

ADD - ACCELERATOR DESIGN AND DEPLOY DOCUMENTATION

1.0

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Hierarchical Index

1.1 Class Hierarchy

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Class Index

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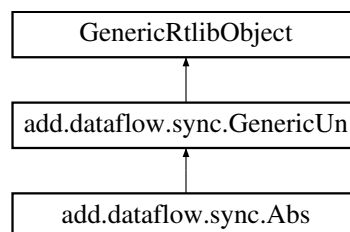
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Chapter 3

Class Documentation

3.1 add.dataflow.sync.Abs Class Reference

Inheritance diagram for add.dataflow.sync.Abs:



Public Member Functions

- [Abs](#) ()
- int [compute](#) (int data)

3.1.1 Detailed Description

[Abs](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for delivering the absolute value of the input.

Universidade Federal de Viçosa - MG - Brasil.

Author

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Ricardo Santos Ferreira - cacauvicosa@gmail.com

Version

1.0

3.1.2 Constructor & Destructor Documentation

3.1.2.1 add.dataflow.sync.Abs.Abs ()

Object Constructor.

3.1.3 Member Function Documentation

3.1.3.1 `int add.dataflow.sync.Abs.compute (int data)`

Method responsible for the component computation.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

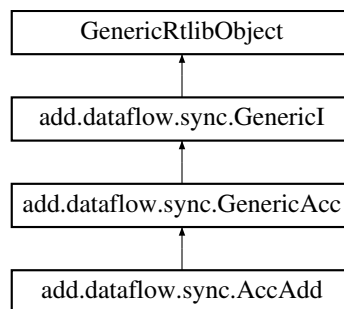
- Returns the result of the computation. In this case, returns the absolute value of the parameter.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Abs.java`

3.2 `add.dataflow.sync.AccAdd` Class Reference

Inheritance diagram for `add.dataflow.sync.AccAdd`:



Public Member Functions

- [AccAdd \(\)](#)

Additional Inherited Members

3.2.1 Detailed Description

[AccAdd](#) component for the ADD Accelerator Design and Deploy.

The component implements an adder accumulator.

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 Ricardo Santos Ferreira - cacauvicosa@gmail.com

Version

1.0

3.2.2 Constructor & Destructor Documentation

3.2.2.1 add.dataflow.sync.AccAdd.AccAdd ()

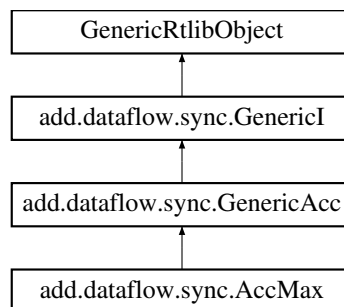
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/AccAdd.java

3.3 add.dataflow.sync.AccMax Class Reference

Inheritance diagram for add.dataflow.sync.AccMax:



Public Member Functions

- [AccMax](#) ()
- void [reset](#) ()

Protected Member Functions

- void [accumulate](#) (int data)

3.3.1 Detailed Description

[AccMax](#) component for the ADD Accelerator Design and Deploy.

The component implements a store for the highest input value.

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Version

1.0

3.3.2 Constructor & Destructor Documentation

3.3.2.1 add.dataflow.sync.AccMax.AccMax ()

Object Constructor.

3.3.3 Member Function Documentation

3.3.3.1 void add.dataflow.sync.AccMax.accumulate (int *data*) [protected]

Method that compares the parameter to the stored value. If the parameter is larger, it will override the stored value.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

3.3.3.2 void add.dataflow.sync.AccMax.reset ()

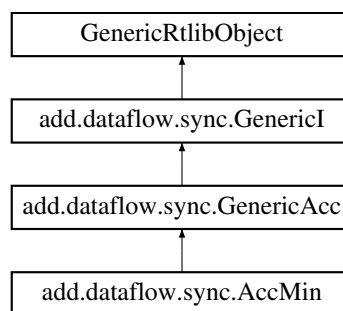
Method responsible for actions required when "Reset" occurs.

The documentation for this class was generated from the following file:

- add/dataflow/sync/AccMax.java

3.4 add.dataflow.sync.AccMin Class Reference

Inheritance diagram for add.dataflow.sync.AccMin:



Public Member Functions

- [AccMin](#) ()
- void [reset](#) ()

Protected Member Functions

- void [accumulate](#) (int data)

3.4.1 Detailed Description

[AccMin](#) component for the ADD Accelerator Design and Deploy.

The component implements a store for the lowest input value.

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Version

1.0

3.4.2 Constructor & Destructor Documentation

3.4.2.1 add.dataflow.sync.AccMin.AccMin ()

Object Constructor.

3.4.3 Member Function Documentation

3.4.3.1 void add.dataflow.sync.AccMin.accumulate (int *data*) [protected]

Method that compares the parameter to the stored value. If the parameter is smaller, it will replace the stored value.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

3.4.3.2 void add.dataflow.sync.AccMin.reset ()

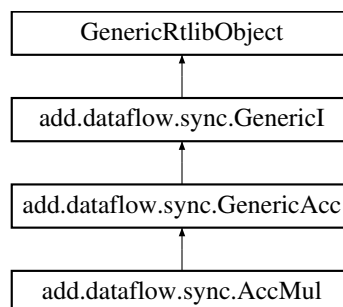
Method responsible for actions required when "Reset" occurs.

The documentation for this class was generated from the following file:

- add/dataflow/sync/AccMin.java

3.5 add.dataflow.sync.AccMul Class Reference

Inheritance diagram for add.dataflow.sync.AccMul:



Public Member Functions

- [AccMul](#) ()
- void [reset](#) ()

Protected Member Functions

- void [accumulate](#) (int data)

3.5.1 Detailed Description

[AccMul](#) component for the ADD Accelerator Design and Deploy.

