# 3xLOGIC INFINIAS

**Exchange Server Integration**User Guide for infinias 6.7

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# 1 Introduction

infinias integrates with Microsoft Exchange to allow Outlook Meetings to create exception schedules for doors controlled by infinias. This form of ad-hoc scheduling allows you to schedule a door to unlock at meeting start and re-lock at meeting end, helping an organization to control door access for events that do not occur on a predictable schedule. This is written for infinias 6.7.11857.

# 2 Legacy Instructions

infinias is designed to act as a way for Microsoft Exchange to send Meeting Reminder, Meeting Started, and Meeting Ended Events to infinias for specified Exchange Room Mailboxes, and for all relevant Meeting Attendees. The integration plugin accomplishes this task by monitoring the Calendar of each specified Exchange Room Mailbox.

Whenever a Meeting is scheduled in the Calendar of a Room Mailbox being monitored, the infinias Exchange integration will send Events to infinias informing it of these Calendar Events. A **Meeting Started** or **Attendee Meeting Started** Event will be sent to infinias the moment that a meeting is scheduled to begin, and **Meeting Ended** or **Attendee Meeting Ended** Events will be sent to infinias the moment that a meeting is scheduled to end. In addition, the plugin will also send **Meeting Reminder** or **Attendee Meeting Reminder** Events to infinias at this time as well. These Events appear within infinias no differently than any other Event and can therefore be configured for use on the Rules page like any other Event.

### 2.1 Ad-Hoc Door Lock Schedule

The most common usage for these Events is to unlock and re-lock meeting room or public-access doors. For example, infinias can be programmed to unlock a door when Exchange sends the Meeting Reminder or Meeting Start Events and programmed to re-lock the door (or revert the door schedule) when the Meeting Ended Event occurs. This is useful for doors requiring public access, such as gymnasiums, public conference rooms, and so on. Once you have configured the unlock-/revert Rules in infinias, all you have to do is create Meetings or Appointments in Outlook to control the meeting room door.

# 2.2 Integration Checklist

You must provide the following information in Microsoft Exchange to the infinias Exchange plugin when you configure it. Please be prepared to have the following information available:

- Internet Domain You must know the internet domain name that Exchange uses for creating its email addresses, i.e. the part of your Exchange email address that's on the right side of the '@' character. If your Exchange Server allows using the full email address as the username, you can leave this field blank.
- Exchange User Account You must know the chosen Exchange User account (and its password) that you specified for Calendar permissions in the Exchange Management Console. If you specified the Domain name in the Domain field, then provide the user account name. If you leave the Domain field blank, provide the entire email address.
- WebMail URL infinias logs into Exchange via Exchange Web Services (formerly known as WebDAV) to monitor the requested Calendars, using the ordinary Mailbox account you specified. If you don't know your Exchange Web Services URL, consult the IT Administrator.



Room Mailbox Email Addresses - You must know the email address of each Room Mailbox you gave Full Access Permissions to the ordinary Mailbox account in the Exchange Management Console. These email addresses will be used by the infinias plugin to know which Room Mailbox accounts to monitor.

Once you have this information, you are ready to install and configure the Exchange integration.

### 2.3 Calendar Permissions

Configuration of the Exchange Calendar is performed by creating an infinias Peripheral, then referencing that Peripheral when you create one or more Rules designed to utilize that Peripheral. Integrating Microsoft Exchange with infinias means you must configure Exchange to allow an ordinary Exchange Mailbox account to have Full Access Permission rights to each Room Mailbox account who's Calendars you wish to monitor. While you can use any Exchange Mailbox account for this purpose, we recommend that you create a Mailbox account specifically for monitoring Calendars.



**Note:** Administrator Mailbox accounts do not automatically have Full Access Permission rights to anyone's Calendar. You must specifically assign these rights.

To provide Full Access Permission rights which will allow the Mailbox to monitor the Room Mailbox Calendars, open the Microsoft Exchange Management Console and complete the following:

- 1. In the tree view on the left side of the console window, click the plus sign to open the **Microsoft Exchange On-Premises (...)** item.
- 2. Click the plus sign to open the **Recipient Configuration** item.
- 3. Select the Mailbox item to view all Exchange Mailboxes in the right-side view.
- 4. Right- click each Room Mailbox you wish to manage and select the **Manage Full Access Permission...** menu item.
- 5. Follow the wizard's instructions to add the chosen ordinary Mailbox account to the list of accounts that have full access permissions to this Room Mailbox.
- 6. Perform this same task for all Room Mailboxes that represent areas with doors being managed by infinias.



