Configuration & User Guide

2N Intercoms Integration for C•CURE 9000

Security Classification:	Protected
Version:	1.0
Revision:	Rev2
Control:	Uncontrolled when printed
Date	19/05/2022

Table of Contents

PART 1 PREFACE 5
1.1 FINDING MORE INFORMATION 5
1.1.1 C•CURE 9000 MANUALS 5
1.1.2 ONLINE HELP 5
1.1.3 CONVENTIONS 6
PART 2 INTRODUCTION 7
2.1 2N INTERCOMS INTEGRATION OVERVIEW 7
2.2 2N INTERCOMS INTEGRATION COMPONENTS 8
2.3 2N INTERCOMS INTEGRATION UTILIZATION 8
2.3.1 TERMINOLOGY 8
2.4 2N INTERCOMS SYSTEM CONFIGURATION 8
2.5 C•CURE 9000 CONFIGURATION 8
2.6 LICENSING THE 2N INTERCOMS INTEGRATION PRODUCT 9
2.6.1 C•CURE LICENSE 9
2.6.2 2N LICENSE 9
PART 3 INSTALLATION 10
3.1 2N INTERCOMS INTEGRATION DRIVER INSTALLATION 10
3.2 STARTING THE C•CURE 9000 SERVER SERVICES 13
3.2.1 REMOTE SQL CONFIGURATION 13
3.3 UNINSTALLING THE 2N INTERCOMS INTEGRATION 14
PART 4 C•CURE 9000 ENTERPRISE ARCHITECTURE CONSIDERATION 15
4.1 ENTERPRISE ARCHITECTURE CONSIDERATION 15
4.2 INSTALLATION ORDER 15
4.3 INTERCOM CONFIGURATION IN AN ENTERPRISE ARCHITECTURE 15
4.4 CREATING AN INTERCOM 15
4.5 MAS AND SAS ACTIONS 16
PART 5 C•CURE HARDWARE TREE 17
5.1 HARDWARE TREE PANE 17
PART 6 2N INTERCOMS CONFIGURATION 18
6.1 2N INTERCOMS OVERVIEW 18
6.2 2N INTERCOM TABS 18
6.3 ACCESSING THE 2N INTERCOM SERVER PANE 18
6.3.1 TO ACCESS THE 2N INTERCOMS SERVER PANE 18
6.4 CREATING A 2N INTERCOM OBJECT 19
6.4.1 TO CREATE A 2N INTERCOM 19
6.5 DELETING A 2N INTERCOM OBJECT 20

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

6.5.1 To Delete a 2N Intercom Object 20
6.6 General Tab 21
6.6.1 General Tab 22
6.6.2 Triggers Tab 23
6.6.3 To Create a Custom Event 23
6.6.4 Configuring 2N Event Triggers 26
6.7 State Images Tab 27
6.7.1 Customizing State Images 27
6.7.2 Restore a Default State Image 27

PART 7 CALL MANAGEMENT 28

7.1 Hardware Tree 28
7.2 Dynamic View 28
7.3 Maps 30

PART 8 UNLOCKING A C•CURE DOOR ON DTMF ACTIVATION 31

PART 9 MAP CONFIGURATION 32

9.1 Configuring a map 32
9.2 Map annunciations 36
9.2.1 Configuring map annunciations 36

PART 10 C•CURE 9000 ALERTS AND JOURNALING SYSTEM 38

10.1 Journaling Overview 38
10.2 Accessing Event Viewer and Activity Monitor 38
10.2.1 To Access Activity Monitor 38
10.2.2 Interpreting Journal Messages 38
10.2.3 Journal messages supported 39

PART 11 TROUBLESHOOTING THE 2N INTEGRATION 40

APPENDIX 1 – CONFIGURATION OF 2N DEVICES 41

1. Introduction 41
2. System overview 41
3. 2N Intercom basic configuration and prerequisites 41
3.1. LAN Connection Setting - 2N IP Intercom 41
3.2. LAN Connection Setting - 2N Master Station 43
4. Setting calling between 2N IP Intercom and 2N Master Station 44
4.1. 2N IP Intercom setup 44
4.2. 2N Master Station setup 48
4.3. 2N IP Intercom HTTP API Activation 49

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 1 Preface

The 2N Intercoms Integration user manual is for new and experienced security system users who want to learn to use this product for the C•CURE 9000 Security Management System.

1.1 Finding More Information

You can access C•CURE 9000 manuals and online Help for more information about C•CURE 9000 on the Software House Portal.

1.1.1 C•CURE 9000 Manuals

C•CURE 9000 software manuals are available in Adobe PDF format on the C•CURE 9000 installation media. You can access the manuals if you copy the appropriate PDF files from the C•CURE 9000 installation media Manuals\CCURE folder.

The available C•CURE 9000 Software House manuals are listed in the C•CURE 9000 Installation and Upgrade Guide.

These manuals are also available from the Software House Member Center website:

(http://www.swhouse.com/TechnicalLibrary/TechLibSW.aspx).

1.1.2 Online Help

You can access C•CURE 9000 Help by pressing F1 or clicking Help from the menu bar in the

Administration/Monitoring Station applications.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

1.1.3 Conventions

This manual uses the following text formats and symbols.

Convention	Meaning
Bold	This font indicates screen elements, and also indicates when you should take direct action in a procedure. Bold font describes one of the following items: • A command or character to type, or • A button or option on the screen to press, or • A key on the keyboard to press • A screen element or name
blue colour text	Indicates a hyperlink to a URL, or a cross-reference to a figure, table, or section in this guide.
Regular Italic font	Indicates a new term.
<text>	Indicates a variable.

The following items are used to indicate important information.

NOTE	Indicates a note. Notes call attention to any item of information that may be of special importance.
TIP	Indicates an alternate method of performing a task.
	Indicates a caution. A caution contains information essential to avoid damage to the system. A caution can pertain to hardware or software.
	Indicates a warning. A warning contains information that advises users that failure to avoid a specific action could result in physical harm to the user or the hardware.
	Indicates a danger. A danger contains information that users must know to avoid death or serious injury.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 2 Introduction

This chapter introduces the 2N Intercoms Integration software that provides integration between the 2N Intercoms and C•CURE 9000 access security management.

2.1 2N Intercoms Integration Overview

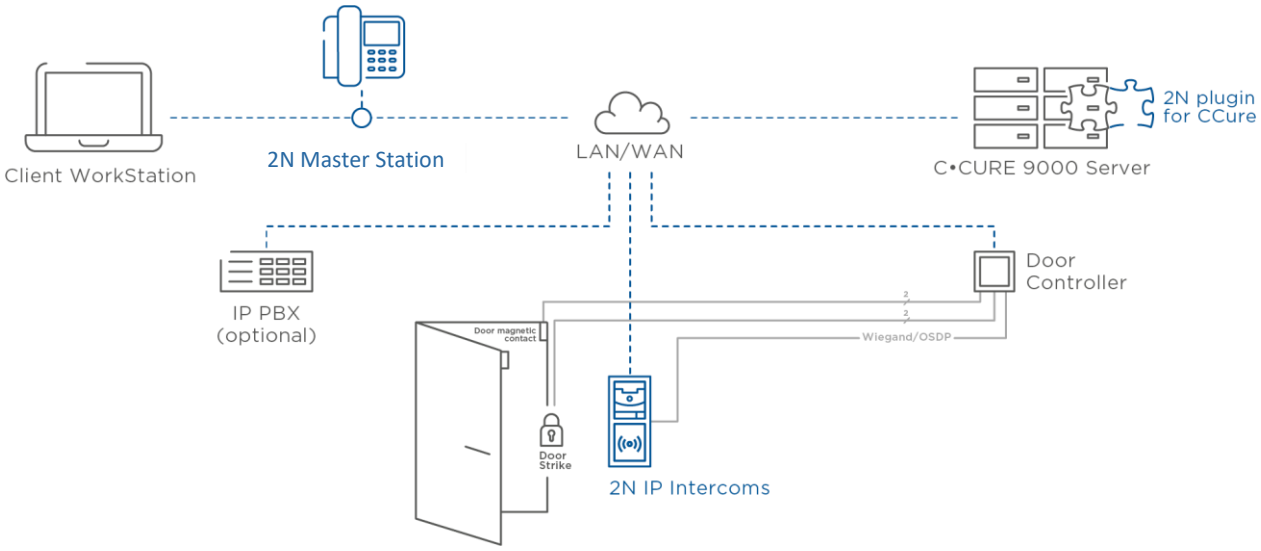
The C•CURE 9000 2N Intercoms Integration product provides integration between the 2N Intercoms and the C•CURE 9000 Security Management System.

The C•CURE integration provides client components, server components and a Windows service. It is based on a standard C•CURE CrossFire integration and provides the following features:

- 2N Intercoms Editor
- Journal activity
- Event triggers based on server state

The integration driver acts as an interface between 2N Intercoms and the C•CURE access control system. The solution has one main data flow component:

Outbound JSON data (driver): The driver monitors 2N intercoms through the use of their JSON REST API. This allows the driver to retrieve the status of the devices and issue commands.



COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

2.2 2N Intercoms Integration Components

The C•CURE 9000 2N Intercoms Integration product introduces the following object into the C•CURE 9000 database to facilitate the integration between 2N Intercoms and C•CURE 9000.

- 2N Intercoms – This represents the interface from C•CURE to 2N Intercoms where all connection parameters are set.

2.3 2N Intercoms Integration Utilization

2.3.1 Terminology

The table below lists some terms and definitions related to the C•CURE 9000 2N Intercoms Integration Product.

Term	Definition
2N Intercom	The configuration server object in C•CURE that represents the driver interface between C•CURE and 2N Intercoms systems. The server object is where all connection parameters are configured.
2N Intercoms Integration (2N Plugin for CCURE)	Represents the C•CURE 9000 integration driver

2.4 2N Intercoms System Configuration

Configuration of 2N Intercoms systems is described in Appendix 1 of this document. There are some environmental prerequisites for connectivity:

- API
  - API connection needs to be enabled on the intercoms.
- Firmware
  - Firmware needs to match the supported firmware. Please check the release notes for the supported firmware version.

2.5 C•CURE 9000 Configuration

The C•CURE 9000 Administration Workstation is used to configure C•CURE 9000 objects. You must configure the following objects in C•CURE 9000 for the 2N Intercoms Integration to function properly.

- 2N Intercoms Server objects.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

2.6 Licensing the 2N Intercoms Integration Product

This integration has two licensing requirements:

2.6.1 C•CURE License

The 2N Intercoms Integration product is a licensed option for a C•CURE 9000 Server. You must purchase this license from Software House support to use the software. In an Enterprise architecture, the MAS and any SAS you wish to run the integration on must be licensed.

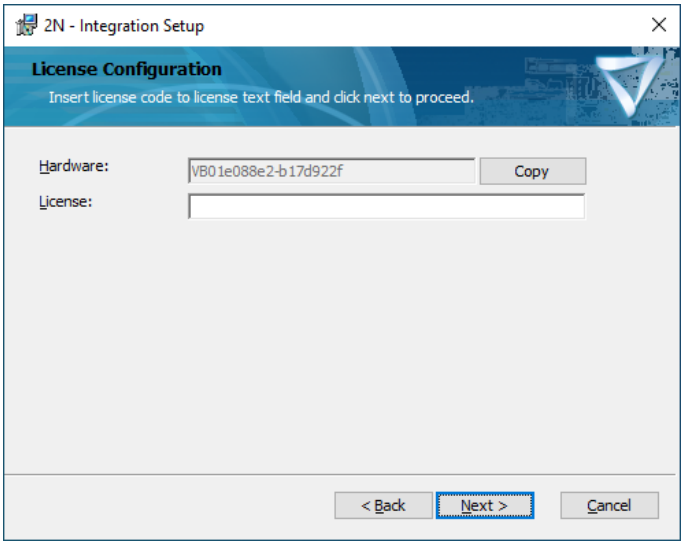
Only the server is licensed. You can have as many client connections as C•CURE is licensed for.

When you access the C•CURE 9000 License application on your C•CURE 9000 server, you can see if your license includes the Cruatech - 2N Intercoms - Integration product by running the C•CURE 9000 Licensing program (Start>All Programs>Tyco>C•CURE 9000>Licensing) and clicking the Options tab. If the Cruatech - 2N Intercoms - Integration product is selected, you have a valid license.

If you do not have a license for the 2N Intercoms Integration product, contact Software House to purchase a license.

2.6.2 2N License

The server component also requires 2N licensing applied. The license screen is part of the installation process:



Note: Steps to obtain/install license are described in the Installation section.

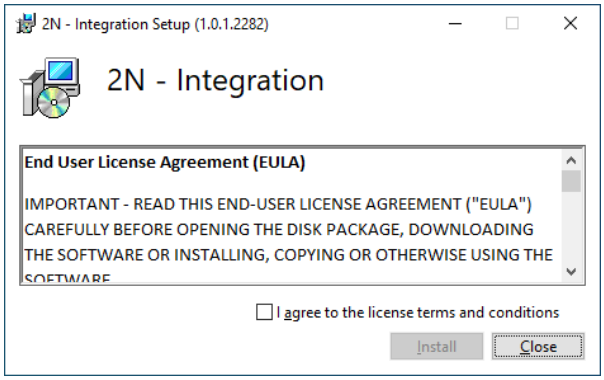
COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 3 Installation

This chapter explains how to install and uninstall the 2N Intercoms Integration.

