



## Physical Infrastructure

Documentation of physical infrastructures

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## TABLE OF CONTENTS

1. Overview and Intended Use	5
2. Introduction to the Infrastructure Editor	6
2.1 Definitions	6
2.2 The Infrastructure Editor	7
2.3 Editor Basic Functions	8
3. Manage Sites	12
3.1 Site Map	13
3.1.1 Open the Site Map	13
3.1.2 Work with the Site Map	13
4. Site Elements	14
4.1 Use Site Elements	14
4.2 Create and Manage Site Elements	14
4.3 Site Element Map	15
5. Racks	16
5.1 Use Racks	16
5.2 Create and Manage Racks	17
5.3 Clone and Export / Import Racks	18
6. Rack Elements	19
6.1 Use Rack Elements	19
6.2 Rack Elements Map	20
7. Shapes	21
7.1 Shape Editor	21
7.1.1 Use Shape Editor	21
7.1.2 Work with the Shape Editor	22
7.2 Add Properties	26
7.3 Edit Plug Types	27
7.4 Edit Cable Types	27
7.5 Shape Export / Import	27
8. Document Cabling	28
8.1 Cable Types	29
8.2 Description of the Procedure	30

9. Documentation and Analysis	32
9.1 Reports	32
9.2 Maps	33
9.2.1 Element Map	33
9.2.2 Wiring Map	34
9.2.3 Site Map	34
9.2.4 Rack Map	34
9.3 Data Output and Further Processing	35
10. Physical Infrastructure - CSV Import	36
10.1 Building a CSV File	36
10.2 Cable Connections Import/ Export Functions	40
11. Migration Wizard	41
11.1 Transfer Data	42
12. Use Case for the Physical Infrastructure	44
12.1 Relocation of a Workstation	44
12.2 Determine the Wiring of Critical Systems	45

## 1. Overview and Intended Use

The feature Physical Infrastructure covers the documentation of your physical IT infrastructure.

This begins with the visualization of sites, buildings, and rooms. Subsequently, devices, racks, switches, and all other IT relevant systems can be assigned. The cabling of the systems can also be included.

Various maps and reports are available for evaluation.

## 2. Introduction to the Infrastructure Editor

### 2.1 Definitions

The following terms are used regularly in this manual.

#### Physical Infrastructure

In Docusnap the following elements are combined under the physical infrastructure:

- Sites (cities, buildings, floors, rooms, etc.)
- Racks, Patch Panels and Network Sockets
- Cabling

#### Infrastructure Editor

The Infrastructure Editor provides the interface to create and manage the elements associated with the physical infrastructure.

#### Sites

Sites are used in Docusnap to represent the structure of a company. At least one site is required to map the physical infrastructure.

#### Racks

Racks can be used to document the physical structure of a rack in Docusnap.

#### Site Elements

Site elements in Docusnap are all elements that can be assigned to a site, e.g. network sockets, air conditioners, etc.

#### Rack Elements

A rack element is built into a rack. Examples of a rack element are servers, switches or patch panels.

#### Shapes

A shape is the image of a physical element (e.g. server, switch, network socket) and serves to graphically represent the element in the rack. Furthermore, the detected plugs are used for the documentation of the cabling.

#### Shape Editor

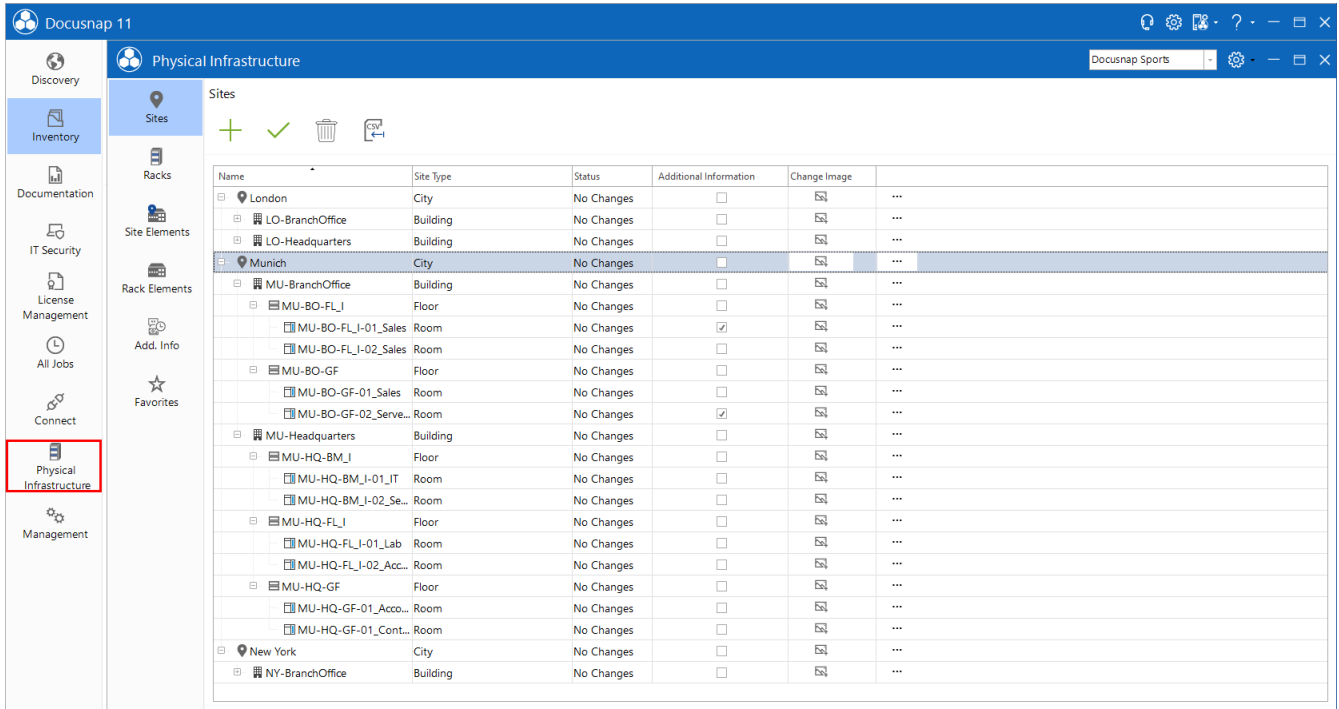
Integrated editor in Docusnap, that helps to extend the existing Shape collection by own Shapes.

## 2.2 The Infrastructure Editor

The Infrastructure Editor is the user interface for mapping the physical infrastructure in Docusnap. All tasks dealing with this topic can be done in the editor.

The editor can be used to map site structures, create racks, and fill them with elements.

Furthermore, the cabling of the physical components can be carried out and new shapes can be added.



Name	Site Type	Status	Additional Information	Change Image	
London	City	No Changes	<input type="checkbox"/>		...
LO-BranchOffice	Building	No Changes	<input type="checkbox"/>		...
LO-Headquarters	Building	No Changes	<input type="checkbox"/>		...
Munich	City	No Changes	<input type="checkbox"/>		...
MU-BranchOffice	Building	No Changes	<input type="checkbox"/>		...
MU-BO-FL_I	Floor	No Changes	<input type="checkbox"/>		...
MU-BO-FL_I-01_Sales	Room	No Changes	<input checked="" type="checkbox"/>		...
MU-BO-FL_I-02_Sales	Room	No Changes	<input type="checkbox"/>		...
MU-BO-GF	Floor	No Changes	<input type="checkbox"/>		...
MU-BO-GF-01_Sales	Room	No Changes	<input type="checkbox"/>		...
MU-BO-GF-02_Serve...	Room	No Changes	<input checked="" type="checkbox"/>		...
MU-Headquarters	Building	No Changes	<input type="checkbox"/>		...
MU-HQ-BM_I	Floor	No Changes	<input type="checkbox"/>		...
MU-HQ-BM_I-01_IT	Room	No Changes	<input type="checkbox"/>		...
MU-HQ-BM_I-02_Se...	Room	No Changes	<input type="checkbox"/>		...
MU-HQ-FL_I	Floor	No Changes	<input type="checkbox"/>		...
MU-HQ-FL_I-01_Lab	Room	No Changes	<input type="checkbox"/>		...
MU-HQ-FL_I-02_Acc...	Room	No Changes	<input type="checkbox"/>		...
MU-HQ-GF	Floor	No Changes	<input type="checkbox"/>		...
MU-HQ-GF-01_Acco...	Room	No Changes	<input type="checkbox"/>		...
MU-HQ-GF-01_Cont...	Room	No Changes	<input type="checkbox"/>		...
New York	City	No Changes	<input type="checkbox"/>		...
NY-BranchOffice	Building	No Changes	<input type="checkbox"/>		...

Fig. 1 - Overview Infrastructure Editor

## 2.3 Editor Basic Functions

As soon as a site or an element of the physical infrastructure has been selected in the data tree, the editor can be opened. According to the selected element in the Docusnap tree structure, the respective client is selected in the editor.

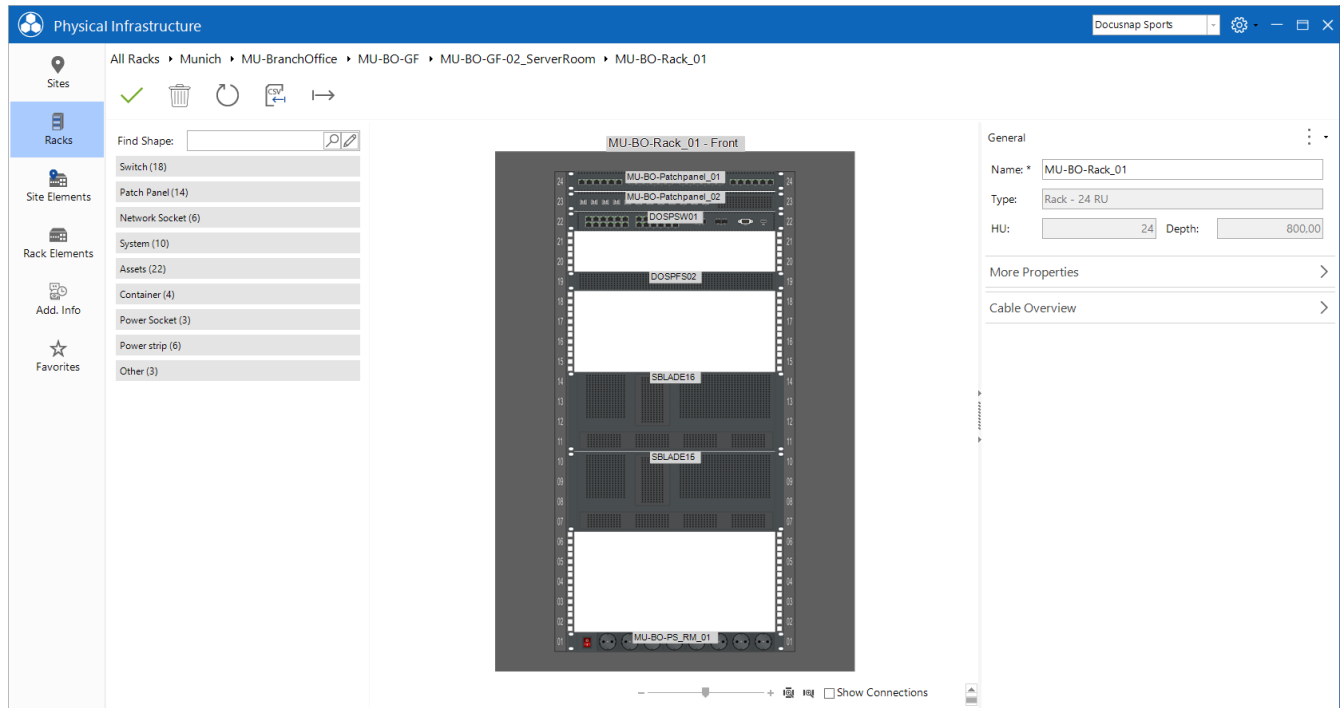
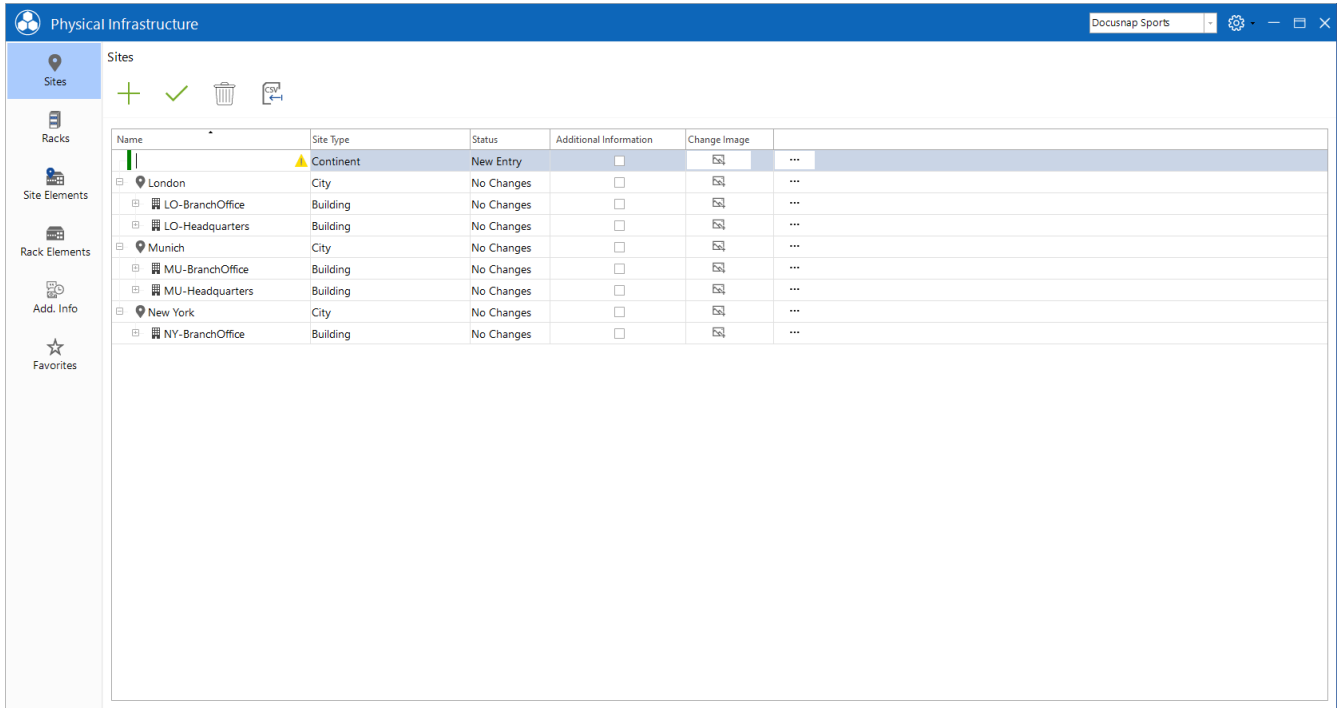


Fig. 2 - Open the Editor II



Editing within the editor takes place in the first step using a tabular structure (grid).



The screenshot shows the 'Physical Infrastructure' editor window. On the left is a sidebar with icons for 'Sites', 'Racks', 'Site Elements', 'Rack Elements', 'Add. Info', and 'Favorites'. The main area is titled 'Sites' and contains a table with the following data:

Name	Site Type	Status	Additional Information	Change Image	
Continent	Continent	New Entry	<input type="checkbox"/>		...
London	City	No Changes	<input type="checkbox"/>		...
LO-BranchOffice	Building	No Changes	<input type="checkbox"/>		...
LO-Headquarters	Building	No Changes	<input type="checkbox"/>		...
Munich	City	No Changes	<input type="checkbox"/>		...
MU-BranchOffice	Building	No Changes	<input type="checkbox"/>		...
MU-Headquarters	Building	No Changes	<input type="checkbox"/>		...
New York	City	No Changes	<input type="checkbox"/>		...
NY-BranchOffice	Building	No Changes	<input type="checkbox"/>		...

Fig. 3 - Tabular Editing within the Editor

The functions Create, Save and Delete are available for managing the sites.

All actions, such as adding, changing, or deleting objects, are only applied after saving (shortcuts can also be used here - e.g. Ctrl + S).

It is possible to map the complete hierarchy and then save it.

The color coding of the elements indicates that the actions still must be adopted.

- Green: New element is added
- Pink: Element is deleted
- Blue: Change made to element

A previously made change, if it has not yet been saved, can be undone via the context menu.

The context menu offers at least the following options for each element. Depending on the element, further options are available, which will be dealt with in the later chapters.

