tyco | American Dynamics

KONE Elevator System Integration for victor

User Guide

Version 5.6

November 2020 8200-1147-1251 A0

5.6

www.americandynamics.net

Johnson Controls

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Introduction

KONE Elevator System Integration Overview

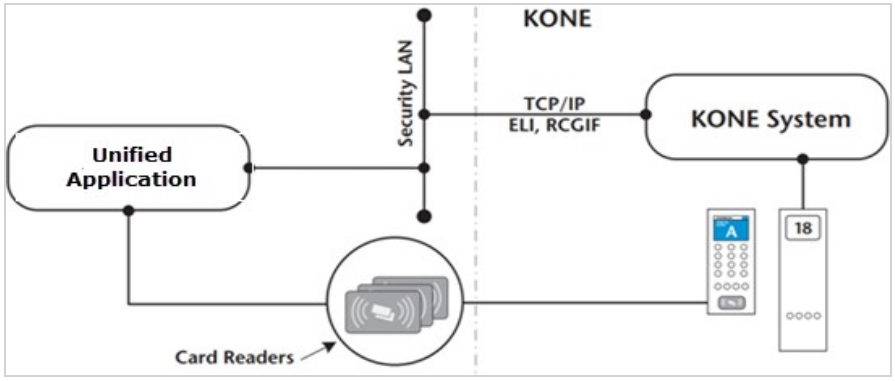
KONE Elevator System integration provides advanced, seamless integration between victor unified systems and KONE Elevator System. KONE Elevator System provides security to particular landings (floors) in a multi-level building by ensuring that only those authorized may go to a particular landing, or exit on that landing. Access to particular landings is determined through a swipe of a card to a card reader called a Destination Operation Panel (DOP) outside of the elevator or a Car Operation Panel (COP) situated inside the Elevator Car. The card reader accesses the personnel privilege assigned to a specific KONE Elevator access configuration.

This document describes the KONE Elevator System integration from within the victor environment. All the features/functionality explained are with respect to the victor platform.

Product Components

- **KONE Elevator System Client:** Used to specify connection details to KONE Elevator System.
- **KONE Elevator System Objects:** Physical or logical KONE entities within the victor environment.
- **KONE Elevator System Server Component:** The heart of the integration, facilitates and maintains communication with the KONE objects.

Figure 1: System Overview



All relevant KONE Elevator System editors are available from victor's KONE ribbon bar after driver installation.

Figure 2: Elevator Locking Interface Example

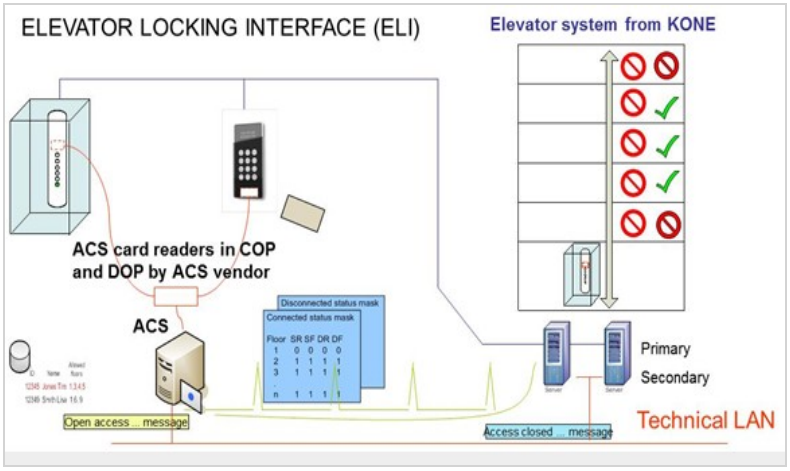


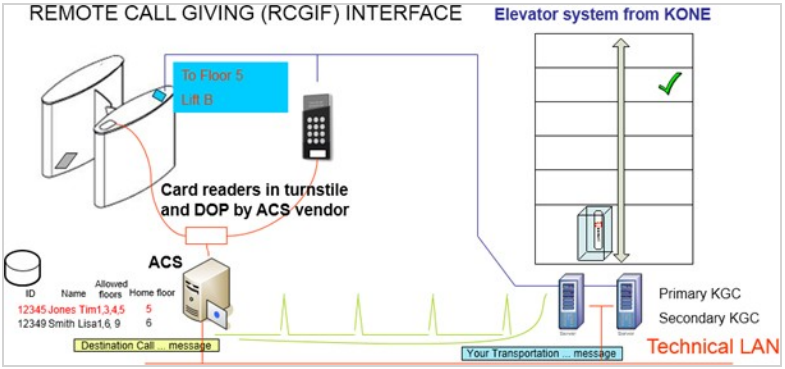
Table 1: Global Landing Matrix Configuration and Default Landing Matrix Example

Global Landing Matix		Default Landing Matrix		Clearance Landing Matrix	Floors Selectable in DOP/COP	
Connected Mask	**Disconnected Mask**	**Connected Mask**	**Disconnected Mask**		**Connected Mask**	**Disconnected Mask**
1	2	4	3	5	1,4,5	2,3
2	6	3	5	10	2,3,10	6,5

In this example, if a card is swiped, the open floors for that clearance (configured in the Clearance Landing Matrix) will be available to that individual on the DOP/COP.

If the connection is lost between the elevator system and the Unified server, the Disconnected Mask is used instead of the Connected Mask, but still functions the same way as the Global and Default Landing Matrix.

Figure 3: KONE Direct Elevator Access example



Features

The objective of the KONE Elevator System integration is to provide a standard, single interface between KONE Elevator System devices and American Dynamic's victor Unified Management product.

The following are the features supported:

- Secure access to particular floors of multi-level buildings by ensuring that only authorized personnel may go to a particular floor or exit on that floor.
- Schedule-based floor access for all personnel.
- Journaling and reporting of floor selections by personnel.
- Remote monitoring using the Activity Viewer.
- Support of up to 5 KONE Elevator systems/groups.
- Each elevator group supports a maximum of 8 elevator cabs per group – for a total of 240 elevator cabs on a unified server.

- Each elevator group supports 255 floors, and the front and rear doors of each elevator cab.
- Each landing supports up to 6 DOP devices.
- Support for Elevator Direct Access.
- Home Floor configuration allows selection of only one floor (front or rear).
- Support for Car Operating Panels (COP).
- Support for DOP without readers attached.
- Manual actions to secure or unsecure landing.
- Exemption Group can access Secured landing.
- Supports victor role respect.
- Supports Schedule actions to secure or unsecure landing.
- Provides integration with victor Object Association.
- Provides victor Client-side event management.
- Monitor devices on victor Maps and Health dashboard.
- Each elevator group controller is associated with the following IP addresses: (Integration supports a minimum of 1 controller and maximum of 5 controllers per group)
  - Server A (Mandatory)
  - Server B (Optional)
  - Server C (Optional)
  - Server D (Optional)
  - Server E (Optional)
- Communication Status supports five servers such as Server A, Server B, Server C, Server D and Server E.
- Support for configuring Global Mask to COP using check box **Send Global Mask to COP** in KONE Elevator System.
- Support for configuring Global Mask to DOP using check box **Send Global Mask to DOP** in KONE Elevator System.
- For COP Global Landing Matrix, only Destination Front and Destination Rear data is sent to KONE elevator system.
- Enhancement of RCGIF call types: Default values are 20, 21 and 23.
  - Call type 20: For normal person, call type 20 is dispatched to the KONE server.
  - Call type 21: For an ADA, call type 21 is dispatched to the KONE server.
  - Call type 23: For a VIP, call type 23 (Empty car call type) is dispatched to the KONE server.

NOTE RCGIF call types are configurable in Configuration File.

- Added check box Start the Tyco CrossFire services in the Completed KONE Integration Setup Dialog box, which enables the user to start the CrossFire services by default after the Setup is successful.
- TLS1.2 support for security

NOTE Check box **Start the Tyco CrossFire services** is selected by default, user can disable this option if not required.

Installation

Minimum Hardware Requirements

KONE elevator system integration has the same hardware requirements as victor Unified Client and victor Site Manager. Therefore, if the machine can successfully run victor then it will satisfy KONE elevator system integration requirements.

Installation

The KONE elevator system installer must be installed on both the victor Site Manager and all victor Unified Client machines.

Installing KONE Elevator system Integration to victor

1. Close any currently running programs.
2. Open a web browser (for example, Windows Internet Explorer) and navigate to http://www.americandynamics.net
3. Download the appropriate version of the KONE Integration Software Driver for your version of victor.
4. Launch the KONE Integration Software Driver.

   The **End User License Agreement** window appears.
5. Select the **I agree to the license terms and conditions** check box, and then click **Install**. For server installations running CrossFire service, the **Tyco CrossFire Service Alert** dialog box appears.
6. Click **OK** to continue with the installation.

   The **Welcome to the Integration Setup** Wizard displays.
7. Click **Next** to continue with the installation. The **Installation Options** dialog box appears.
8. If you choose to enable the driver for redundancy, select the **Redundant server installation using supported third party redundancy** check box and enter the Virtual sever (alias) name.

   Otherwise, just click **Next**.

   The **Ready to Install the Integration** dialog box appears.
9. Click **Install**.

   After a few minutes, the Completed the Integration Setup Wizard appears If you select **Cancel**, installation will roll back to clean state.

NOTE Added check box Start the Tyco CrossFire services in the Completed KONE Integration Setup Wizard, and this check box is selected by default. User can disable this option if not required.

10. Click **Finish** to complete the installation process. The **Setup Successful** dialog box appears.
11. Click **Close** to exit the Installation.

    After installation, a new group called **KONE** is available on the **Setup** tab.

Configuration File

The KONE configuration file: KoneElevatorDriverService.exe is located at `\Tyco\CrossFire\ServerComponents`. This section describes the values that you can change in KoneElevatorDriverService.exe:

NOTE If you make any changes in the configuration file you must restart the driver. Ensure that you change the values only after consulting with the product support team.