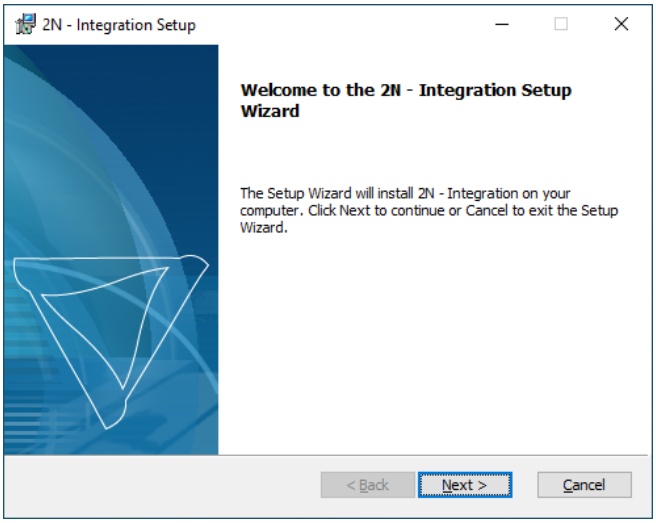
3.1 2N Intercoms Integration driver installation

1. Copy 2N-Intercoms-x.x.x.x.exe file to the local disk on the target C•CURE machine. The same installation file may be run on standalone, MAS and SAS C•CURE servers and C•CURE clients.
2. From your local disk run 2N-Intercoms-x.x.x.x.exe as Administrator.
   2N -Integration Setup appears:



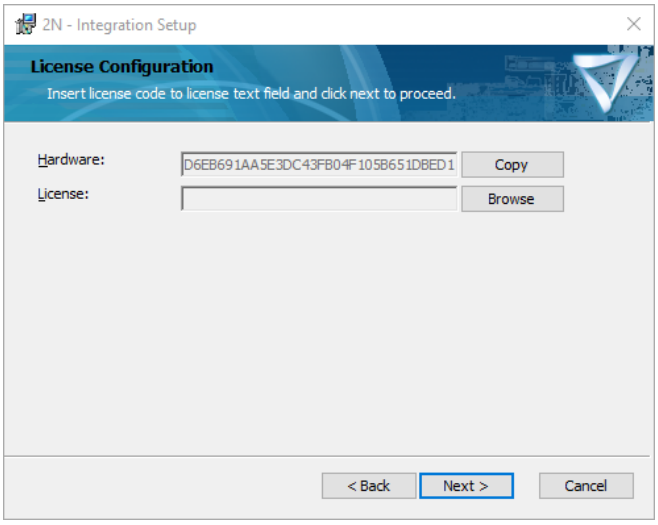
3. Select the I agree to the license terms and conditions checkbox and click Install.

   The following window appears:

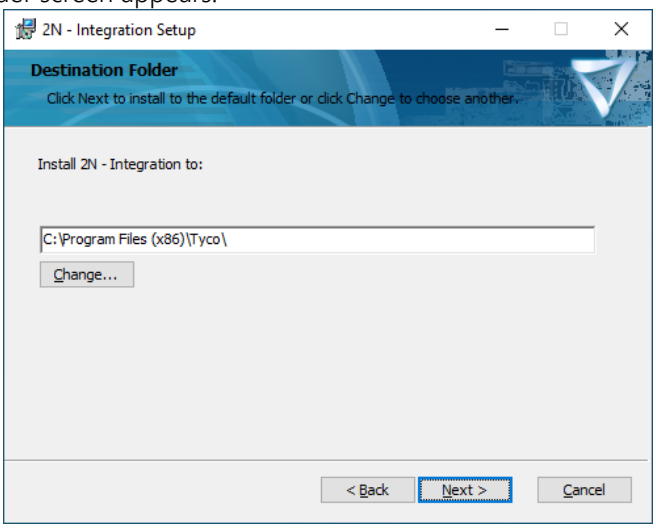


4. Click Next.
   If you are on a C•CURE server, the License Configuration screen appears:

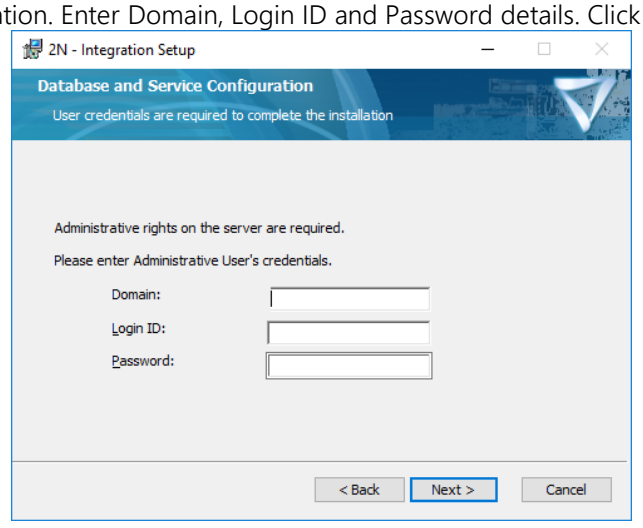
COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved



5. Copy the Hardware Identifier using the Copy button and contact 2N Distributor to receive your license. Once you have received your license file, copy it onto the server and click Browse to the file path. Click Next.
6. The Destination Folder screen appears:

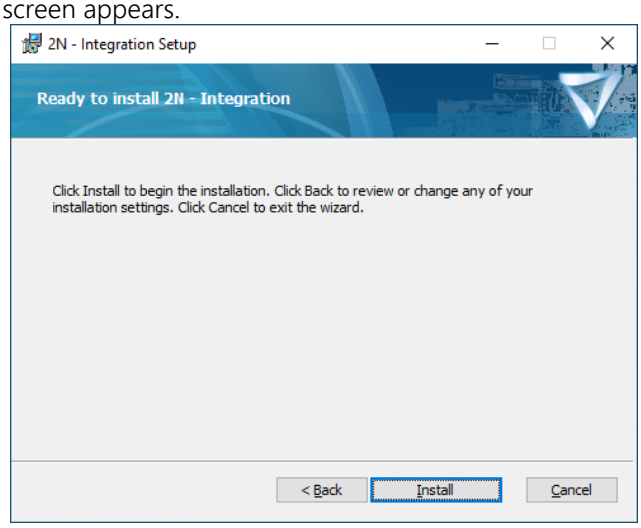


7. Click Next.
8. If the C•CURE server is on a domain, you will be prompted for Administrator credentials to proceed with installation. Enter Domain, Login ID and Password details. Click Next to proceed:

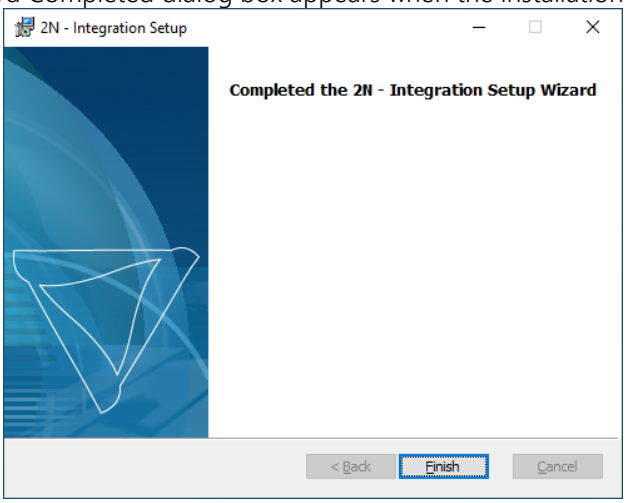


COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

9. The Ready to Install screen appears.



10. Click Install to start the installation.
11. The Installation Wizard Completed dialog box appears when the installation is complete.



Click Finish and then Close to complete the installation.

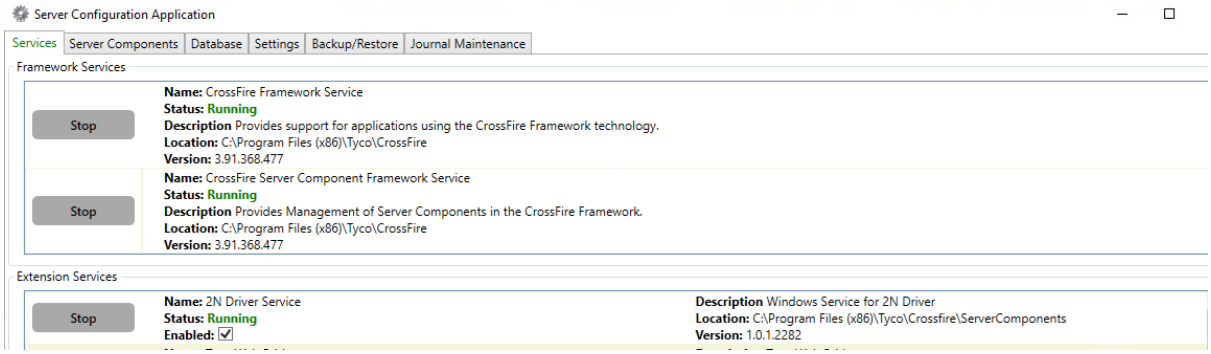
COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

3.2 Starting the C•CURE 9000 Server Services

Prior to configuring a 2N Intercoms integration object, the CrossFire Framework Service and CrossFire Server Component Framework Service must be running.

To Start C•CURE 9000 Server Services

1. From the Start Menu, select Start>All Programs>Tyco>Server Configuration. Right-click on Server Configuration and select Run as Administrator. The C•CURE 9000 Server Management Application opens.
2. Click the Services tab.
3. If the Status is displayed as "Stopped" for the CrossFire Framework Service under Framework Services, click Start.
4. If the Status is displayed as "Stopped" for the CrossFire Server Component Framework Service under
5. Framework Services, click Start.
6. If the Status is displayed as "Invalid License" for the 2N Driver Service please contact your C•CURE representative to obtain a valid license.
7. After the CrossFire Framework Service and CrossFire Server Component Service display a status of "Running", start the 2N Intercoms Driver service.

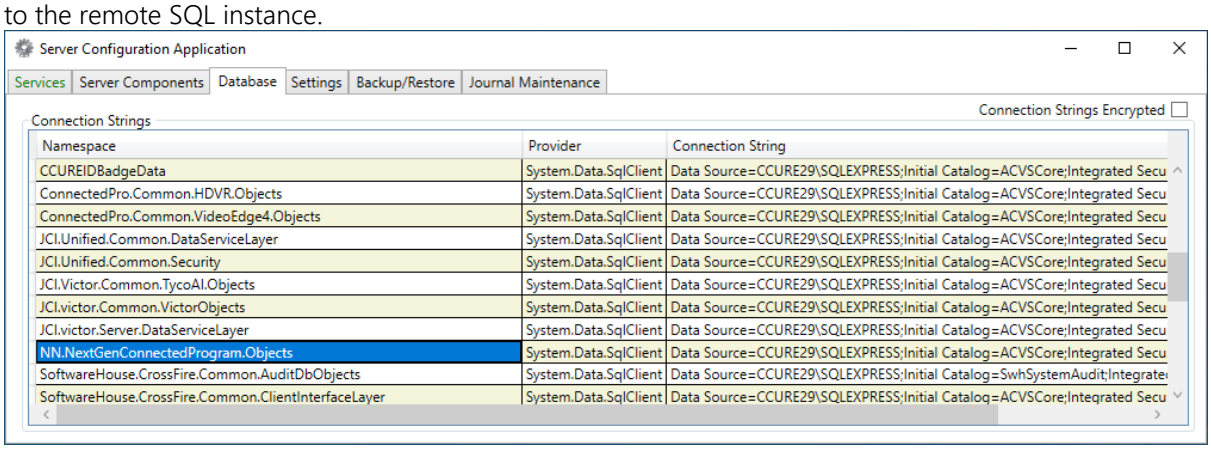


When the CrossFire Framework Service, CrossFire Server and Component Framework Service and 2N Driver service display a Status of "Running", you can configure 2N Driver Service objects in the C•CURE 9000. You only have to enable these services once.

3.2.1 Remote SQL Configuration

If the integration is installed on a C•CURE 9000 system configured with a remote SQL server, please check the following directly after installation in the Server Configuration Application:

1. Navigate to the Database tab.
2. Find the NN.NextGenConnectedProgram.Objects entry, and confirm the Connection String is set to the remote SQL instance.



COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

3.3 Uninstalling the 2N Intercoms Integration

This section describes how to uninstall the 2N Intercoms integration from the Server computer and Client computers in your security system.

The Uninstall process removes all software components that were installed on the computer by the 2N Intercoms Integration installation.

Please be advised that the 2N Intercoms Integration uninstall will shut down the C•CURE 9000 services. Therefore, the 2N Intercoms Integration uninstall should be planned accordingly.

NOTE Uninstalling this integration does not automatically remove 2N Intercoms specific database objects.

To Uninstall the 2N Intercoms Integration

1. From the Windows Start menu, select Control Panel>Programs and Features.
2. In the list, click on 2N Intercoms Service – C•CURE Integration to highlight it.
3. Click the Uninstall button above the list.
4. Press OK to stop all Tyco services automatically.
5. Note: CrossFire Framework Service and CrossFire Server and Component Framework Service will need to be restarted manually using the Server Configuration Application

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 4 C•CURE 9000 Enterprise Architecture Consideration

This chapter provides guidelines on configuring C•CURE 9000 Enterprise Architecture configuration. If you are configuring C•CURE for a standalone installation, then this next section can be ignored and you can move on to the Hardware Tree chapter.

4.1 Enterprise Architecture Consideration

The Enterprise Architecture provides administrators with the ability to view and manage all aspects of access control and security from one application - the Administration Workstation on a Master Application Server, or MAS. From this vantage point, you can:

- View and edit 2N Intercoms server objects
- View server states

Because the Connected Program Kit integrations do not support data synchronization in an Enterprise Architecture system, an integration can only run on a standalone C•CURE 9000 server or a Satellite Application Server, or SAS within an enterprise. An integration that can run on a system in an Enterprise Architecture must be specifically built to prevent unintended data synchronization with the Master Application Server.

4.2 Installation Order

The 2N Intercoms installation must be performed in the following way in an Enterprise Architecture:

1. Install the 2N Intercoms on the MAS server first.
2. Install the 2N Intercoms on required SASs.
3. Ensure all enterprise servers have the same 2N Intercoms version installed (must be identical.)
4. If removing or upgrading the integration, perform the above steps in reverse order; uninstall the server version from the SASs first, then remove the client from the MAS.

NOTE The same 2N Intercoms server configuration on different SASs will be treated as separate objects by the integration. A 2N Intercoms configured on SAS1 will not be visible on SAS2.

4.3 Intercom Configuration in an Enterprise Architecture

When creating an intercom in an Enterprise architecture there are some important factors to consider:

- You cannot create a 2N Intercom object on the MAS server partition.
- You cannot create a 2N Intercom object on the Global partition of a MAS or a SAS.
- An Intercom may only be created locally on a SAS which has the integration installed. This will not work if configured on the SAS-partition of the MAS; (after successful configuration the Hardware Tree of the MAS will be populated normally when viewing this SAS's partition.)
- You cannot add 2N Intercoms objects to a map from the MAS. 2N Intercoms servers may only be configured on a map from the appropriate SAS. Once configured, the objects will be visible on the map from the MAS.
- A master station may only be associated with one server in an Enterprise architecture. This may be the MAS, or a connected SAS with the 2N integration installed.