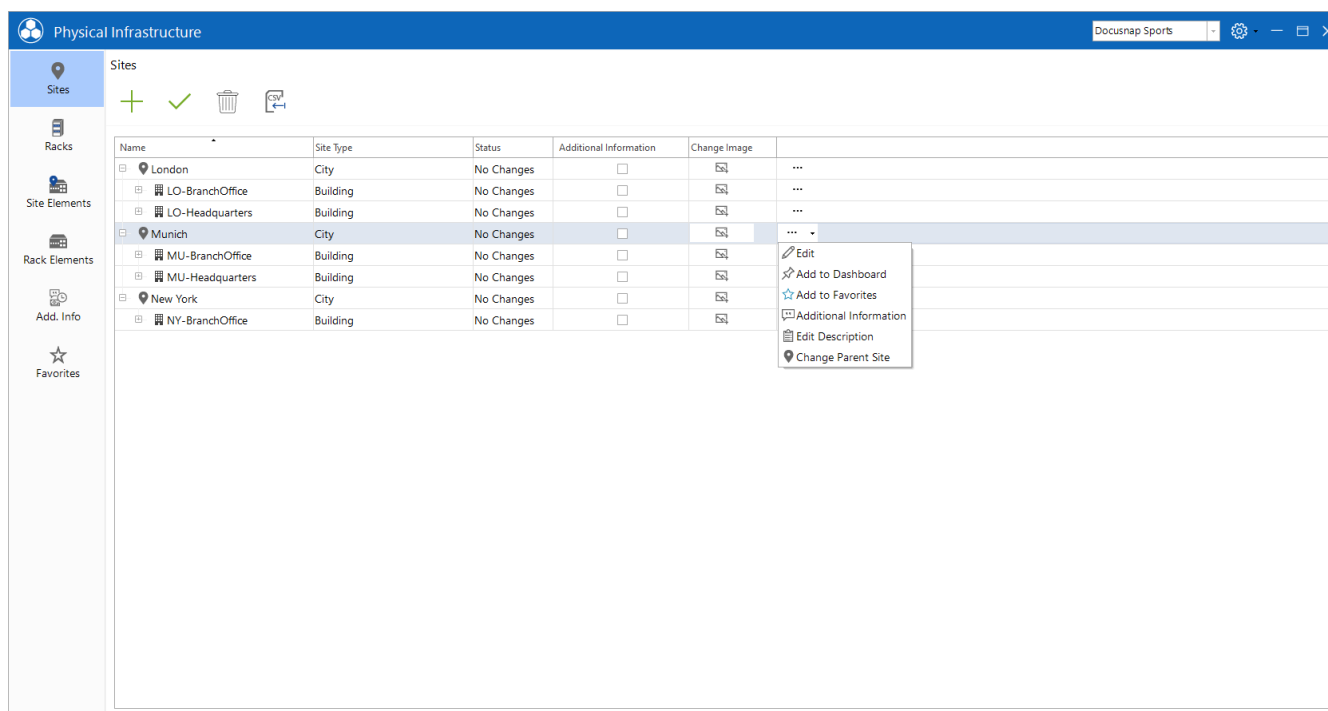


Fig. 4 - Context Menu

## Edit

The selected object is edited. Alternatively, the object can be edited by double-clicking on the icon.

## Add to Dashboard

The dashboard is the entry point to the Infrastructure Editor. When opened, all added elements are available. The dashboard opens with a click on **Physical Infrastructure**. The dashboard is user-specific and is therefore not transferred to other users.

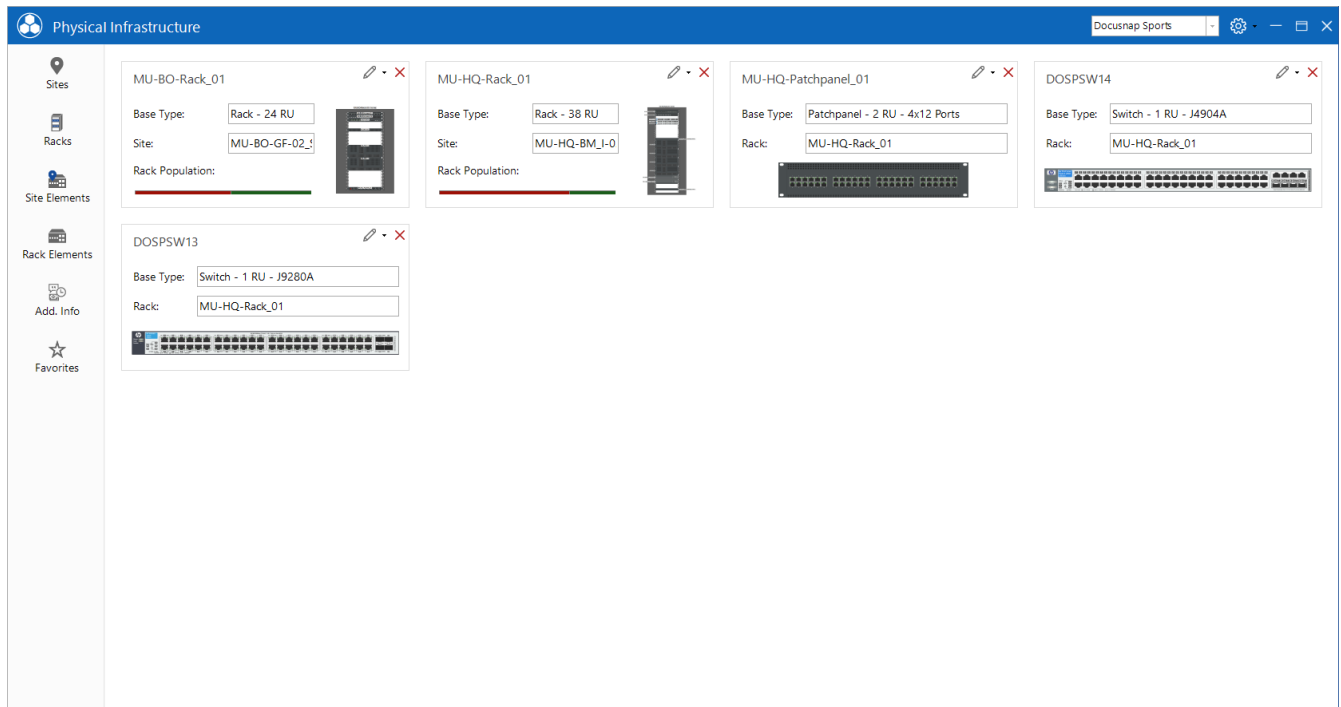


Fig. 5 - Dashboard of the Infrastructure Editor

## Add to Favorites

Similar to the dashboard, elements can be added to favorites. Favorites are user-specific and are therefore not transferred to other users.

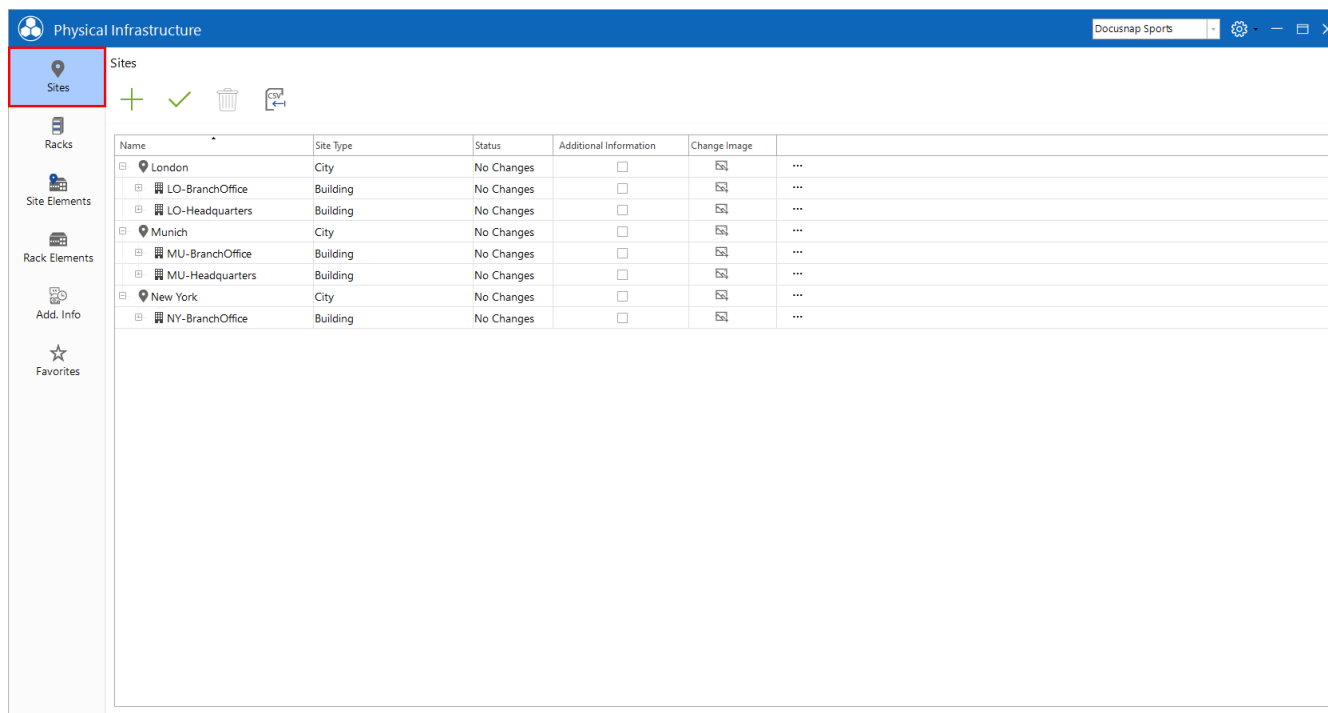
## Add Additional Information

Additional information can be assigned to elements. Further information about additional information: [HowTo: Add additional information in Docusnap](#).

### 3. Manage Sites

Detailed information on working with sites can be found in the manual. To map the physical infrastructure, a site is mandatory.

Within the editor, sites are created, edited, or deleted. Existing sites can also be moved.











Name	Site Type	Status	Additional Information	Change Image	
London	City	No Changes	<input type="checkbox"/>		...
LO-BranchOffice	Building	No Changes	<input type="checkbox"/>		...
LO-Headquarters	Building	No Changes	<input type="checkbox"/>		...
Munich	City	No Changes	<input type="checkbox"/>		...
MU-BranchOffice	Building	No Changes	<input type="checkbox"/>		...
MU-Headquarters	Building	No Changes	<input type="checkbox"/>		...
New York	City	No Changes	<input type="checkbox"/>		...
NY-BranchOffice	Building	No Changes	<input type="checkbox"/>		...

Fig. 6 - Editor - Sites

## 3.1 Site Map

### 3.1.1 Open the Site Map

The site map is part of the *Edit Site* function. The **Edit Site** function is opened in the data grid of the sites via the context menu or by double-clicking on the icon of the site.

### 3.1.2 Work with the Site Map

The site map serves for the visual representation of the site. The site map can also be used to create elements via drag & drop (e.g. racks, air conditioning systems, etc.) and to assign inventoried systems. The created elements can be edited by double-clicking.

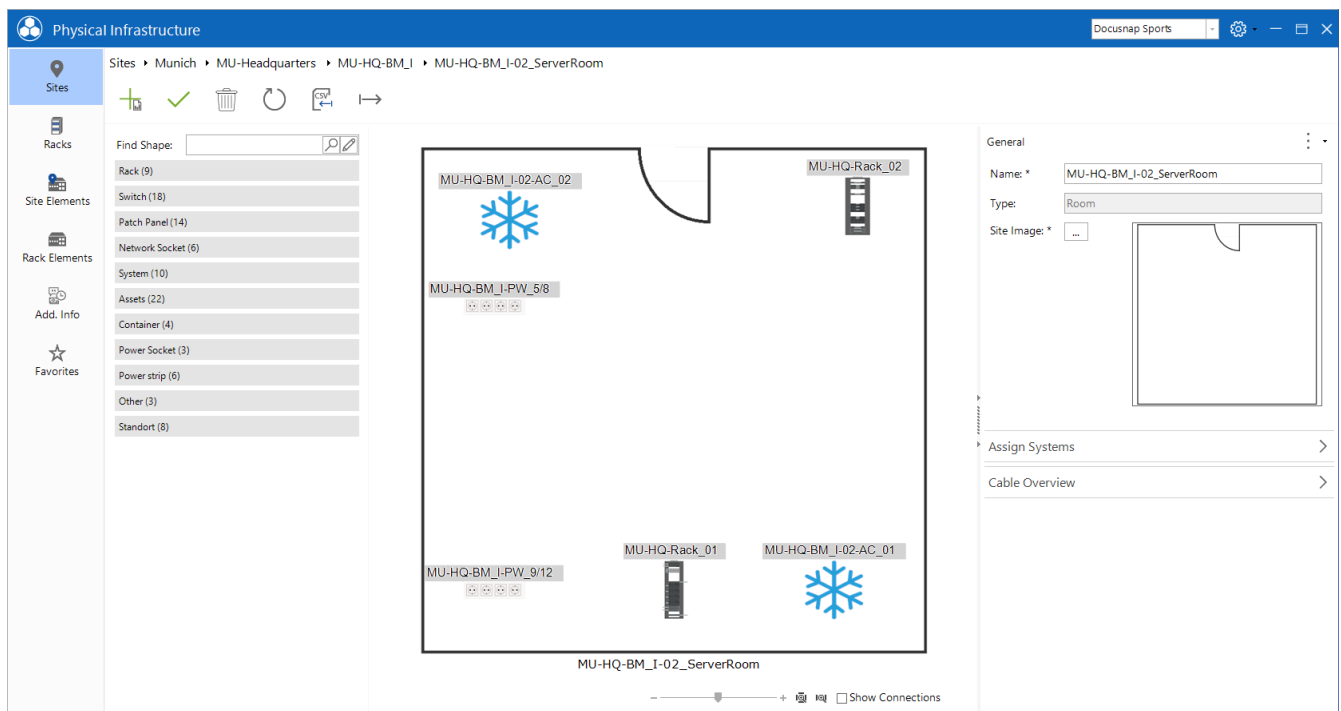


Fig. 7 - Overview Site Map

In the map, the context menu can be opened by right-clicking on the displayed elements. This provides further options such as displaying or editing the cable map and much more.

## 4. Site Elements

### 4.1 Use Site Elements

Site items are all items that can be added to a site. These are, for example, servers, network sockets, assets such as air conditioners or fire extinguishers.

Please note that the elements are only assigned to the site. These must subsequently be positioned in the site plan and assigned to an object.

### 4.2 Create and Manage Site Elements

Site elements can be created, edited, and deleted within the *Site Elements* tab.

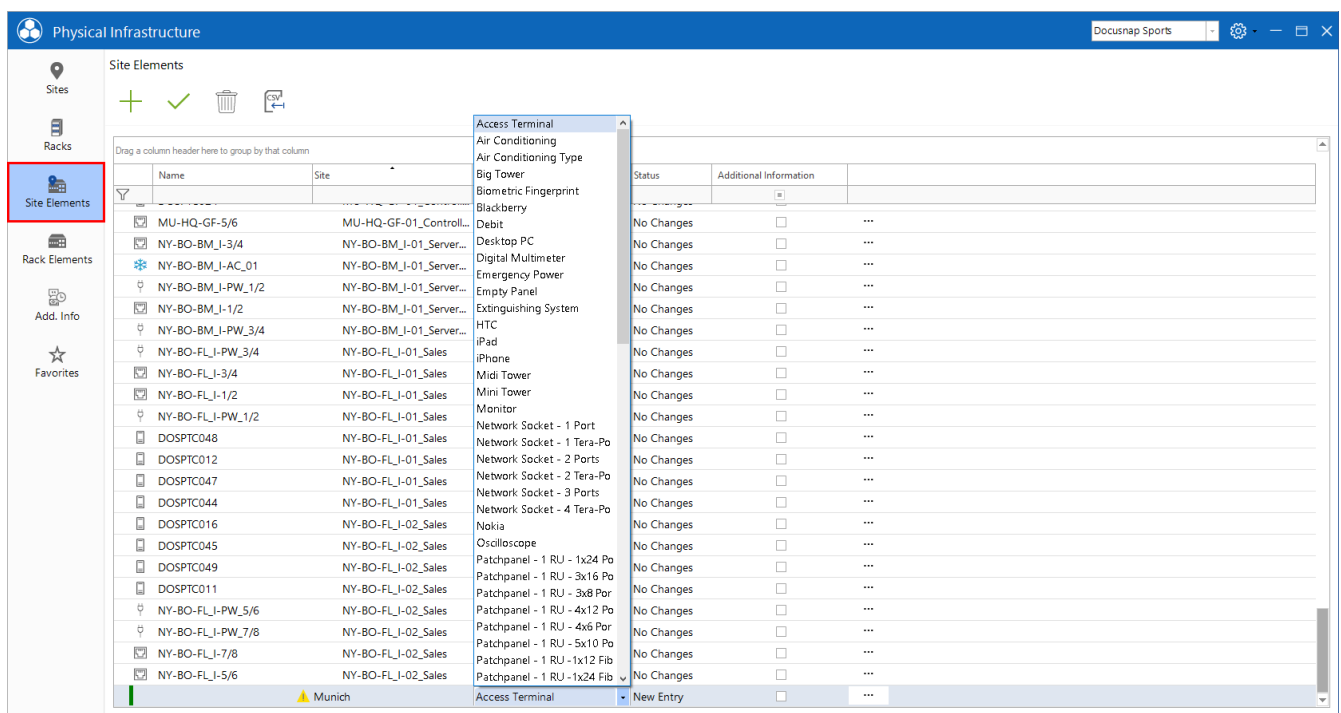


Fig. 8 - Create new Site Element

Within the grid *Site Elements*, elements can be assigned to sites. The assigned elements can then be positioned in the site map.