The component implements a multiplication accumulator.

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Version

1.0

3.5.2 Constructor & Destructor Documentation

3.5.2.1 `add.dataflow.sync.AccMul.AccMul ()`

Object Constructor.

3.5.3 Member Function Documentation

3.5.3.1 `void add.dataflow.sync.AccMul.accumulate (int data)` [protected]

Method that accumulates the input value with the stored. In this case, it multiplies the value stored by the input and stores it.

3.5.3.2 `void add.dataflow.sync.AccMul.reset ()`

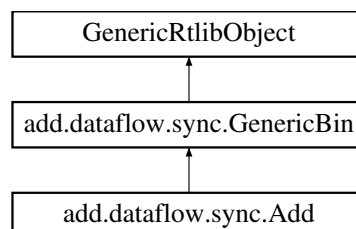
Method responsible for actions required when "Reset" occurs.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/AccMul.java`

3.6 `add.dataflow.sync.Add` Class Reference

Inheritance diagram for `add.dataflow.sync.Add`:



Public Member Functions

- [Add \(\)](#)
- `int compute (int data1, int data2)`

3.6.1 Detailed Description

Add component for the ADD Accelerator Design and Deploy.

The component is responsible for adding the inputs.

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Version

1.0

3.6.2 Constructor & Destructor Documentation

3.6.2.1 add.dataflow.sync.Add.Add ()

Object Constructor.

3.6.3 Member Function Documentation

3.6.3.1 int add.dataflow.sync.Add.compute (int *data1*, int *data2*)

Method responsible for the component computation: in this case performs a addition of the parameters.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

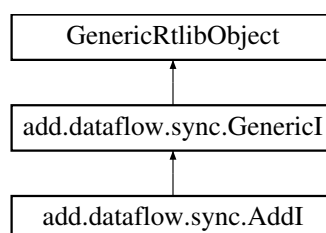
- Returns the result of the computation. In this case the value of the addition of the parameters.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Add.java

3.7 add.dataflow.sync.Addl Class Reference

Inheritance diagram for add.dataflow.sync.Addl:



Public Member Functions

- [Addl](#) ()
- `int` [compute](#) (`int` data)

3.7.1 Detailed Description

[Addl](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for adding the input by a (immediate) id.

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Author

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Version

1.0

3.7.2 Constructor & Destructor Documentation

3.7.2.1 `add.dataflow.sync.Addl.Addl ()`

Object Constructor.

3.7.3 Member Function Documentation

3.7.3.1 `int add.dataflow.sync.Addl.compute (int data)`

Method responsible for the component computation: in this case performs a addition of the parameter by an (immediate) id.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

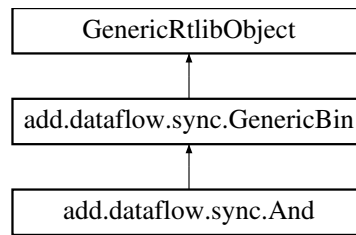
- Returns the result of the computation. In this case the value of the addition of the parameter by the id.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Addl.java`

3.8 `add.dataflow.sync.And` Class Reference

Inheritance diagram for `add.dataflow.sync.And`:



Public Member Functions

- [And](#) ()
- int [compute](#) (int data1, int data2)

3.8.1 Detailed Description

[And](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for the logical operation "And" between the input

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Version

1.0

3.8.2 Constructor & Destructor Documentation

3.8.2.1 add.dataflow.sync.And.And ()

Object Constructor.

3.8.3 Member Function Documentation

3.8.3.1 int add.dataflow.sync.And.compute (int *data1*, int *data2*)

Method responsible for the component computation: in this case it performs the logical operation "And" between the parameters.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

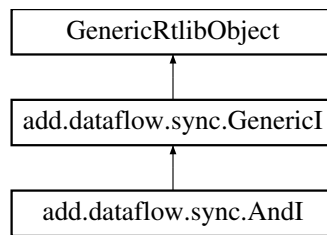
- Returns the result of the computation. In this case the result of the logical operation "And" between the parameters.

The documentation for this class was generated from the following file:

- add/dataflow/sync/And.java

3.9 add.dataflow.sync.AndI Class Reference

Inheritance diagram for add.dataflow.sync.AndI:



Public Member Functions

- [AndI](#) ()
- int [compute](#) (int data)

3.9.1 Detailed Description

[AndI](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for the logical operation "AND" between the input and a id (immediate)

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Version

1.0

3.9.2 Constructor & Destructor Documentation

3.9.2.1 add.dataflow.sync.AndI.AndI ()

Object Constructor.

3.9.3 Member Function Documentation

3.9.3.1 int add.dataflow.sync.AndI.compute (int *data*)

Method responsible for the component computation: in this case it performs the logical operation "AND" between the parameter and the (immediate) id.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

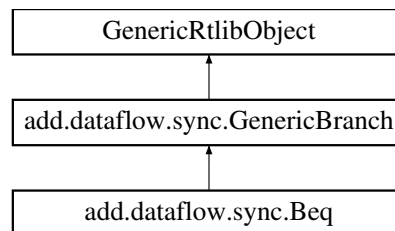
- Returns the result of the computation. In this case the result of the logical operation "AND" between the parameter and the id.

The documentation for this class was generated from the following file:

- add/dataflow/sync/AndI.java

3.10 add.dataflow.sync.Beq Class Reference

Inheritance diagram for add.dataflow.sync.Beq:

**Public Member Functions**

- [Beq](#) ()
- int [compute](#) (int data1, int data2)

3.10.1 Detailed Description

[Beq](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for comparing equality between the input. Depending on the result of the comparison, the "IF" output or the "ELSE" output will receive the value "1" while the other will receive the value "0".