4.4 Creating an Intercom

To create an Intercom in a MAS/SAS environment carry out the following steps:

1. On a SAS with the full integration installed, Right-click a folder in the Hardware Tree and select 2N Intercom/New.
2. Fill out the appearing form, following General tab Definitions. Save and Close.
3. The Hardware Tree of the SAS, and MAS will show the 2N Intercoms server.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

NOTE Creating and configuring the Intercom, and discovering devices for the Intercom must be carried out directly on a SAS with the full integration installed.

4.5 MAS and SAS Actions

Once the 2N Intercoms are configured on the SAS and map objects configured as required, the integration operates in a similar way to a standalone server in an Enterprise Architecture in C•CURE.

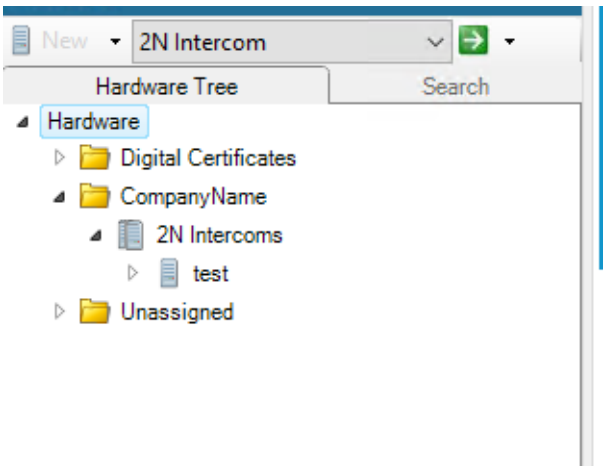
COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 5 C•CURE Hardware Tree

This chapter explains how to use the 2N Intercom integration within the C•CURE 9000 Hardware Tree Pane.

5.1 Hardware Tree Pane

The Hardware Tree displays a tree structure that shows how you have configured the integration objects on the C•CURE 9000 system. For the 2N Intercoms integration, the 2N Intercoms group, and the servers appear in the tree.



COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 6 2N Intercoms Configuration

This chapter explains how to configure the 2N Intercoms in C•CURE 9000.

6.1 2N Intercoms Overview

The Intercom object represents a connection to the 2N Intercom. If intercoms are appropriately configured, they may be auto-discovered on the network by the 2N Integration. Auto-discovery will occur each time the driver is restarted. Any 2N intercoms discovered on the network will appear in the first folder of the C•CURE Hardware tree (this is typically Company Name, but may be edited to re-name).

NOTE 1	Auto-discovery only supports the device name and IP address. Username, Password, Authentication Type and DTMF Code fields will need to be additionally configured for auto-discovered intercoms. Master stations do not support auto-discovery.
NOTE 2	2N IP Intercoms as well as Master Stations must be configured prior to be used with the CCure. Please see Appendix 1 of this document for more details.

6.2 2N Intercom Tabs

The 2N Intercom Server pane consists of two active tabs:

- General Tab
- Triggers
- State Images

6.3 Accessing the 2N Intercom Server Pane

This section explains how to access the 2N Intercom Server Pane.

6.3.1 To Access the 2N Intercoms Server Pane

- In the Hardware Pane of the Administration Workstation, select New, and create a 2N Intercoms folder.
- Right click and select 2N Intercom from the context menu.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

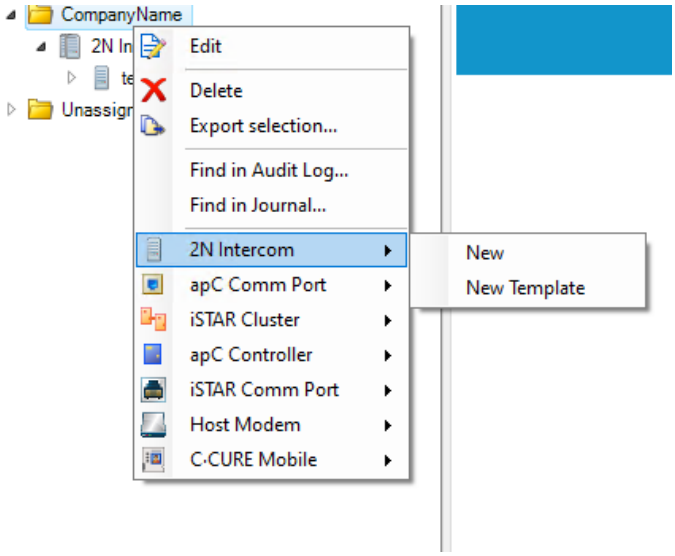
6.4 Creating a 2N Intercom Object

This section describes how to create a 2N Intercom Object.

6.4.1 To Create a 2N Intercom

NOTE If the installation is carried out in an Enterprise environment, please refer to the Post-Installation in an Enterprise Environment section using General tab definitions table for reference.

1. In the Hardware Tree of the Administration Workstation, right click the 2N Intercoms folder and then right click on 2N Intercoms icon.



2. Select New.
3. Configure the following settings:

Field	Details
Use SIP Proxy	Check this checkbox if you wish to use SIP protocol for the intercom – IP PBX is used in the network and the device is to be registered to it and call through it.
SIP Number	(Read-only) The SIP number the device is registered with. Technically, its Intercom Phone Numbers (ID) as configured in the device.
Host	Enter the Intercom API URL to start the service on. Example: https://192.168.170.151/
Username	The user name for the REST client to use for authentication. This setting must match the API setting in the device.
Password	The password for the REST client to use for authentication. This setting must match the API setting in the device.
Device Type	Endpoint/Master station. Master station supports 2N® IP Phone D7A devices. The rest of the devices should be considered as endpoints.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Auth Type	Basic/Digest/None as per Intercom's configuration.
DTMF Code	Enter the DTMF code to that will be used to open the C•CURE door associated on the triggers tab. Only applicable for 2N Devices. This Code must match with "Switch Code" in 2N intercom configuration and "Unlock PIN" in 2N Master Station configuration.
Workstation	Enter the workstation PC name as described in the workstations of C•CURE that the device is associated with. Only applicable for master stations.

4. Click Save and Close to complete the configuration.

6.5 Deleting a 2N Intercom Object

This section describes how to delete a 2N Intercom Object.

Please be advised that deleting a 2N Intercom object won't affect linked objects such as C•CURE events and C•CURE journal messages. Even though a 2N Intercom object is not present, C•CURE objects remain in place allowing historical data and events to be viewed.

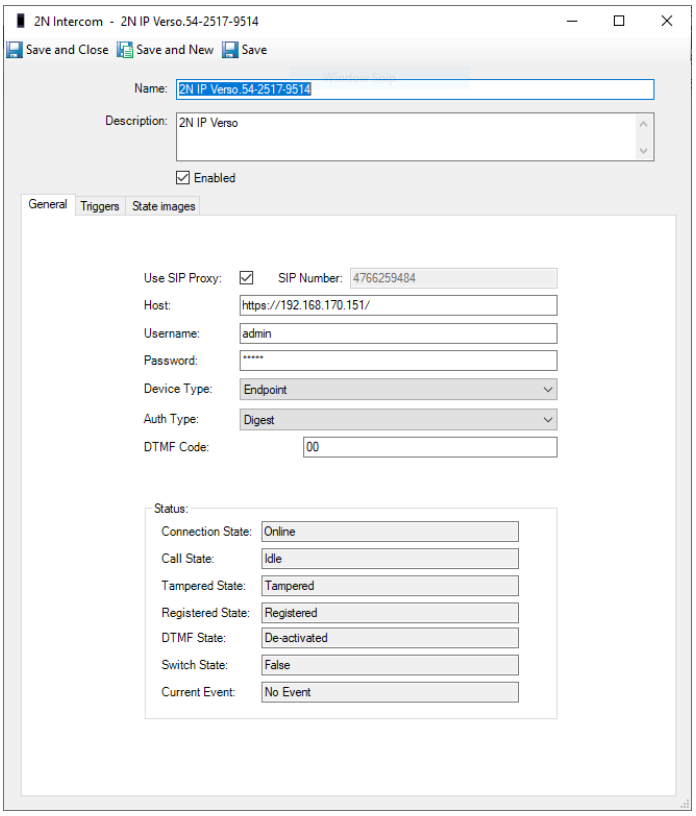
6.5.1 To Delete a 2N Intercom Object

1. In the Hardware pane, under the 2N Intercoms folder, select the 2N Intercom Object.
2. Right click and select Delete from the context menu.
3. Confirm the delete operation by pressing Yes, then OK.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

6.6 General Tab

The General Tab enables the user to view and edit basic information about the 2N Intercom server object.



COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

6.6.1 General Tab

The following table provides the fields and button definitions on the General Tab:

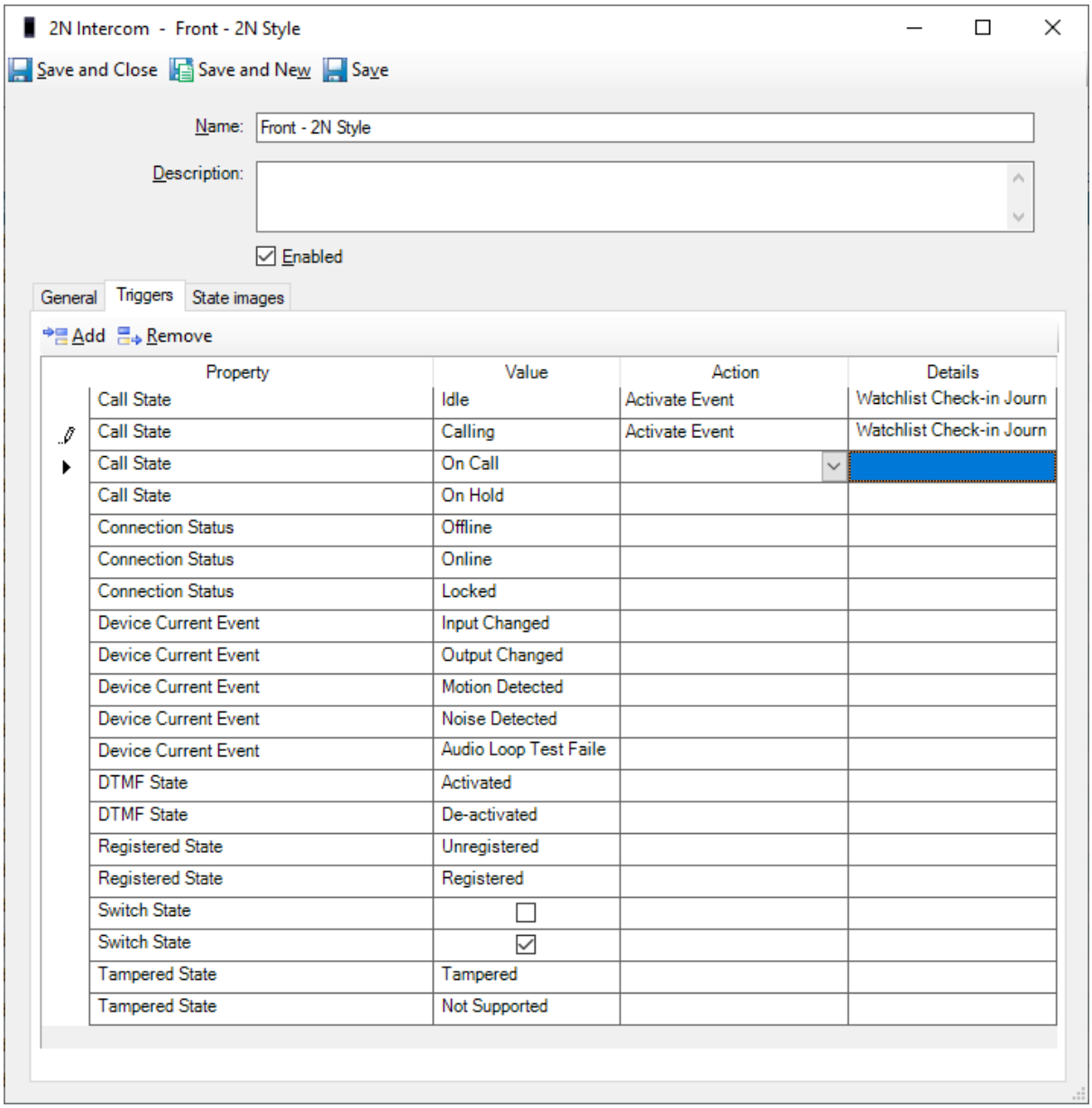
Field	Details
Use SIP Proxy	Check this checkbox if you wish to use SIP protocol for the intercom – IP PBX is used in the network and the device is to be registered to it and call through it.
SIP Number	(Read-only) The SIP number the device is registered with. Technically, its Intercom Phone Numbers (ID) as configured in the device.
Host	Enter the Intercom API URL to start the service on. Example: https://192.168.170.151/
Username	The user name for the REST client to use for authentication. This setting must match the API setting in the device.
Password	The password for the REST client to use for authentication. This setting must match the API setting in the device.
Device Type	Endpoint/Master station. Master station supports 2N® IP Phone D7A devices. The rest of the devices should be considered as endpoints.
Auth Type	Basic/Digest/None as per Intercom's configuration.
DTMF Code	Enter the DTMF code that will be used to open the C•CURE door associated on the triggers tab. Only applicable for 2N Devices. This Code must match with "Switch Code" in 2N intercom configuration and "Unlock PIN" in 2N Master Station configuration.
Workstation	Enter the workstation PC name as described in the workstations of C•CURE that the device is associated with. Only applicable for master stations.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

6.6.2 Triggers Tab

The Triggers tab is used to configure actions generated in 2N Intercoms to trigger events in C•CURE. Events may be configured in C•CURE for 2N intercoms, which may then be subsequently be triggered by the appropriate state change for a given intercom.