- **ServerPortNo:** Use this variable to specify the ELI port number. This port is used for communication between the ELI server and Security Server. The default value is 2005.
- **RCGIFServerPortNo:** Use this variable to specify the RCGIF port number. This port is used for communication between the RCGIF server and Security Server. The default value is 2004.
- **RCGIFCallType:** Use this variable to specify the RCGIF Call Types in Configuration File. This call type is used for communication between the RCGIF Server and Security Server. Default values are 20, 21 and 23. The following are the description for the default values:
  - Call type 20: For normal person, call type 20 is dispatched to the KONE server.
  - Call type 21: For an ADA, call type 21 is dispatched to the KONE server.
  - Call type 23: For a VIP, call type 23 (Empty car call type) is dispatched to the KONE server.
- **OldTransactionsInSeconds:** Use this variable to specify the latency. Elevator drivers rely on card activity messages from iStar and listen to journal notification. After receiving journal notification, KONE Integration drivers authorize floors and dispatch it to the Elevator system. The default value is 5 seconds, any card swipe beyond 5 seconds of latency is ignored.
- **DOPOpenTimeOut:** Use this variable to set the duration for which the landing matrix is displayed on the kiosk after a user swipes at the reader. The default value is 10000 milliseconds (10 sec).
- **SendRetriesInterval:** Use this variable to specify the duration between the retries when the Security System receives no response from the KONE server for a particular request. The default value is 5000 milliseconds (5 Sec).
- **HeartBeatTimeOut:** Use this variable to specify the timeout value for the heartbeat which is compared with the last successful heartbeat received time from the Elevator Server to the driver. This value is used to set the communication status of the Elevator server. The default value is 20000 milliseconds (20 sec).
- **COPOpenTimeOut:** Use this variable to set the duration for which the landing matrix is displayed on the kiosk after a user swipes at the reader. The default value is 10000 milliseconds (10 sec).
- **UsePerformanceCounters:** Use this variable to set performance counters for KONE integration. The default value is 0. Set this variable to 1 to turn on the performance counter.

Administration

General Hardware information

Detailed hardware information is available for all configured KONE Elevator System within victor. To access this information, select the required object from the KONE ribbon on the setup tab, then select Show All. Right-click the object you wish to view information for and select Edit. This information is also available when you right-click an object and select Edit.

victor integration information

Roles

victor roles support KONE privileges, therefore all context menu actions associated with the devices are added to existing victor roles which can be edited accordingly. For more information on Roles, refer to the victor Unified Client Configuration and User Guide.

Reports

victor's report selection tool and Find in Journal feature support KONE. For more information on Reports and the Find in Journal feature, refer to the victor Unified Client Configuration and User Guide.

Events

victor Events supports KONE objects support allowing you to detect, monitor and record specific activities on the system. For further information on Events, refer to the victor Unified Client Configuration and User Guide.

Maps

victor Maps and Find on Map features support KONE objects. For more information on Maps and the Find on Map feature, refer to the victor Unified Client Configuration and User Guide available on the American Dynamics website www.americandynamics.net

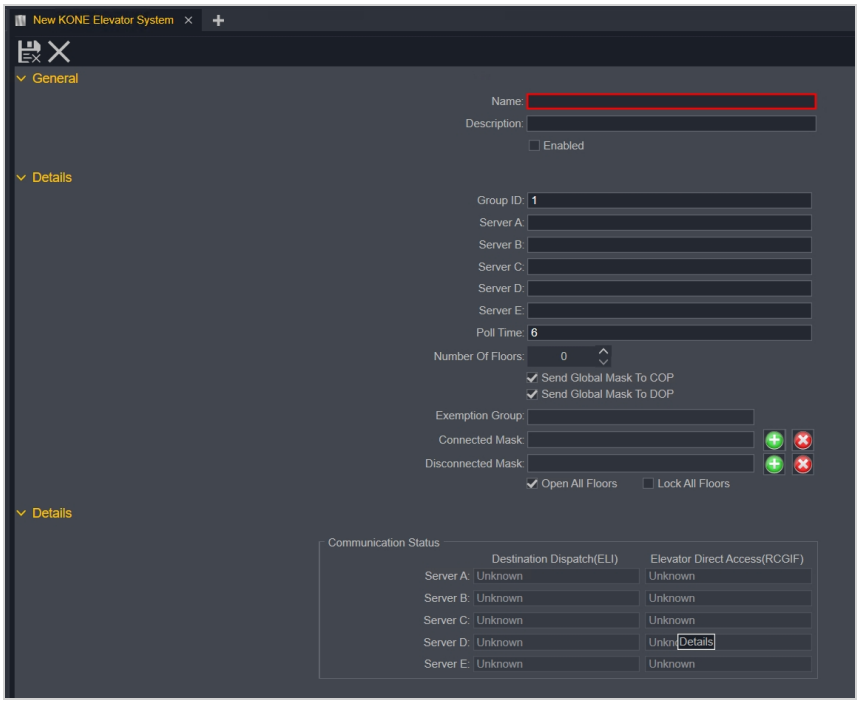
NOTE

victor editors offer various save options when creating/editing objects:

- **Save and Close** button will allow you to save the current object and close the editor.
- **Save (Apply)** button saves changes and keeps the editor open, allowing further changes to be made.
- **Save and New** button allows you to save the current object and opens a new editor to create a new object with default values populated.
- **Close** button cancels changes and closes the editor without saving.

Adding KONE Elevator System

Adding New KONE Elevator System



1. Click **New** from left hand navigation to open Create a New Item pane.
2. Navigate to **KONE** section.
3. Click on **KONE Elevator System** icon.
4. Expand the **General** expander.

Property	Description
Name	Enter a unique name for the KONE Elevator System.
Description	Enter a general description about the KONE Elevator System.
Enabled	Select the check box to establish the communication between victor and the KONE Elevator System.

5. Expand the **Details** expander.

Property	Description
Group ID	Enter the Group ID number, between 1 and 30, that identifies the elevator group.
Server A	(Mandatory) You can modify the IP address of the Server A. NOTE: IPv6 addresses are not supported.

Property	Description
Server B	(Optional) You can modify the IP address of the backup Server B. NOTE: IPv6 addresses are not supported
Server C	(Optional) You can modify the IP address of the backup Server C. NOTE: IPv6 addresses are not supported
Server D	(Optional) You can modify the IP address of the Server D. NOTE: IPv6 addresses are not supported.
Server E	(Optional) You can modify the IP address of the backup Server E. NOTE: IPv6 addresses are not supported
Poll Time	The time to poll. The value can be between 5 and 15 seconds. Default: 6 seconds.
Number of Floors	The number of floors required while sending the Landing Matrix to the KONE elevator system
Send Global Mask to COP	This check box is selected by default. This is used to send Global Landing Mask data to COP. You can disable this option if not required
Send Global Mask to DOP	This check box is selected by default. This is used to send Global Landing Mask data to DOP. You can disable this option if not required.
Exemption Group	select a pre-configured personnel group that will be exempt from the manual secure landing action. The exempt personnel group selected allows the personnel in the group access to the landing when it is in the secured state a. Click  to display the Object Selector. b. Select the name of the group from the Object Selector. c. Click **OK**.
The following fields and check boxes are not configurable until a KONE Global Landing Matrix is configured:	
Connected Mask	The Connected Mask is used when the connection between the victor and the KONE Elevator System is active. a. Click  to display the Object Selector. b. Select the name of the Global landing matrix from the Object Selector. c. Click **OK**.
Disconnected Mask	The Disconnected Mask is used when the connection between the victor and the KONE Elevator System is disconnected. a. Click  to display the Object Selector. b. Select the name of the Global landing matrix from the Object Selector. c. Click **OK**

Property	Description
Open All Floors	(Optional) Select the check box, to open all the floors when connection between the victor and the KONE Elevator system is disconnected. Select this if you have not provided any Global Landing Matrix for Disconnected Mask.
Lock All Floors	(Optional) Select the check box, to lock all the floors when connection between the victor and the KONE Elevator system is disconnected. Select this if you have not provided any Global Landing Matrix for Disconnected Mask.

6. If required, expand **Details** expander to view the details:

Property	Description
Destination Dispatch (ELI)	
Server A Communication Status Server B Communication Status Server C Communication Status Server D Communication Status Server E Communication Status	The following are the available options: ■ Online: The KONE Elevator System is configured and communicating with the server. ■ Offline: The KONE Elevator System is configured, but not communicating with the server. ■ Unknown: The status cannot be determined, usually displayed after the initial KONE Elevator System configuration while waiting for the server to update the status.
Elevator Direct Access (RCGIF)	
Server A Communication Status Server B Communication Status Server C Communication Status Server D Communication Status Server E Communication Status	The following are the available options: ■ Online: The KONE Elevator System is configured and communicating with the server. ■ Offline: The KONE Elevator System is configured, but not communicating with the server. ■ Unknown: The status cannot be determined, usually displayed after the initial KONE Elevator System configuration while waiting for the server to update the status.

7. Select **Save and Close**.

Editing KONE Elevator System

Edit KONE Elevator System

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Elevator System** icon.
4. Right-click the KONE Elevator System to be edited.
5. Select **Edit**.
6. Expand the **General** expander.

Property	Description
Name	You can modify the name for the KONE Elevator System.
Description	You can modify the description about the KONE Elevator System.
Enabled	Select the check box to establish the communication between victor and the KONE Elevator System.

7. Expand the **Details** expander.

Property	Description
Group ID	You can modify the Group ID number between 1 and 30, that identifies the elevator group.
Server A	(Mandatory) You can modify the IP address of the Server A. NOTE: IPv6 addresses are not supported.
Server B	(Optional) You can modify the IP address of the backup Server B. NOTE: IPv6 addresses are not supported
Server C	(Optional) You can modify the IP address of the backup Server C. NOTE: IPv6 addresses are not supported
Server D	(Optional) You can modify the IP address of the Server D. NOTE: IPv6 addresses are not supported.
Server E	(Optional) You can modify the IP address of the backup Server E. NOTE: IPv6 addresses are not supported
Poll Time	You can modify the time to poll. The value can be between 5 and 15 seconds. Default: 6 seconds.
Number of Floors	You can modify the number of floors required while sending the Landing Matrix to the KONE elevator system.
Send Global Mask to COP	This check box is selected by default. This is used to send Global Landing Mask data to COP. You can disable this option if not required

Property	Description
Send Global Mask to DOP	This check box is selected by default. This is used to send Global Landing Mask data to DOP. You can disable this option if not required.
Exemption Group	select a pre-configured personnel group that will be exempt from the manual secure landing action. The exempt personnel group selected allows the personnel in the group access to the landing when it is in the secured state. a. Click  to display the Object Selector. b. Select the name of the group from the Object Selector. c. Click OK.
The following fields and check boxes are not configurable until a KONE Global Landing Matrix is configured:	
Connected Mask	The Connected Mask is used when the connection between the victor and the KONE Elevator System is active. a. Click  to display the Object Selector. b. Select the name of the Global landing matrix from the Object Selector. c. Click OK.
Disconnected Mask	The Disconnected Mask is used when the connection between the victor and the KONE Elevator System is disconnected. a. Click  to display the Object Selector. b. Select the name of the Global landing matrix from the Object Selector. c. Click OK
Open All Floors	(Optional) Select the check box, to open all the floors when connection between the Victor and the KONE Elevator system is disconnected. Select this if you have not provided any global landing matrix for Disconnected Mask.
Lock All Floors	(Optional) Select the check box, to lock all the floors when connection between the Victor and the KONE Elevator system is disconnected. Select this if you have not provided any global landing matrix for Disconnected Mask.