# 2.4 Create a Peripheral

With Calendar Permissions set, you may proceed to create an infinias Peripheral.

1. Login to infinias and proceed to the Peripherals Page under the Configuration Section. Click the *Create Peripheral* Action and a Create Peripheral Dialog will appear.



Figure 1-1: New Peripheral Window

2. Select the *Exchange Calendar* menu item to start creating the Peripheral based on this plugin, and a Create New Exchange Calendar popup dialog will appear.

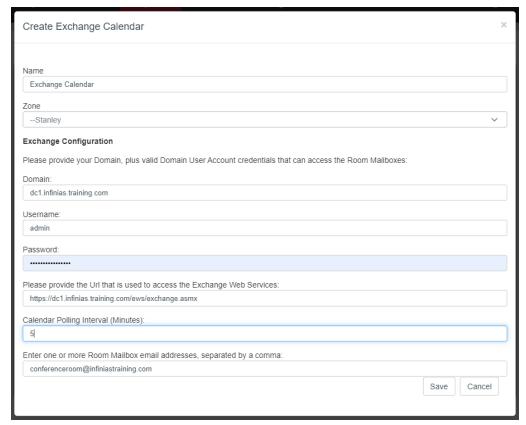


Figure 1-2: New Calendar Configuration

- a. Configure the <u>Domain</u> Enter the part of your Exchange email address that's on the right side of the '@' character, or leave this field blank and enter the entire email address below.
- b. Configure the <u>Username</u> Provide the username of the ordinary Mailbox account you previously gave Full Access Permissions to the Room Mailboxes in Exchange Management Console. Enter just the username portion of the account, not its email address. If you left the Domain field blank, enter the entire email address.
- c. Configure the <u>Password</u> Provide the password for the user account associated with the *Username*.
- d. Configure the <u>WebMail URL</u> Replace the mail.mycompany.com portion of the sample *WebMail URL* with your corporate webmail name.
- e. Set the <u>Calendar Polling Interval (Minutes)</u> This field is user-definable and will poll the Exchange Server for all calendar updates. If you book a meeting, make sure that the meeting reminder (the first event that hits our database) is beyond the polling interval.
- f. Configure the Room Mailboxes. For each Room Mailbox you have previously configured, enter the email address of each conference room, separating each email address with the comma (,) character.
- 3. Click Save to proceed.





**Note:** If one or more pieces of information were entered incorrectly on the Create Peripheral popup, or if there is some other connectivity issues like a firewall blocking the port, the previous configuration page will appear, giving you the ability to adjust the values you entered and try again.

4. For each Room Mailbox you specified, the Exchange plugin will send infinias six test Events: one for Meeting Reminder, one for Attendee Meeting Reminder, one for Meeting Started, one for Attendee Meeting Started, one for Meeting Ended, and one for Attendee Meeting Ended. The purpose for these test Events is so infinias will be informed of the Room Mailbox names and the Events they will generate. This in turn allows infinias to be able to display this information on the Rules page for creating Rules.



Figure 1-3: Test Events

### 2.5 Create Rules

Now that you have created the Peripheral you can create Rules that act on Events that will be generated by the Exchange for meeting notifications.

### 2.5.1 Unlock Zone Rule

You can unlock the zone of a door associated with an Exchange Room Mailbox by creating an Unlock Zone Rule.

- 1. From the infinias interface, click the Configuration link and click on the Rules tab.
- 2. When the Rules page appears, click the *Create Rule* Action from the Actions menu. A popup dialog will appear and will show the Access Privilege Rule by default. Select *Unlock Zone* from the *Rules Type* drop down box. The popup dialog will populate with fields for supplying information to configure the unlock zone rule.