Following 2N Intercom Events can be used for triggering:

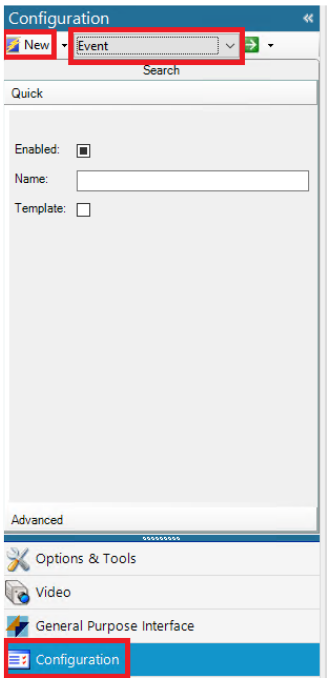


6.6.3 To Create a Custom Event

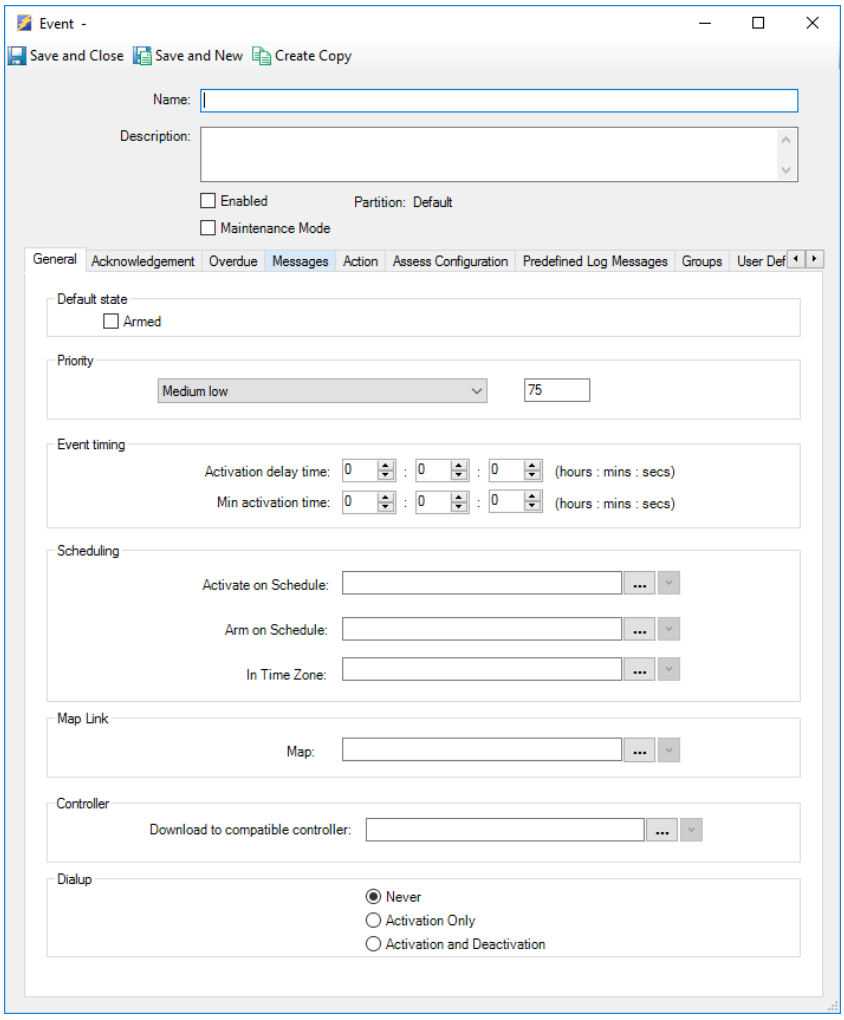
To create a custom event in C•CURE, carry out the following steps:

1. Log into the Administration Workstation.
2. Navigate to Configuration. Select Event from the drop-down, click New:

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

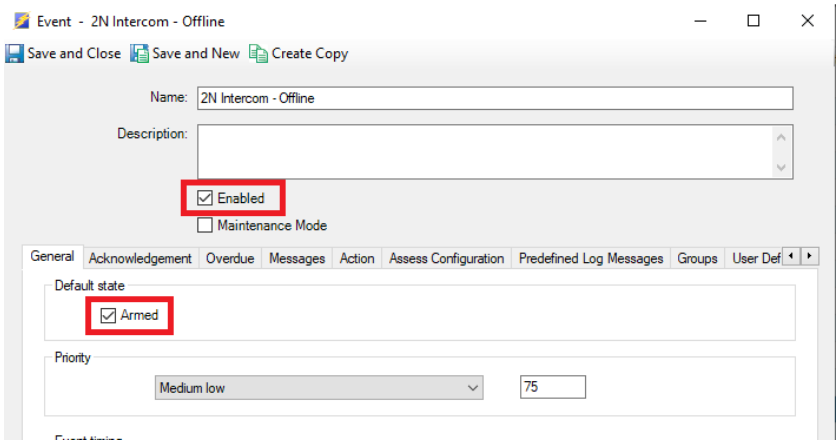


3. The New Event window appears:

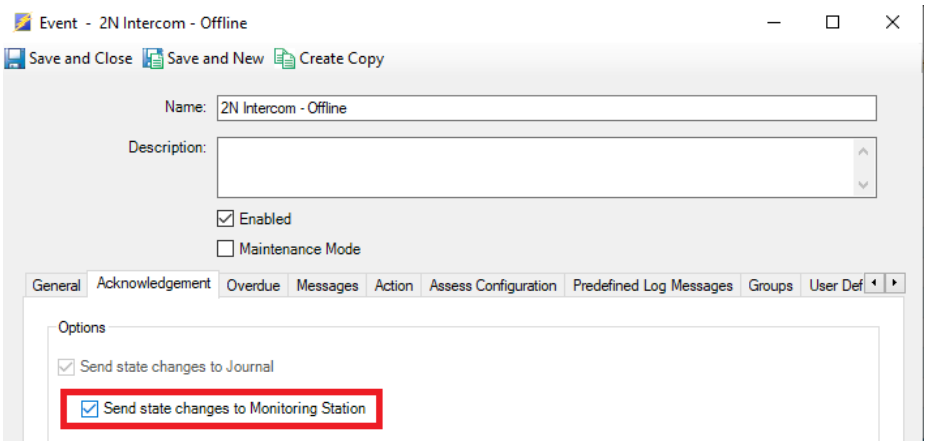


4. Assign a name for the Event you wish to create, e.g., "2N Intercom – Offline". Check the Enabled and Armed checkboxes:

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved



5. Change the Priority of the event from the drop-down, if required.
6. Navigate to the Acknowledgement tab. Check the Send State Changes to Monitoring Station tab:



7. You may optionally configure the event to require Acknowledgement, Clearing and a combination of requiring log messages from the C•CURE operator:
    a. In this example, the event configured will clear automatically once the state becomes Inactive, e.g., when the 2N Intercom comes back online.
8. Click Save and Close. The Event is saved.
9. Repeat the above steps for any additional 2N Events required on the system.

NOTE The example described above shows how to create a self-clearing C•CURE Event, meaning the Event will close automatically once the Event state becomes Inactive. For a detailed description of the other settings available in the Acknowledgment tab, please see the C•CURE documentation.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

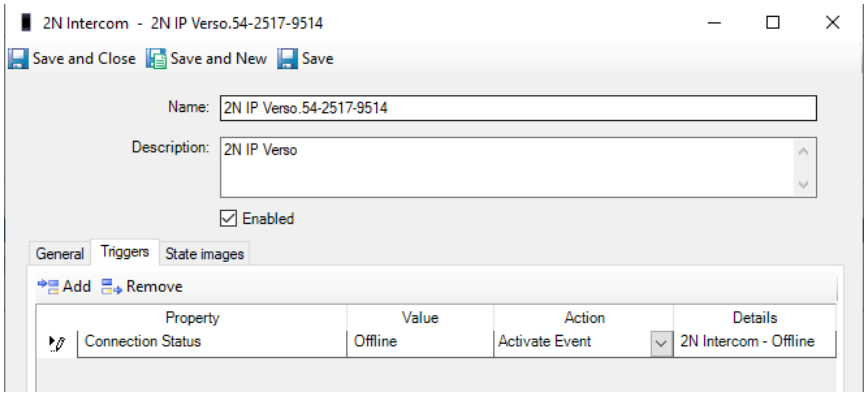
6.6.4 Configuring 2N Event Triggers

Once the required Events are created for the 2N intercoms, Triggers may be created in the intercom objects which will trigger the events based on the state changes logged in the C•CURE journal. The following example shows how to create an Event Trigger for an offline 2N intercom in C•CURE:

1. Open a 2N intercom to edit from the hardware tree.
2. Go to the Triggers tab and click Add.
3. The following table shows the columns in the Triggers tab and their definitions:

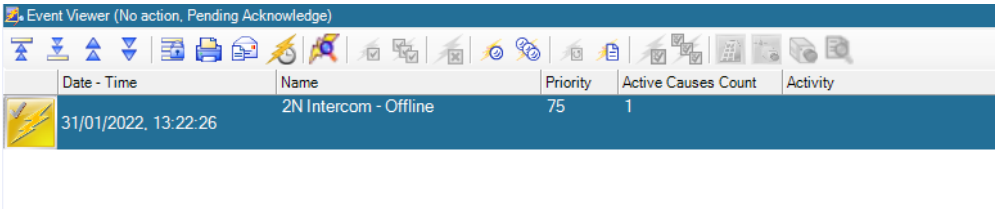
Term	Definition
Property	Specifies 2N Intercom property.
Value	Specifies property value.
Action	Action to be taken when property gets changed.
Details	C•CURE event or door name.

4. For a 2N Intercom Offline event, configure the Trigger columns as follows:
    a. Property – Connection Status
    b. Value – Offline
    c. Action – Activate Event
    d. Details – 2N Intercom – Offline (this is configured by pressing the '…' button next to the Event field)

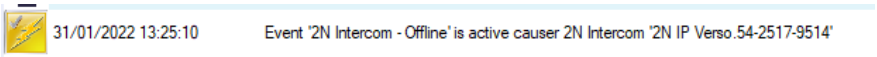


5. Repeat the process for all events you wish to configure for the device.
6. Save and Close the intercom.

The configured events will appear in C•CURE's Event Viewer for the intercom when triggered:

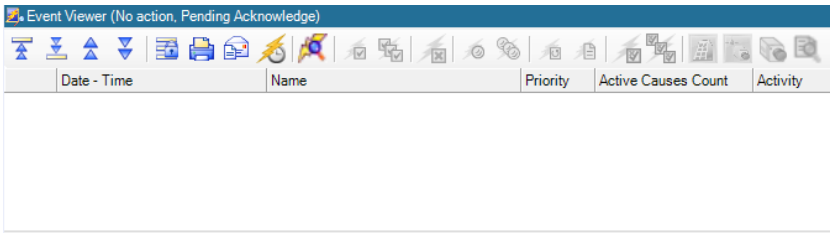


In addition to logging the state change, the C•CURE journal will now also show the configured event is now Active, detailing which device triggered the event:

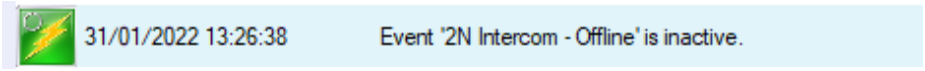


COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

If configured as a self-clearing event as described above, once the event becomes Inactive (the intercom comes back online in this example) – the event will close:



Similar to the event's activation, the journal will now also log the event's deactivation:

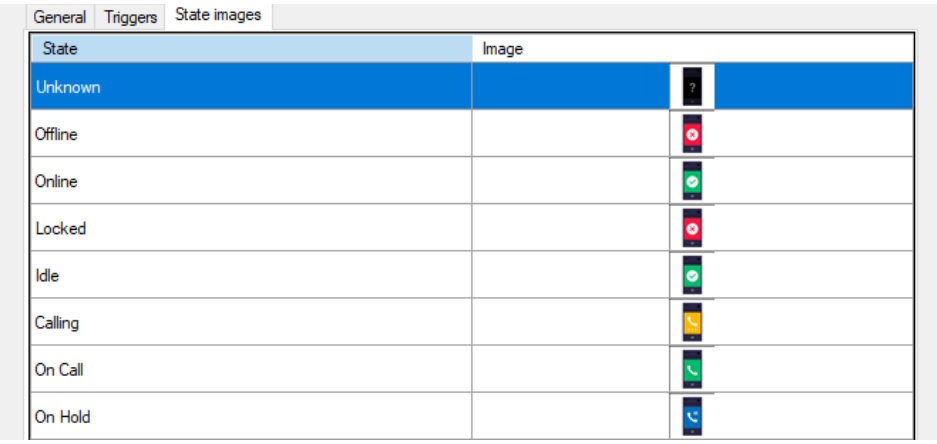


6.7 State Images Tab

The State Images tab shows the default images for different hardware states for 2N Intercoms. These images can be customized with any .JPG file.

6.7.1 Customizing State Images

1. Double-click the existing image. A Windows Open dialog box appears, allowing you to browse for a folder in which you have placed replacement images.
2. When you locate the replacement image, select it and click Open to replace the default image with this image.
3. When you are done editing the device, click Save and Close to save the configuration.



6.7.2 Restore a Default State Image

You can restore the default state image for any of the states of a server object.

To Restore the Default State Image:

1. From the State Images tab, select an existing image.
2. Right-click the image and select Restore Default.
3. Click Save and Close to save the configuration.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

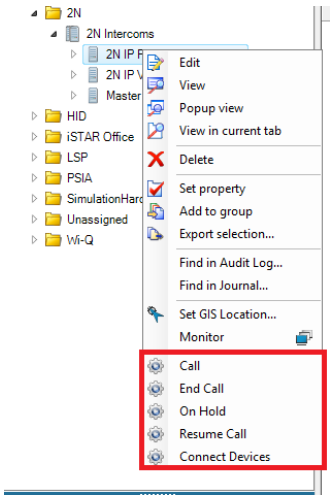
Part 7 Call Management

This chapter explains how to manage calls for 2N Intercoms in C•CURE 9000. Commands may be issued for intercoms from the Hardware tree, Dynamic view, or from a map. Right-click the device or icon to see a list of commands for intercoms. The following table shows the commands available for 2N intercoms.

Term	Definition
Call	Initiates a call to the selected device from the master station associated with the C•CURE workstation.
End Call	Ends any active calls on the selected device.
On Hold	Places an active call on hold. Only supported for master stations.
Resume Call	Resumes a call on hold. Only supported for master stations.
Connect Devices	Initiates a call from the selected intercom. When selected, you will be prompted for an intercom to initiate the call to.