## 4.3 Site Element Map

The site element map provides a graphical overview of the selected element. Furthermore, cable connections are defined here, properties are adapted, and system assignments are carried out.

The site element map can be opened via the context menu in the tab **Site Elements**.

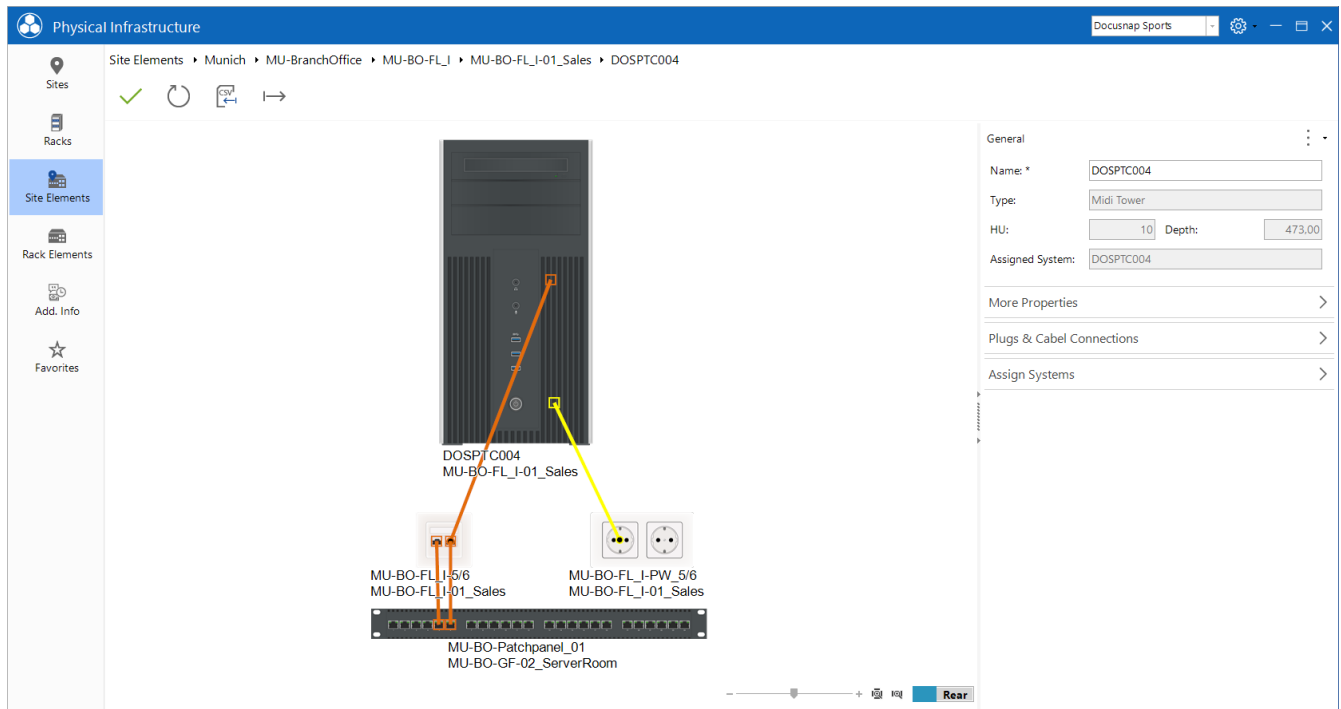


Fig. 9 - Site Element Plan

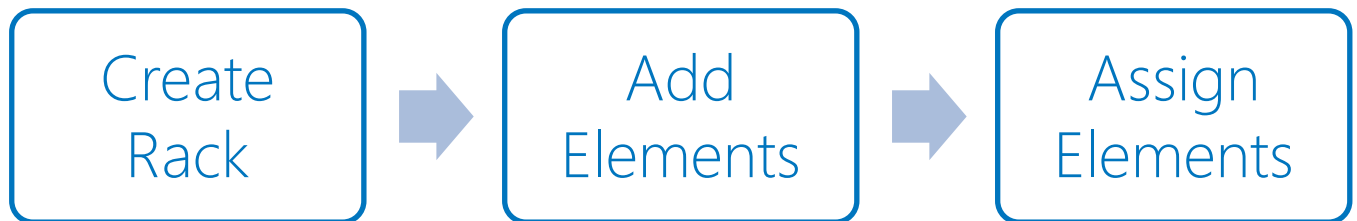
If other elements are connected to the selected element, the direct connections are displayed in the site elements map.

The mouse over function for individual cabling displays more detailed information about this.

## 5. Racks

### 5.1 Use Racks

A rack is created in the Infrastructure editor. Elements are then added to the rack. Inventoried or manually added systems (assets) can then be assigned to these elements.





## 5.2 Create and Manage Racks

In the Infrastructure Editor, new racks can be created, or existing ones managed in the racks area.

Predefined shapes are supplied as standard. New shapes can be created with the shape editor.

If a new rack shape is created, the counting direction can be defined in addition to the height.

The rack can then be selected for editing via the context menu.

Elements can be inserted into the rack via drag & drop.

The inserted elements can be marked and edited in the toolbox. The element can be inserted forwards or backwards.

Once a rack element has been selected, an inventoried or manual object can be assigned to it. An assignment is made within the toolbox using **Assign Systems**.

The name of the rack element is automatically set during system assignment.

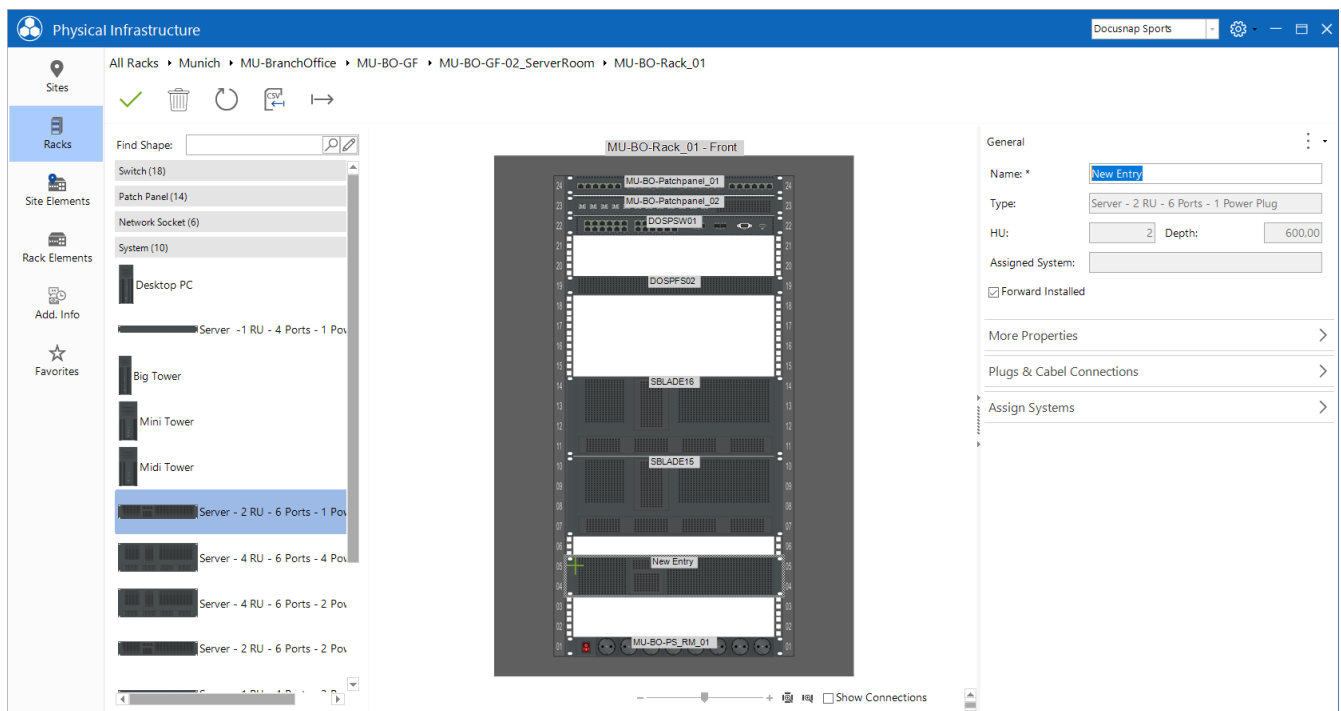


Fig. 10 - Edit the Rack - Elements Added

### 5.3 Clone and Export / Import Racks

Existing racks can be duplicated or saved as templates.

To duplicate a rack or save it as a template, open the context menu of the desired rack. This option can also be found in the site map or rack map.

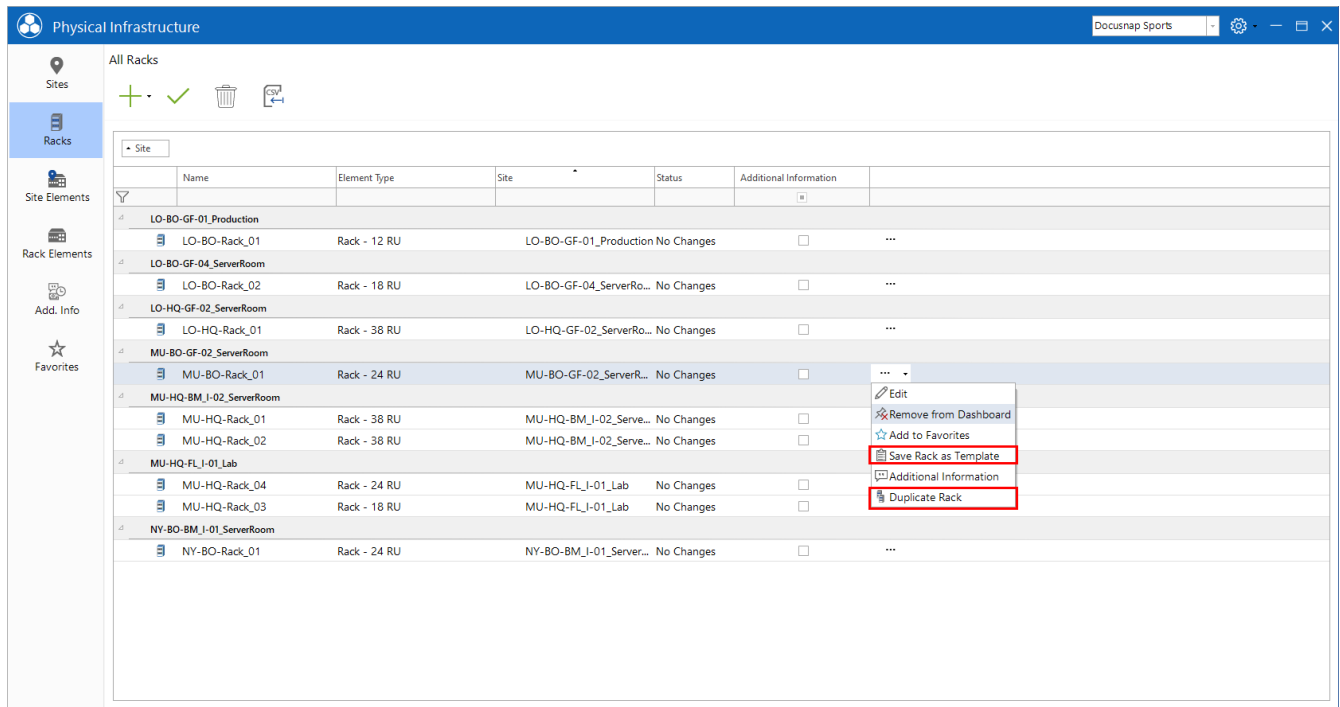


Fig. 11 - Duplicate Rack or Save as Template

If the rack is saved as a template, the information is saved in an XML file. When a new rack is created, the option **Create rack from template** is available.

If the rack is duplicated, it will be created with all components included.

If a rack is duplicated or created from a template, the properties of the rack and elements must be adjusted.

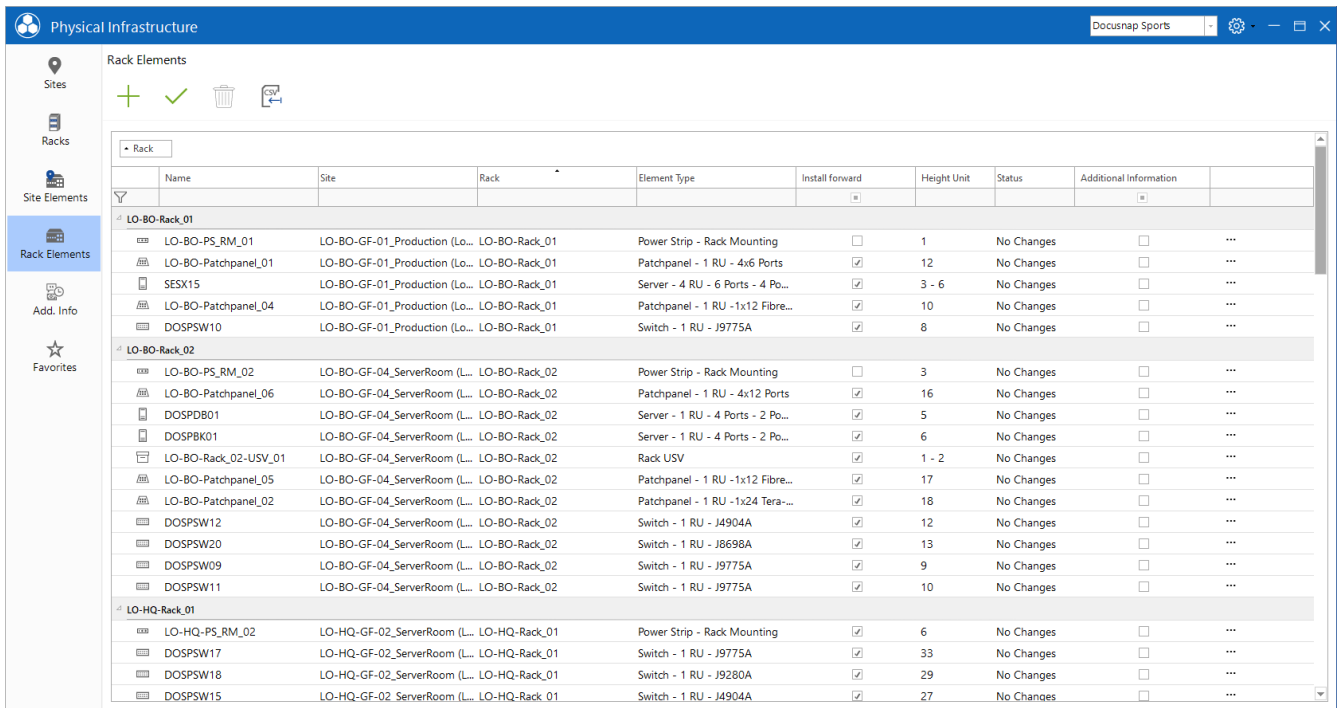
## 6. Rack Elements

### 6.1 Use Rack Elements

Rack elements are those components that are inserted into a rack.

In the rack elements area, elements can be added to a rack via the grid. Elements that are assigned to the rack via the grid are not automatically positioned in the rack. The positioning of the elements is carried out afterwards in the rack map.

It should be noted that no validation takes place as to whether there is still sufficient space in the rack.