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Version

1.0

3.10.2 Constructor & Destructor Documentation

3.10.2.1 add.dataflow.sync.Beq.Beq ()

Object Constructor.

3.10.3 Member Function Documentation

3.10.3.1 `int add.dataflow.sync.Beq.compute (int data1, int data2)`

Method responsible for component computing: in this case performs a comparison of equality between the input. Depending on the result of the comparison, the "IF" output or the "ELSE" output will receive the value "1" while the other will receive the value "0".

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

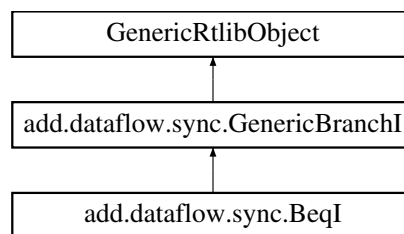
- Returns the result of the computation. In this case "1" if the parameters are equal or "0" if they are different.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Beq.java`

3.11 `add.dataflow.sync.BeqI` Class Reference

Inheritance diagram for `add.dataflow.sync.BeqI`:



Public Member Functions

- [BeqI \(\)](#)
- `int compute (int data)`

3.11.1 Detailed Description

[BeqI](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for comparing equality between the input and a constant (immediate). Depending on the result of the comparison, the "IF" output or the "ELSE" output will receive the value "1" while the other will receive the value "0".

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Version

1.0

3.11.2 Constructor & Destructor Documentation

3.11.2.1 add.dataflow.sync.Beql.Beql ()

Object Constructor.

3.11.3 Member Function Documentation

3.11.3.1 int add.dataflow.sync.Beql.compute (int *data*)

Method responsible for component computing: in this case performs a comparison of equality between the input and a constant. Depending on the result of the comparison, the "IF" output or the "ELSE" output will receive the value "1" while the other will receive the value "0".

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

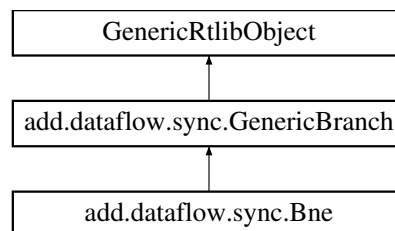
- Returns the result of the computation. In this case "1" if the parameter is equal to the constraint or "0" if they are different.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Beql.java

3.12 add.dataflow.sync.Bne Class Reference

Inheritance diagram for add.dataflow.sync.Bne:



Public Member Functions

- [Bne](#) ()
- int [compute](#) (int data1, int data2)

3.12.1 Detailed Description

[Bne](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for comparing inequality between the input. Depending on the result of the comparison, the "IF" output or the "ELSE" output will receive the value "1" while the other will receive the value "0".

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Version

1.0

3.12.2 Constructor & Destructor Documentation**3.12.2.1 add.dataflow.sync.Bne.Bne ()**

Object Constructor.

3.12.3 Member Function Documentation**3.12.3.1 int add.dataflow.sync.Bne.compute (int *data1*, int *data2*)**

Method responsible for component computing: in this case performs a comparison of inequality between the input. Depending on the result of the comparison, the "IF" output or the "ELSE" output will receive the value "1" while the other will receive the value "0".

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

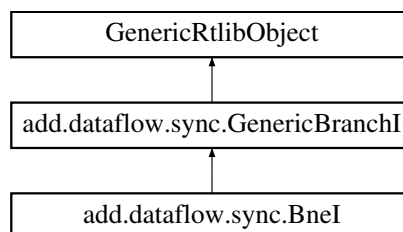
- Returns the result of the computation. In this case "1" if the parameters are different or "0" if they are equal.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Bne.java

3.13 add.dataflow.sync.BneI Class Reference

Inheritance diagram for add.dataflow.sync.BneI:

**Public Member Functions**

- [BneI](#) ()
- int [compute](#) (int data)

3.13.1 Detailed Description

BEQI component for the ADD Accelerator Design and Deploy.

The component is responsible for comparing inequality between the input and a constant (immediate). Depending on the result of the comparison, the "IF" output or the "ELSE" output will receive the value "1" while the other will receive the value "0".

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Author

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Version

1.0

3.13.2 Constructor & Destructor Documentation

3.13.2.1 add.dataflow.sync.Bnel.Bnel ()

Object Constructor.

3.13.3 Member Function Documentation

3.13.3.1 int add.dataflow.sync.Bnel.compute (int *data*)

Method responsible for component computing: in this case performs a comparison of inequality between the input and a constant. Depending on the result of the comparison, the "IF" output or the "ELSE" output will receive the value "1" while the other will receive the value "0".

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

- Returns the result of the computation. In this case "0" if the parameter is equal to the constraint or "1" if they are different.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Bnel.java

3.14 add.util.ConfReader Class Reference

Public Member Functions

- int[] [ReadConfig](#) (File file)

3.14.1 Detailed Description

Class responsible for providing useful routines for the project.

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Version

1.0

3.14.2 Member Function Documentation**3.14.2.1** `int [] add.util.ConfReader.ReadConfig (File file)`

Method responsible for reading a configuration file and returning a vector with the values read.

Parameters

| | |
|-------------|----------------|
| <i>file</i> | - File to read |
|-------------|----------------|

Returns

- Returns a vector containing the values read in the file.