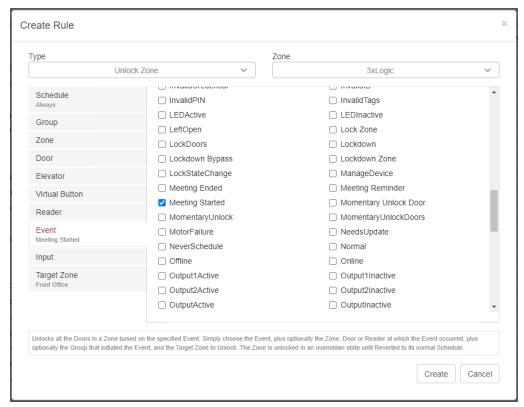


Figure 1-4: Unlock Zone

- a. Configure the *Schedule* Choose a Schedule that defines the time range you want to allow this Rule to run (usually the <u>Always</u> Schedule).
- b. Configure the *Event* Select <u>Meeting Reminder</u> or <u>Meeting Started</u> Event from the displayed list.
- c. Configure the *Target Zone* Choose a Zone to unlock, which contains the Door that is physically securing the area represented by the Room Mailbox.



**Note:** The rule will execute for all doors in the specified Target Zone. If the intent is to only effect one door then the door will need to be put into its own zone.

3. Click the **Create** button to create the Rule

### 2.5.2 Revert Zone Rule

You can re-lock the zone of a door associated with an Exchange Room Mailbox by creating a Revert Zone Rule. This reverts the door to its normal lock schedule (which is assumed to be locked).

- 1. From the infinias interface, click the Configuration link and click on the Rules tab.
- 2. When the Rules page appears, click the *Create Rule* Action from the Actions menu. A popup dialog will appear and will show the Access Privilege Rule by default. Select *Revert Zone* from the *Rules Type* drop down box. The popup dialog will populate with fields for supplying information to configure the Revert Zone rule.



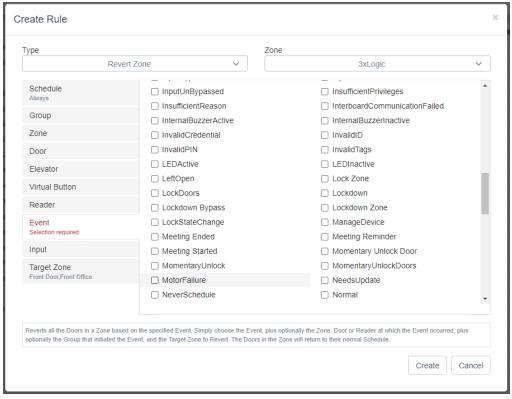


Figure 1-5: Revert Zone

- a. Configure the *Schedule* Choose a Schedule that defines the time range you want to allow this Rule to run (usually the Always Schedule).
- b. Configure the Event Select Meeting Ended from the list.
- c. Configure the *Target Zone* Choose the same Zone that you specified in the Unlock Zone Rule.
- 3. Click the Create button to create the Rule

# 2.6 Create a Meeting

This step assumes that you have completed the installation and configuration of the infinias Exchange integration, and setup your system to manage the Door locks via Microsoft Exchange. To set a locking schedule, create a meeting in the Microsoft Exchange calendar starting when you want your door to unlock and ending when you want your door to re-lock.

Make sure you set the Meeting Reminder if that is what will provoke the Unlock Zone



# 3 MS Exchange O365 Calendar Setup

As of October 1, 2022, Microsoft (MS) discontinued Basic authentication as planned for Outlook, Exchange Web Services (EWS) and several other products. The Microsoft Outlook peripheral that infinias uses to communicate with EWS was disabled as a result. To restore functionality, we implemented OAuth authentication in our software. However, for this to work, each user of this peripheral needs to create an Azure Active Directory application and grant it certain rights.



**Note:** Admin rights are required to successfully create the application.

# **3.1 Azure Active Directory Instructions**

- 1. Select the App Registrations option on the tab to begin the process.
- 2. Select New Registration from the top menu.

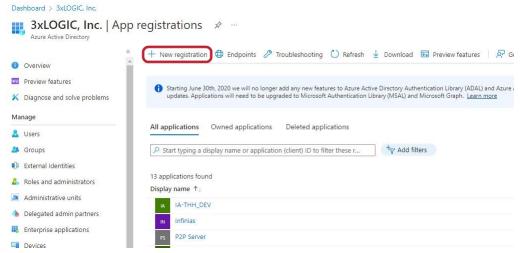


Figure 1-6: New registration

3. Name and select the supported account types. It does not appear to matter if it is a single or multi tenant app. Leave the *Redirect URI* option blank and save.