Name	Site	Rack	Element Type	Install forward	Height Unit	Status	Additional Information
<b>LO-BO-Rack_01</b>							
LO-BO-PS_RM_01	LO-BO-GF-01_Production (Lo...	LO-BO-Rack_01	Power Strip - Rack Mounting	<input type="checkbox"/>	1	No Changes	...
LO-BO-Patchpanel_01	LO-BO-GF-01_Production (Lo...	LO-BO-Rack_01	Patchpanel - 1 RU - 4x6 Ports	<input checked="" type="checkbox"/>	12	No Changes	...
SESX15	LO-BO-GF-01_Production (Lo...	LO-BO-Rack_01	Server - 4 RU - 6 Ports - 4 Po...	<input checked="" type="checkbox"/>	3 - 6	No Changes	...
LO-BO-Patchpanel_04	LO-BO-GF-01_Production (Lo...	LO-BO-Rack_01	Patchpanel - 1 RU - 1x12 Fibre...	<input checked="" type="checkbox"/>	10	No Changes	...
DOSPSW10	LO-BO-GF-01_Production (Lo...	LO-BO-Rack_01	Switch - 1 RU - J9775A	<input checked="" type="checkbox"/>	8	No Changes	...
<b>LO-BO-Rack_02</b>							
LO-BO-PS_RM_02	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Power Strip - Rack Mounting	<input type="checkbox"/>	3	No Changes	...
LO-BO-Patchpanel_06	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Patchpanel - 1 RU - 4x12 Ports	<input checked="" type="checkbox"/>	16	No Changes	...
DOSPD01	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Server - 1 RU - 4 Ports - 2 Po...	<input checked="" type="checkbox"/>	5	No Changes	...
DOSPBK01	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Server - 1 RU - 4 Ports - 2 Po...	<input checked="" type="checkbox"/>	6	No Changes	...
LO-BO-Rack_02-USV_01	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Rack USV	<input checked="" type="checkbox"/>	1 - 2	No Changes	...
LO-BO-Patchpanel_05	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Patchpanel - 1 RU - 1x12 Fibre...	<input checked="" type="checkbox"/>	17	No Changes	...
LO-BO-Patchpanel_02	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Patchpanel - 1 RU - 1x24 Tera...	<input checked="" type="checkbox"/>	18	No Changes	...
DOSPSW12	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Switch - 1 RU - J4904A	<input checked="" type="checkbox"/>	12	No Changes	...
DOSPSW20	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Switch - 1 RU - J8698A	<input checked="" type="checkbox"/>	13	No Changes	...
DOSPSW09	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Switch - 1 RU - J9775A	<input checked="" type="checkbox"/>	9	No Changes	...
DOSPSW11	LO-BO-GF-04_ServerRoom (L...	LO-BO-Rack_02	Switch - 1 RU - J9775A	<input checked="" type="checkbox"/>	10	No Changes	...
<b>LO-HQ-Rack_01</b>							
LO-HQ-PS_RM_02	LO-HQ-GF-02_ServerRoom (L...	LO-HQ-Rack_01	Power Strip - Rack Mounting	<input checked="" type="checkbox"/>	6	No Changes	...
DOSPSW17	LO-HQ-GF-02_ServerRoom (L...	LO-HQ-Rack_01	Switch - 1 RU - J9775A	<input checked="" type="checkbox"/>	33	No Changes	...
DOSPSW18	LO-HQ-GF-02_ServerRoom (L...	LO-HQ-Rack_01	Switch - 1 RU - J9280A	<input checked="" type="checkbox"/>	29	No Changes	...
DOSPSW15	LO-HQ-GF-02_ServerRoom (L...	LO-HQ-Rack_01	Switch - 1 RU - J4904A	<input checked="" type="checkbox"/>	27	No Changes	...

Fig. 12 - Overview Rack Elements

## 6.2 Rack Elements Map

If the editing of a rack element is started via the context menu, the rack elements map is opened.

With the help of the toolbox, the rack element can be edited, cable connections can be stored, or a system assignment can be made.

In the case the cabling is defined, the direct connections are displayed.

The mouse over function for individual cabling displays more detailed information about this.

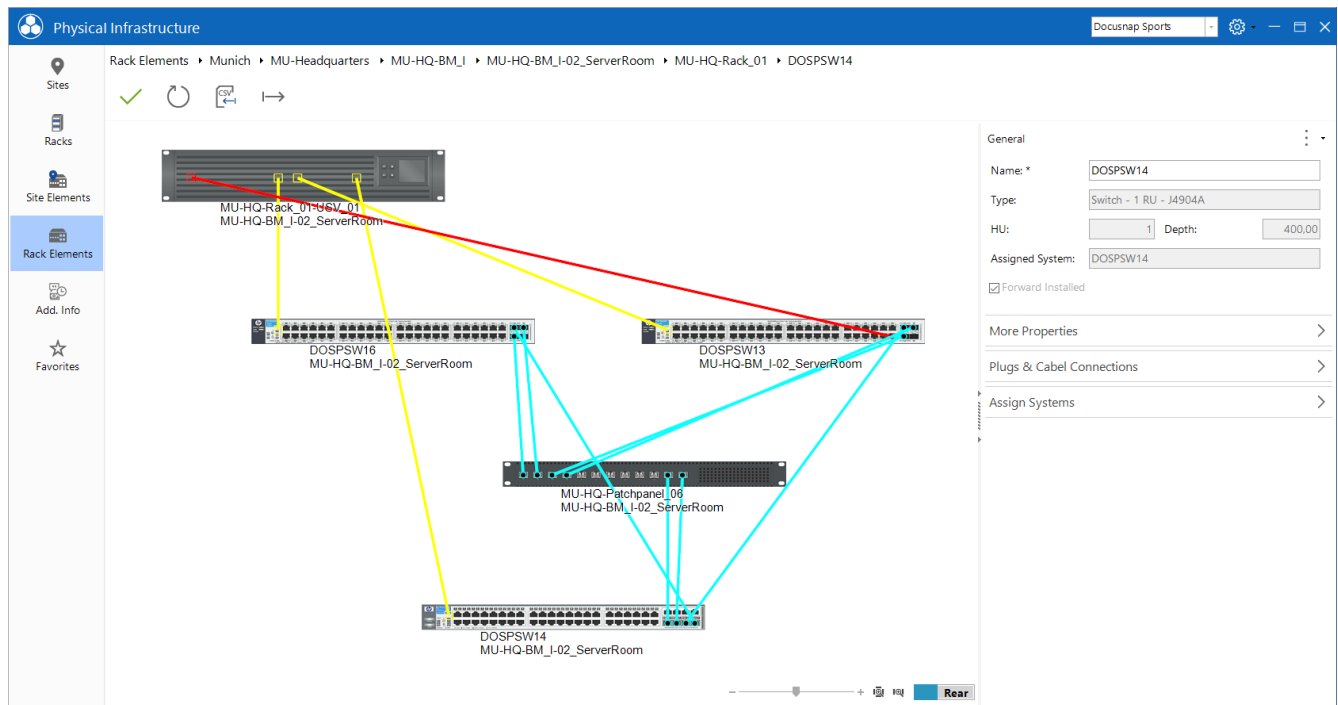


Fig. 13 - Cabling of the Elements

## 7. Shapes

Shapes in Docusnap are graphical images of elements. These are needed, for example, to visually represent the structure of a rack. Examples of shapes are servers, workstations, power strips, UPS, patch panels, etc.

### 7.1 Shape Editor

Docusnap supplies ready-made shapes. The existing Shape collection can be extended using the Shape Editor.

For newly created other assets, a corresponding shape is automatically created.

#### 7.1.1 Use Shape Editor

The Shape Editor is started within the Infrastructure Editor - via the gearwheel and the **Edit Element Types** selection.

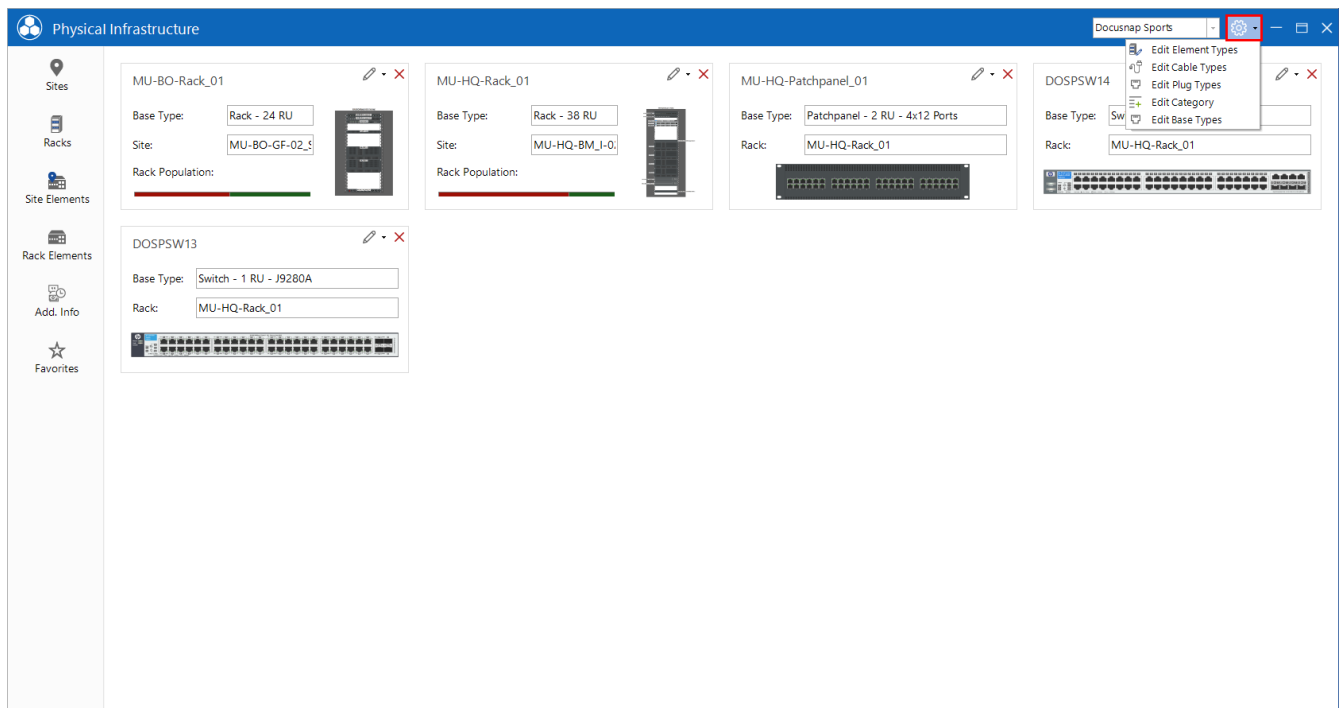


Fig. 14 - Call the Shape Editor

New - Element (Shape Editor) can now be selected in the newly opened **Manage Shapes** window.

### 7.1.2 Work with the Shape Editor

### 7.1.2.1 Add New Shapes

To be able to create new shapes, corresponding image files are required first. Please note that front and back side are required.

In the first step, information regarding **name**, **type**, **height**, **width**, and **depth** is entered. The values refer to the actual size of the object.

The image files are then made available. Image files can be made available to the Shape Editor already cut. However, the Shape Editor also has an integrated crop mode.

[illegible]

Fig. 15 - Crop the Shapes in the Editor

### 7.1.2.2 Define Plug Connections

Docusnap automatically recognizes the possible plug connections of the shape. The following figure shows the detected plug connections (marked red).

**Note:** By adjusting the plug width and height, the algorithm can detect plugs that were not detected during the first pass.

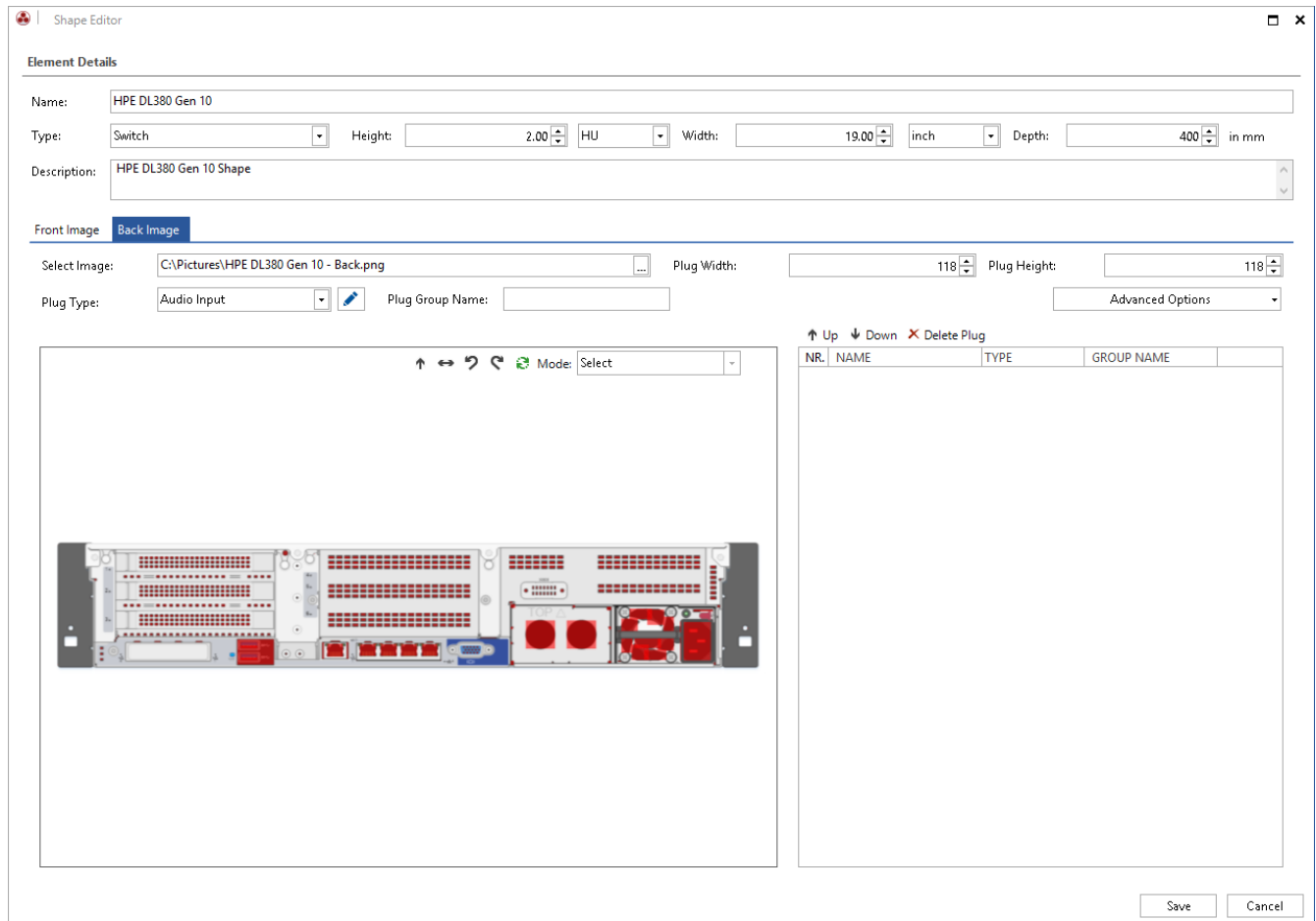


Fig. 16 - Detected Plugs

A plug connection is defined by selecting the interface on the shape. Before a selection is made, the appropriate plug type should be selected.

Shape Editor

Element Details

Name: HPE DL380 Gen 10

Category: System Height: 2.00 HU Width: 19.00 inch Depth: 400 in mm

Description: HPE DL380 Gen 10 Shape

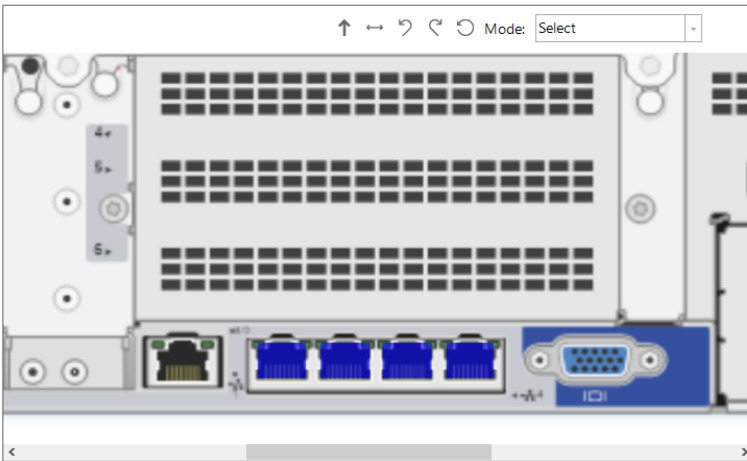
Front Image Back Image

Select Image: C:\Docusnap\Shapes\HPE DL380 Gen 10 - Back.png Plug Width: 79 Plug Height: 79

Plug Type: RJ-45 Plug Group Name: Network

Advanced Options

↑ ↔ ↶ ↷ ↺ Mode: Select



↑ Up ↓ Down ✕ Delete Plug

Nr.	Name	Type	Group Name
1	1	RJ-45	Network
2	2	RJ-45	Network
3	3	RJ-45	Network
4	4	RJ-45	Network

Save Cancel

Fig. 17 - Define the Detected Plugs



### 7.1.2.3 Add Unrecognized Plugs

If individual plugs are not detected automatically, they can be added manually. The Define Plug Manually mode is used for this purpose.