The documentation for this class was generated from the following file:

- add/util/ConfReader.java

3.15 add.dataflow.DataflowSyncSimulBase Class Reference**Public Member Functions**

- `int[] startSimulation (int[] conf, String designPath, int outSize)`
- `int[] startSimulation (String confPath, String designPath, String desiredReturn, int outSize)`
- `int[] startFpgaJtag (int[] conf, String quartusStpPath, int outSize)`
- `int[] startFpgaJtag (String confPath, String quartusStpPath, String desiredReturn, int outSize)`
- `int[] execHades (int[] rawData, String designPath, int outSize)`
- `int[] execFpga (int[] rawData, String quartusStpPath, int outSize)`

3.15.1 Detailed Description

Base class for executing algorithms in the simulator or in the bundle with FPGA.

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Author

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Version

1.0

3.15.2 Member Function Documentation**3.15.2.1** `int [] add.dataflow.DataflowSyncSimulBase.execFpga (int[] rawData, String quartusStpPath, int outSize)`

Execution in FPGA Boards

Parameters

| | |
|-----------------------|--|
| <i>rawData</i> | - Vector of data to be processed |
| <i>quartusStpPath</i> | - Path to the quartus_stp application. |
| <i>outSize</i> | - Output vector size. |

Returns

- Returns a vector with the processing results.

3.15.2.2 `int [] add.dataflow.DataflowSyncSimulBase.execHades (int[] rawData, String designPath, int outSize)`

Execution in HADES Simulator

Parameters

| | |
|-------------------|---|
| <i>rawData</i> | - Vector of data to be processed |
| <i>designPath</i> | - Design to be used to run the simulator. |
| <i>outSize</i> | - Output vector size. |

Returns

- Returns a vector with the processing results.

3.15.2.3 `int [] add.dataflow.DataflowSyncSimulBase.startFpgaJtag (int[] conf, String quartusStpPath, int outSize)`

Method responsible for running the algorithm on the FPGA board.

Parameters

| | |
|-----------------------|---|
| <i>conf</i> | - Configuration vector and data to be executed. |
| <i>quartusStpPath</i> | - Path to the quartus_stp application. |
| <i>outSize</i> | - Output vector size. |

Returns

- Returns a vector with the processing results.

3.15.2.4 `int [] add.dataflow.DataflowSyncSimulBase.startFpgaJtag (String confPath, String quartusStpPath, String desiredReturn, int outSize)`

Method responsible for running the algorithm on the FPGA board and display the output in the system default output.

Parameters

| | |
|-----------------------|---|
| <i>confPath</i> | - File containing the configuration and data to be processed. |
| <i>quartusStpPath</i> | - Path to the quartus_stp application. |
| <i>desiredReturn</i> | - Expected outcome. |
| <i>outSize</i> | - Output vector size. |

Returns

- Returns a vector with the processing results.

3.15.2.5 `int [] add.dataflow.DataflowSyncSimulBase.startSimulation (int[] conf, String designPath, int outSize)`

Method responsible for executing the algorithm in the simulator.

Parameters

| | |
|-------------------|---|
| <i>conf</i> | - Configuration vector and data to be executed. |
| <i>designPath</i> | - Design to be used to run the simulator. |
| <i>outSize</i> | - Output vector size. |

Returns

- Returns a vector with the processing results.

3.15.2.6 `int [] add.dataflow.DataflowSyncSimulBase.startSimulation (String confPath, String designPath, String desiredReturn, int outSize)`

Method responsible for executing the algorithm in the simulator and display the output in the system default output.

Parameters

| | |
|----------------------|---|
| <i>confPath</i> | - File containing the configuration and data to be processed. |
| <i>designPath</i> | - Design to be used to run the simulator. |
| <i>desiredReturn</i> | - Expected outcome. |
| <i>outSize</i> | - Output vector size. |

Returns

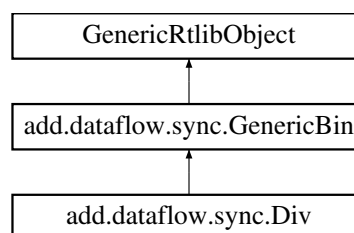
- Returns a vector with the processing results.

The documentation for this class was generated from the following file:

- add/dataflow/DataflowSyncSimulBase.java

3.16 add.dataflow.sync.Div Class Reference

Inheritance diagram for add.dataflow.sync.Div:

**Public Member Functions**

- [Div](#) ()
- `int compute (int data1, int data2)`

3.16.1 Detailed Description

[Div](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for dividing the inputs.

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Version

1.0

3.16.2 Constructor & Destructor Documentation**3.16.2.1 add.dataflow.sync.Div.Div ()**

Object Constructor.

3.16.3 Member Function Documentation**3.16.3.1 int add.dataflow.sync.Div.compute (int *data1*, int *data2*)**

Method responsible for the component computation: in this case performs a division of the parameters.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

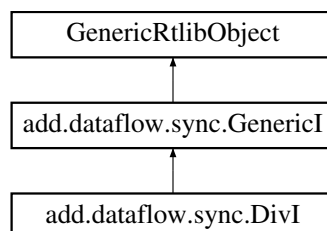
- Returns the result of the computation. In this case the value of the division of the parameters.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Div.java

3.17 add.dataflow.sync.DivI Class Reference

Inheritance diagram for add.dataflow.sync.DivI:

**Public Member Functions**

- [DivI](#) ()
- int [compute](#) (int data)

3.17.1 Detailed Description

Divl component for the ADD Accelerator Design and Deploy.

The component is responsible for dividing the input by a (immediate) id.

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Author

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Version

1.0

3.17.2 Constructor & Destructor Documentation

3.17.2.1 `add.dataflow.sync.Divl.Divl ()`

Object Constructor.