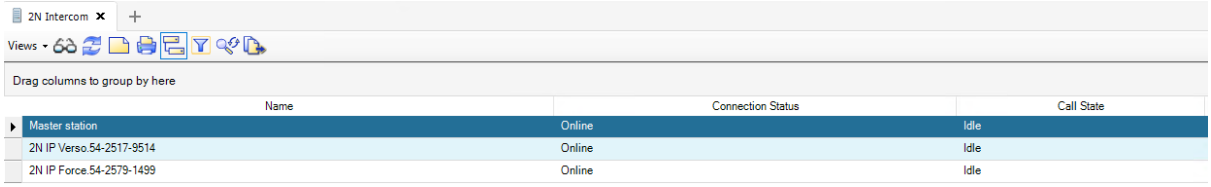
7.1 Hardware Tree

Once 2N intercoms are configured in C•CURE, they will be available for selection from the Hardware tree. Right-clicking an intercom from here will invoke the call options:



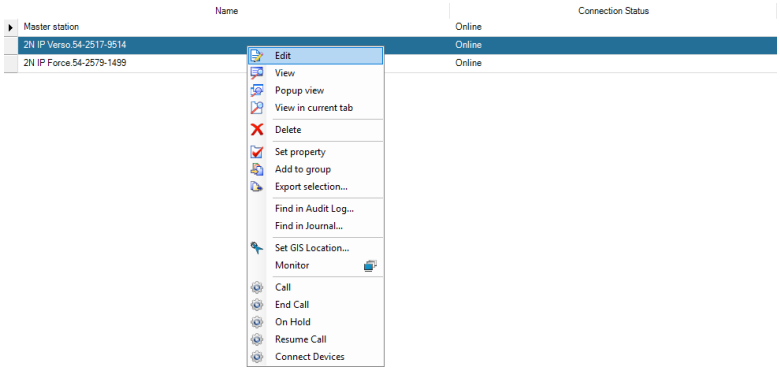
7.2 Dynamic View

The Dynamic view in C•CURE shows a list of configured intercoms. Intercom states including connection and call states may be viewed for each intercom from this view. To access the Dynamic view, double-click the parent 2N Intercoms icon from the hardware tree:

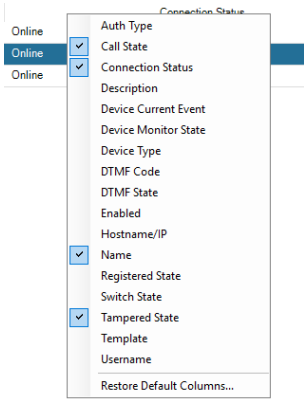


Right-click an intercom from the list to invoke the call options:

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved



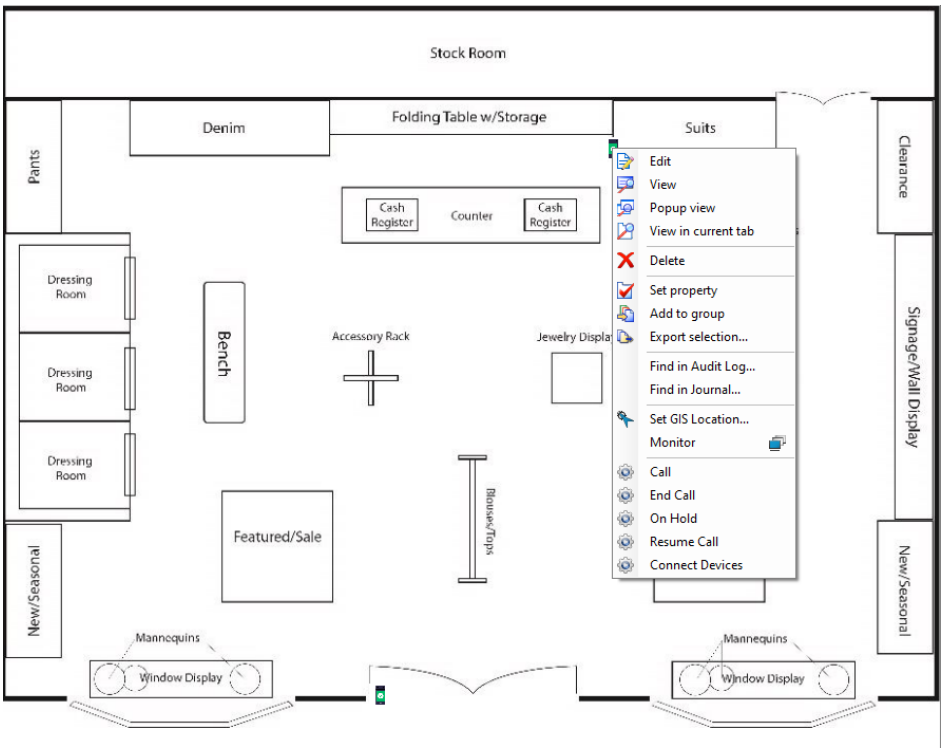
To customise columns in this view, right-click the top of the table and select the columns you wish to display:



COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

7.3 Maps

Calls for 2N intercoms may be managed from a C•CURE map. Please see the Map Configuration section in this document for details on configuring intercoms on a map.

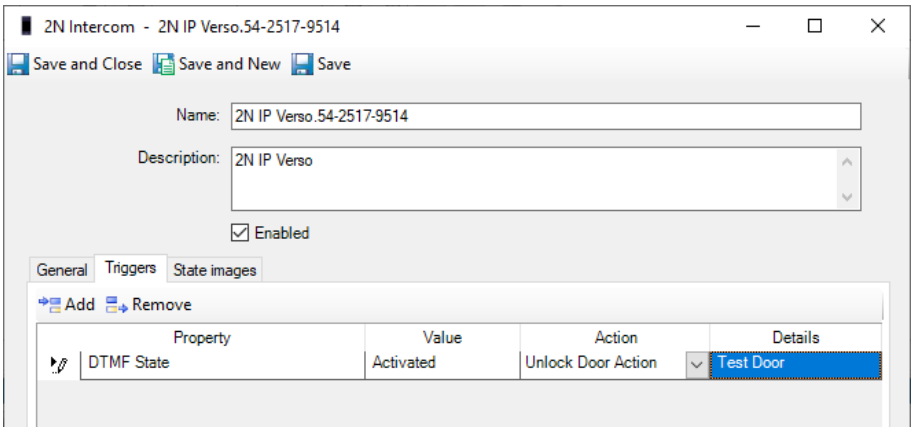


COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 8 Unlocking a C•CURE door on DTMF Activation

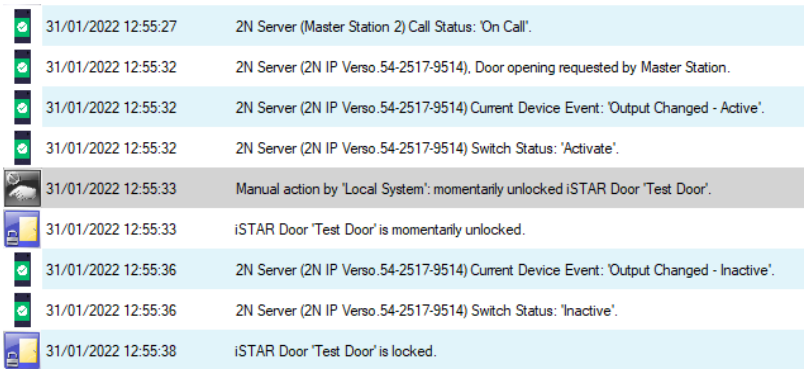
The integration may be configured to trigger a C•CURE door to open when a DTMF code is sent to the device. To configure such an action, carry out the following steps:

1. Open a 2N intercom to edit in C•CURE.
2. Ensure the correct DTMF code required is configured on the General tab for the intercom.
3. Go to the Triggers tab and click Add.
4. Configure the Trigger columns as follows:
    a. Property – DTMF State
    b. Value – Activated
    c. Action – Unlock Door Action
    d. Details – (select the C•CURE door you wish to trigger the open action on from the bottom field)
5. Save the configuration.

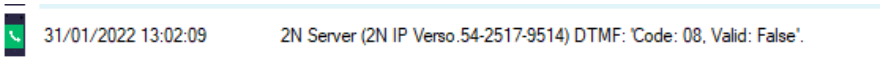


NOTE DTMF Activation is supported on physical doors configured in C•CURE only. Simulated doors are not supported for DTMF actions. Please ensure the iSTAR Driver Service is running on the C•CURE server if you wish to use this feature.

When the DTMF code is entered on the Master station, this will trigger a Momentary Unlock action for the C•CURE door, shown in the journal:



If an incorrect DTMF code is entered into the Master Station, this will also be journaled and the door will not be opened:



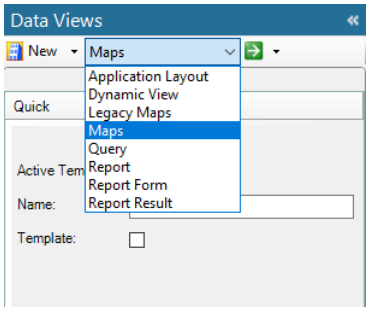
COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 9 Map Configuration

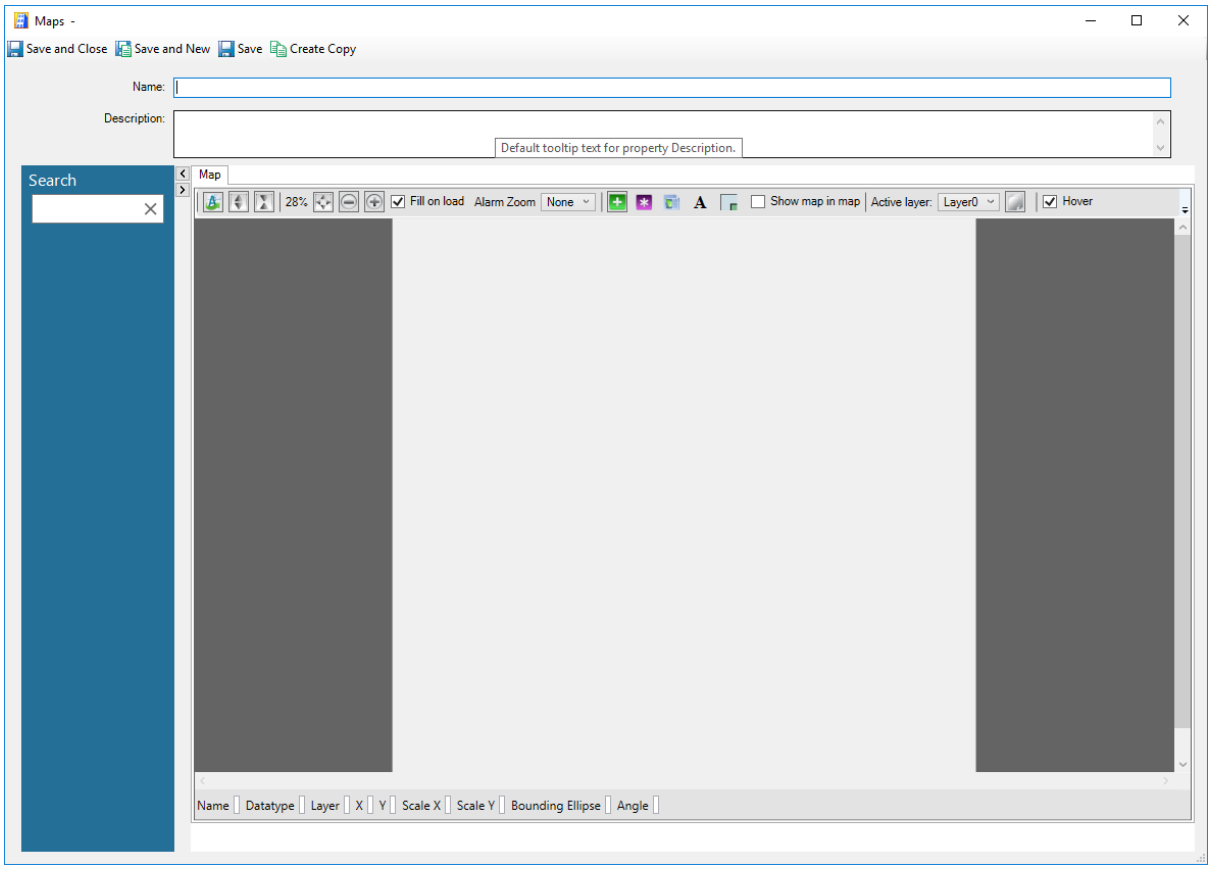
2N intercoms may be added to a map in C•CURE, where calls can be initiated, held and terminated and call states may be monitored. To add a map to C•CURE, carry out the following steps:

9.1 Configuring a map

1. In the Administration Workstation, select Data Views, and Maps from the list:

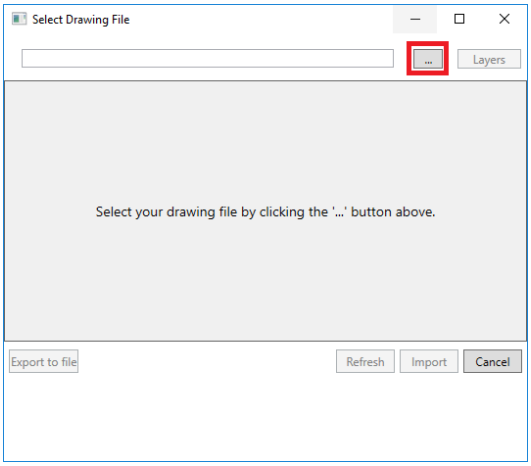


2. Click New. The New Map screen appears:

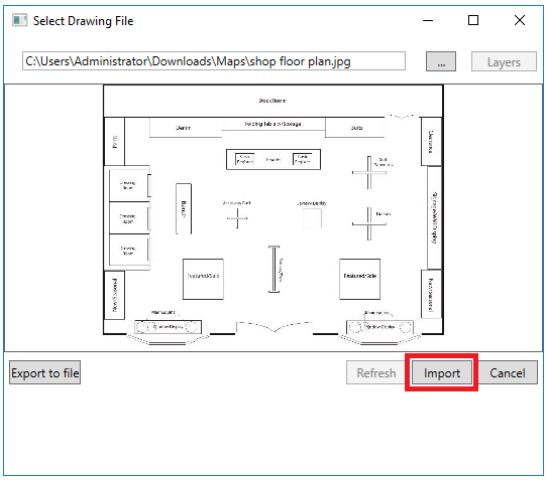


3. Press the button to import a map image. In the appearing window, click the ... button to browse the computer for a map:

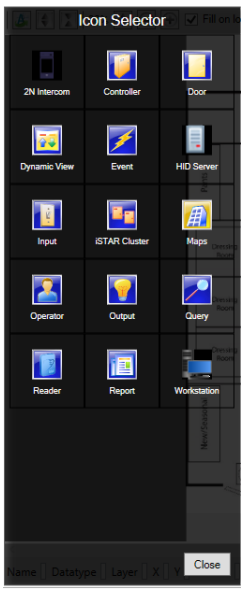
COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved



4. Once you have selected the map image, click Import:

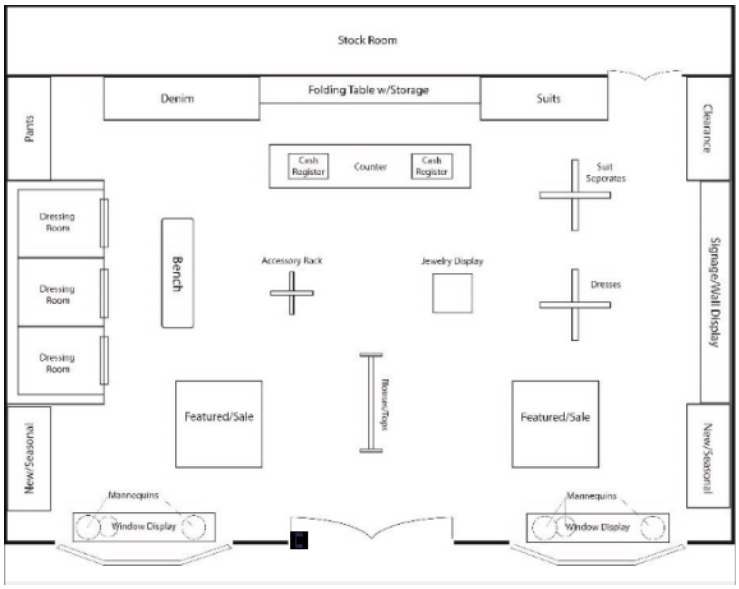


5. In the main map editor window, click the button to add objects to the map. The Icon Selector section appears:

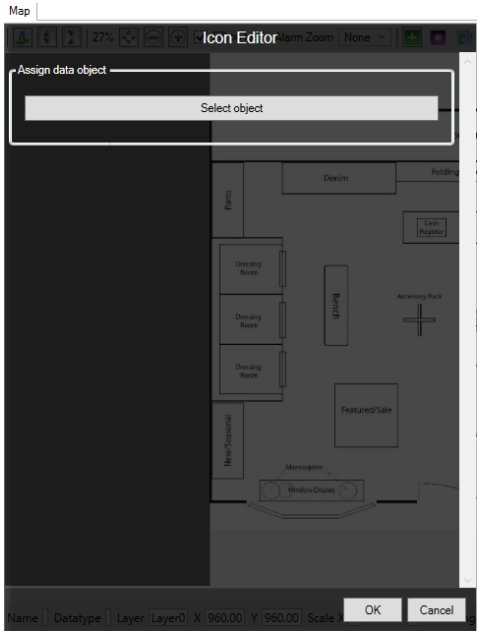


6. Select 2N Intercom. An intercom icon is dropped on the map:

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

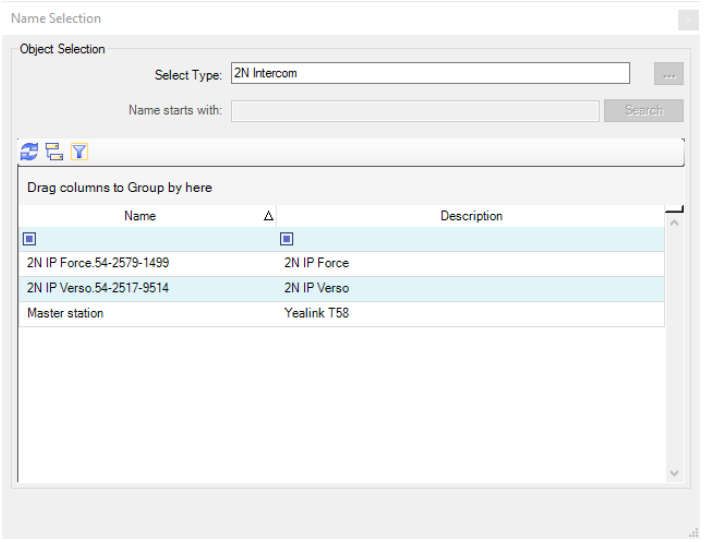


7. Drag the icon to the desired position on the map, then right-click the icon and select Drop on map. The Icon Editor section appears:



8. Click Select object. A list of configured intercoms appears:

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

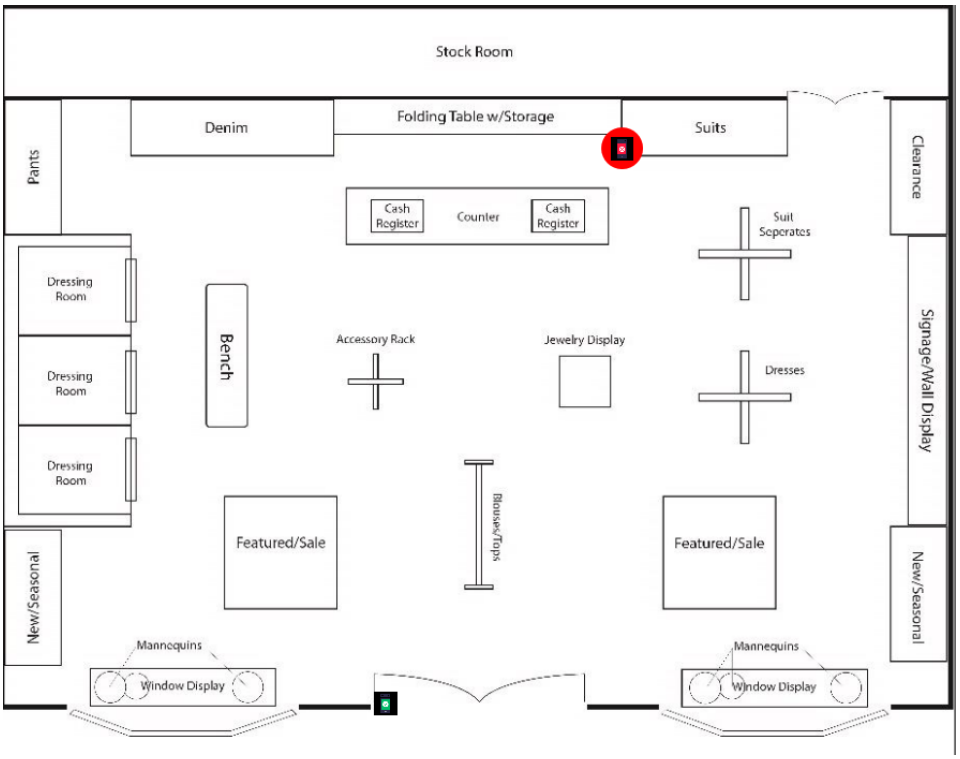


9. Select the intercom and click OK. The intercom is added to the map.
10. Repeat the process for every intercom you wish to add to the map.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

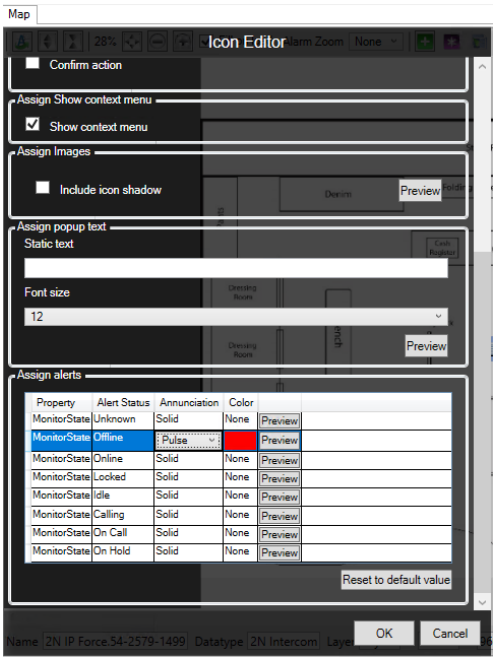
9.2 Map annunciations

C•CURE supports annunciations for objects placed on a map. For example, an intercom may be configured to turn red on a map if it goes offline:



9.2.1 Configuring map annunciations

To configure annunciations for intercom icons, follow steps 1-8 of the previous section. Alternatively, right-click an existing icon in the map editor to invoke the Icon Editor section. Scroll down to the bottom of the pane to the Assign Alerts section:



COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

The following intercom states may be represented by annunciations on a map:

- Unknown
- Offline
- Online
- Locked
- Idle
- Calling
- On Call
- On Hold

Configure each intercom for annunciations as required. When you are finished, save the map.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 10 C•CURE 9000 Alerts and Journaling System

This chapter explains 2N Intercoms alerts handling by C•CURE 9000 Journaling System

10.1 Journaling Overview

2N Intercoms server connection alerts detected in the integration are generated as C•CURE 9000 Journal messages.

C•CURE 9000 Journal messages may be monitored and respectively handled by the operator in the Activity Monitor window of the Monitoring Station. Depending on requirements users are also enabled to setup respective triggers/actions to be taken once a 2N Intercoms alert is triggered. This means C•CURE alerts may be raised accordingly.

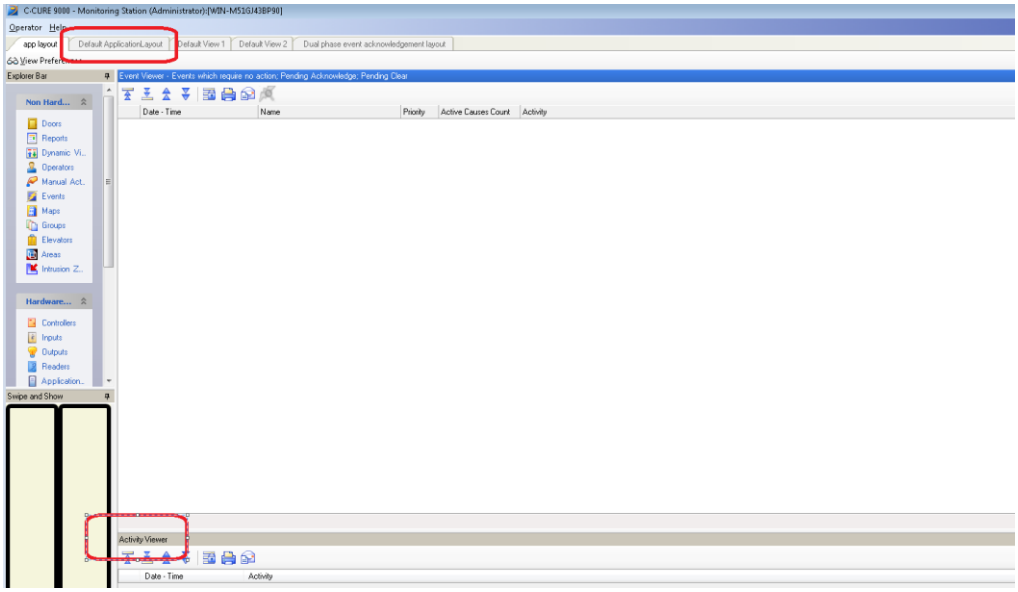
10.2 Accessing Event Viewer and Activity Monitor

This section describes how access Event Viewer and Activity Monitor in the Monitoring Station.

10.2.1 To Access Activity Monitor

- Login to Monitoring Station.
- On top of the Window select one of available Application Layouts tabs (default: DefaultApplicationLayout)
- Select "Dual phase event acknowledgement layout" to have all available views in place.

Event Viewer along with Activity Monitor window:



10.2.2 Interpreting Journal Messages

Each journal message provides minimum information enabling users to identify the 2N Intercoms system. It also provides details about the C•CURE 9000 object owning the journal message. Information about the corresponding object may be accessed by double-clicking on recorded message header (see image below). Alternatively users may popup details by right clicking on message and selecting Edit option from the context menu.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

10.2.3 Journal messages supported

- Status message (Online, Offline, Locked)
- Call State messages (Idle, On Call, Calling, On Hold)
- Device Events (Input Changed, Output Changed, Motion Detected, Noise Detected, Audio Loop Test Passed/Failed)
- Registered state messages (Registered, Unregistered, No PBX)
- Tampered state messages (Tampered, Secured, Not Supported)
- DTMF State messages(Activated/De-Activated)

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Part 11 Troubleshooting the 2N Integration

This chapter explains how to troubleshoot any issues with the 2N Intercoms Integration.

Issue	Troubleshooting steps
2N Intercoms Offline	• Ensure the intercoms are online and accessible on the network. • Ensure all prerequisites have been carried out. See 2N Intercoms System Configuration section. • Check the intercom connection parameters are correct in 2N Intercom object in C•CURE. • Check Windows Event Viewer for 2N Intercoms Integration errors on the C•CURE server • To change Event Viewer Logging level for the driver service: • Edit the driver service config file (*C:\Program Files (x86)\Tyco\CrossFire\ServerComponents\NN.NextGenConnectedProgram.Server.exe.config*) • Set the EventViewerLogLevel parameter and restart the driver service.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Appendix 1 – Configuration of 2N devices

1. Introduction

2N provides a range of intercom products supporting a flexible deployment with or without a central SIP exchange. This integration with C•CURE 9000 access control system allows 2N intercoms to be added to the C•CURE 9000 system giving operators the ability to control 2N intercom calls as well as receive 2N intercom events in the C•CURE 9000.

2. System overview

The 2N Integration communicates over REST APIs directly to each device.

The port will depend on the configuration: non-SSL port 80 (HTTP) or SSL port 443 (HTTPS) outgoing connection from C•CURE 9000 to the 2N intercoms.

3. 2N Intercom basic configuration and prerequisites

There are several configurations needed to get 2N IP Intercoms working and calling with 2N Master Station.