The position of the plug can be defined with the aid of four marking points. Once the connector has been defined, it can be added with the green +.

Shape Editor

Element Details

Name: HPE DL380 Gen 10

Category: System

Height: 2.00 HU

Width: 19.00 inch

Depth: 400 in mm

Description: HPE DL380 Gen 10 Shape

Front Image Back Image

Select Image: C:\Docusnap\Shapes\HPE DL380 Gen 10 - Back.png

Plug Width: 118

Plug Height: 118

Plug Type: VGA

Plug Group Name: Network

Advanced Options

↑ Up ↓ Down × Delete Plug

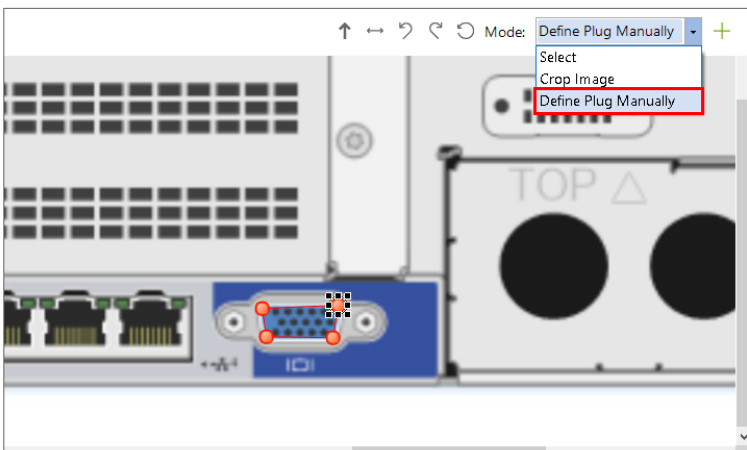
Nr.	Name	Type	Group Name
1	1	RJ-45	Network
2	2	RJ-45	Network
3	3	RJ-45	Network
4	4	RJ-45	Network

Mode: Define Plug Manually

Select

Crop Image

Define Plug Manually



Save

Cancel

Fig. 18 - Define the Plug Manually

## 7.2 Add Properties

Further properties (e.g. weight, current consumption, etc.) can be added to an element via the gear wheel and the selection **Edit Element Types**.

To assign properties to an element, it must be selected. The **Properties** button opens an overview of the available properties.

The **Define Properties** button can be used to create additional properties and assign them to the element.

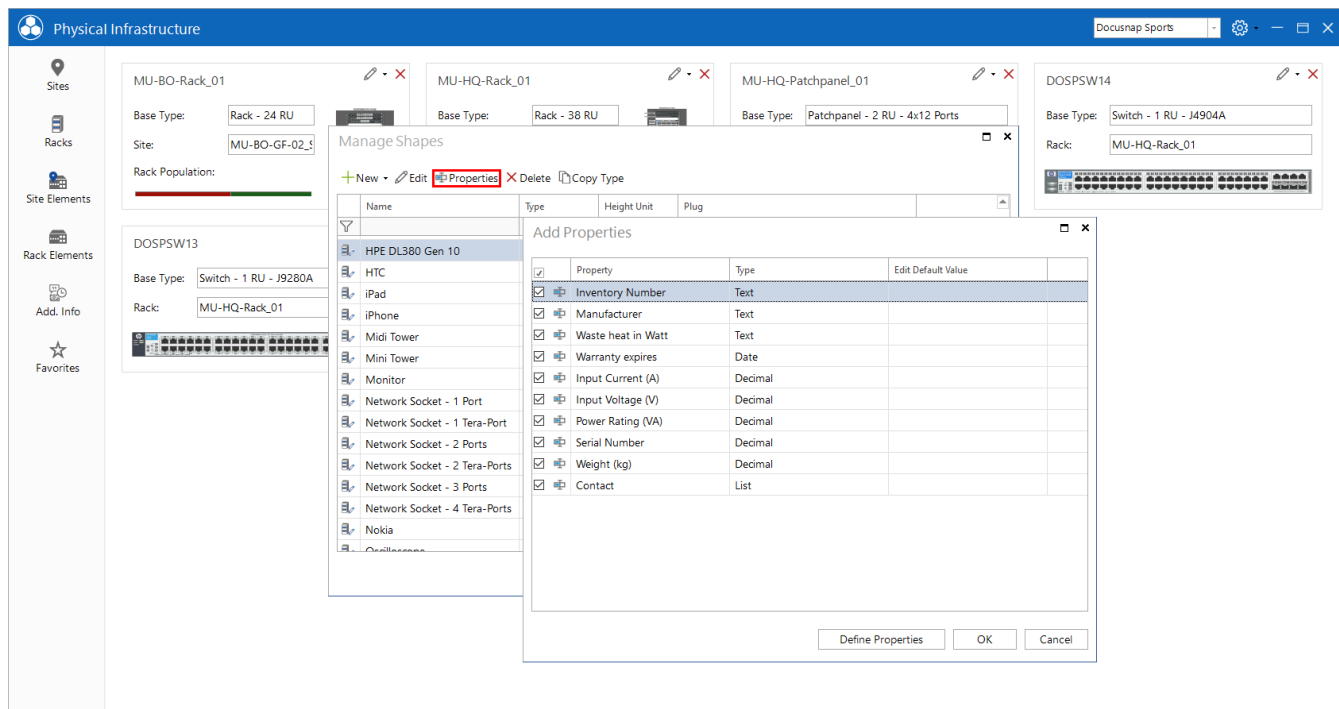


Fig. 19 - Edit properties

## 7.3 Edit Plug Types

The call is made within the Infrastructure Editor - via the gear wheel on the top right and the selection **Edit Plug Types**.

All plugs created in Docusnap have a basic type. Only plugs that share the same basic types can be wired to each other. The different plugs can be assigned to several basic types. E.g. SFP + corresponds to the type Network as well as Fibre-optic.

The Plug Count specifies the number of possible connections per plug. This is required if several connections are possible with one port, e.g. with a TERA cabling.

## 7.4 Edit Cable Types

The call is made within the Infrastructure Editor - via the gear wheel and the selection **Edit Cable Types**.

All connections created in Docusnap have a basic type. Cable types can only be wired with a plug that shares the same basic types.

The number of possible ports per side can be defined by means of the number of A/B plugs.

## 7.5 Shape Export / Import

Newly created shapes can be exported or imported. This makes it possible to transfer shapes to other databases. To open the export/import wizard, select a site or any physics element in the Docusnap tree structure. Then the desired wizard can be selected via the context menu. When importing, Docusnap checks if a shape with the same name already exists. Only shapes that do not already exist will be imported.

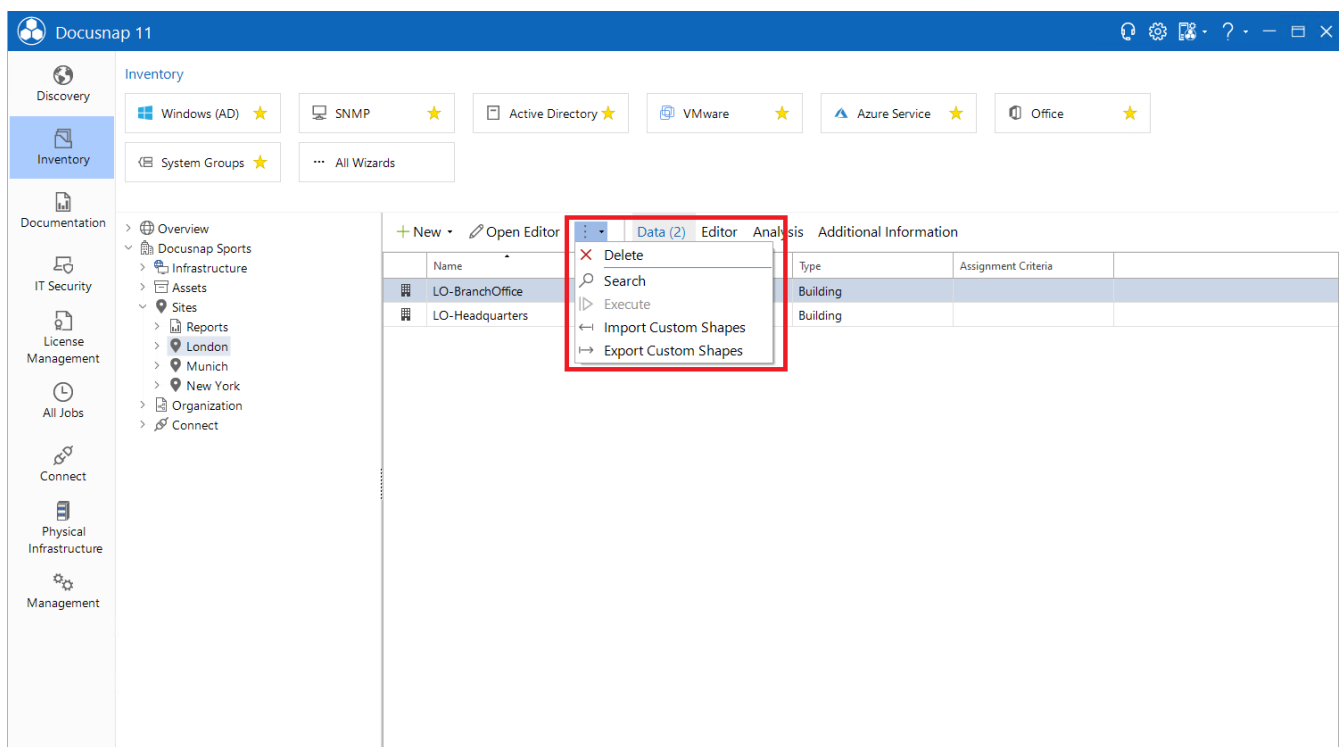


Fig. 20 - Shape Export & Import

## 8. Document Cabling

By mapping the Physical Infrastructure, it is possible to document the cabling.

Before cabling routes can be mapped, the corresponding elements must be stored in Docusnap. These elements could be for example

- Several sites of the type room
- One or more racks in which switches and patch panels are added
- One or more network sockets available in the rooms
- Elements of the type workstations in rooms
- Defined plugs
- Defined cable types

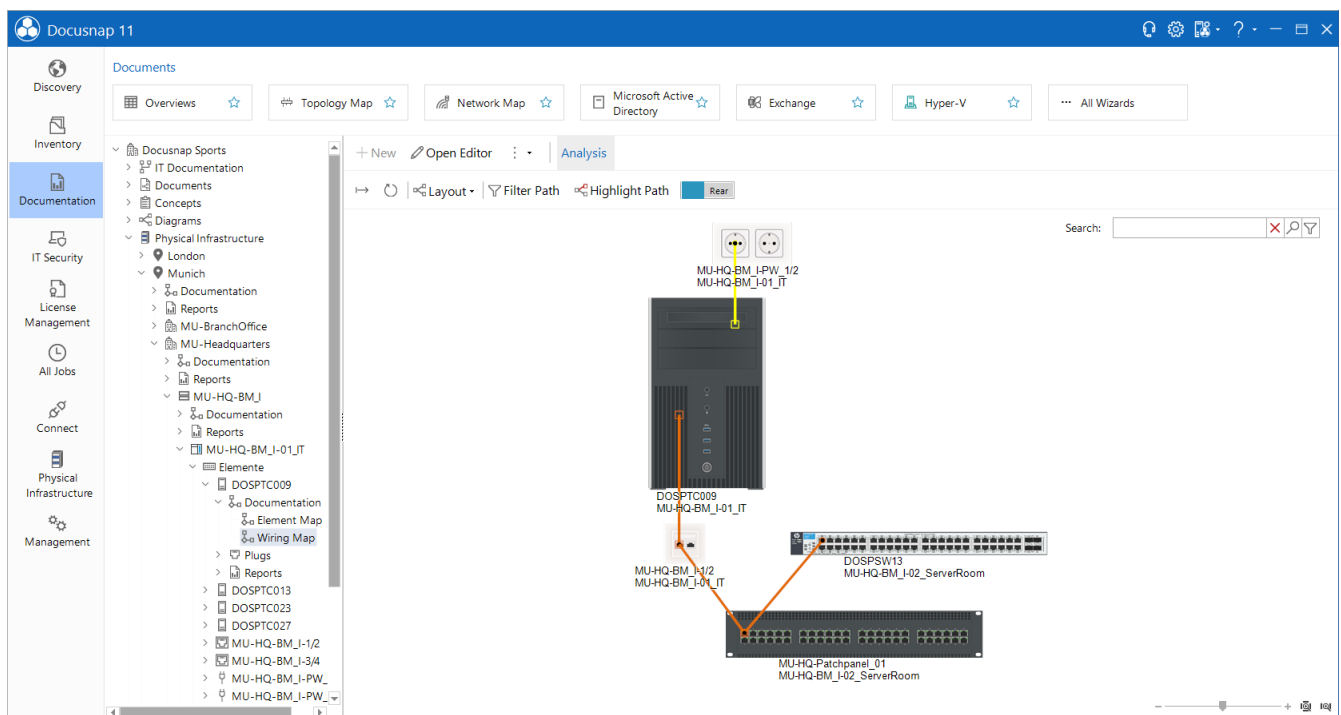


Fig. 21 - Sample Cable Map

## 8.1 Cable Types

Different cable types are required to map complete cabling. Docusnap contains standard cable types. Further cable types can be added in the menu under **Edit Cable Types**.

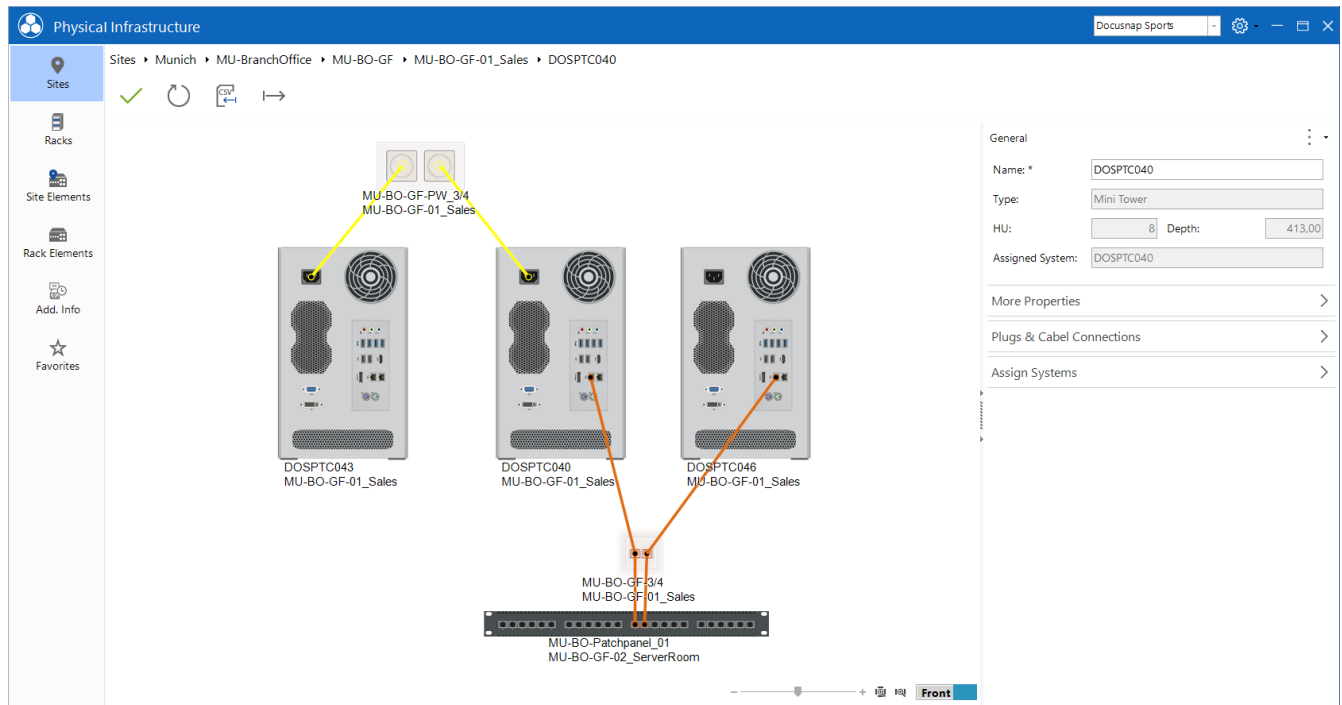


Fig. 22 - Add Cable Types

The required cable types can then be defined in the next dialog.