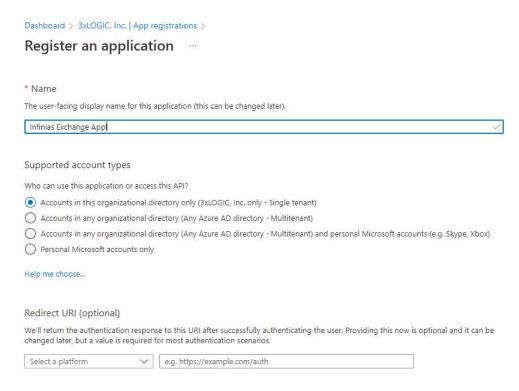


Figure 1-7: Register an Application Page

4. On the **Overview** page, select the <u>Application (client) ID value</u>. This will be needed later to be entered in infinias along with your tenant ID.

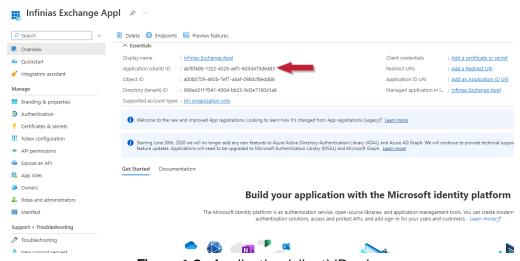


Figure 1-8: Application (client) ID value

5. Navigate to the Authentication page (it does not matter if it is single or multi tenant).



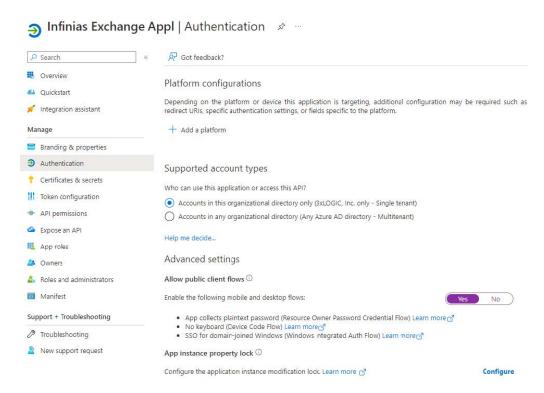


Figure 1-9: Authentication Page

- 6. Under Advanced Settings turn the value for Allow public client flows to Yes. This is very important and will prevent the Microsoft Exchange peripheral from being able to connect if it is not turned on. Save your changes before proceeding.
- 7. Navigate to the API Permissions page and click Add a permission. We are looking to add the Microsoft Graph EWS. Access As User. All permission as a delegate.

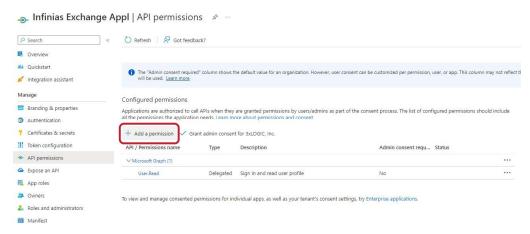


Figure 1-10: API Permissions Page

8. Select Microsoft Graph (should be near the top of the page) and click on Delegated Permissions.



# Request API permissions

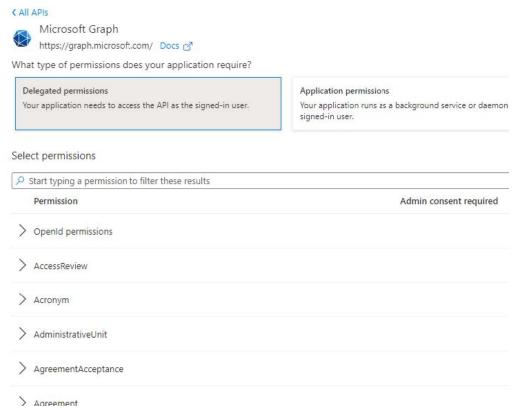


Figure 1-11: Microsoft Graph - Delegated Permissions

9. Enter "EWS" in the search bar and check the **EWS.AccessAsUser.All** option. *Save* your changes before proceeding.

### Request API permissions

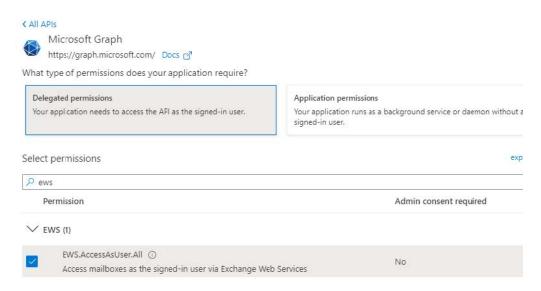


Figure 1-12: EWS Keyword Search

10. Back on the **API Permissions** page, click on *Yes* for <u>Grant admin consent confirmation</u> for (your organization), then confirm.