8. If required, expand Details expander to view the details:

Property	Description
Destination Dispatch (ELI)	

Property	Description
Server A Communication Status Server B Communication Status Server C Communication Status Server D Communication Status Server E Communication Status	The following are the available options: ■ **Online:** The KONE Elevator System is configured and communicating with the server. ■ **Offline:** The KONE Elevator System is configured, but not communicating with the server. ■ **Unknown:** The status cannot be determined, usually displayed after the initial KONE Elevator System configuration while waiting for the server to update the status.
Elevator Direct Access (RCGIF)	
Server A Communication Status Server B Communication Status Server C Communication Status Server D Communication Status Server E Communication Status	The following are the available options: ■ **Online:** The KONE Elevator System is configured and communicating with the server. ■ **Offline:** The KONE Elevator System is configured, but not communicating with the server. ■ **Unknown:** The status cannot be determined, usually displayed after the initial KONE Elevator System configuration while waiting for the server to update the status.

9. Select **Save and Close**.

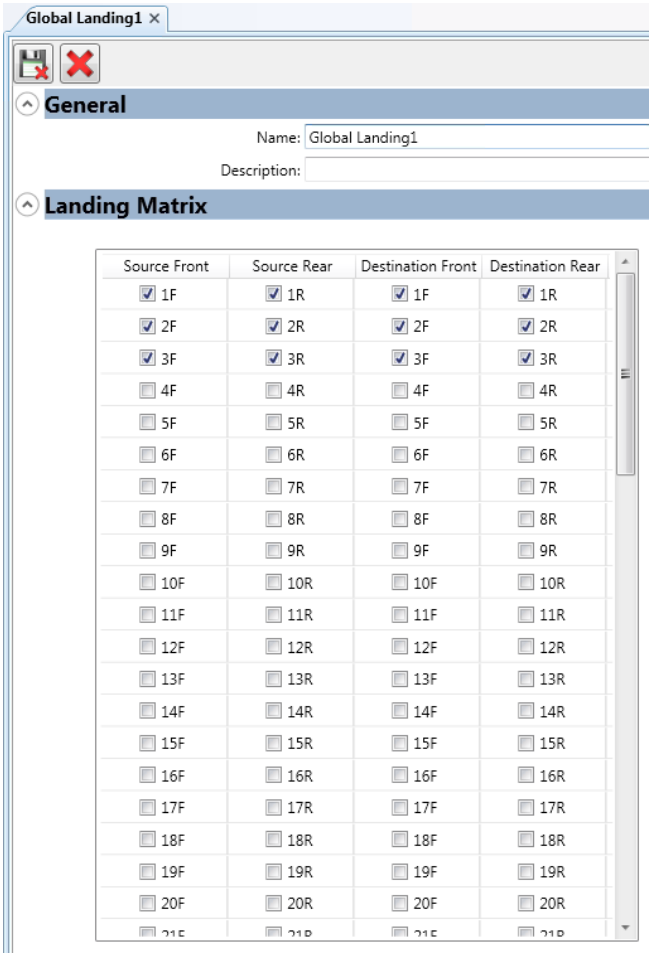
Adding KONE Global Landing Matrix

The KONE Global Landing Matrix is used to configure the Destination Front, Destination Rear, Source Front, and Source Rear floors of the elevator system. User can configure Global Landing Matrix from 1 to 255.

If an elevator system configured is with a global landing matrix and a DOP/COP is associated with another landing matrix, the global landing matrix is used by all DOPs/COPs in the elevator system.

NOTE

- COP Global Landing Matrix: only Destination Front and Destination Rear data is sent to KONE elevator system.
- DOP Global Landing Matrix: Destination Front, Destination Rear, Source Front, and Source Rear data is sent to the elevator system.



Adding KONE Global Landing Matrix

1. Click **New** from left hand navigation to open Create a New Item pane.
2. Navigate to **KONE** section.
3. Click the **KONE Global Landing Matrix** icon.
4. Expand the **General** expander.

Property	Description
Name	Enter a unique name up to 100 characters long for the KONE Global Landing Matrix.
Description	Enter a general description, up to 500 characters, to identify the KONE Global Landing Matrix.

5. Expand the **Landing Matrix** expander.

Property	Description
Source Front	Select the check box to allow access to the front side of the floor from where the passenger can enter the elevator. you want. The floor selected is included in the global landing matrix configuration.
Source Rear	Select the check box to allow access to the rear side of the floor from where the passenger can enter the elevator. The floor selected is included in the global landing matrix configuration.
Destination Front	Select the check box to allow access to the front side of the floor from where the passenger can exit the elevator. The floor selected is included in the global landing matrix configuration.
Destination Rear	Select the check box to allow access to the rear side of the floor from where the passenger can exit the elevator. The floor selected is included in the global landing matrix configuration.

6. Select **Save and Close**.

Editing KONE Global Landing Matrix

Edit KONE Global Landing Matrix

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Global Landing Matrix** icon.
4. Right-click the KONE Global Landing Matrix to be edited.
5. Select **Edit**.
6. Expand the **General** expander.

Property	Description
Name	You can modify the name of the KONE Global Landing Matrix.
Description	You can modify the description, of the KONE Global Landing Matrix.

7. Expand the **Landing Matrix** expander.

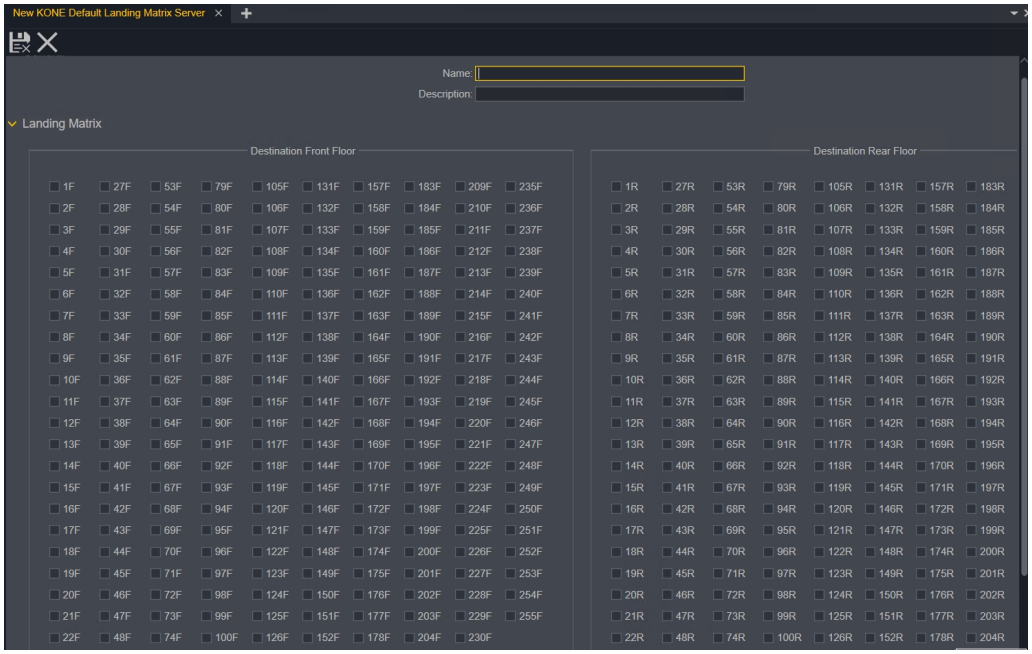
Property	Description
Source Front	Select the check box to allow access to the front side of the floor from where the passenger can enter the elevator. you want. The floor selected is included in the global landing matrix configuration.

Property	Description
Source Rear	Select the check box to allow access to the rear side of the floor from where the passenger can enter the elevator. The floor selected is included in the global landing matrix configuration.
Destination Front	Select the check box to allow access to the front side of the floor from where the passenger can exit the elevator. The floor selected is included in the global landing matrix configuration.
Destination Rear	Select the check box to allow access to the rear side of the floor from where the passenger can exit the elevator. The floor selected is included in the global landing matrix configuration.

8. Select **Save and Close**.

Adding KONE Default Landing Matrix

The KONE Default Landing Matrix is used to configure a common access Landing Matrix with no personnel clearances. User can configure up to 255 front and 255 rear doors.



Adding KONE Default Landing Matrix

1. Click **New** from left hand navigation to open Create a New Item pane.
2. Navigate to **KONE** section.
3. Click on **KONE Default Landing Matrix** icon.
4. Expand the **General** expander.

Property	Description
Name	Enter a unique name up to 100 characters long for the KONE Default Landing Matrix.
Description	Enter a general description, up to 500 characters, to identify the KONE Default Landing Matrix.

5. Expand the **Landing Matrix** expander.

Property	Description
Destination Front Floor	Select the check box to allow access to the front door of the destination floor. For example, If you need access to the 10th floor front door, select 10F check box. You can select Front Door or Rear Door or both.
Destination Rear Floor	Select the check box to allow access to the rear door of the destination floor. For example, If you need access to the 10th floor rear door, select 10R check box. You can select Front Door or Rear Door or both.

6. Select **Save and Close**.

Editing KONE Default Landing Matrix

Edit KONE Default Landing Matrix

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Default Landing Matrix** icon.
4. Right-click the KONE Default landing matrix.
5. Select **Edit**.
6. Expand the **General** expander.

Property	Description
Name	You can modify the KONE Default Landing Matrix.
Description	You can modify the description for the KONE Default Landing Matrix.