3.17.3 Member Function Documentation

3.17.3.1 `int add.dataflow.sync.Divl.compute (int data)`

Method responsible for the component computation: in this case performs a division of the parameter by an (immediate) id.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

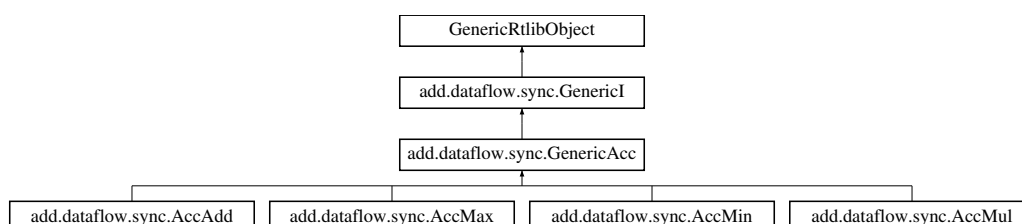
- Returns the result of the computation. In this case the value of the division of the parameter by the id.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Divl.java`

3.18 `add.dataflow.sync.GenericAcc` Class Reference

Inheritance diagram for `add.dataflow.sync.GenericAcc`:



Public Member Functions

- [GenericAcc](#) ()
- void [reset](#) ()
- void [evaluate](#) (Object arg)
- int [getAcc](#) ()
- void [setAcc](#) (int acc)
- int [getCounter](#) ()
- void [setCounter](#) (int counter)

Protected Member Functions

- void [accumulate](#) (int data)

3.18.1 Detailed Description

[GenericAcc](#) component for the ADD Accelerator Design and Deploy.

The component implements a generic accumulator.

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Author

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Ricardo Santos Ferreira - cacauvicosa@gmail.com

Version

1.0

3.18.2 Constructor & Destructor Documentation

3.18.2.1 `add.dataflow.sync.GenericAcc.GenericAcc ()`

Object Constructor.

3.18.3 Member Function Documentation

3.18.3.1 `void add.dataflow.sync.GenericAcc.accumulate (int data)` [protected]

Method responsible for performing the accumulation or not.

Parameters

| | |
|-------------|---|
| <i>data</i> | - Value to be used for the computation. |
|-------------|---|

3.18.3.2 `void add.dataflow.sync.GenericAcc.evaluate (Object arg)`

[evaluate\(\)](#): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events. In this case, it will be checked whether the ports are connected and will execute the `compute (int data)` method if the `R_IN` input is high level. It will execute the [reset\(\)](#), [tickUp\(\)](#), and [tickDown\(\)](#) methods if their respective entries order it. It will update the output with the ACC value when the computation finishes.

Parameters

| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

3.18.3.3 int add.dataflow.sync.GenericAcc.getAcc ()

Returns

the acc

3.18.3.4 int add.dataflow.sync.GenericAcc.getCounter ()

Returns

the counter

3.18.3.5 void add.dataflow.sync.GenericAcc.reset ()

Method executed when the signal from the reset input goes to high logic level. In this case it clears the text displayed by the component and de accumulator.

3.18.3.6 void add.dataflow.sync.GenericAcc.setAcc (int *acc*)

Parameters

| | |
|------------|----------------|
| <i>acc</i> | the acc to set |
|------------|----------------|

3.18.3.7 void add.dataflow.sync.GenericAcc.setCounter (int *counter*)

Parameters

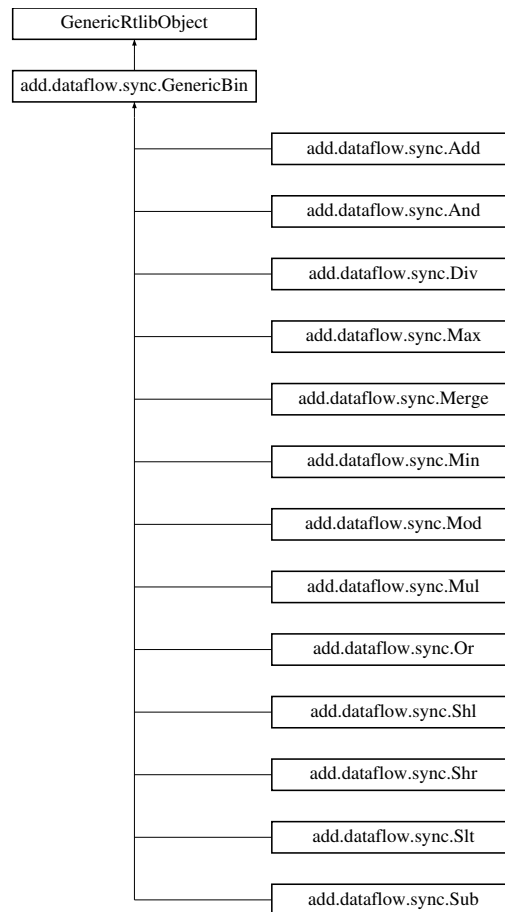
| | |
|----------------|--------------------|
| <i>counter</i> | the counter to set |
|----------------|--------------------|

The documentation for this class was generated from the following file:

- add/dataflow/sync/GenericAcc.java

3.19 add.dataflow.sync.GenericBin Class Reference

Inheritance diagram for add.dataflow.sync.GenericBin:



Public Member Functions

- [GenericBin](#) ()
- void [constructPorts](#) ()
- void [setString](#) (String s)
- void [setSymbol](#) (Symbol s)
- int [compute](#) (int data1, int data2)
- void [notCompute](#) ()
- void [reseted](#) ()
- void [tickUp](#) ()
- void [tickDown](#) ()
- void [setCompName](#) (String l)
- void [evaluate](#) (Object arg)
- boolean [needsDynamicSymbol](#) ()
- void [constructDynamicSymbol](#) ()
- void [write](#) (java.io.PrintWriter ps)
- boolean [initialize](#) (String s)
- Label [getStringLabel](#) ()
- void [setStringLabel](#) (Label stringLabel)
- Label [getLabelNome](#) ()
- void [setLabelNome](#) (Label labelNome)
- String [getComponentType](#) ()
- void [setComponentType](#) (String componentType)
- String [getS](#) ()
- void [setS](#) (String s)