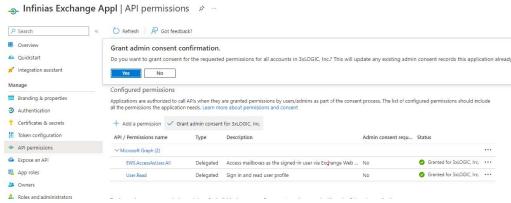


Figure 1-13: Grant Admin Consent Confirmation

- a. Without this step, the Microsoft Exchange peripheral will receive a 401 access denied error when it attempts to pull calendar data
- 11. After completing the previous steps, the application should now be ready. Please wait a few minutes for all the back end processing to complete for Azure Active Directory.
- 12. Take note of the application ID and tenant ID which will be needed when creating the peripheral in infinias.
  - a. If you are unfamiliar, the tenant ID should look something like "name.on-microsoft.com" in general.



# 3.2 Create a Meeting for O365

This step assumes that you have completed the Azure Active Directory steps outlined above.

Create a meeting in your O365 Outlook calendar and set the location as the name of the door you want to control with this integration.



**Note:** The meeting will need to be set for at least 15 minutes in the future or less if your polling time is set lower in the peripheral configuration.

# 3.3 infinias O365 Configuration

The final configuration for Microsoft Exchange O365 integration takes place within infinias. Please note that these steps mirror the legacy instructions but with noteworthy differences.

## 3.3.1 Create a Peripheral for O365

With Calendar Permissions set, you may proceed to create an infinias Peripheral.

1. Login to infinias and proceed to the Peripherals Page under the Configuration Section. Click the *Create Peripheral* Action and a Create Peripheral Dialog will appear.



Figure 1-14: New Peripheral Window

2. Select the *Microsoft Exchange O365 Calendar* option to start creating the Peripheral based on this plugin. A Create Microsoft Exchange O365 Calendar popup dialog appears.



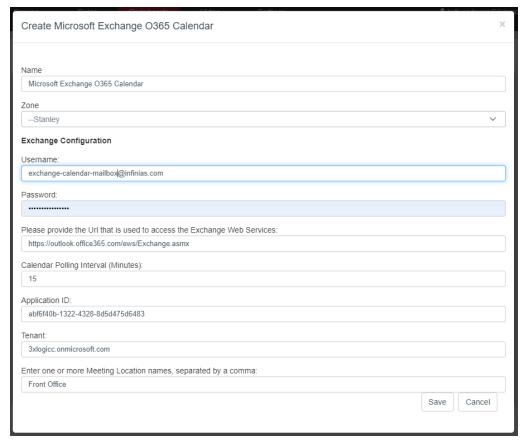


Figure 1-15: New O365 Calendar Configuration

- a. Configure the Zone Select "Root" for Professional and Corporate license users or the customer name for infinias CLOUD users.
- b. Configure the Username Provide the username of the O365 Exchange calendar account you will be using to create the meetings infinias will monitor.
- c. Configure the Password Provide the password for the user account associated with the Username.
- d. Configure the WebMail URL Replace the mail.mycompany.com portion of the sample WebMail URL with your corporate webmail name.
- e. Set the Calendar Polling Interval (Minutes) This field is user-definable and will poll the Exchange Server for all calendar updates. If you book a meeting, make sure that the meeting reminder (the first event that hits our database) is beyond the polling interval.
- f. Configure the Application ID Enter the ID as shown in step 4 of the Azure Active Directory instructions above.
- g. Configure the Tenant Enter the Tenant ID specified for your organization via Azure AD in the format of the example shown in Figure directly above.
- h. Configure the Meeting Location Names Enter the name of the door(s) you want to control with Meeting invites.
- 3. Click Save to proceed.





Note: You need to create a calendar meeting before the peripheral will Save.