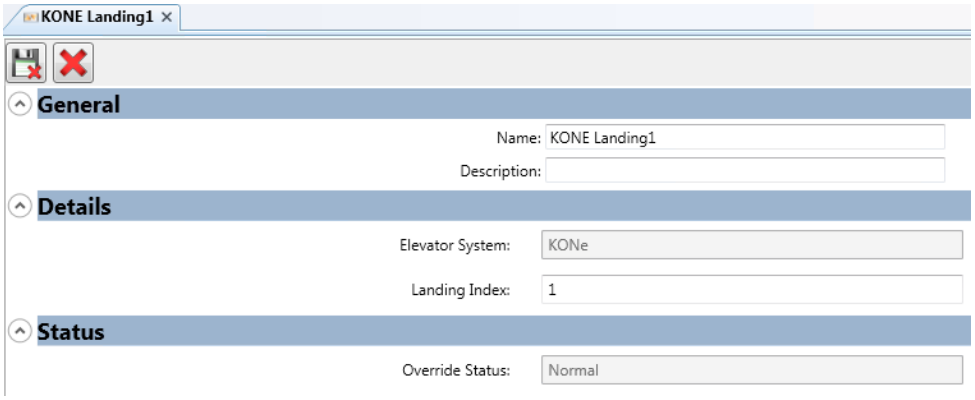
7. Expand the **Landing Matrix** expander.

Property	Description
Destination Front Floor	Select the check box to allow access to the front door of the destination floor. For example, If you need access to the 10th floor front door, select 11F check box. You can select Front Door or Rear Door or both.
Destination Rear Floor	Select the check box to allow access to the rear door of the destination floor. For example, If you need access to the 10th floor rear door, select 11R check box. You can select Front Door or Rear Door or both.

8. Select **Save and Close**.

Adding KONE Landing

The KONE Landing lets you configure a landing to be used by the Elevator System.



Add KONE Landing

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Elevator System** icon.
4. Right-click the KONE Elevator System for which you need to add Landing.
5. Select **New KONE Landing**.
6. Expand the **General** expander.

Property	Description
Name	Enter a unique name up to 100 characters long to identify the KONE Landing.
Description	Enter a general description, up to 500 characters, about the KONE Landing.

7. Expand the **Details** expander.

Property	Description
Elevator System	The name of the KONE elevator system for which the landing is been added. This field is read-only.
Landing Index	Enter a value between 1 and 255 for the landing. Landing index is the index associated with Landing.

8. If required, expand **Status** expander to view Status relating to those fields:

Property	Description
Override Status	Displays the override details of the floor object. This field is read-only.

9. Select **Save and Close**.

Editing KONE Landing

Edit KONE Landing

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Landing** icon.
4. Right-click the KONE Landing to be edited.
5. Select **Edit**.
6. Expand the **General** expander.

Property	Description
Name	You can modify the name of the KONE Landing. Ensure that the name is unique.
Description	You can modify description about the KONE Landing.

7. Expand the **Details** expander.

Property	Description
Elevator System	The name of the KONE elevator system for which the landing is been added. This field is read-only.
Landing Index	You can modify the Landing index.

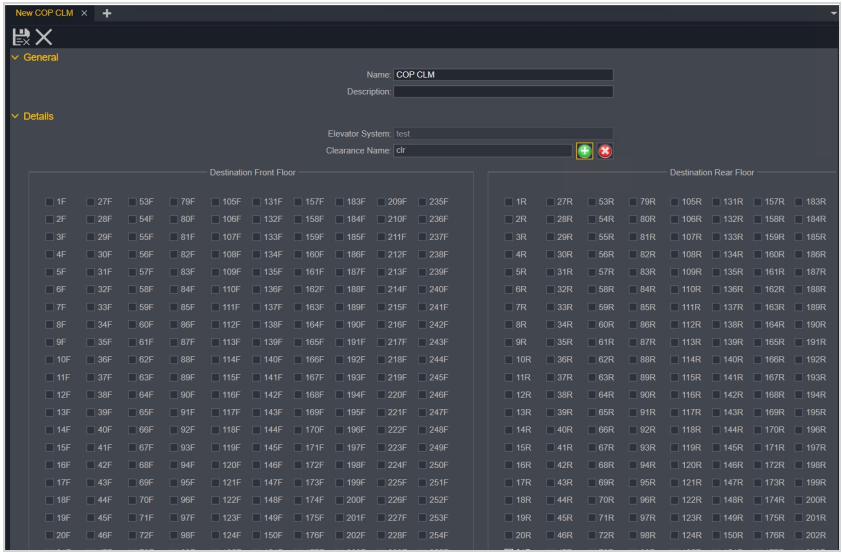
8. If required, expand **Status** expander to view Status relating to those fields:

Property	Description
Override Status	Displays the override details of the floor object. This field is read-only.

9. Select **Save and Close**.

Adding KONE COP Clearance Landing Matrix

The KONE COP Clearance Landing Matrix is used to define up to 255 front and 255 rear doors that can be accessed by cardholders that have a clearance associated with the landing matrix.



Add KONE COP Clearance Landing Matrix

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Elevator System** icon.
4. Right-click the KONE Elevator System for which you need to add KONE COP Clearance Landing Matrix.
5. Select **New KONE COP Clearance Landing Matrix**.
6. Expand the **General** expander.

Property	Description
Name	Enter a unique name up to 100 characters long for the KONE COP Clearance Landing Matrix.
Description	Enter a general description, up to 500 characters, to identify the KONE COP Clearance Landing Matrix.

7. Expand the **Details** expander.

Property	Description
Elevator System	The name of the elevator system for which you need to add a clearance Landing matrix.
Clearance Name	This field is used to select the clearance that allows access to the Door with a reader that a person swipes their card to get authorization to use the landing. Click  to display the Objector selector. Select the Clearance from the Object Selector. Click OK. Note: Clearance can be created in C Cure 9000 application only.
Destination Front Floor	Select the check box next to the floor number to allow access to the front door of the destination floor. For example, If you need access to the 10th floor front door, select 10F check box. Note: F represents Front Door.
Destination Rear Floor	Select the check box next to the floor number to allow access to the rear door of the destination floor. For example, If you need access to the 10th floor rear door, select 10R check box. Note: R represents Rear Door.

8. Select **Save and Close**.

Editing KONE COP Clearance Landing Matrix

Edit KONE COP Clearance Landing Matrix

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE COP Landing Matrix** icon.
4. Right-click the KONE COP Clearance Landing Matrix to be edited.
5. Select **Edit**.
6. Expand the **General** expander.

Property	Description
Name	You can modify the name of the KONE COP Clearance Landing Matrix.
Description	You can modify the description for the KONE COP Clearance Landing Matrix.

7. Expand the **Details** expander.

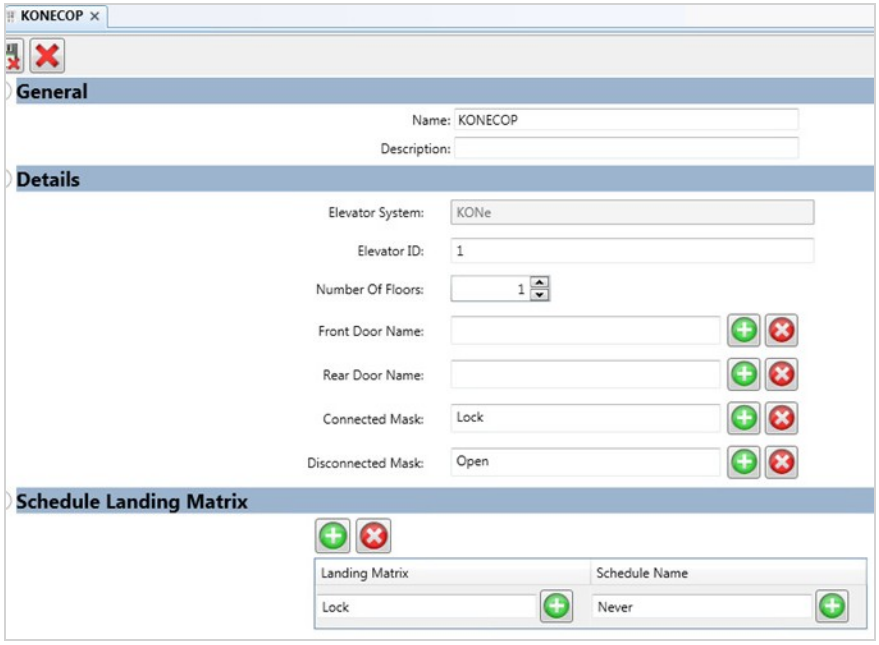
Property	Description
Elevator System	The name of the elevator system for which you need to add a clearance Landing matrix. This field is read-only.
Clearance Name	This field is used to select the clearance that allows access to the Door with a reader that a person swipes their card to get authorization to use the landing. a. Click  to display the Objector selector. b. Select the Clearance from the Object Selector c. Click **OK**. **Note:** Clearance can be created in C Cure 9000 application only.
Destination Front Floor	Select the check box next to the floor number to allow access to the front door of the destination floor. For example, If you need access to the 10th floor front door, select 10F check box. Note: F represents Front Door.
Destination Rear Floor	Select the check box next to the floor number to allow access to the rear door of the destination floor. For example, If you need access to the 10th floor rear door, select 10R check box. Note: R represents Rear Door.

8. Select **Save and Close**.

Adding KONE COP

The KONE COP is used to control door operations for each floor inside the elevator. The following must be configured before you can configure the COP

- KONE Elevator System (See Adding KONE Elevator System on page 9)
- KONE Default Landing Matrix (See Adding KONE Default Landing Matrix on page 20)
- KONE Landing (See Adding KONE Landing on page 23)



Add KONE COP

1. Click **Show All** from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Elevator System** icon.
4. Right-click the KONE Elevator System for which you need to add COP.
5. Select **New KONE COP**.
6. Expand the **General** expander.

Property	Description
Name	Enter a unique name up to 100 characters long for the KONE COP.
Description	Enter a general description, up to 500 characters, to identify the KONE COP.

7. Expand the **Details** expander.

Property	Description
Elevator System	(Read only) The name of the elevator system for which you need to add a KONE COP.
Elevator ID	ID of the Elevator (CAR). Enter the numeric value between 1 and 255.

