Configuration Dialog Box (D2000/Topology)

Topology - configuration dialog box

Editing of all objects in the process D2000 CNF is being performed in the configuration dialog box, a specific part of which is common for all editable objects and another part depends on the type of edited object.

Topology configuration dialog box consists of several parts (tabs), which contains similar parameters.

General properties
Groups
Nodes
Links

The bottom part of the configuration dialog box contains the following buttons:

- **Save** - saves the topology configuration
- **Undo** - reverts performed changes
- **Use Sample** - the button is disabled for objects of *Topology* type

General properties

Description

A text string describing the topology. Maximum: 128 characters.
Possibility to use the Dictionary (to open press **CTRL+L**).

Nodes

The tab allows to define topological nodes. The top part of the configuration dialog box contains the table, which comprises created nodes in the given topology. Input fields, placed below the table, allow to configure each topological node. Each of the parameters is defined by means of an item placed below the particular column - for example node name is entered into the input field placed below the column Name etc.

There are three buttons placed below the input fields intended to configure parameters of nodes:

- **Delete** - delete selected node
- **Add** - add a new node according to defined parameters
- **Update** - change parameters of selected node

Selecting a node in the table is performed by clicking the corresponding link in the table.

Name

Name of a topological node. Name entered in the input filed is automatically extended with a prefix. The prefix depends on the application configuration. Node name with prefix is to be displayed in the table after its adding.

Type

Types of topological nodes:

- **Generator** - the node degree is just 1
- **Transformer** - the node degree is just 2
- **Ground** - the node degree is just 1
- **Switch** - the node degree is just 2
- **Branching** - the node degree is at least 2
- **Terminal** - the node degree is just 1

Power supply output

Value within the interval <1..10>. It is defined for topological nodes of the types Generator and Transformer. This value is to be assigned to the topological link, on which is the voltage from the given node.

Power supply input

Value within the interval <1..10>. It is defined for topological nodes of the type Transformer. This value is to be assigned to the topological link, on which is the voltage from the given transformer.

Control object

Control object is defined for topological nodes of Switch and Terminal type.

- A control object for a node of Switch type is obligatory and it can be an I/O tag or an Eval Tag (digital or quaternary state) or a Switch
- A control object for a node of Terminal type is optional and represents a terminal from another topology.

Links

The tabs allow to define topological links. A topological link represents the edge between source node and destination node. The top part of the configuration dialog box contains the table comprising created links in the given topology. Input fields, placed below the table, are used to configure parameters of topological links. Each of the parameters is defined by means of an input field placed below the corresponding column - for example a link name is entered into the input field placed below the column **Name** etc.

Name

Name of topological link. Name entered in the input field is extended with an prefix. The prefix depends on the application configuration. Link name with prefix are displayed in the table after its adding.

Source node

The source node for a topological link is defined by the selection from the dropdown box, which includes all nodes defined for the given topology.

Destination node

The destination node for a topological link is defined by the selection from the dropdown box, which includes all nodes defined for the given topology.

Control object

The control object of a topological link. Control object must be the type Qx or Boolean. If the object is of Qx type, then a value of the control object is to be directly assigned to switch. If it is Boolean type, there are the following rules:

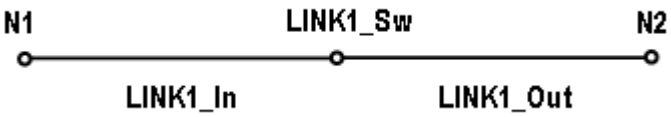
- control object value is TRUE. Then the value of the newly created switch is to be On.
- control object value is FALSE. Then the value of the newly created switch is to be Off.

If a control object is defined for given topological link, the following conversion is to be executed after saving the link:

The topological link is divided into two links (with no control objects), between which a topological node of Switch type is inserted. The control object of the switch created in this way is the same as for the original topological link. The described conversion is demonstrated on the following example.

System configurator created a topology, which includes also the link **LINK1** connecting the nodes **N1** and **N2**.

The control object **COBJ** is defined for the link **LINK1**. Saving the configuration creates the following conversion. The original link **LINK1** is divided into two links with the names **LINK1_In** and **LINK1_Out**; and a new switch **LINK1_Sw** is created. The link **LINK1_In** is defined as the edge between the nodes **N1** and **LINK1_Sw** and; **LINK1_Out** as the edge between nodes **LINK1_Sw** and **N2**. The switch **LINK1_Sw** is controlled by the control object **COBJ**. The links **LINK1_In** and **LINK1_Out** have no control objects.



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