4. The Exchange plugin will send infinias six test Events: one for Meeting Reminder, one for Attendee Meeting Reminder, one for Meeting Started, one for Attendee Meeting Started, one for Meeting Ended, and one for Attendee Meeting Ended. This allows infinias to be able to display this information on the Rules page for creating Rules.



Figure 1-16: O365 Test Events

### 3.3.2 Unlock Zone Rule for O365

Unlock the zone of the door where the meeting location is set by creating an Unlock Zone Rule.

- 1. From the infinias interface, click the *Configuration* link and click on the *Rules* tab.
- 2. When the Rules page appears, click the *Create Rule* Action from the Actions menu. A popup dialog will appear and will show the Access Privilege Rule by default. Select *Unlock Zone* from the *Rules Type* drop down box. The popup dialog will populate with fields for supplying information to configure the unlock zone rule.

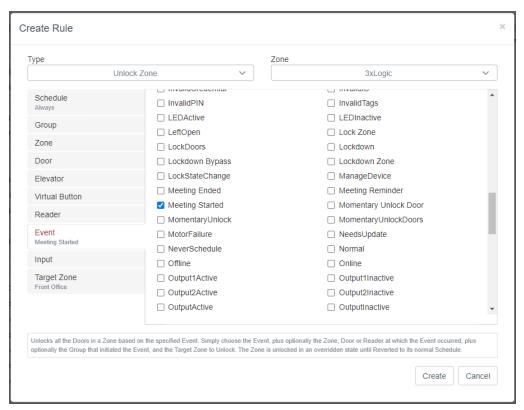


Figure 1-17: Unlock Zone



- a. Configure the Schedule Choose a Schedule that defines the time range you want to allow this Rule to run (usually the Always Schedule).
- b. Configure the Event Select Meeting Reminder or Meeting Started Event from the displayed list.
- c. Configure the Input (Optional) Select the input Microsoft Exchange O365 Calendar "Door Name" option.
- d. Configure the Target Zone Choose a Zone to unlock, which contains the Door that will be controlled with this integration.



Note: The rule executes for all doors in the specified Target Zone. To only effect one door, place that single door in its own zone.

3. Click the **Create** button to create the Rule

### 3.3.3 Revert Zone Rule for O365

You can re-lock the zone of a door by creating a Revert Zone Rule. This reverts the door to its normal lock schedule (which is assumed to be locked).

- 1. From the infinias interface, click the *Configuration* link and click on the *Rules* tab.
- 2. When the Rules page appears, click the Create Rule Action from the Actions menu. A popup dialog will appear and will show the Access Privilege Rule by default. Select Revert Zone from the Rules Type drop down box. The popup dialog will populate with fields for supplying information to configure the Revert Zone rule.

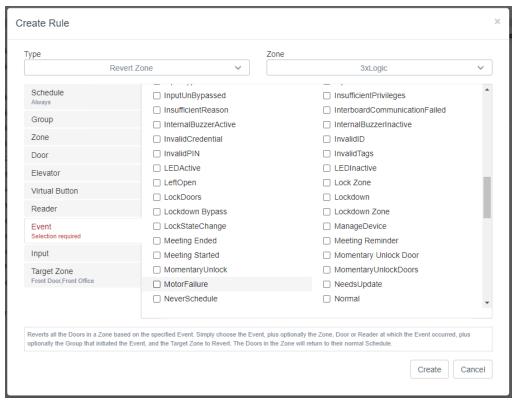


Figure 1-18: Revert Zone

- a. Configure the *Schedule* Choose a Schedule that defines the time range you want to allow this Rule to run (usually the Always Schedule).
- b. Configure the *Event* Select <u>Meeting Ended</u> from the list.
- c. Configure the Input (Optional) Select the input Microsoft Exchange O365 Calendar "Door Name" option.
- d. Configure the *Target Zone* Choose the same Zone that you specified in the Unlock Zone Rule.
- 3. Click the Create button to create the Rule



## **4 Contact Information**

3xLOGIC has offices in Victoria BC, Canada and in Fishers, Indiana, USA. Please visit our 3xLOGIC website at <a href="www.3xlogic.com">www.3xlogic.com</a>. Please contact us by e-mail at <a href="helpdesk@3xlogic.com">helpdesk@3xlogic.com</a> (technical support), or using the following contact information:

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