Property	Description
Number of Floors	The number of floors required while sending the Landing Matrix to the KONE Group configuration. Select the number from 1 to 255.
Front Door Name	You can map the front door to the KONE COP system. 1. Click to display the Object Selector. 2. Select the Door from the Object Selector. 3. Click **OK**. The Door is retrieved from C•CURE 9000.
Rear Door Name	You can map the rear door to the KONE COP system. 1. Click to display the Object Selector. 2. Select the Door from the Object Selector. 3. Click **OK**.
Connected Mask	The Connected Mask is used when the connection between the victor and the KONE Elevator System is active. 1. Click to display the Object Selector. 2. Select the KONE Default Landing Matrix from the Object Selector. 3. Click **OK**.
Disconnected Mask	The Disconnected Mask is used when the connection between the victor and the KONE Elevator System is disconnected. or System is active. 1. Click to display the Object Selector. 2. Select the KONE Default Landing Matrix from the Object Selector. 3. Click **OK**.

4. If required, expand **Schedule Landing Matrix** expander to map a Landing matrix and Schedule matrix to a Kiosk.
   a. Click to add a row.
   b. Click in the Landing Matrix field to display the Object Selector.
   c. Select the Landing Matrix from the Object Selector and click **OK**.
   d. Click in the Schedule Name field to display the Object Selector.
   e. Select the Schedule Name from the Object Selector and click **OK**.
5. Select **Save and Close**.

Editing KONE COP

Edit KONE COP

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE COP** icon.
4. Right-click the KONE COP to be edited.
5. Select **Edit**.
6. Expand the **General** expander.

Property	Description
Name	You can modify the name of the KONE COP.
Description	You can modify the description of the KONE COP.

7. Expand the **Details** expander.

Property	Description
Elevator System	(Read only) The name of the elevator system for which you need to add a KONE COP.
Elevator ID	ID of the Elevator (CAR). You can modify Elevator ID, whicj is the numeric value between 1 and 255.
Number of Floors	You can modify number of floors required while sending the Landing Matrix to the KONE Group configuration. Select the number from 1 to 255.
Front Door Name	You can map the front door to the KONE COP system. a. Click  to display the Object Selector. b. Select the Door from the Object Selector. c. Click **OK**. The Door is retrieved from C•CURE 9000.
Rear Door Name	You can map the rear door to the KONE COP system. a. Click  to display the Object Selector. b. Select the Door from the Object Selector. c. Click **OK**.

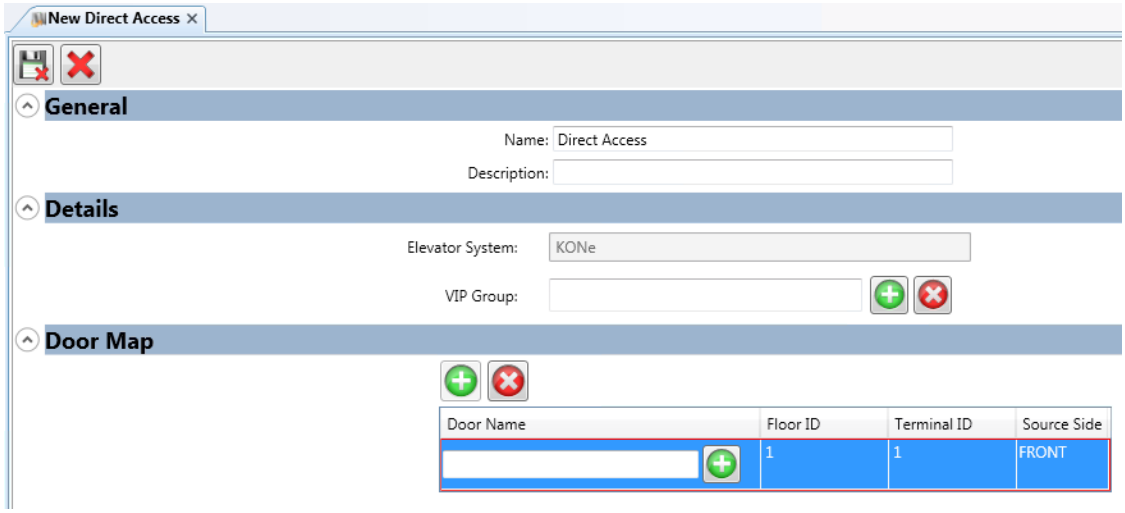
Property	Description
Connected Mask	The Connected Mask is used when the connection between the victor and the KONE Elevator System is active. a. Click  to display the Object Selector. b. Select the KONE Default Landing Matrix from the Object Selector. c. Click **OK**.
Disconnected Mask	The Disconnected Mask is used when the connection between the victor and the KONE Elevator System is disconnected or System is active. a. Click  to display the Object Selector. b. Select the KONE Default Landing Matrix from the Object Selector. c. Click **OK**.

8. If required, expand **Schedule Landing Matrix** expander to map a Landing matrix and Schedule Name to a KONE COP.
   a. Click  to add a row.
   b. Click  in the Landing Matrix field to display the Object Selector.
   c. Select the Landing Matrix from the Object Selector and click **OK**.
   d. Click  in the Schedule Name field to display the Object Selector.
   e. Select the Schedule Name from the Object Selector and click **OK**.
9. Select **Save and Close**.

Adding KONE Direct Elevator Access

To facilitate Direct Access to pre-configured personnel group, the KONE Direct Elevator Access is used to send calls to KONE Elevator System. The call types can be Normal, ADA and VIP calls. Only one instance of direct elevator access can be assigned for each KONE group configuration.

NOTE Only one instance of direct elevator access can be assigned for each KONE group configuration.



Remote Call Giving Interface (RCGIF):

KONE Elevator Integration supports custom call type which can be configured in Configuration File. The following default call types are supported by KONE Elevator Integration:

Call Type	Description
Call Type	Description
20	For normal person, call type 20 is dispatched to the KONE server.
21	For an ADA, call type 21 is dispatched to the KONE server.
22	KONE Elevator Integration does not support Priority call types.
23	For a VIP, call type 23 (Empty car call type) is dispatched to the KONE server.
24	KONE Elevator Integration does not support Space allocation call type.

Adding KONE Direct Elevator Access

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Elevator System** icon.
4. Right-click the KONE Elevator System for which you need to add KONE Direct Elevator Access.
5. Select **New KONE Direct Elevator Access**.
6. Expand the **General** expander.

Property	Description
Name	Enter a unique name up to 100 characters long for the KONE Direct Elevator System.
Description	Enter a general description, up to 500 characters, to identify the KONE Direct Elevator System.

7. Expand the **Details** expander.

Property	Description
Elevator System	(Read only) The name of the elevator system for which you need to add a Direct Access.
VIP Group	a. Click  to display the Object Selector. b. Select the personnel group from the Object Selector. c. Click **OK**. The personnel in this group will be treated as VIP. **Note**: For a person who is a part of the VIP group, call type 3 (Empty car call type) is dispatched to KONE.

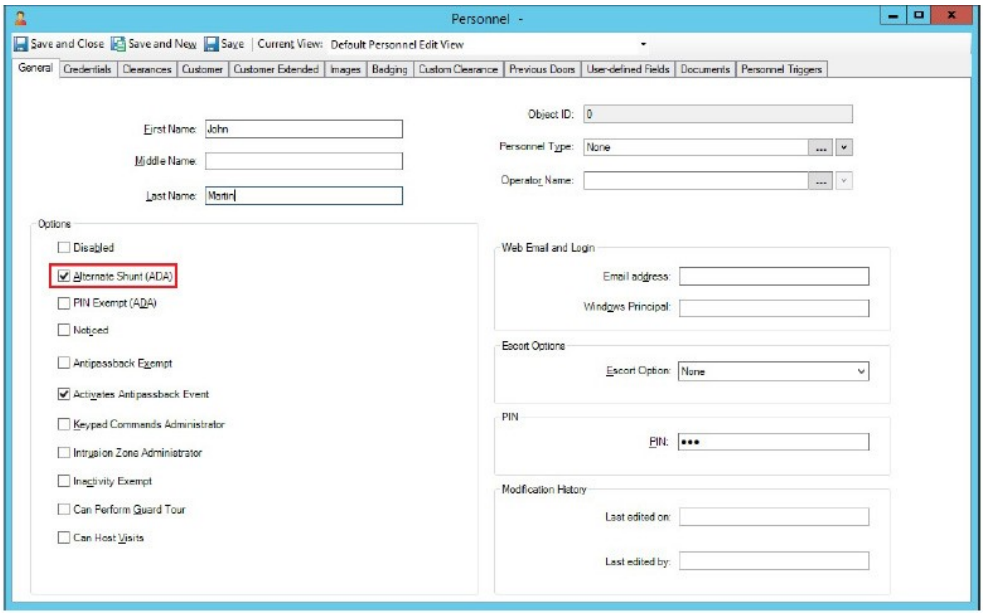
8. Expand the Door Map expander to select a pre-configured door which is retrieved from the C•CURE 9000.
   a. Click  to add a row.
   b. Click  in the Door Name field to display the Object Selector.
   c. Select the Door from the Object Selector and click **OK**.
   d. Enter the Floor ID.

      Floor ID is the floor from where the user is making the call. Enter a numeric value from 1 to 255.
   e. Enter the Terminal ID.

      Terminal ID is the identification of the passenger terminal. Enter a numeric value of 1 to 200.
   f. Select Front or Rear side of the door from the Source Slide list.

      To configure the front and rear door to allow direct elevator access you must configure the Source Side front and the Source Side rear door separately.
9. Select **Save and Close**.

NOTE To assign ADA call type for people with disabilities, go the Personnel dialogue box and select the Alternate Shunt (ADA) check box in the General tab. For people with disabilities, call type 1 is dispatched to the KONE server.



Editing KONE Direct Elevator Access

Edit KONE Direct Elevator Access

1. Click **Show All** from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Direct Elevator Access** icon.
4. Right-click the KONE Direct Elevator Access to be edited.
5. Select **Edit**.
6. Expand the **General** expander.

Property	Description
Name	You can modify the name of the KONE Direct Elevator System.
Description	You can modify the description, of the KONE Direct Elevator System.

7. Expand the **Details** expander.

Property	Description
Elevator System	(Read only) The name of the elevator system for which you need to add a Direct Access.
VIP Group	a. Click  to display the Object Selector. b. Select the personnel group from the Object Selector. c. Click **OK**. The personnel in this group will be treated as VIP.

