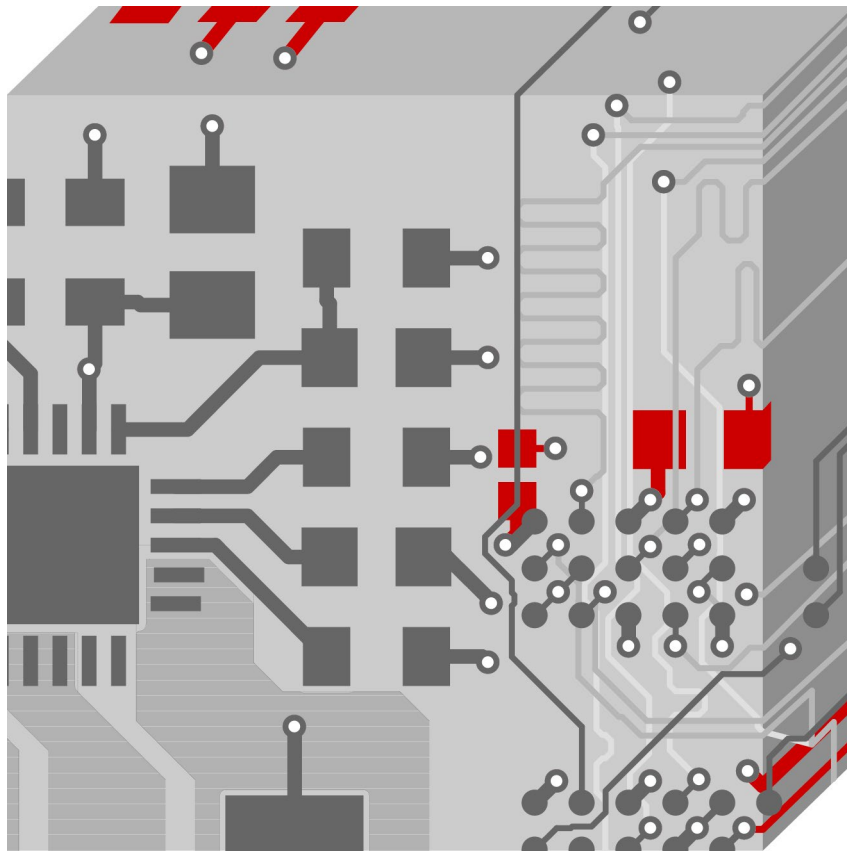


## Objects in Constraint Manager



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# 1 Overview

Schematic Entries as well as PCB Editors and Constraint Manager are using different objects to collect signals into meaningful categories to allow easier handling.

In this document these objects are described.

# 2 Net Class

A **Net Class** is a collection of nets used to define intra- and inter-class relations.

An inter-class relation is the ruling between classes. Intra-class relations are rules, that apply to the nets within the net class. A net class is a collection of nets that share common characteristics and usually use same constraints.

NCIs		▼ <b>POWER(4)</b>	<b>500UM_SPACING</b>
Net		<b>AGND</b>	500UM_SPACING
Net		<b>V+12</b>	500UM_SPACING
Net		<b>VCC</b>	500UM_SPACING
Net		<b>V12N</b>	500UM_SPACING

Typical Net Class in Constraint Manager

Net classes are used to define class to class relations in Constraint Manager.

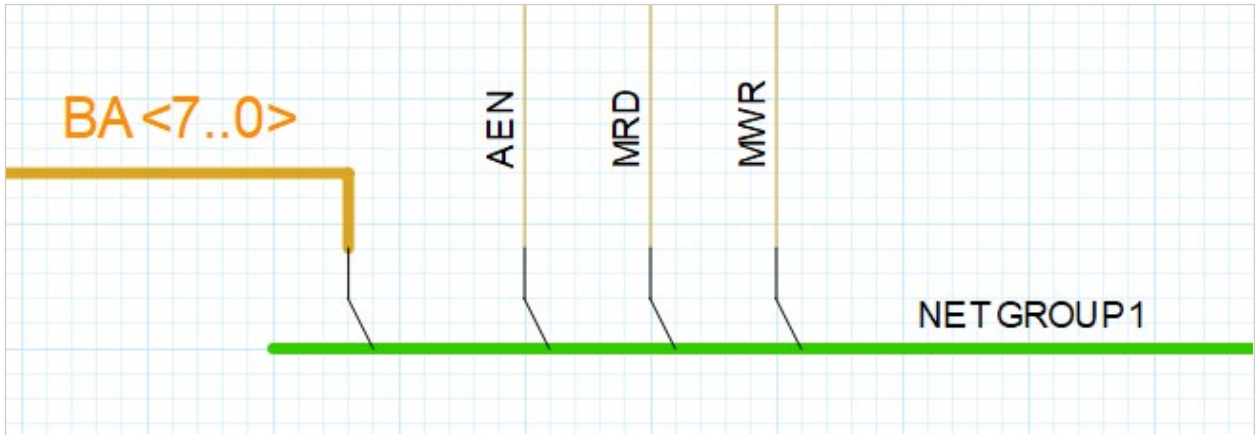
Class Name ^	POWER	IOB	IOA	IO	CLOCK	BR
A						
BR	<b>500UM_SPACING</b>	<b>500UM_SPACING</b>				
CLOCK	<b>1MM_SPACING</b>			<b>500UM_SP...</b>		
IO						
IOA						
IOB						
POWER						

CSet Assignment Matrix in Constraint Manager

It is only possible to define class to class relations with net classes.