3.1. LAN Connection Setting - 2N IP Intercom

2N IP Intercoms must use static IP addresses to communicate in direct mode – without the central SIP exchange.

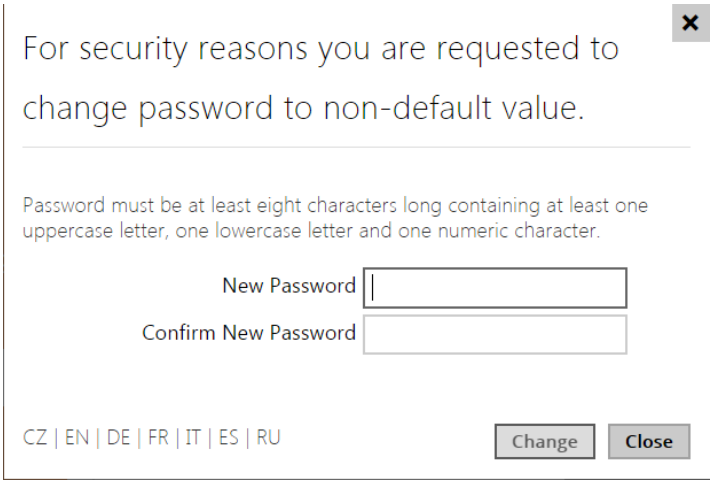
Automatic IP address retrieval from the DHCP server is set by default in the 2N IP intercoms. Thus, if connected to a network in which a DHCP server configured to assign IP addresses to all new devices is available, the intercom will obtain an IP address from the DHCP server. The intercom IP address can be found in the DHCP server status (according to the MAC address given on the production plate).

Now enter the intercom IP address into your favourite browser. We recommend you use the latest Chrome, Firefox or Internet Explorer 9+ versions. 2N IP intercom is not fully compatible with earlier browser versions.

Use the name: admin and password: 2n (i.e., default reset password) for your first login to the configuration interface.

The intercom requires a password change upon the first login. Strong passwords are only accepted - eight characters at least including one capital letter, one small letter and one digit.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved



Remember the new password well or put it down just in case. Because if you forget the password, you will have to reset the intercom to default values (refer to the Installation Manual of your intercom model) and lose all your current configuration changes.

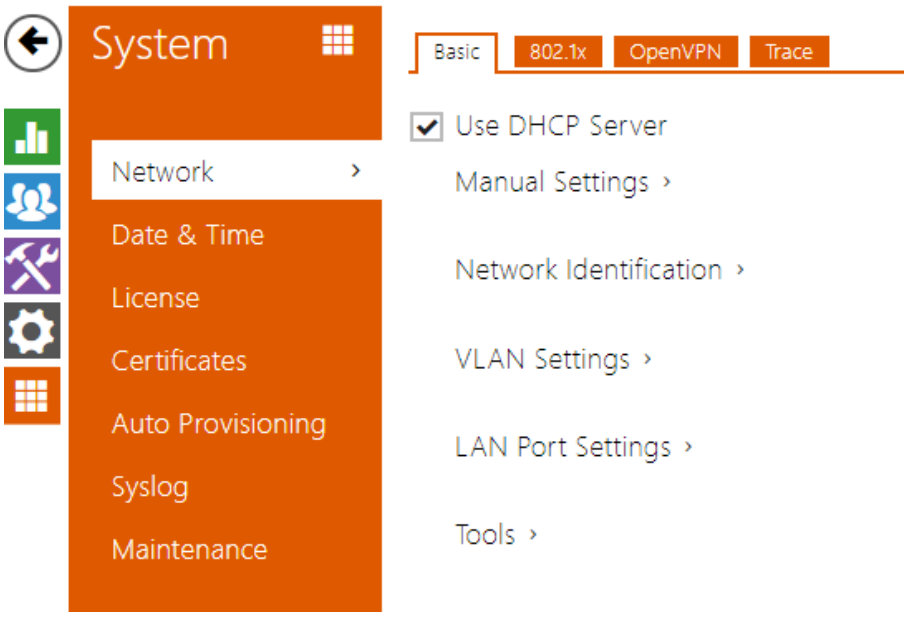
If there is no DHCP server in the network or if you need to find out the IP address of your 2N IP Intercoms you could use free software 2N® IP Network Scanner which can be downloaded from 2N web.

Or you can use the link below :

https://www.2n.cz/en_GB/products/2n-network-scanner

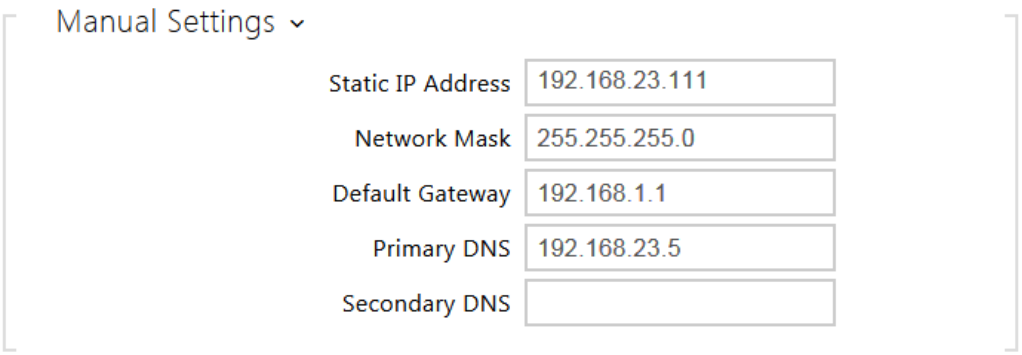
If 2N® IP Network Scanner cannot find any 2N IP Intercom then please check if your 2N IP Intercom is fully booted up and has an access to your network. 2N® IP Network Scanner can even find units that have a static IP address from a different IP address pool than your network is using. You can also change the IP address with the usage of the 2N® IP Network Scanner, just click on the 2N IP Intercom with the right mouse button and use Config.

Once in the Weg GUI of the 2N IP Intercom, the IP address is set in section:



COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

Uncheck the "Use DHCP Server" and in "Manual Settings" fill in the desired values according to your network setup, e.g.:



3.2. LAN Connection Setting - 2N Master Station

2N Master station is also by default using DHCP for automated network settings. The easiest way to change it is from the device touch screen.

Network Settings:

- Swipe down from the top of the screen to enter the control centre.
- Tap Settings -> AdvancedSettings (default password: 2N or the password you already set using Web Interface) -> Network -> WAN Port/Wi-Fi Port/VLAN/Web Server/802.1x/VPN/LLDP/CDP/NAT to configure the network.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

4. Setting calling between 2N IP Intercom and 2N Master Station

If you configure everything according to the following instructions you'll be able to automatically see video preview from intercoms when a call is received on the 2N Master Station as well as activate switches on 2N IP Intercoms which is necessary to rule C•CURE 9000 to open the Door. Additionally, you'll be able to call every 2N IP Intercom in the same network.

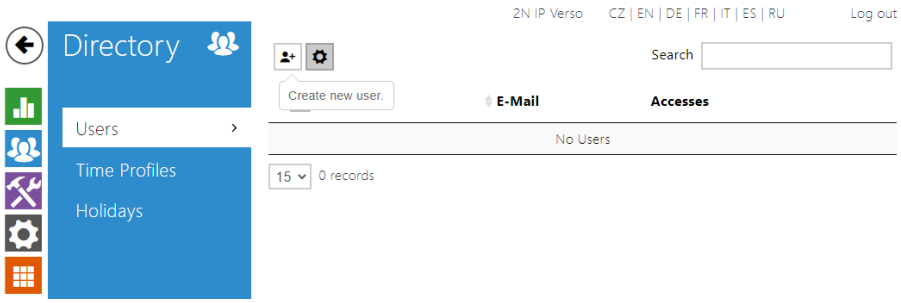
IP addresses used in the example:

- 2N IP Intercom: 10.27.24.2
- 2N Master Station: 10.27.5.211

4.1.2N IP Intercom setup

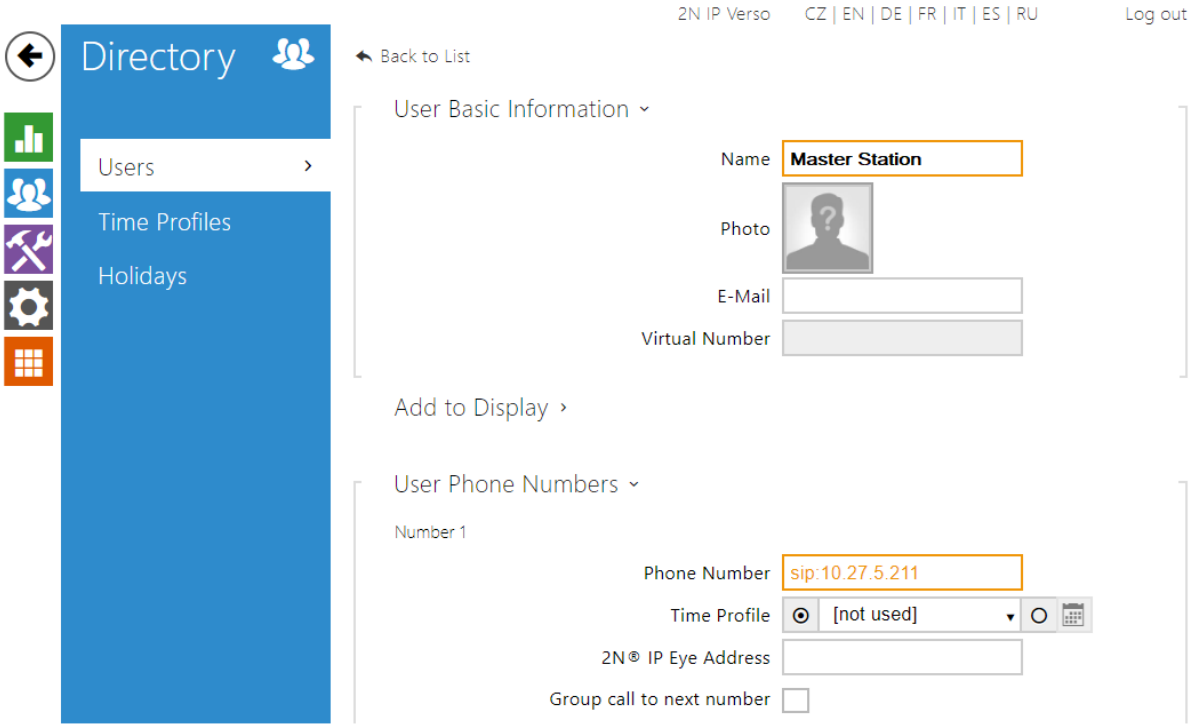
1. After you log into the intercom, go to Directory.