8. Expand the **Door Map** expander to select a pre-configured door which is retrieved from the C•CURE 9000.
   a. Click  to add a row.
   b. Click  in the Door Name field to display the Object Selector.
   c. Select the Door from the Object Selector and click **OK**.
   d. Enter the Floor ID.

      Floor ID is the floor from where the user is making the call. Enter a numeric value from 1 to 255.
   e. Enter the Terminal ID.

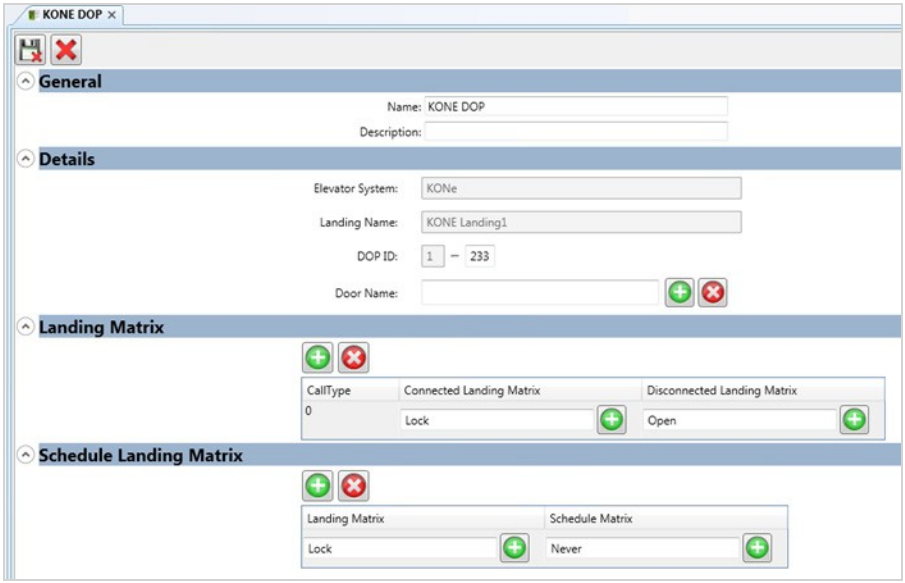
      Terminal ID is the identification of the passenger terminal. Enter a numeric value of 1 to 200.
   f. Select Front or Rear side of the door from the Source Slide list.

      To configure the front and rear door to allow direct elevator access you must configure the Source Side front and the Source Side rear door separately.
9. Select **Save and Close**.

Adding KONE DOP

The KONE DOP is used to configure a DOP and to select a pre-configured door. Before you configure the KONE DOP, ensure the following are configured:

- KONE Elevator System. See Adding KONE Elevator System on page 9
- KONE Default Landing Matrix. See Adding KONE Default Landing Matrix on page 20
- KONE Landing. See Adding KONE Landing on page 23



Adding KONE DOP

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Elevator System** icon.
4. Right-click the KONE Elevator System for which you need to add DOP.
5. Select **New DOP**.
6. Expand the **General** expander.

Property	Description
Name	Enter a unique name up to 100 characters long for the KONE Default Landing Matrix.
Description	Enter a general description, up to 500 characters, to identify the KONE Default Landing Matrix

7. Expand the **Details** expander.

Property	Description
Elevator System	The name of the KONE Elevator System This field is read-only
Landing Name	The textual description for the landing.
DOP ID	The DOP and the Floor ID. The first field is the Floor ID and the second field is the DOP ID (a unique numeric identifier between 1 and 255).
Door Name	Pre-configured door

8. Expand the **Landing Matrix** expander.

Property	Description
Call Type	The Call Type number defines functions configured in KONE Group Controller. Enter the numeric value between 0 to 200. The common call types defined by KONE are: ■ Type 0 – Normal ■ Type 1 – ADA ■ Type 2 – Priority ■ Type 3 – Empty Car Call Types from 4 to 200 are configurable.
Connected Landing Matrix	The Connected Landing Matrix is used when the connection between the victor and the KONE Elevator System is active. The KONE Elevator System automatically loads the selected default landing matrix to specific DOPs in the elevator system.
Disconnected Landing Matrix	The Disconnected Landing Matrix is used when the connection between the victor and the KONE Elevator System is disconnected. The KONE Elevator System automatically loads the selected default landing matrix to specific DOPs in the elevator system.

9. Expand the **Schedule landing Matrix** expander

Property	Description
Landing Matrix	The default landing matrix configuration selected.
Schedule	The schedule selected for the default landing matrix configuration.

10. Select **Save and Close**.

Editing KONE DOP

Edit KONE DOP

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE DOP** icon.
4. Select **Edit**.
5. Expand the **General** expander.

Property	Description
Name	You can modify the KONE Default Landing Matrix.
Description	You can modify the description for the KONE Default Landing Matrix.

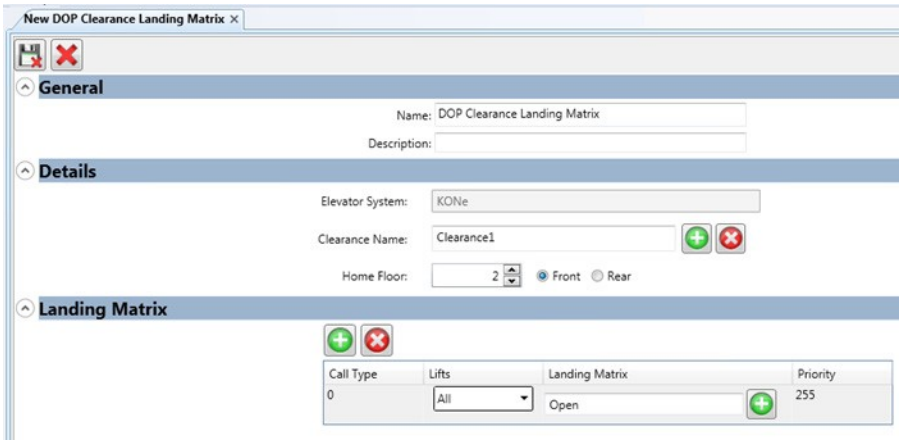
6. Expand the **Landing Matrix** expander.

Property	Description
Destination Front Floor	Select the check box to allow access to the front door of the destination floor. For example, If you need access to the 10th floor front door, select 11F check box. You can select Front Door or Rear Door or both.
Destination Rear Floor	Select the check box to allow access to the rear door of the destination floor. For example, If you need access to the 10th floor rear door, select 11R check box. You can select Front Door or Rear Door or both.

7. Select **Save and Close**.

Adding KONE DOP Clearance Landing Matrix

The KONE DOP Clearance Landing Matrix is used to define up to 255 front and 255 rear doors that can be accessed by cardholders that have a clearance associated with the landing matrix. A call placed at a high priority is often configured in KONE to provide the next available elevator to the individual who places the priority elevator request. Depending on the configuration of the KONE system, the priority request may automatically be part of the floor selected, or it may be an option to the individual at the time of floor selection to make that floor selection a priority request.



Elevator Locking Interface (ELI)

For an Elevator Locking Interface (ELI), you can use any call type from 0 to 200. 0 is the default value for the Normal call type. If a landing matrix is configured with the call type 0, the Normal call type is dispatched to KONE server.

It is recommended:

- Not to configure disabled call type with any other call type.
- To have separate landing matrix for disabled call types based on the clearance.

For example: Call type 1 is assigned at a site for all people with disabilities.

John is disabled and he has the clearance: clearance_disabled. The clearance_disabled is assigned to a landing matrix which has the call type 1 and access to the 4th floor only. When John swipes, call type 1 with access to the 4th floor is dispatched to the KONE server.

Now, another landing matrix is assigned to clearance_disabled, which has call type 2 and access to the 7th floor. When John swipes, call type 1 with access to the 4th floor and call type 2 with access to 7th floor are dispatched to the KONE server.

If a site has a requirement to only dispatch disabled call type to the KONE server, then you must not assign multiple call types to the disabled clearance. In this case clearance_disabled.

Adding KONE DOP Clearance Landing Matrix

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Elevator System** icon.
4. Right-click the KONE Elevator System for which you need to add Direct Elevator Access.
5. Select **New KONE DOP Clearance Landing Matrix**.
6. Expand the **General** expander.

Property	Description
Name	Enter a unique name up to 100 characters long for the ONE DOP Clearance Landing Matrix.
Description	Enter a general description, up to 500 characters, to identify the KONE DOP Clearance Landing Matrix

7. Expand the **Details** expander.

Property	Description
Elevator System	(Read only) The name of the elevator system for which you need to add a KONE DOP Clearance Landing Matrix.
Clearance Name	The pre-configured personnel clearance. This field is used to select the clearance that allows access to the Door with a reader that a person swipes their card to get authorization to use the landing or System is active. a. Click  to display the Object Selector. b. Select the Clearance from the Object Selector. c. Click **OK**.
Home Floor	Allows you to identify Clearance Landing Matrix Home Floor. You can select the Home Floor from 1 to 255. You must select either Front or Rear. This field is used while configuring KONE Direct Elevator Access.

8. Expand the **Landing Matrix** expander.
   a. Click  to add a row.
   b. Enter the required information in the following fields:

Property	Description
Call Type	The Call Type number defines functions configured in KONE Group Controller. Enter the numeric value between 0 to 200. The common call types defined by KONE are: ■ Type 0 – Normal ■ Type 1 – ADA ■ Type 2 – Priority ■ Type 3- Empty Car Call Types from 4 to 200 are configurable.
Lifts	Select the lifts to be allowed for Call. You can add a maximum of 200 lifts. The lift ID number can range from 1 to 200.
Landing Matrix	a. Click  to display the Object Selector. b. Select the Default Landing Matrix from the Object Selector. c. Click **OK**.
Priority	Range of priority is between 1 and 255. Priority value 1 defines highest and 255 is default.

9. Select **Save and Close**.

Editing KONE DOP Clearance Landing Matrix

Edit KONE Clearance Landing Matrix

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE DOP Clearance Landing Matrix** icon.
4. Right click on KONE DOP Clearance Landing Matrix.
5. Select **Edit**.
6. Expand the **General** expander.