## 8.2 Description of the Procedure

To define a cabling, it is necessary to switch to the editing of the element. Connections to other elements can be specified in the toolbox under **Plugs & Cable Connections**.

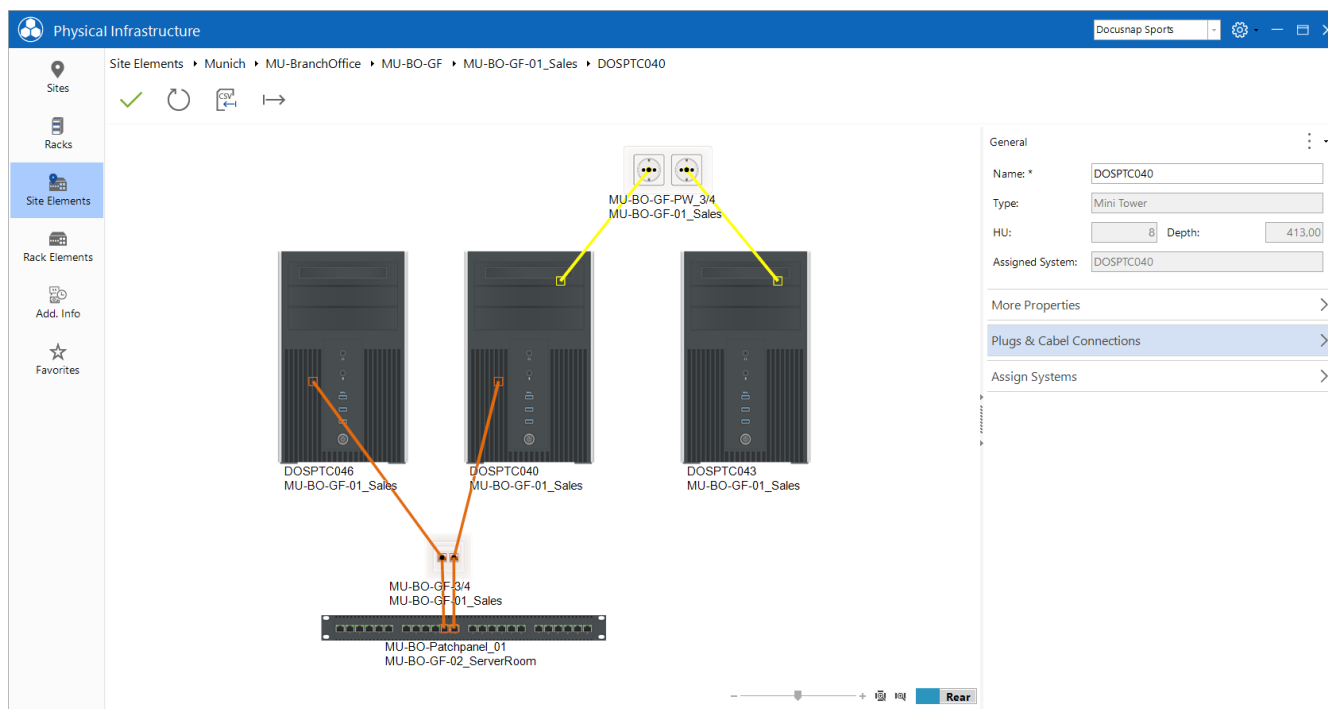


Fig. 23 - Ports & Power Connections

It should be noted that some elements require a connection for the front and rear sides, e.g. patch panels or network sockets.

If an element is linked to a switch, the topology map of the linked switch can be displayed. This is opened with the help of the button **Switch Assignment** within the toolbox **Plugs & Cable Connections**.

By means of the three points a description can be deposited for a single port. The name of the plug can be edited directly in the **PLUG** column.

[< Back to Overview \(DOSPTC040\)](#)

**Plug**

☐ Show Description

[Adjust Cable](#) [Export Plugs](#) [Switch Assignment](#)

	Plug	Nr.	Group	Wired with	
	Audio O...	1			...
	Audio In...	2			...
	USB 1 - ...	3			...

Fig. 24 - Show Switch Assignment

A new cable connection can be defined for this object using the cabling dialog. This can be opened via the **Adjust Cable** button or by double-clicking in the **Wired with** column.

The cable name, the cable type, the cable color, the element name of start and destination as well as the port can be defined.

All existing cable connections are displayed in the editing dialog. The default setting, however, is a filter that filters the data grid to the previously selected port.

If a new entry is created, the desired cable type must be selected. Then one or more ports can be connected depending on the cable type. The checkbox at the cable side indicates the starting point and the end point of the connection. An empty checkbox corresponds to Start, and a set checkbox corresponds to Endpoint.

### Cable Connections

Name:

Cable Type:  Cable Color:

Plug:	Element	Port	Cable Direction
<input type="checkbox"/>	NY-BO-FL_I-PW_1/2	Power Plug 1 - Front	<input type="checkbox"/>
<input checked="" type="checkbox"/>	DOSPTC047	Power Plug	<input checked="" type="checkbox"/>

	Name	Connection	Color
<input type="checkbox"/>	Connection-...	NY-BO-FL_I-PW_5/6 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-FL_I-PW_5/6 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-FL_I-PW_7/8 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-FL_I-PW_7/8 - Power Plug ...	Yellow
<input checked="" type="checkbox"/>	Connection-...	lug 1 <-> DOSPTC047 - Power Plug	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-FL_I-PW_1/2 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-FL_I-PW_3/4 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-FL_I-PW_3/4 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-BM_I-PW_1/2 - Power Plu...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-BM-PS_RM_01 - Power Ca...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-BM-PS_RM_02 - Power Ca...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-BM-PS_RM_01 - Power PL...	Yellow
<input type="checkbox"/>	Connection-...	NY-BO-BM-PS_RM_02 - Power PL...	Yellow
<input type="checkbox"/>	Connection-...	LO-BO-GF-PW_3/4 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	LO-BO-GF-PW_3/4 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	LO-BO-GF-PW_1/2 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	LO-BO-GF-PW_1/2 - Power Plug ...	Yellow
<input type="checkbox"/>	Connection-...	LO-BO-PS_RM_01 - Power Cable ...	Yellow
<input type="checkbox"/>	Connection-...	DOSPSW10 - Power <-> LO-BO-...	Yellow
<input type="checkbox"/>	Connection-...	SESX15 - Power Plug 1 <-> LO-B...	Yellow
<input type="checkbox"/>	Connection-...	SESX15 - Power Plug 3 <-> LO-B...	Yellow

Fig. 25 - Cable Connection

## 9. Documentation and Analysis

### 9.1 Reports

Docusnap contains various reports on the Physical Infrastructure. These can be found in the tree structure below the sites.

The following reports are available.

#### **Rack Summary**

The Rack Summary outputs information about the rack. It includes existing properties. Information on installed elements is also displayed.

#### **Rack Summary - Site**

All racks of the site and the subordinate sites are considered.

#### **Patch Panel Summary**

The Patch Panel Summary outputs information about the patch panel. It includes existing properties. information on wired elements is also displayed.

#### **Patch Panel Summary - Site**

All patch panels of the site and the subordinate sites are considered.

#### **Physical Elements Dashboards**

Overview of the elements added to the dashboard.

#### **Physical Elements Favorites**

Overview of the elements added to the favorites.

#### **Wiring Overview**

Overview of the patch panel assignment and the further cabling.

#### **Site Wiring Overview**

Outputs the cabling performed for elements at the selected location.

#### **Element Wiring Overview**

Outputs the cabling carried out for the selected element.



## 9.2 Maps

A visual evaluation of the Physical Infrastructure can be carried out with the help of maps. These can be found in the tree structure within the navigation areas *Inventory* and *Documentation*.

These maps are ad hoc maps. They are thus regenerated when opened and always refer to the most current data.

Maps are not only displayed in Docusnap but can also be exported to various formats (PNG, Visio, HTML, SVG).

### 9.2.1 Element Map

The element map can be opened below a single element in the tree structure. This map shows the connection between the element and other elements. Only the direct connections of the element are displayed.

Using the ribbon bar, you can control whether the front or rear side of the elements should be shown.

The mouse over function for individual cabling displays more detailed information about this.

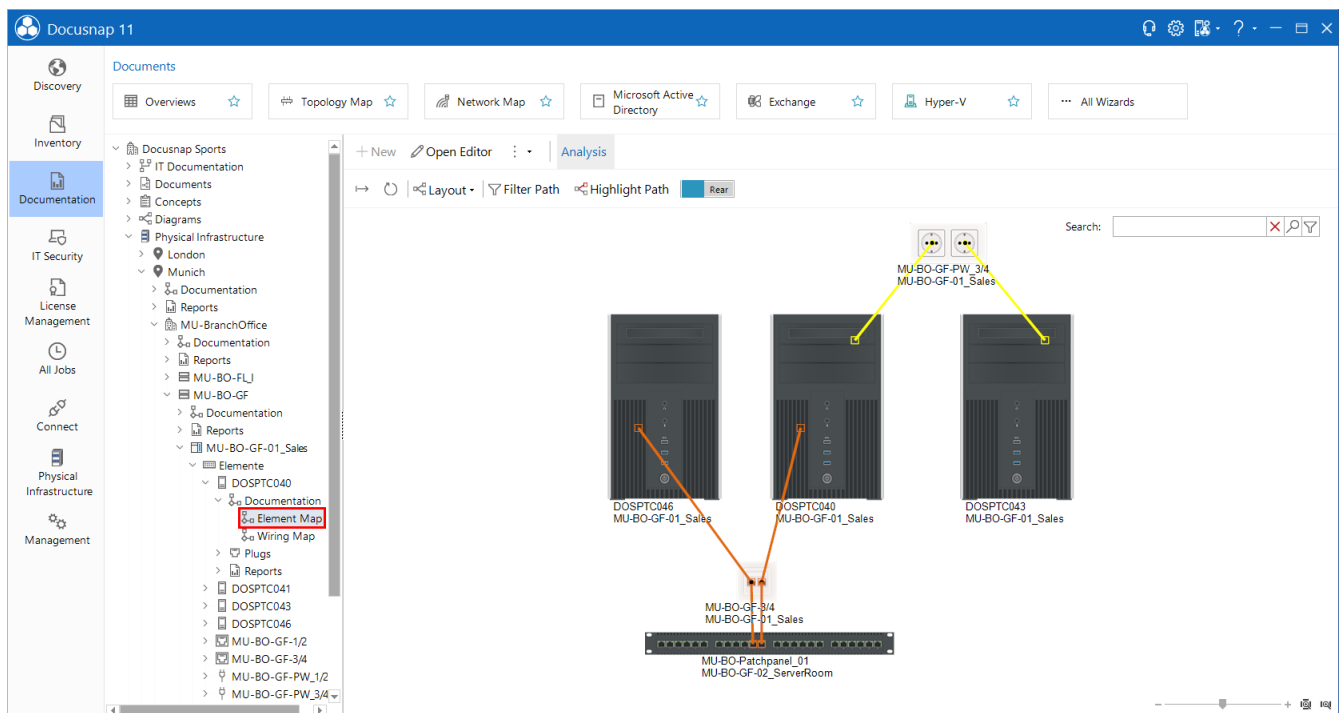


Fig. 26 - Element Map

## 9.2.2 Wiring Map

The wiring map can be opened below a single element in the tree structure. This map shows the continuous cabling route of the corresponding element to the endpoint, e.g. the network cabling of a workstation to the backbone switch.

Using the ribbon bar, you can control whether the front or rear side of the elements should be shown.

The mouse over function for individual cabling displays more detailed information about this.

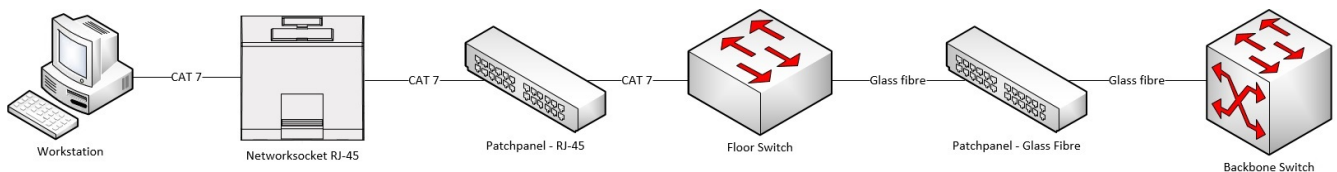


Fig. 27 - Wiring Map

## 9.2.3 Site Map

The site map can be found below a site. The site map shows the structure of the site. This applies to the stored site image as well as the positioning of the site elements.

## 9.2.4 Rack Map

The rack map reflects the physical structure of a rack. The positioning of the rack elements in the rack is shown. The map can be found below a rack.

Using the ribbon bar, you can control whether the front or rear side of the elements should be shown.

By setting the checkbox *Show Connections* the connections of the elements within the rack are displayed.

The mouse over function for individual cabling displays more detailed information about this.

## 9.3 Data Output and Further Processing

In addition to reports and maps the documented Physical Infrastructure can be output and further processed with the following functions.

### Docusnap Connect

Using Docusnap Connect, user-defined packages can be exported. These contain the desired information from the Physical Infrastructure.

### Docusnap Concepts

Maps, reports and overviews from the Physical Infrastructure can be integrated into concepts.

### Grid Export

Possibility of direct Excel export. Overviews in data grids can be exported directly to an Excel table.

## 10. Physical Infrastructure - CSV Import

### 10.1 Building a CSV File

Physical Infrastructure information can be imported via CSV import. The general requirements for the CSV file are listed below.

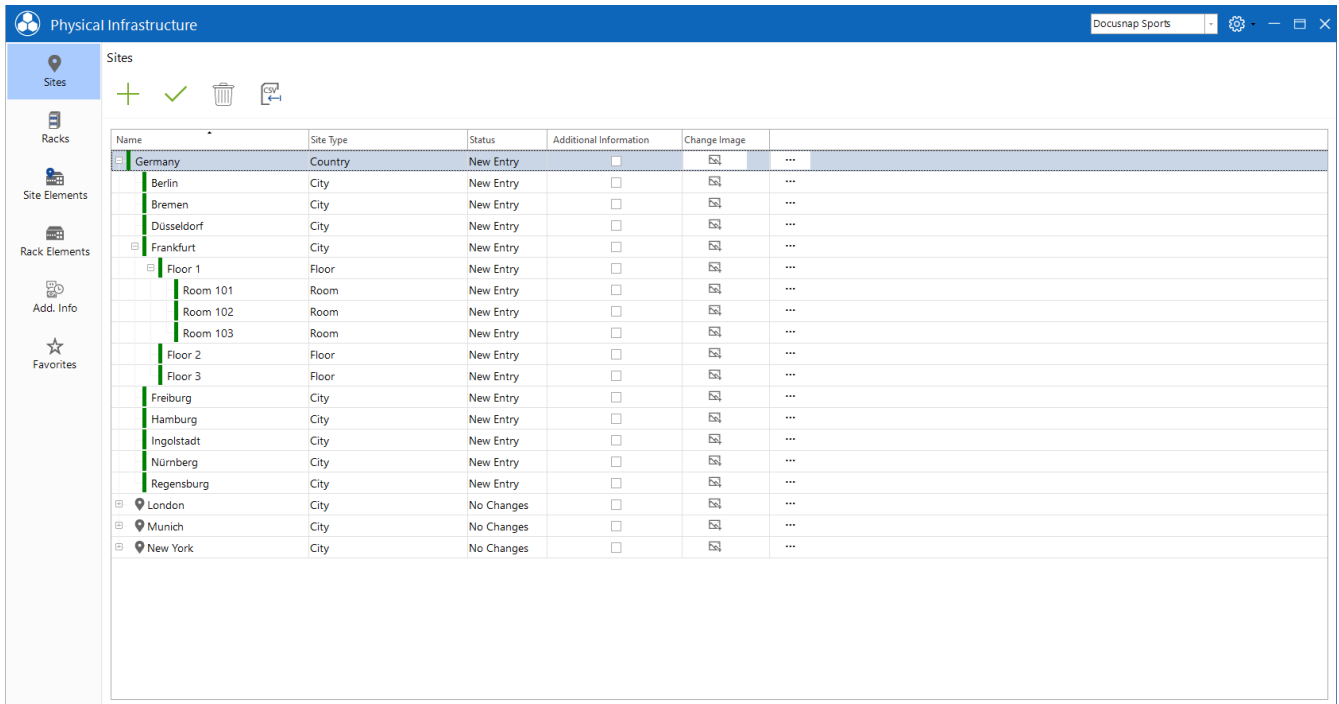
- The sign ";" (semicolon) is used as a separator.
- A heading is always expected in the first line. This row will not be considered during the import.
- The names of the columns are not relevant.
- Docusnap assigns the names of the entries to the dependent objects to import the CSV data. IDs cannot be used.
- If data records to be imported are not complete or cannot be assigned, they are imported in the Import dialog and can be manually adjusted there.
- If data records already exist, duplicates are created.
- The order of the columns must be observed. This is specified in the individual points.