- PortStdLogic1164 [getPortClk](#) ()
- void [setPortClk](#) (PortStdLogic1164 portClk)
- PortStdLogic1164 [getPortRst](#) ()
- void [setPortRst](#) (PortStdLogic1164 portRst)
- PortStdLogic1164 [getPortRin1](#) ()
- void [setPortRin1](#) (PortStdLogic1164 portRin1)
- PortStdLogic1164 [getPortRin2](#) ()
- void [setPortRin2](#) (PortStdLogic1164 portRin2)
- PortStdLogic1164 [getPortRout](#) ()
- void [setPortRout](#) (PortStdLogic1164 portRout)
- PortStdLogic1164 [getPortEn](#) ()
- void [setPortEn](#) (PortStdLogic1164 portEn)
- PortStdLogicVector [getPortDin1](#) ()
- void [setPortDin1](#) (PortStdLogicVector portDin1)
- PortStdLogicVector [getPortDin2](#) ()
- void [setPortDin2](#) (PortStdLogicVector portDin2)
- PortStdLogicVector [getPortDout](#) ()
- void [setPortDout](#) (PortStdLogicVector portDout)

3.19.1 Detailed Description

[GenericBin](#) component for the ADD Accelerator Design and Deploy.

The component creates the basis for other components with two inputs.

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Author

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Version

1.0

3.19.2 Constructor & Destructor Documentation

3.19.2.1 `add.dataflow.sync.GenericBin.GenericBin ()`

Object Constructor.

3.19.3 Member Function Documentation

3.19.3.1 `int add.dataflow.sync.GenericBin.compute (int data1, int data2)`

Method responsible for the computation of the output.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 1. |

Returns

- Return of computation

3.19.3.2 void add.dataflow.sync.GenericBin.constructDynamicSymbol ()

Method responsible for dynamically constructing the component symbol.

3.19.3.3 void add.dataflow.sync.GenericBin.constructPorts ()

Method responsible for initializing the component input and output ports.

3.19.3.4 void add.dataflow.sync.GenericBin.evaluate (Object *arg*)

evaluate(): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events. In this case, it will be checked whether the ports are connected and will execute the compute (int data) method if the R_IN (1 and 2) inputs are high level. It will execute the **reseted()**, **tickUp()**, and **tickDown()** methods if their respective entries order it. It will update the output with the compute(int data) method result.

Parameters

| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

3.19.3.5 String add.dataflow.sync.GenericBin.getComponentType ()

Returns

the componentType

3.19.3.6 Label add.dataflow.sync.GenericBin.getLabelNome ()

Returns

the labelNome

3.19.3.7 PortStdLogic1164 add.dataflow.sync.GenericBin.getPortClk ()

Returns

the portClk

3.19.3.8 PortStdLogicVector add.dataflow.sync.GenericBin.getPortDin1 ()

Returns

the portDin1

3.19.3.9 PortStdLogicVector add.dataflow.sync.GenericBin.getPortDin2 ()

Returns

the portDin2

3.19.3.10 PortStdLogicVector add.dataflow.sync.GenericBin.getPortDout ()

Returns

the portDout

3.19.3.11 PortStdLogic1164 add.dataflow.sync.GenericBin.getPortEn ()

Returns

the portEn

3.19.3.12 PortStdLogic1164 add.dataflow.sync.GenericBin.getPortRin1 ()

Returns

the portRin1

3.19.3.13 PortStdLogic1164 add.dataflow.sync.GenericBin.getPortRin2 ()

Returns

the portRin2

3.19.3.14 PortStdLogic1164 add.dataflow.sync.GenericBin.getPortRout ()

Returns

the portRout

3.19.3.15 PortStdLogic1164 add.dataflow.sync.GenericBin.getPortRst ()

Returns

the portRst

3.19.3.16 String add.dataflow.sync.GenericBin.getS ()

Returns

the s

3.19.3.17 Label add.dataflow.sync.GenericBin.getStringLabel ()

Returns

the stringLabel

3.19.3.18 boolean add.dataflow.sync.GenericBin.initialize (String s)

Method responsible for reading the component settings in the file saved by the simulator.

Parameters

| | |
|----------|---|
| <i>s</i> | - Settings for the component read from the file saved by the simulator. |
|----------|---|

Returns

- Returns true if the settings are read successfully.

3.19.3.19 boolean add.dataflow.sync.GenericBin.needsDynamicSymbol ()

Method responsible for indicating to the simulator that the component's symbol will be constructed dynamically by the [constructDynamicSymbol\(\)](#) method, or will be read from a file of the same name as the ".sym" extension.

Returns

- - TRUE means that the symbol will be built dynamically.

3.19.3.20 void add.dataflow.sync.GenericBin.notCompute ()

Method executed when computing is not performed. In this case it clears the text displayed by the component.

3.19.3.21 void add.dataflow.sync.GenericBin.reseted ()

Method executed when the signal from the reset input goes to high logic level. In this case it clears the text displayed by the component.

3.19.3.22 void add.dataflow.sync.GenericBin.setCompName (String *l*)

Method responsible for changing the label that displays the name of the component.