### 3 Net Group

A **Net Group** is a collection of objects, which can be e.g. individual nets or busses that simplifies connectivity definition in Schematic Entry, routing in PCB Editor and adding constraints in the Constraint Manager. Members of a Net Group do not necessarily have to share the same constraint values.



Net Group in System Capture

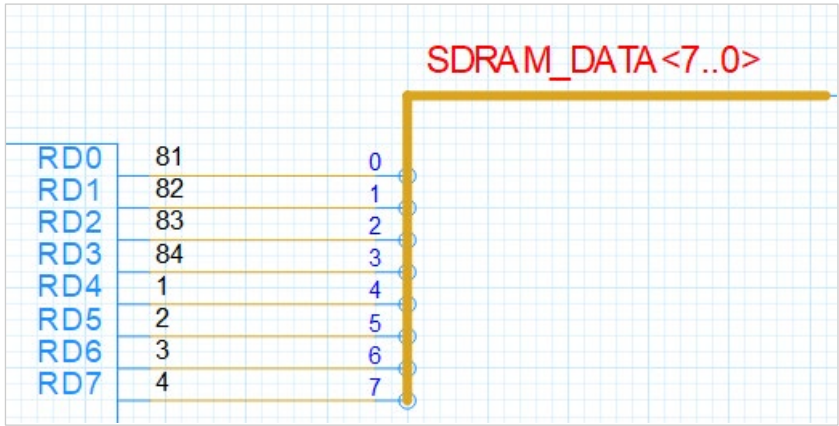
Bus and individual nets collected together in a Net Group.

NGrp	S	▲ <b>NETGROUP1(4)</b>	<b>300UM_SPACING</b>
Bus		▲ <b>BA(8)</b>	300UM_SPACING
Net		<b>BA&lt;0&gt;</b>	300UM_SPACING
Net		<b>BA&lt;1&gt;</b>	300UM_SPACING
Net		<b>BA&lt;2&gt;</b>	300UM_SPACING
Net		<b>BA&lt;3&gt;</b>	300UM_SPACING
Net		<b>BA&lt;4&gt;</b>	300UM_SPACING
Net		<b>BA&lt;5&gt;</b>	300UM_SPACING
Net		<b>BA&lt;6&gt;</b>	300UM_SPACING
Net		<b>BA&lt;7&gt;</b>	300UM_SPACING
Net		<b>AEN</b>	300UM_SPACING
Net		<b>MRD</b>	300UM_SPACING
Net		<b>MWR</b>	300UM_SPACING

Net Group in Constraint Manager

## 4 Bus

A **Bus** collects the net of a logic interface like data bits of a memory block.



Bus in System Capture

Bus		<b>▲ SDRAM_DATA(8)</b>	DEFAULT
Net		<b>SDRAM_DATA&lt;0&gt;</b>	DEFAULT
Net		<b>SDRAM_DATA&lt;1&gt;</b>	DEFAULT
Net		<b>SDRAM_DATA&lt;2&gt;</b>	DEFAULT
Net		<b>SDRAM_DATA&lt;3&gt;</b>	DEFAULT
Net		<b>SDRAM_DATA&lt;4&gt;</b>	DEFAULT
Net		<b>SDRAM_DATA&lt;5&gt;</b>	DEFAULT
Net		<b>SDRAM_DATA&lt;6&gt;</b>	DEFAULT
Net		<b>SDRAM_DATA&lt;7&gt;</b>	DEFAULT

Bus in Constraint Manager

## 5 Match Group

A **Match Group** is used to collect nets in the electrical domain in Constraint Manager for relative propagation delay.

MGrp		<b>▲ DATA(8)</b>	<b>All Drivers/All Receivers</b>		<b>Global</b>	<b>0 ns:5 %</b>
Net		<b>SDRAM_DATA&lt;0&gt;</b>	All Drivers/All Receivers		Global	0 ns:5 %
Net		<b>SDRAM_DATA&lt;1&gt;</b>	All Drivers/All Receivers		Global	0 ns:5 %
Net		<b>SDRAM_DATA&lt;2&gt;</b>	All Drivers/All Receivers		Global	0 ns:5 %
Net		<b>SDRAM_DATA&lt;3&gt;</b>	All Drivers/All Receivers		Global	0 ns:5 %
Net		<b>SDRAM_DATA&lt;4&gt;</b>	All Drivers/All Receivers		Global	0 ns:5 %
Net		<b>SDRAM_DATA&lt;5&gt;</b>	All Drivers/All Receivers		Global	0 ns:5 %
Net		<b>SDRAM_DATA&lt;6&gt;</b>	All Drivers/All Receivers		Global	0 ns:5 %
Net		<b>SDRAM_DATA&lt;7&gt;</b>	All Drivers/All Receivers		Global	0 ns:5 %

Match Group in Constraint Manager