Property	Description
Name	You can modify the name of the KONE DOP Clearance Landing Matrix.
Description	Enter a general description, up to 500 characters, to identify the KONE Default Landing Matrix

7. Expand the **Details** expander.

Property	Description
Elevator System	(Read only) The name of the elevator system for which you need to add a KONE DOP.
Clearance Name	The pre-configured personnel clearance. This field is used to select the clearance that allows access to the Door with a reader that a person swipes their card to get authorization to use the landing or System is active. a. Click to display the Object Selector. b. Select the Clearance from the Object Selector. c. Click **OK**.
Home Floor	Allows you to identify Clearance Landing Matrix Home Floor. You can select the Home Floor from 1 to 255. You must select either Front or Rear. This field is used while configuring KONE Direct Elevator Access.

8. Expand the **Landing Matrix** expander.
   a. Click to add a row.
   b. Enter the required information in the following fields:

Property	Description
Call Type	The Call Type number defines functions configured in KONE Group Controller. Enter the numeric value between 0 to 200. The common call types defined by KONE are: ■ Type 0 – Normal ■ Type 1 – ADA ■ Type 2 – Priority ■ Type 3- Empty Car Call Types from 4 to 200 are configurable.
Lifts	Select the lifts to be allowed for Call. Maximum number of lifts: 8
Landing Matrix	a. Click to display the Object Selector. b. Select the Default Landing Matrix from the Object Selector. c. Click **OK**.
Priority	Range of priority is between 1 and 255. Priority value 1 defines highest and 255 is default.

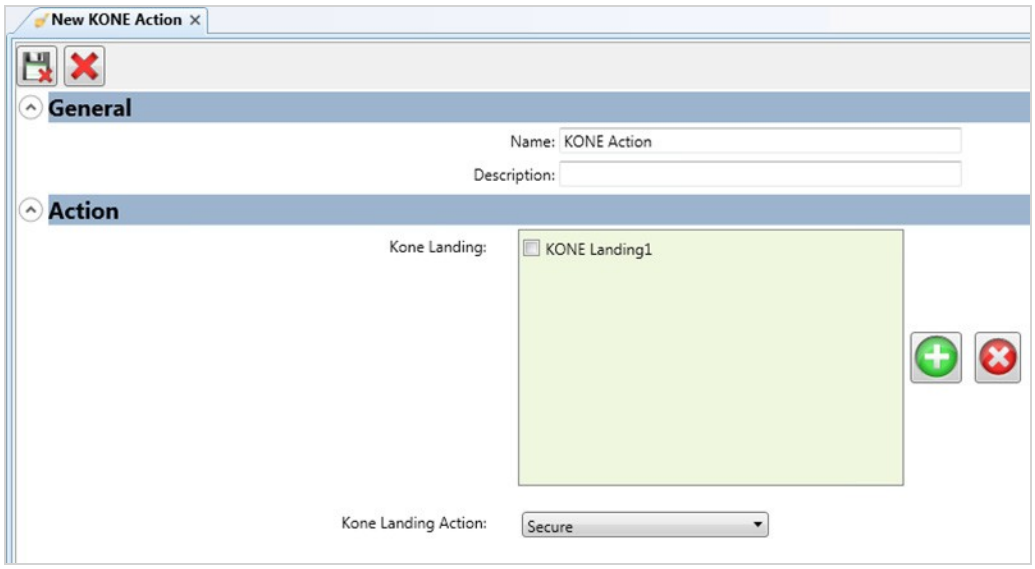
9. Select **Save and Close**.

Configuring KONE Actions

You can schedule actions for the KONE. The following are the available actions:

- Secure
- Unsecure

- Normal

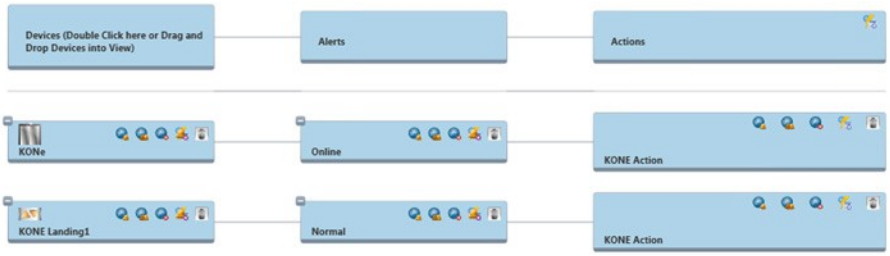


Configure KONE Action

1. Click **New** from left hand navigation to open Create a New Item pane.
2. Navigate to **KONE** section.
3. Click on **KONE Action** icon.
4. Enter **Name** (Mandatory) and **Description** (Optional) for the KONE Action.
5. Expand the **Action** expander.
6. In the **KONE Landing** field, select to add landing.Object Selector displays.
7. Select KONE Landing and click **OK**.
8. Repeat as required.
9. Select desired action from the **KONE Landing Action** drop-down list.
10. If you want to remove the KONE Landing, select the Landing matrix check box to be removed and click .
11. Select **Save and Close**.

Configuring KONE Alerts

The Event Setup editor can be used to configure alerts action for KONE Elevator System, KONE Landing.



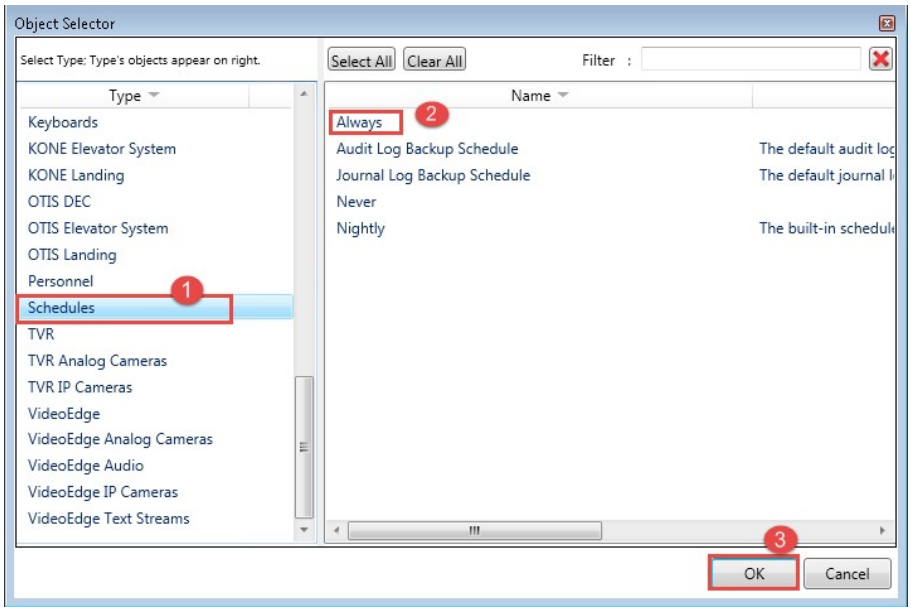
Refer to Alert Typesfor a full list of victor support alert types.

Configuring Schedule Actions for KONE

1. Click **Settings**, and then select **Event/Schedule Setup**. The Event/Schedule Setup page opens.
2. Double-click the Device node and use the object selector and select Type as **Schedules**.

3. Select the required schedule from the list.

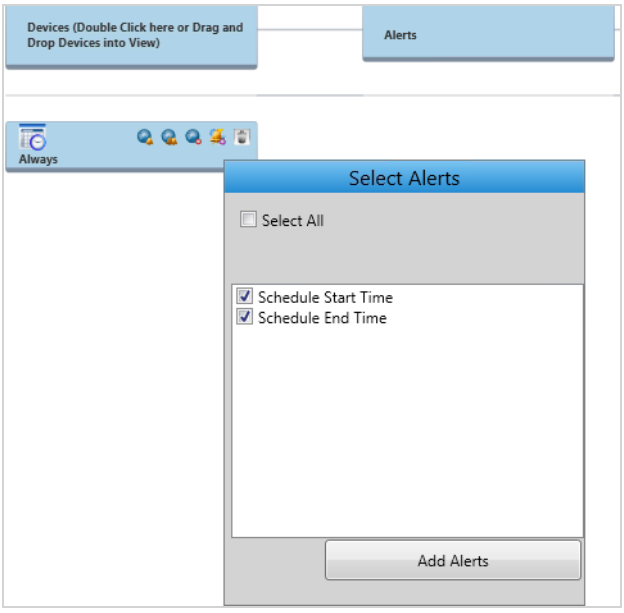
   You should have created the schedule to select it. Refer victor User manual for more information on Creating Schedule.



4. Selected Schedule is displayed in the Device node.

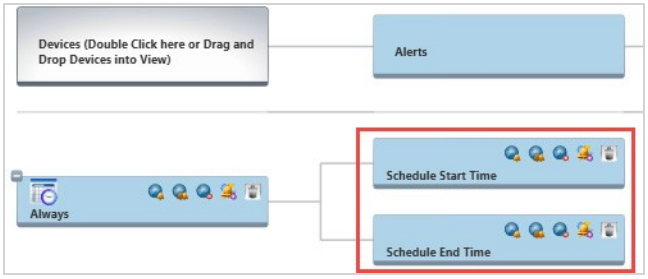
5. Select in device node to add alerts.

6. Select **Schedule Start Time** and **Schedule End Time** check box from the **Select Alert** window.



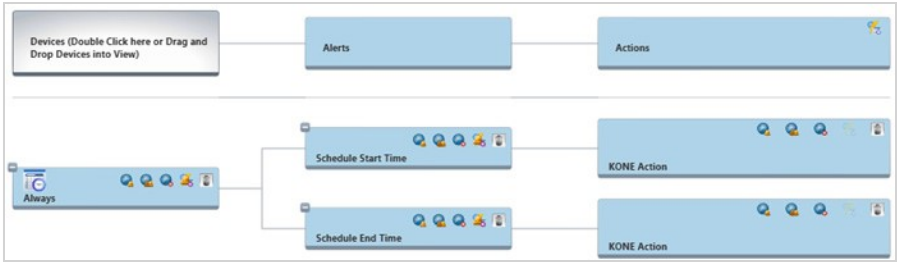
7. Click **Add Alerts**.

   The Schedule Start Time and Schedule End Time is displayed in the Alerts node.



8. Select  in the Alerts node to add actions. For example, in the Schedule Start Time alerts.
9. Select KONE Action from the object selector.

   You should have already created KONE Action to select it. See Configuring KONE Actions.