#### Sites

- Site Name
- Site Type
- Parent Site (empty if at the top of the hierarchy)

Site	Type	Parent
Germany	Country	
Frankfurt	City	Germany
Berlin	City	Germany
Hamburg	City	Germany
Nürnberg	City	Germany
Düsseldorf	City	Germany
Freiburg	City	Germany
Bremen	City	Germany
Ingolstadt	City	Germany
Regensburg	City	Germany
Floor 1	Floor	Frankfurt
Floor 2	Floor	Frankfurt
Floor 3	Floor	Frankfurt
Room 101	Room	Floor 1
Room 102	Room	Floor 1
Room 103	Room	Floor 1

Fig. 28 - Sample CSV File for Sites



The screenshot shows the 'Physical Infrastructure' application window. On the left is a sidebar with navigation icons for Sites, Racks, Site Elements, Rack Elements, Add. Info, and Favorites. The main area displays a table titled 'Sites' with the following columns: Name, Site Type, Status, Additional Information, Change Image, and an action menu (three dots). The table contains data for Germany and its cities, as well as London, Munich, and New York. Each city entry has a 'New Entry' status and a 'Change Image' button. The table is expanded to show a hierarchy of elements: Germany (Country) -> Berlin, Bremen, Düsseldorf, Frankfurt (City) -> Floor 1, Room 101, Room 102, Room 103 (Floor) -> Floor 2, Floor 3 (Room) -> Freiburg, Hamburg, Ingolstadt, Nürnberg, Regensburg (City) -> London, Munich, New York (City).

Name	Site Type	Status	Additional Information	Change Image	
Germany	Country	New Entry			...
Berlin	City	New Entry			...
Bremen	City	New Entry			...
Düsseldorf	City	New Entry			...
Frankfurt	City	New Entry			...
Floor 1	Floor	New Entry			...
Room 101	Room	New Entry			...
Room 102	Room	New Entry			...
Room 103	Room	New Entry			...
Floor 2	Floor	New Entry			...
Floor 3	Floor	New Entry			...
Freiburg	City	New Entry			...
Hamburg	City	New Entry			...
Ingolstadt	City	New Entry			...
Nürnberg	City	New Entry			...
Regensburg	City	New Entry			...
London	City	No Changes			...
Munich	City	No Changes			...
New York	City	No Changes			...

Fig. 29 - Result of the CSV Import

### Site Elements

- Site Element Name
- Site
- Site Element Type

### Racks

- Rack Name
- Rack Type
- Site

### Rack Elements

- Rack Element Name
- Rack Name
- Rack Element Type
- Orientation (front or back) (front = 1 or True, back = 0 or False)

## Cable Connection

To be able to import several ports per cable connection, one line must be used per plug. Thus, two lines are required for the cabling of a network socket port with a patch panel port.

Based on the name of the connection, an assignment of start port and destination port is implemented. The number is required if a port has several connection options, e.g. TERA wiring.

Entries that could not be inserted correctly are marked with a red X and have to be adjusted manually. With OK all connections are inserted.

- Connection Name (related ports are specified by the connection name)
- Cable Type
- Cable Color (specified by RGB value 255-255-255) (If the field is blank, the default color of the cable is used)
- Element (element to be wired)
- Port (port to be wired)
- Front (Front or Back) (Front = 1 or True, Rear = 0 or False)
- Number (Relevant for cabling with multiple connections. Specifies the position of the connection at the plug. If the connector has only one port, a "1" is always entered)
- Destination (specify at which end of the wiring this port is) (Start = 0 and End = 1) Relevant if there are several plugs on one side of the connection, e.g. TERA cabling

Name	CableName	Color	ElementName	PortName	isFront	Number	Direction
Cable7	Cat 5	251-213-181					1
Cable8	Cat 5	251-213-181	DOSPSW01	22	1	1	0
Cable8	Cat 5	251-213-181					1
Connection	Cat 7	227-108-9	DOSPSW01	23	1	1	0
Connection	Cat 7	227-108-9	DOSPFS02	1	0	1	1
Connection	Cat 7	227-108-9	DOSPSW01	24	1	1	0
Connection	Cat 7	227-108-9	DOSPFS02	2	0	1	1
Connection	Multimode	10-255-255	MU-BO-Patch	1	1	1	0
Connection	Multimode	10-255-255	DOSPSW01	SFP+ 1	1	1	1
Connection	Multimode	10-255-255	MU-BO-Patch	2	1	1	0
Connection	Multimode	10-255-255	DOSPSW01	SFP+ 2	1	1	1
Connection	Multimode	10-255-255	DOSPSW01	SFP+ 3	1	1	0
Connection	Multimode	10-255-255	SBLADE15	1	0	1	1
Connection	Multimode	10-255-255	DOSPSW01	SFP+ 4	1	1	0
Connection	Multimode	10-255-255	SBLADE16	1	0	1	1
Cable9	RS-232	118-146-60	DOSPSW01	RS-232	1	1	0
Cable9	RS-232	118-146-60					1
Cable10	USB 1.0	242-220-219	DOSPSW01	USB 1 - Front	1	1	0
Cable10	USB 1.0	242-220-219					1

Fig. 30 - Sample extract from CSV file for connections



Import Cable Connections □ ×



















































































































← Import Data × Delete

Name:

Cable Type:  Cable Color:

Plug:

Element	Port	Cable Direction
 DOSPLX07	<New Entry>	<input type="checkbox"/>
 DOSPSW01	14	<input checked="" type="checkbox"/>

Name	Color
 Connection-...	
 Connection-...	
 Connection-...	
 Connection-...	
 Connection-...	
 Connection-...	
 Connection-...	
 Connection-...	
 Connection-...	
 Connection-...	
 Connection-...	
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OK Cancel

Fig. 31- Results of the CSV Import for Connections

Faulty entries in the CSV file are marked with a red X. To get a complete import here, these entries must still be edited.

## 10.2 Cable Connections Import/ Export Functions

With the help of the function Export Plugs it is possible to export a finished CSV file with the cabling of the system. The export function is available for all elements where connections can be documented.

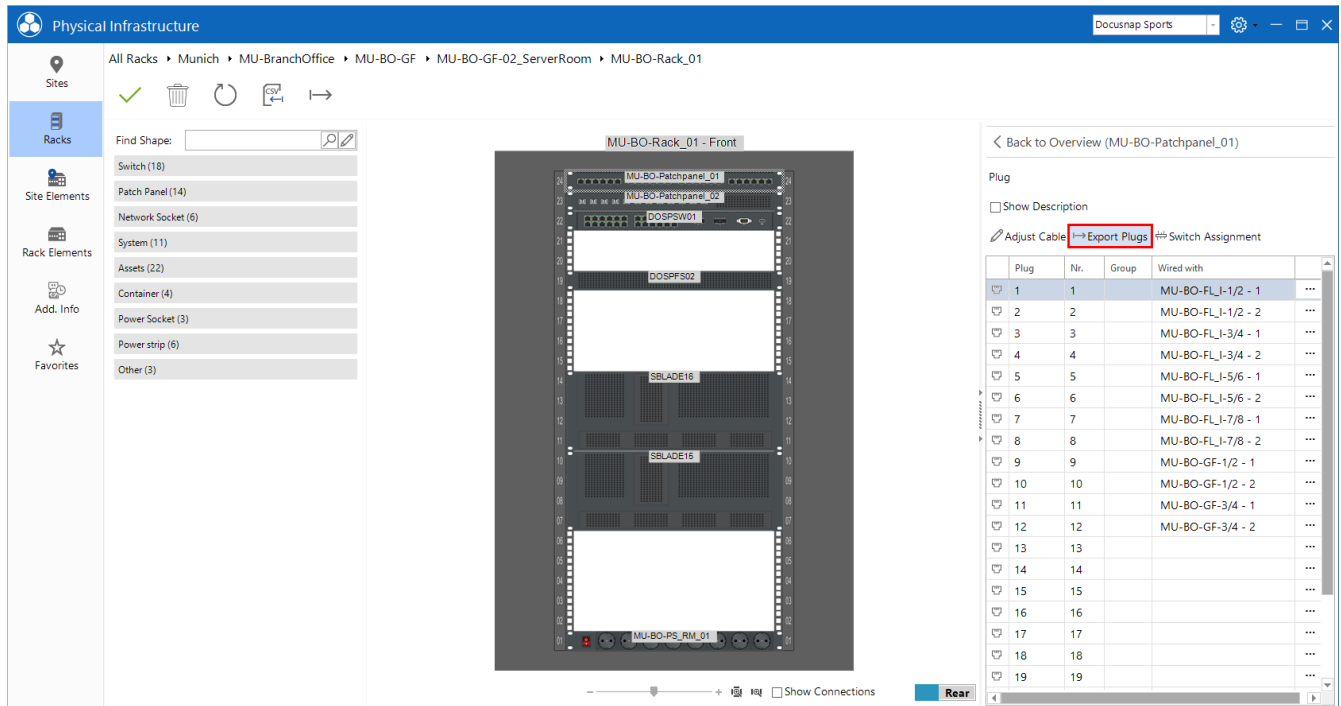


Fig. 32 - Export Plugs

The existing connections can be deleted during export. This means that the connections can then be adapted in the exported CSV file and then re-imported.

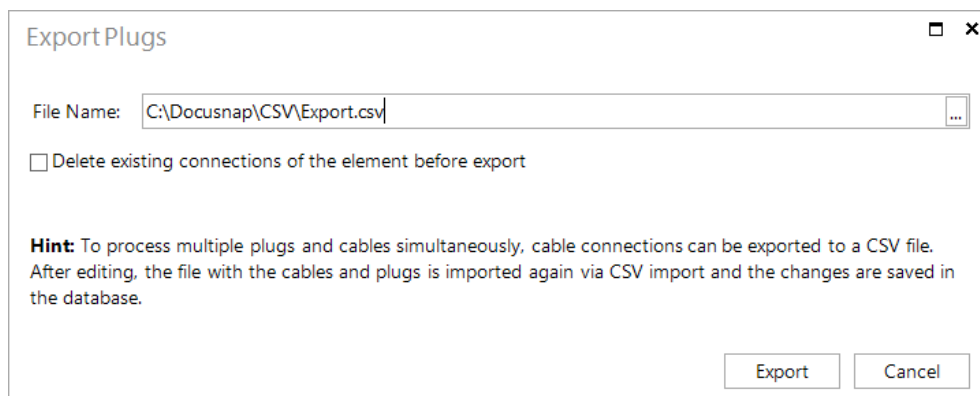


Fig. 33 - Export Plug Dialog

**Attention:** If the checkbox is activated, these connections are deleted from the database. If the CSV file is lost, the connections must be documented again.

The exported CSV file can then be imported as usual using the Import Cable Connections button.



## 11. Migration Wizard

To migrate inventory data of the Physical Infrastructure from older Docusnap versions a migration wizard is available. This is started as soon as the editor is opened.

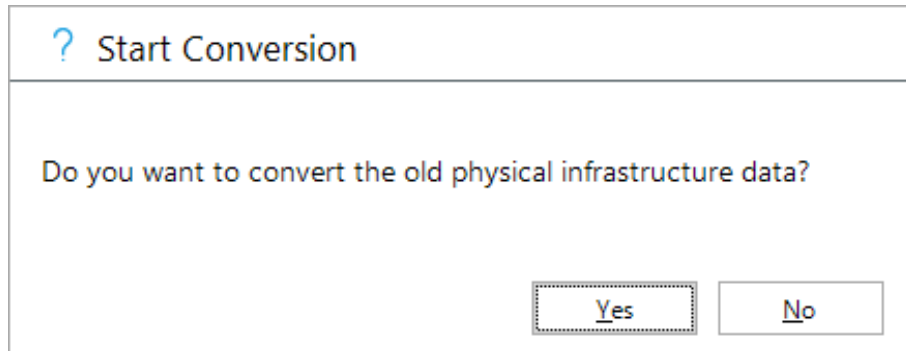


Fig. 34 - Migration Wizard - Start Conversion

The request for migration only occurs once and for all clients in the database. If the conversion is rejected, the dialog does not appear again.

The migration of the existing Physical Infrastructure is only partially automated since information was not defined in this level of detail in the previous Physical Infrastructure. For example, patch panels were connected to a switch without detailed port information. The assignments within a rack cannot be transferred either. The corresponding elements are placed in the rack but must be moved to the desired position by the user.

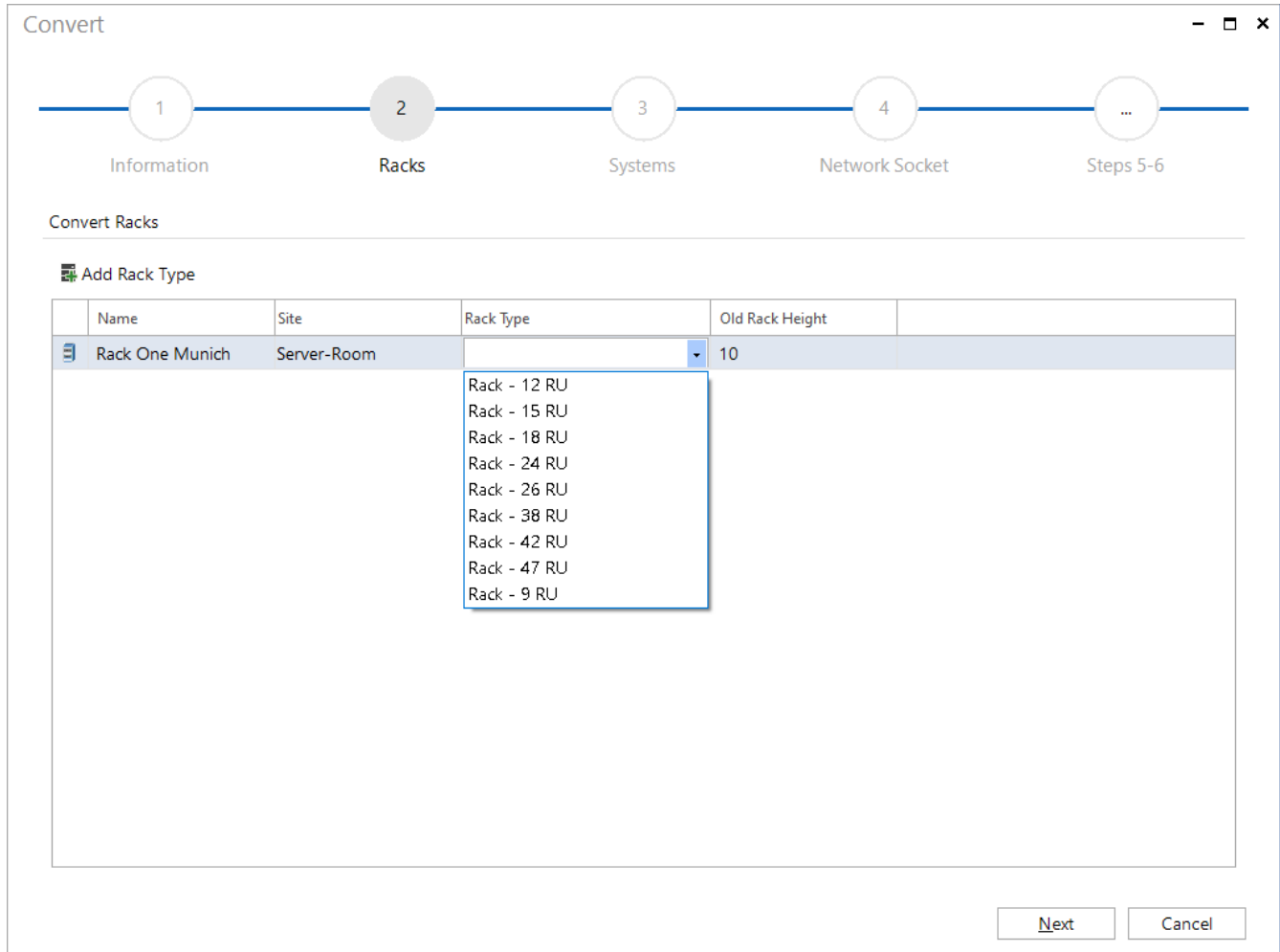
The previous tables and columns and their contents are retained after migration.