2. Add a new user.

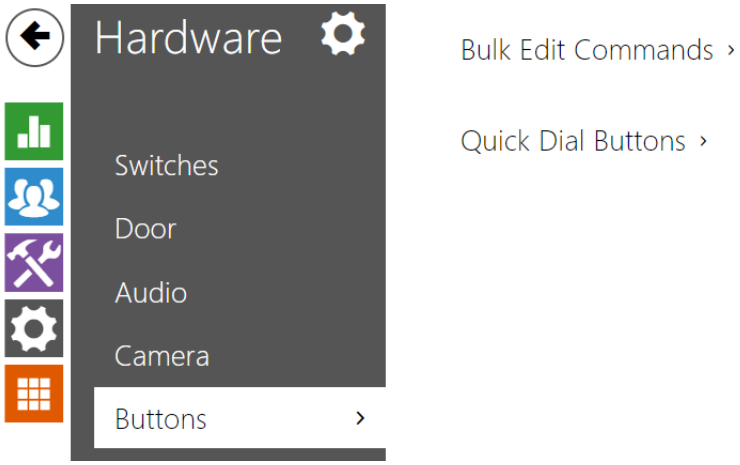


COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

3. Name the user and enter a new phone number in this format: sip:Master Station IP. In this case, it's sip:10.27.5.211.

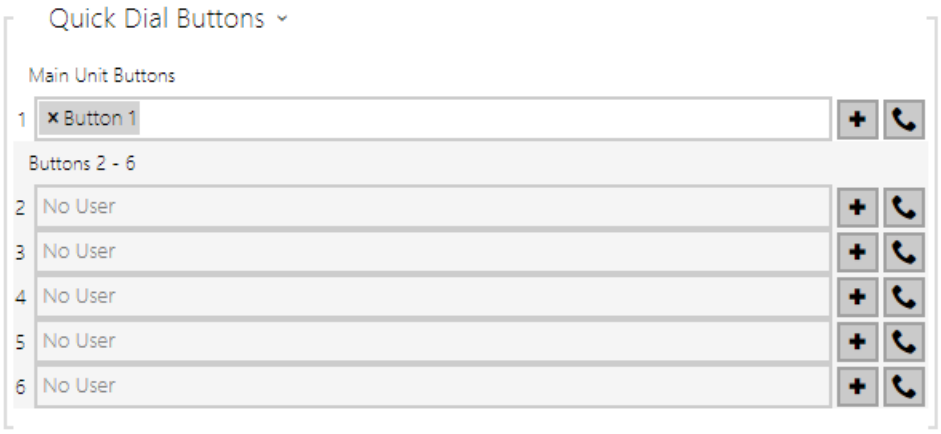


4. Assign the User(s) to the quick dial buttons

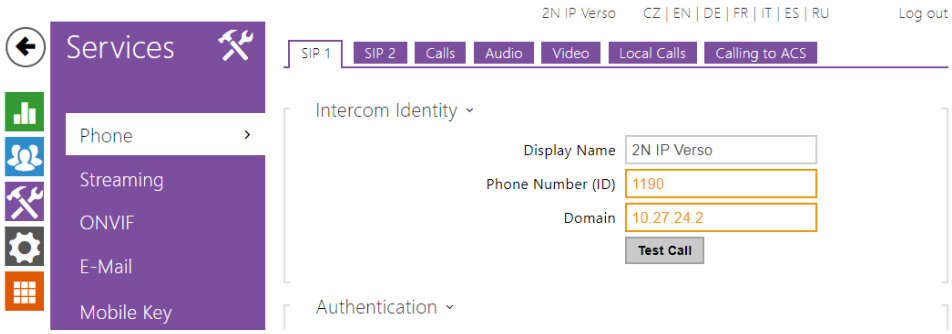


COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

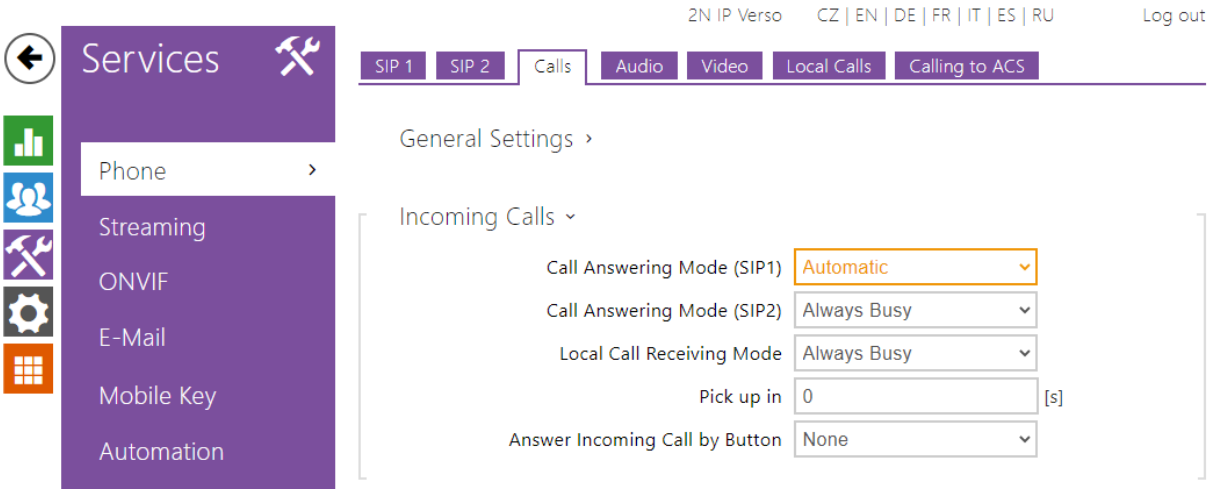
Click , select the User and press Add to add a user to the editing field. To search a user in the list, use the fulltext field and the username. One quick dial button can be shared by multiple users (16 users max).



5. The Phone Number (ID) field is used to identify the intercom in the Master Station. This will allow you to call the intercom directly from the Stations' call log or get a video preview and door unlock button.

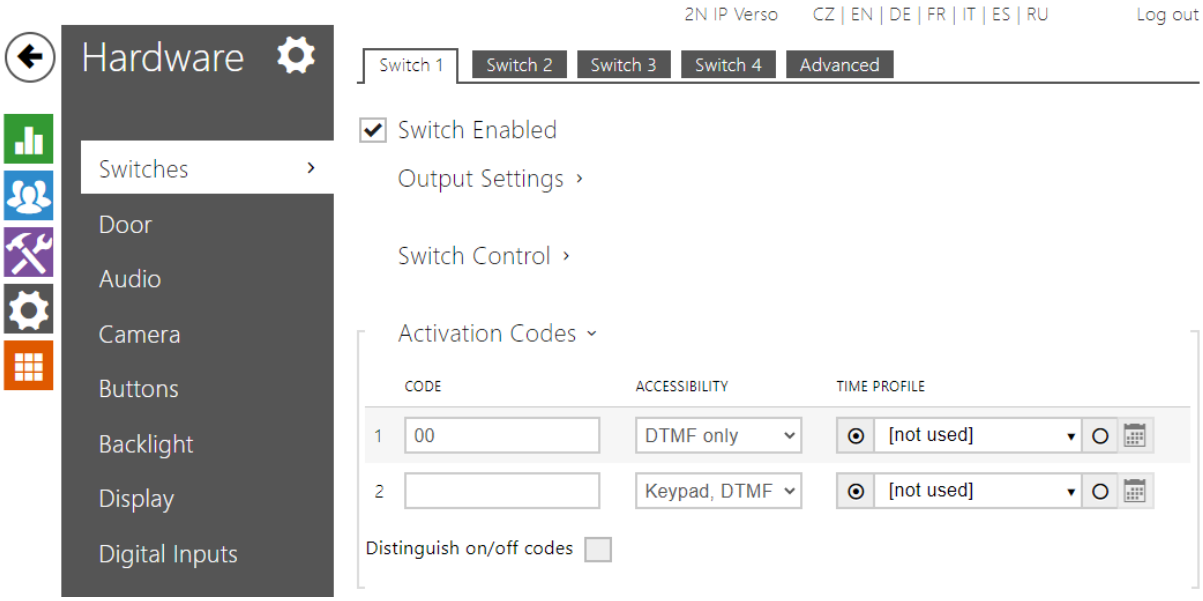


6. If you'd like the intercom to pick up calls (from the 2N Master Station) automatically, change Call receiving mode (SIP1) to Automatic.



COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

7. The Master Station offers an "Open Door" button function. To use this, you should enter the intercom's Switch Code into the Master Station's configuration to open doors without having to enter this switch code manually. Firstly, this code must be defined in the intercom's configuration: Hardware>Switches>Switch#>Switch Codes or in Directory>Users>User#>User Codes.



This code is referred to as "DTMF Code" earlier in this manual.

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

4.2.2N Master Station setup

1. Configuration of the 2N Master Station is very straightforward. Pick one of the Door Phones from the Door Phone List and set it as follows:

Device Type: 2N

Display Name: according to your preference

Phone Number: intercom's Phone Number (ID) – as configured above

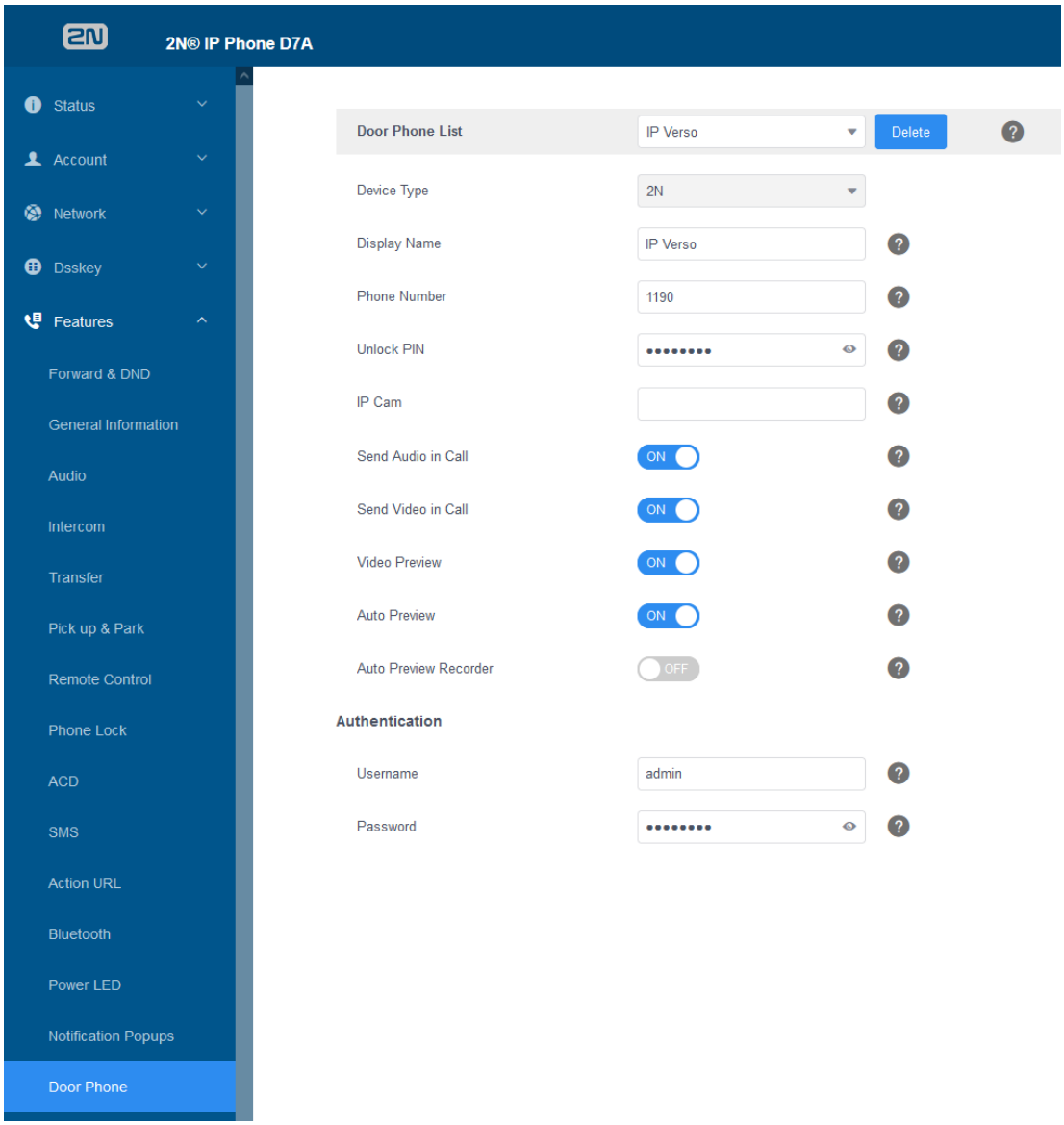
Unlock PIN: e.g. 00* – Don't forget the asterisk. This PIN must be a valid Switch code set in your intercom Switch settings. Its also "DTMF Code" in C•CURE 9000 settings.

Send Audio: Enabled

Send Video: Enabled

Video Preview: Enabled

Auto Preview: Enabled



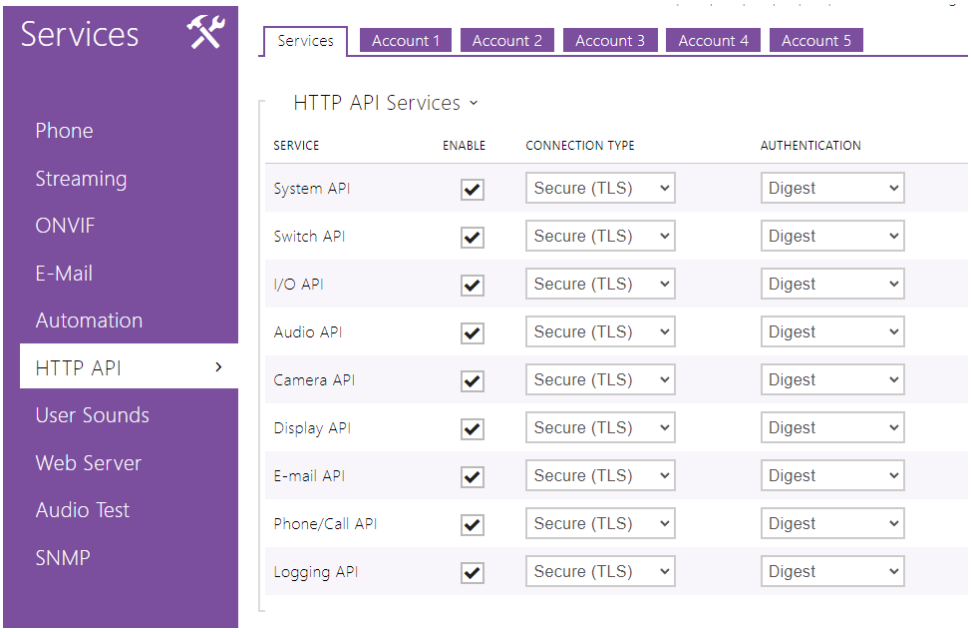
COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved

4.3.2N IP Intercom HTTP API Activation

Configuration is required on the 2N IP Intercom devices to allow the connection from C•CURE 9000.

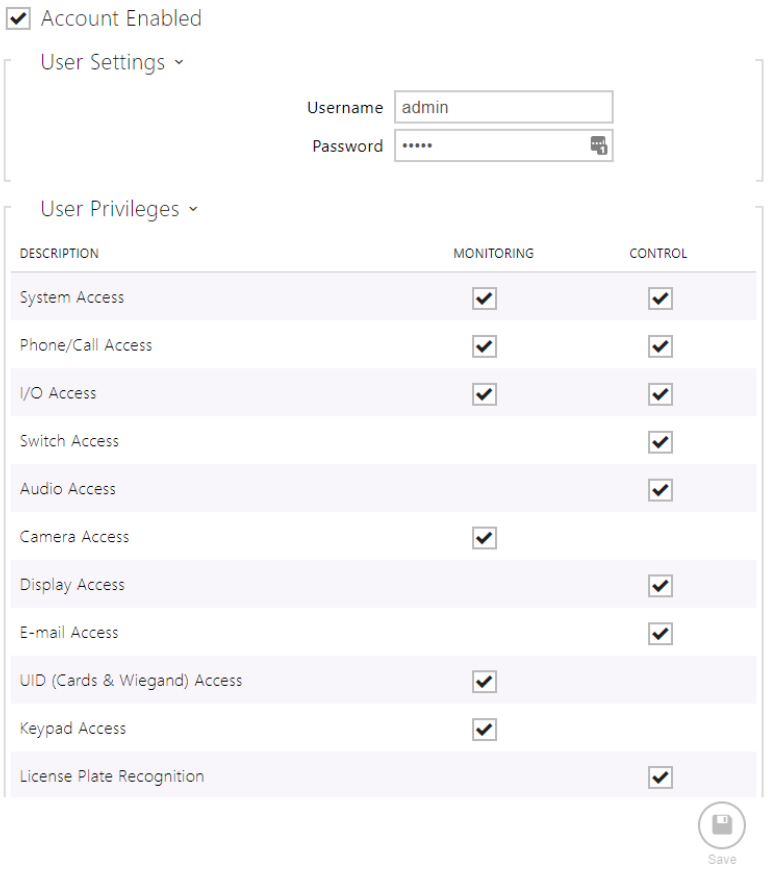
The procedure to set up the 2N devices is as follows:

- Under Services → HTTP API make sure all APIs are enabled and set to Digest Authentication. The connection type can be Secure (HTTPS) or Unsecure (HTTP), the corresponding configuration must be set on the Communication Configuration parameters later.



- Under one of the Account tabs, enable an account that will be used to connect from C•CURE 9000. Use the following User Privileges settings:

COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved



COPYRIGHT © 2022 2N Telekomunikace a.s. All rights reserved