10. Repeat as required.
11. Click **Save and Close**.

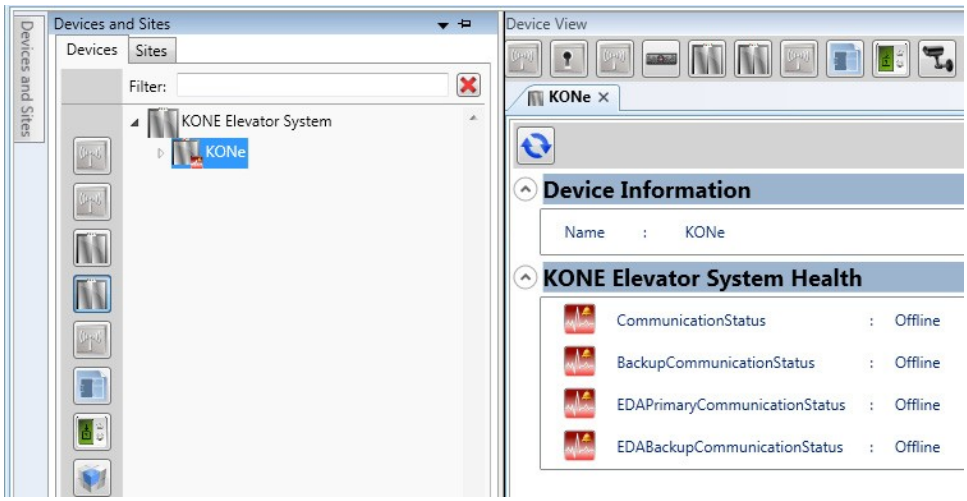
Edit KONE Action

1. Click **Show All**  from left hand navigation to open Show a list of all items pane.
2. Navigate to **KONE** section.
3. Click on **KONE Action** icon.
4. Right click on KONE Action and select **Edit**.
5. Click **General**. Update Name, Description of KONE Action if Any.
6. Click **Action** to add or remove Landings.
7. Click **KONE Landing Action** drop-down to change the action.
8. Click **Save and Close**.

Operation

Health Dashboard

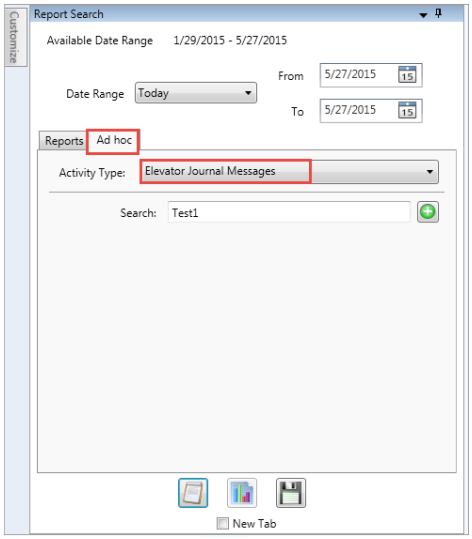
Health status of all KONE objects is annunciated in victor's Health Dashboard as follows:



Refer to Health Status for a full list of supported health statuses.

Reports

victor journal type 'Elevator Journal Message' can be used to search for KONE related report entries as detailed below:



For more information on reporting within victor, refer to the *victor Administration and Configuration Guide*.

Manual Actions

The following manual actions can be performed for the KONE Landing:

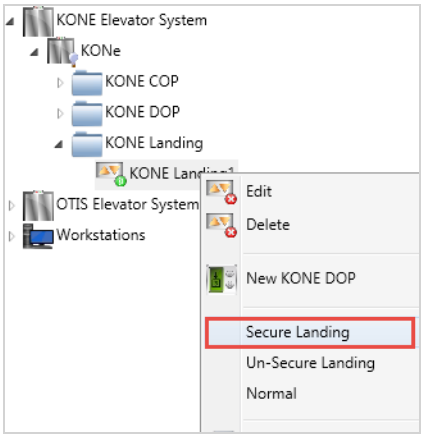
- Secure a Landing

- Unsecure a Landing
- Normal

Secure a Landing

This action secures the Landing. There is no access to the Landing during the date and time value set except the personnel in the Exemption Group list. When a Landing is secured the associated floor of the Default Landing Matrix gets locked:

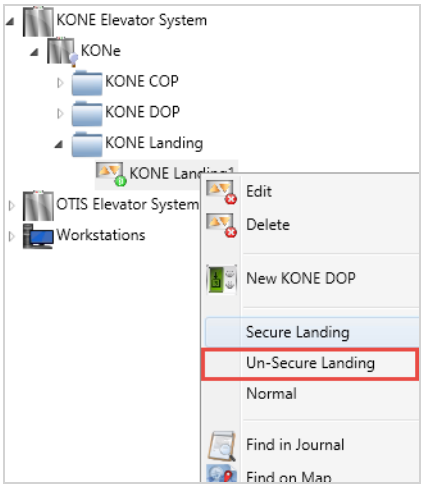
1. Right-click Landing
2. Select **Secure Landing**.



UnSecure a Landing

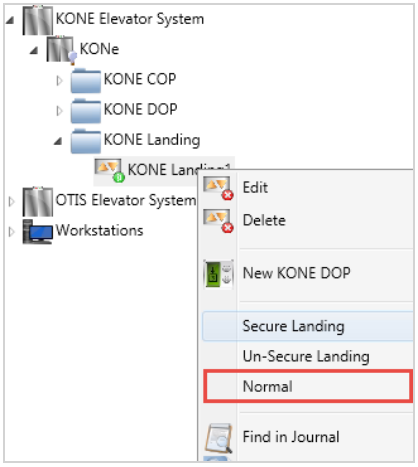
This action un-secures the Landing. Everyone will have access to the Landing during the date and time value set. When a Landing is unsecured, the Default Landing Matrix is also un-secured.

1. Right-click Landing.
2. Select **UnSecure Landing**.



Normal Landing

1. Right-click Landing.
2. Select **Normal**.



Troubleshooting

This section provides troubleshooting information for issues that may occur in the KONE Integration.

Problem:

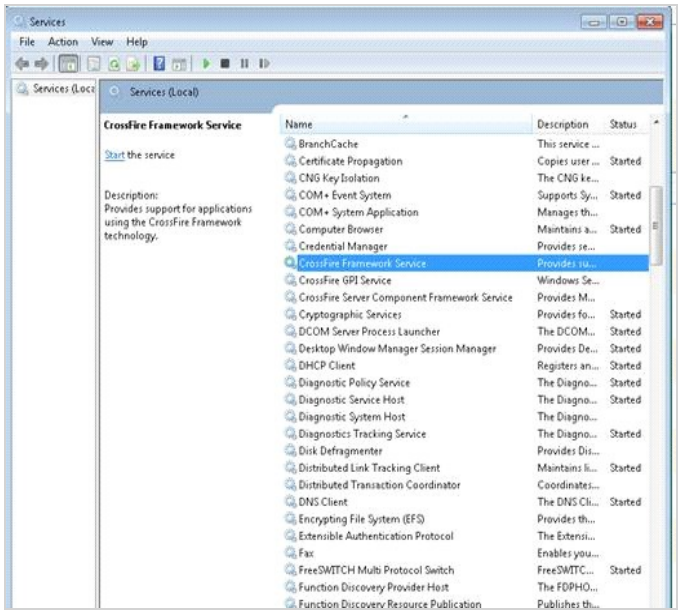
Sometimes the installation may fail if the CrossFire service does not stop on time and throws a time out error.

Solution:

Ensure that you have completed the following steps:

- Check if the CrossFire service is stopped from services panel in case of installation failure.
- Wait till the CrossFire service is stopped and then trigger the installation again. This will work fine as the service is stopped already.

Figure 4: CrossFire Services



Appendix A - Alert Types

The Event Configuration editor is be used to configure alerts for KONE Elevator system. The following tables detail the supported Alert Types supported for KONE Elevator system within victor.

Table 2: Alert Types for KONE Elevator System

Alert Type	Value
Communication Status	■ Online ■ Offline ■ Unknown

Table 3: Alert Types for KONE Landing

Alert Type	Value
Override Status	■ Normal ■ Secure ■ Unsecure

Appendix B - Health Status

Supported Health status annunciations for KONE object type are as follows:

Table 4: Health status for KONE Elevator System

KONE Elevator System Status	Health Status
Online	Normal
Offline	Device Alert
Unknown	Unknown

Appendix C - Cache Loading Time and Card Swipe Dispatch Time

This section provides information about the time taken to load cache and the Card Swipe Dispatch Time based on the number of Personnel Clearance Pairs.

Test Condition and Results

Condition 1: Total number of personnel were 50 thousand, each person had 2 Clearances and the following KONE Integration configuration:

No. of Elevator Servers	No. of DOP	No. of Clearance Landing Matrix	No. of Landing	No. of RCGIF
2	4	15	20	1

Result: Total Personnel Clearance pairs are 100 thousand (50 thousand * 2). It takes 50 seconds(sec) to load 100 thousand records in cache. The card swipe dispatch time is 35 milliseconds (msec).

Condition 2: Total number of personnel were 50 thousand, each person had 5 Clearances and the following KONE Integration configuration:

No. of Elevator Servers	No. of DOP	No. of Clearance Landing Matrix	No. of Landing	No. of RCGIF
2	10	25	20	1

Result: Total Personnel Clearance pairs are 250 thousand (50 thousand * 5). It takes 1 minute 40 sec to load 250 thousand records in cache. The card swipe dispatch time is 75 msec.

Condition 3: Total number of personnel were 50 thousand, each person had 10 Clearances and the following KONE Integration configuration:

No. of Elevator Servers	No. of DOP	No. of Clearance Landing Matrix	No. of Landing	No. of RCGIF
2	10	50	20	1

Result: Total Personnel Clearance pairs are 500 thousand (50 thousand * 10). It takes 4 minutes 20 seconds(sec) to load 500 thousand records in cache. The card swipe dispatch time is 150 msec.

Condition 4: Total number of personnel were 50 thousand, each person had 15 Clearances and the following KONE Integration configuration:

No. of Elevator Servers	No. of DOP	No. of Clearance Landing Matrix	No. of Landing	No. of RCGIF
2	10	50	20	1

Result: Total Personnel Clearance pairs are 750 thousand (50 thousand * 15). It takes 12 minutes to load 750 thousand records in cache. The card swipe dispatch time is 360 (msec).