- tRacks
- tNetworkSocket
- tNetworkSocketPort
- tHosts.RackID
- tHosts.RackStartHeightUnits
- tHosts.RackNumberOfHeightUnits

## 11.1 Transfer Data

The following steps are performed in the migration wizard:

- Racks are converted
  - o Name and site are taken over automatically
  - o A rack type must be manually assigned to the existing rack.



Convert

1 Information 2 Racks 3 Systems 4 Network Socket ... Steps 5-6

Convert Racks

Add Rack Type

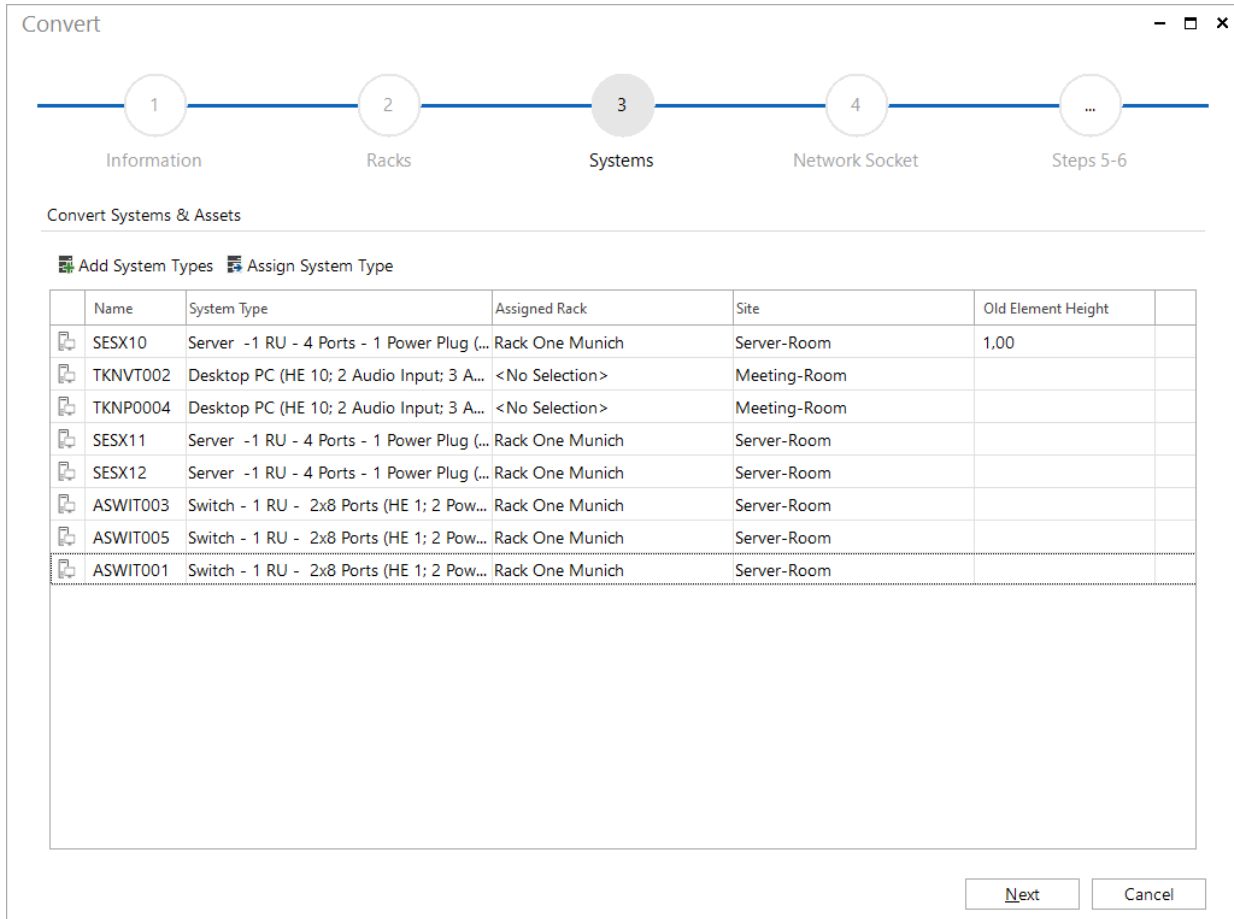
Name	Site	Rack Type	Old Rack Height
Rack One Munich	Server-Room		10

Rack - 12 RU  
Rack - 15 RU  
Rack - 18 RU  
Rack - 24 RU  
Rack - 26 RU  
Rack - 38 RU  
Rack - 42 RU  
Rack - 47 RU  
Rack - 9 RU

Next Cancel

Fig. 35 - Migration Wizard - Racks



- Systems and assets are converted
  - o System name, rack and site are assigned automatically.
  - o You may have to make manual adjustments to the system type.
  - o Systems assigned to a rack must be manually positioned in the rack.  
An automatic installation on the corresponding RUs does not take place!
  - o You can make a multiple selection for the system type by choosing **Assign System Type**.



**Convert**

1 Information   2 Racks   **3 Systems**   4 Network Socket   5 Steps 5-6

Convert Systems & Assets

 Add System Types    Assign System Type

Name	System Type	Assigned Rack	Site	Old Element Height
SESX10	Server -1 RU - 4 Ports - 1 Power Plug (...)	Rack One Munich	Server-Room	1,00
TKNVT002	Desktop PC (HE 10; 2 Audio Input; 3 A...	<No Selection>	Meeting-Room	
TKNP0004	Desktop PC (HE 10; 2 Audio Input; 3 A...	<No Selection>	Meeting-Room	
SESX11	Server -1 RU - 4 Ports - 1 Power Plug (...)	Rack One Munich	Server-Room	
SESX12	Server -1 RU - 4 Ports - 1 Power Plug (...)	Rack One Munich	Server-Room	
ASWIT003	Switch - 1 RU - 2x8 Ports (HE 1; 2 Pow...	Rack One Munich	Server-Room	
ASWIT005	Switch - 1 RU - 2x8 Ports (HE 1; 2 Pow...	Rack One Munich	Server-Room	
ASWIT001	Switch - 1 RU - 2x8 Ports (HE 1; 2 Pow...	Rack One Munich	Server-Room	

**Next**   **Cancel**

Fig. 36 - Migration Wizard - Systems

- Network sockets are converted
  - o The name is transferred
  - o The network socket type is determined automatically if possible. A manual correction may be necessary here
  - o The site must be assigned if necessary
- Patch panels are converted
  - o Name and site are automatically transferred if possible.
  - o A patch panel type must be entered manually.  
Patch panels assigned to racks are only assigned to the corresponding rack. An automatic installation on the corresponding RUs does not take place.

## 12. Use Case for the Physical Infrastructure

In the following chapters, practical scenarios are described using the Docusnap demo database provided. These are explained using fictitious examples.

These use cases do not contain a detailed description of the individual menus.

### 12.1 Relocation of a Workstation

The relocation of a workstation is described below. The aim is to move the workstation DSWS02 from room EG\_00-ROOM\_01 to room EG\_00-ROOM\_02. The problem is to understand the cabling route.

The wiring map is used to ensure that all cable connections are plugged in correctly and that connections that are no longer required are removed.

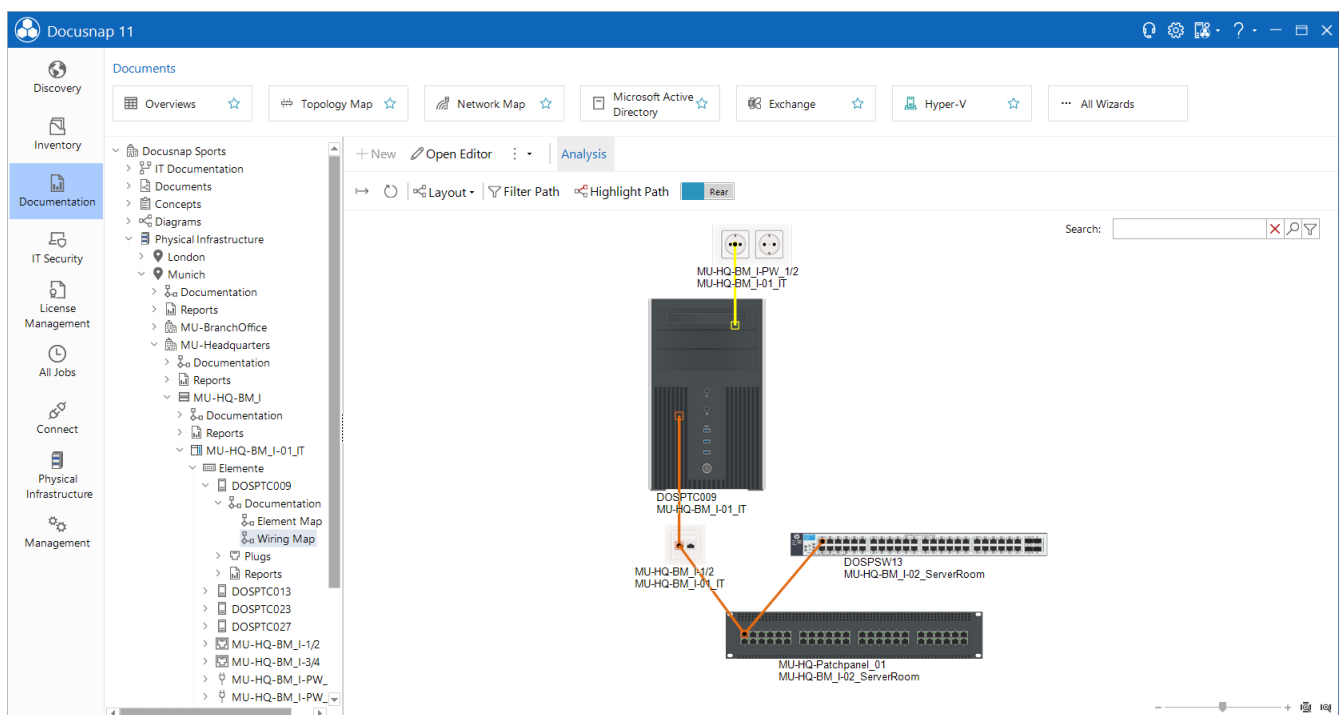


Fig. 37 - Cabling Map - Demo Database

The system is then assigned to the new site and rewired.

## 12.2 Determine the Wiring of Critical Systems

This example describes the wiring of a redundant network. It looks like this.

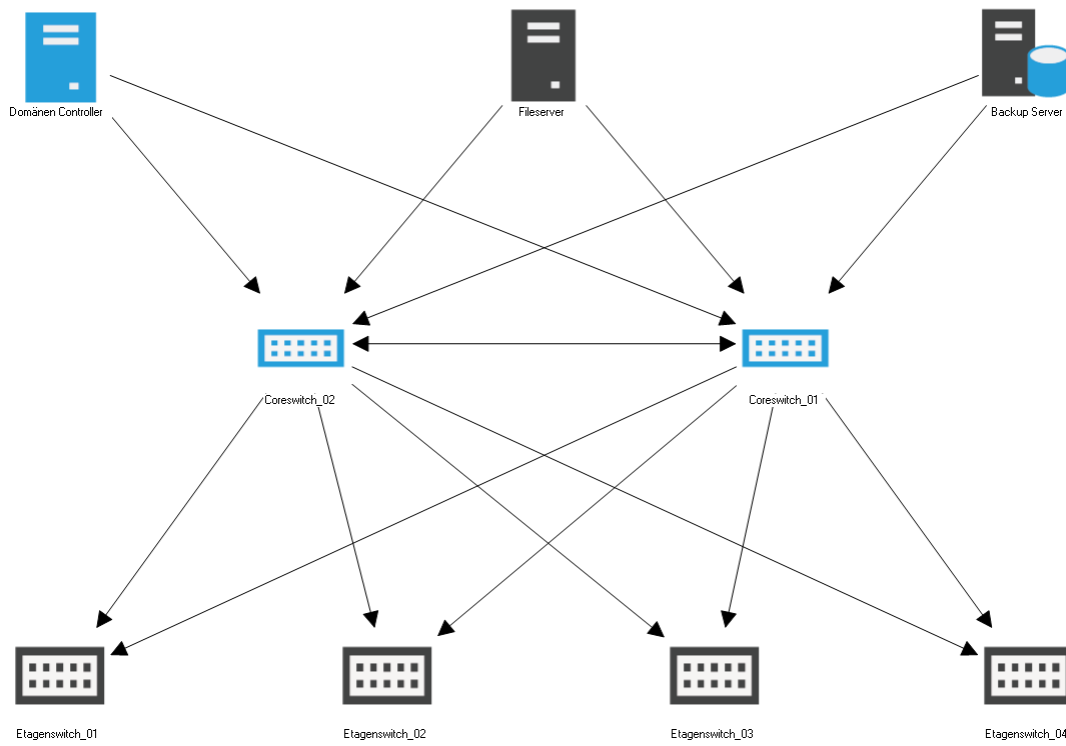


Fig. 38 - Redundant Network Scheme – Use Case

In this use case, the two core switches Coreswitch\_01 and Coreswitch\_02 are considered. A coreset switch should be wired as follows.

- Connection to the other coreset switch
- One connection each to the three servers
- One connection each to the distribution switches
- One connection each to a separate UPS network

The element plan can be used to check the direct connections of a system.

If a presumed connection is not displayed in the element map, you must check whether it exists.

You can find a redundant network in the Docusnap demo database in the following rack: MU-HQ-Rack\_02

## LIST OF FIGURES

FIG. 1 - OVERVIEW INFRASTRUCTURE EDITOR .....	7
FIG. 2 - OPEN THE EDITOR II.....	8
FIG. 3 - TABULAR EDITING WITHIN THE EDITOR .....	9
FIG. 4 - CONTEXT MENU.....	10
FIG. 5 - DASHBOARD OF THE INFRASTRUCTURE EDITOR.....	11
FIG. 6 - EDITOR - SITES .....	12
FIG. 7 - OVERVIEW SITE MAP.....	13
FIG. 8 - CREATE NEW SITE ELEMENT .....	14
FIG. 9 - SITE ELEMENT PLAN.....	15
FIG. 10 - EDIT THE RACK - ELEMENTS ADDED .....	17
FIG. 11 - DUPLICATE RACK OR SAVE AS TEMPLATE .....	18
FIG. 12 - OVERVIEW RACK ELEMENTS .....	19
FIG. 13 - CABLING OF THE ELEMENTS .....	20
FIG. 14 - CALL THE SHAPE EDITOR .....	21
FIG. 15 - CROP THE SHAPES IN THE EDITOR.....	22
FIG. 16 - DETECTED PLUGS .....	23
FIG. 17 - DEFINE THE DETECTED PLUGS.....	24
FIG. 18 - DEFINE THE PLUG MANUALLY .....	25
FIG. 19 - EDIT PROPERTIES .....	26
FIG. 20 - SHAPE EXPORT & IMPORT .....	27
FIG. 21 - SAMPLE CABLE MAP.....	28
FIG. 22 - ADD CABLE TYPES .....	29
FIG. 23 - PORTS & POWER CONNECTIONS .....	30
FIG. 24 - SHOW SWITCH ASSIGNMENT .....	30
FIG. 25 - CABLE CONNECTION.....	31
FIG. 26 - ELEMENT MAP .....	33
FIG. 27 - WIRING MAP.....	34
FIG. 28 - SAMPLE CSV FILE FOR SITES .....	36
FIG. 29 - RESULT OF THE CSV IMPORT .....	37
FIG. 30 - SAMPLE EXTRACT FROM CSV FILE FOR CONNECTIONS.....	38
FIG. 31- RESULTS OF THE CSV IMPORT FOR CONNECTIONS.....	39
FIG. 32 - EXPORT PLUGS .....	40
FIG. 33 - EXPORT PLUG DIALOG .....	40
FIG. 34 - MIGRATION WIZARD - START CONVERSION .....	41
FIG. 35 - MIGRATION WIZARD - RACKS.....	42
FIG. 36 - MIGRATION WIZARD - SYSTEMS.....	43

FIG. 37 - CABLING MAP - DEMO DATABASE .....44

FIG. 38 - REDUNDANT NETWORK SCHEME – USE CASE .....45

## VERSION HISTORY

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date	Description of the
23.01.2019	Version 1.0 released
01.07.2019	Version 1.1 new features described
06.05.2020	Version 2.0 - Revision of the HowTos for Docusnap 11
29.06.2021	Version 2.1 – Shape Export & Import feature described

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