program will automatically start once, after installation or update of the service. For subsequent changes to the configuration the program is also available via the Start Menu.

The various settings pages of the program are listed below:

- UCServer connection
- Active Directory® connection
- Exchange Server connection
- Service settings
- Diagnostics

6 UCServer connection

The estos UCServer provides user information which is necessary for the replication of calendar data and then receives the corresponding data from estos EWS Calendar Replicator. This requires the estos EWS Calendar Replicator connection data for the estos UCServer.

Connection data

The following connection data has to be configured in order to communicate with the UCServer:

Hostname

The hostname of the computer on which the UCServer service runs.

Port

UCServer port number on the computer on which the UCServer service runs. Default value is '7222'.

UCServer Login

To transfer the calendar data in the UCServer, the estos EWS Calendar Replicator requires the access data of the administrative account on the UCServer.

For this purpose, the username and password are entered here.

Note:

UCServer User Administration must fulfill the following conditions so that relationships between the users and the mailboxes will be created.

- The UCServer is configured with AD for user management

7 Active Directory® connection

The user mailboxes on the Exchange server are initiated via the Active Directory®. The estos EWS Calendar Replicator requires connection data and access to the Active Directory® User Objects.

Connection data

The following connecting data must be configured to be able to communicate with Active Directory®:

Hostname

The hostname of the computer that runs the Active Directory®.

Port

Port number of the Active Directory® on the computer on which the Active Directory® service runs. Default value is '389'.

Active Directory® Login

Login will be possible using a domain user, who has read access to the following information:

userPrincipalName	Logon ID of the user.
homeMDB	reserved

Normally you can use a normal domain user, if there are no special security guidelines inherent.

The user's name should be specified in Fully Qualified Domain Name (FQDN) format. Example: admin.user@domain.com

Note:

If the Active Directory® cannot be read, you can check whether the user is authorized to "Read all properties" via the program "ADSI Edit".

8 Exchange Server connection

The estos EWS Calendar Replicator read the needed information from the users' free-busy data (or "Availabilitydata") on the Exchange Server.

The amount of data available depends on whether the estos EWS Calendar Replicator has permissions to be able to read the user's calendar data. If no permission is granted, only start and end times of appointments can be read. Does the service have full access to the user's calendar information, additional information is available like subject and private/public flag.

Connection data

To be able to communicate with the Exchange Server, the following connection information must be configured:

Hostname

The hostname of the computer on which the Exchange Server service runs.

If the host name has not been provided, the service will attempt to find the Exchange server using Autodiscovery.

For this to work, the autodiscovery service must be running for the Exchange Client Access Server.

Exchange API Version

For best possible communication, the version of Exchange API should be provided to the service. At this time, Exchange Server 2007 SP1, Exchange Server 2010, Exchange Server SP1, Exchange Server 2010 SP2 and Exchange Server 2013 can be distinguished using this information. Setting the version precisely to the version of Exchange Server in use is recommended. Newer versions of Exchange Server should use Exchange Server 2013. Exchange Server Version prior to 2007 SP1 will not be supported.

Using SSL

The SSL feature should be activated for secure data transmission. This is the default behavior for Exchange Server 2010.

In order to connect with SSL enabled, the computer running estos EWS Calendar Replicator must trust the Exchange Server certificate.

SSL is mandatory when using the Autodiscovery service.

User

The name for a user account, which has access rights to the calendar data for other users.

It is important that the user name is specified in Fully Qualified Domain Name (FQDN) format! Example: admin.user@domain.com

User account's password

The password for the user, which will be used for logging onto the service on the Exchange server.

8.1 Required authorizations on the Exchange Server

The access to the Exchange Server via the Web interface of the Exchange server (short: EWS).

So that they can be used, the Admin must activate them in Exchange Server.

The user's availability data will be read. Other information will not be requested, nor will data written to Exchange Server.

The user account must be authorized to access the calendar data. For this purpose, the following procedure is recommended:

Released by user

The release by users is the way that is recommended. All users are informed that their data is used in the system and they have influence on this setting from the beginning.

Users who are considered for appointment replication can receive an e-mail asking to release their calendar in the usual way in Outlook® for the replication account.

It is more convenient to send out an authorization request via Outlook® when the calendar service account is first registered at Outlook®.

All Outlook® versions differ with regard to their interface/menu configuration, therefore it is necessary to refer to the original documentation.

- Outlook® 2007
- Outlook® 2010
- Outlook® 2013

Its also possible to do this administratively via the Exchange Management Console

The release can also be done administratively, but it is strongly recommended informing the concerned users about the change beforehand.

The administrator requires one of the following applications for the release of the calendar, depending on which Exchange version is used.

The operation of the various programs differs so fundamentally that it is necessary to refer to the original documentation.

- How to set the Default Calendar permissions for all users in Exchange 2000, 2003 and 2007
- Exchange 2010

9 Service settings

The estos EWS Calendar Replicator requires not only settings for connection to other services but also its own configuration to guarantee smooth operation.

Replication interval

The calendar data is regularly scanned by the Microsoft® Exchange Server and transferred to theUCServer. The replication interval indicates the time interval (in minutes) that this data transfer takes place.

A setting of 15 minutes is recommended.

Replicate private appointments

If this option is selected, private appointments are also replicated.

Please note that users should be informed about this. It is recommended not to replicate private appointments via this service, but to let the users do it themselves via their Client.

10 Diagnostics

In this dialog, the service can be stopped and started and it will display the current status of the service. Furthermore, logfiles can be configured here in order to diagnose problems.

Status

When the service is in operation, information about the last replication process is displayed here, otherwise it shows the status of the service. The service can be started and stopped with the corresponding buttons.

Logging

- **Log Level**
Enter how much information should be written to the log file here.
- **Maximum size of a log file**
Several log file files will be written. Each log file will be sequentially re-created, when the size entered in megabytes here has been exceeded.
- **Log File Directory**
The log files will be stored in this directory. Note that the service will require appropriate write rights for this directory.

In addition to the log file, important messages will also be entered in the system's event log. To do this, a custom application log with the name, EEWSCalSvc, will be created for storing the messages

Info

The version number is displayed here.

11 Info about estos EWS Calendar Replicator

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For product updates visit <https://www.estos.de/>

Frequently asked questions and answers and also support are available at <https://support.estos.de>