3.19.3.23 void add.dataflow.sync.GenericBin.setComponentType (String *componentType*)

Parameters

| | |
|----------------------|---------------------------------|
| <i>componentType</i> | the <i>componentType</i> to set |
|----------------------|---------------------------------|

3.19.3.24 void add.dataflow.sync.GenericBin.setLabelNome (Label *labelNome*)

Parameters

| | |
|------------------|-----------------------------|
| <i>labelNome</i> | the <i>labelNome</i> to set |
|------------------|-----------------------------|

3.19.3.25 void add.dataflow.sync.GenericBin.setPortClk (PortStdLogic1164 *portClk*)

Parameters

| | |
|----------------|---------------------------|
| <i>portClk</i> | the <i>portClk</i> to set |
|----------------|---------------------------|

3.19.3.26 void add.dataflow.sync.GenericBin.setPortDin1 (PortStdLogicVector *portDin1*)

Parameters

| | |
|-----------------|---------------------|
| <i>portDin1</i> | the portDin1 to set |
|-----------------|---------------------|

3.19.3.27 void add.dataflow.sync.GenericBin.setPortDin2 (PortStdLogicVector *portDin2*)

Parameters

| | |
|-----------------|---------------------|
| <i>portDin2</i> | the portDin2 to set |
|-----------------|---------------------|

3.19.3.28 void add.dataflow.sync.GenericBin.setPortDout (PortStdLogicVector *portDout*)

Parameters

| | |
|-----------------|---------------------|
| <i>portDout</i> | the portDout to set |
|-----------------|---------------------|

3.19.3.29 void add.dataflow.sync.GenericBin.setPortEn (PortStdLogic1164 *portEn*)

Parameters

| | |
|---------------|-------------------|
| <i>portEn</i> | the portEn to set |
|---------------|-------------------|

3.19.3.30 void add.dataflow.sync.GenericBin.setPortRin1 (PortStdLogic1164 *portRin1*)

Parameters

| | |
|-----------------|---------------------|
| <i>portRin1</i> | the portRin1 to set |
|-----------------|---------------------|

3.19.3.31 void add.dataflow.sync.GenericBin.setPortRin2 (PortStdLogic1164 *portRin2*)

Parameters

| | |
|-----------------|---------------------|
| <i>portRin2</i> | the portRin2 to set |
|-----------------|---------------------|

3.19.3.32 void add.dataflow.sync.GenericBin.setPortRout (PortStdLogic1164 *portRout*)

Parameters

| | |
|-----------------|---------------------|
| <i>portRout</i> | the portRout to set |
|-----------------|---------------------|

3.19.3.33 void add.dataflow.sync.GenericBin.setPortRst (PortStdLogic1164 *portRst*)

Parameters

| | |
|----------------|--------------------|
| <i>portRst</i> | the portRst to set |
|----------------|--------------------|

3.19.3.34 void add.dataflow.sync.GenericBin.setS (String *s*)

Parameters

| | |
|----------|--------------|
| <i>s</i> | the s to set |
|----------|--------------|

3.19.3.35 void add.dataflow.sync.GenericBin.setString (String *s*)

Method responsible for updating the text displayed by the component.

Parameters

| | |
|----------|-----------------------|
| <i>s</i> | - Text to be updated. |
|----------|-----------------------|

3.19.3.36 void add.dataflow.sync.GenericBin.setStringLabel (Label *stringLabel*)

Parameters

| | |
|--------------------|------------------------|
| <i>stringLabel</i> | the stringLabel to set |
|--------------------|------------------------|

3.19.3.37 void add.dataflow.sync.GenericBin.setSymbol (Symbol *s*)

Method responsible for updating the component symbol.

Parameters

| | |
|----------|--|
| <i>s</i> | |
|----------|--|

3.19.3.38 void add.dataflow.sync.GenericBin.tickDown ()

Method executed when the clock signal goes to low logic level.

3.19.3.39 void add.dataflow.sync.GenericBin.tickUp ()

Method executed when the clock signal goes to high logic level.

3.19.3.40 void add.dataflow.sync.GenericBin.write (java.io.PrintWriter *ps*)

Method responsible for writing component settings to the file saved by the simulator.

Parameters

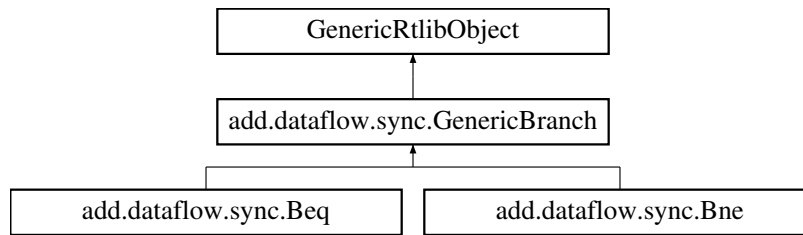
| | |
|-----------|----------------------------|
| <i>ps</i> | -Simulator writing object. |
|-----------|----------------------------|

The documentation for this class was generated from the following file:

- add/dataflow/sync/GenericBin.java

3.20 add.dataflow.sync.GenericBranch Class Reference

Inheritance diagram for add.dataflow.sync.GenericBranch:



Public Member Functions

- [GenericBranch](#) ()
- void [constructPorts](#) ()
- void [setString](#) (String s)
- void [setSymbol](#) (Symbol s)
- int [compute](#) (int data1, int data2)
- void [reseted](#) ()
- void [tickUp](#) ()
- void [tickDown](#) ()
- void [setCompName](#) (String l)
- void [evaluate](#) (Object arg)
- boolean [needsDynamicSymbol](#) ()
- void [constructDynamicSymbol](#) ()
- void [write](#) (java.io.PrintWriter ps)
- boolean [initialize](#) (String s)
- Label [getStringLabel](#) ()
- void [setStringLabel](#) (Label stringLabel)
- Label [getLabel_nome](#) ()
- void [setLabel_nome](#) (Label label_nome)
- String [getComponentType](#) ()
- void [setComponentType](#) (String componentType)
- String [getS](#) ()
- void [setS](#) (String s)
- PortStdLogic1164 [getPortClk](#) ()
- void [setPortClk](#) (PortStdLogic1164 portClk)
- PortStdLogic1164 [getPortRst](#) ()
- void [setPortRst](#) (PortStdLogic1164 portRst)
- PortStdLogic1164 [getPortRin1](#) ()
- void [setPortRin1](#) (PortStdLogic1164 portRin1)
- PortStdLogic1164 [getPortRin2](#) ()
- void [setPortRin2](#) (PortStdLogic1164 portRin2)
- PortStdLogic1164 [getPortEn](#) ()
- void [setPortEn](#) (PortStdLogic1164 portEn)
- PortStdLogicVector [getPortDin1](#) ()
- void [setPortDin1](#) (PortStdLogicVector portDin1)
- PortStdLogicVector [getPortDin2](#) ()
- void [setPortDin2](#) (PortStdLogicVector portDin2)
- PortStdLogic1164 [getPortIf](#) ()
- void [setPortIf](#) (PortStdLogic1164 portIf)
- PortStdLogic1164 [getPortElse](#) ()
- void [setPortElse](#) (PortStdLogic1164 portElse)

3.20.1 Detailed Description

GenericBranch component for the ADD Accelerator Design and Deploy.

The component creates the basis for other components with an input and that make a comparison between the inputs.

Universidade Federal de Viçosa - MG - Brasil.

Author

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Ricardo Santos Ferreira - cacauvicosa@gmail.com

Version

1.0

3.20.2 Constructor & Destructor Documentation

3.20.2.1 `add.dataflow.sync.GenericBranch.GenericBranch ()`

Object Constructor.

3.20.3 Member Function Documentation

3.20.3.1 `int add.dataflow.sync.GenericBranch.compute (int data1, int data2)`

Method responsible for the computation of the output.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 1. |

Returns

- Return of computation

3.20.3.2 `void add.dataflow.sync.GenericBranch.constructDynamicSymbol ()`

Method responsible for dynamically constructing the component symbol.

3.20.3.3 `void add.dataflow.sync.GenericBranch.constructPorts ()`

Method responsible for initializing the component input and output ports.

3.20.3.4 `void add.dataflow.sync.GenericBranch.evaluate (Object arg)`

evaluate(): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events. In this case, it will be checked whether the ports are connected and will execute the compute (int data) method if the R_IN (1 and 2) inputs are high level. It will execute the **reseted()**, **tickUp()**, and **tickDown()** methods if their respective entries order it. It will update the output with the compute(int data) method result.

Parameters

| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

3.20.3.5 String add.dataflow.sync.GenericBranch.getComponentType ()

Returns

the componentType

3.20.3.6 Label add.dataflow.sync.GenericBranch.getLabel_nome ()

Returns

the label_nome

3.20.3.7 PortStdLogic1164 add.dataflow.sync.GenericBranch.getPortClk ()

Returns

the portClk

3.20.3.8 PortStdLogicVector add.dataflow.sync.GenericBranch.getPortDin1 ()

Returns

the portDin1

3.20.3.9 PortStdLogicVector add.dataflow.sync.GenericBranch.getPortDin2 ()

Returns

the portDin2

3.20.3.10 PortStdLogic1164 add.dataflow.sync.GenericBranch.getPortElse ()

Returns

the portElse

3.20.3.11 PortStdLogic1164 add.dataflow.sync.GenericBranch.getPortEn ()

Returns

the portEn

3.20.3.12 PortStdLogic1164 add.dataflow.sync.GenericBranch.getPortIf ()

Returns

the portIf

3.20.3.13 PortStdLogic1164 add.dataflow.sync.GenericBranch.getPortRin1 ()

Returns

the portRin1

3.20.3.14 PortStdLogic1164 add.dataflow.sync.GenericBranch.getPortRin2 ()

Returns

the portRin2

3.20.3.15 PortStdLogic1164 add.dataflow.sync.GenericBranch.getPortRst ()

Returns

the portRst

3.20.3.16 String add.dataflow.sync.GenericBranch.getS ()

Returns

the s

3.20.3.17 Label add.dataflow.sync.GenericBranch.getStringLabel ()

Returns

the stringLabel

3.20.3.18 boolean add.dataflow.sync.GenericBranch.initialize (String s)

Method responsible for reading the component settings in the file saved by the simulator.

Parameters

| | |
|---|---|
| s | - Settings for the component read from the file saved by the simulator. |
|---|---|

Returns

- Returns true if the settings are read successfully.

3.20.3.19 boolean add.dataflow.sync.GenericBranch.needsDynamicSymbol ()

Method responsible for indicating to the simulator that the component's symbol will be constructed dynamically by the [constructDynamicSymbol\(\)](#) method, or will be read from a file of the same name as the ".sym" extension.

Returns

- TRUE means that the symbol will be built dynamically.

3.20.3.20 void add.dataflow.sync.GenericBranch.reseted ()

Method executed when the signal from the reset input goes to high logic level. In this case it clears the text displayed by the component.

3.20.3.21 void add.dataflow.sync.GenericBranch.setCompName (String /)

Method responsible for changing the label that displays the name of the component.

Parameters

| | |
|---|---|
| / | - String to be set to the component name. |
|---|---|

3.20.3.22 void add.dataflow.sync.GenericBranch.setComponentType (String *componentType*)

Parameters

| | |
|----------------------|---------------------------------|
| <i>componentType</i> | the <i>componentType</i> to set |
|----------------------|---------------------------------|

3.20.3.23 void add.dataflow.sync.GenericBranch.setLabel_nome (Label *label_nome*)

Parameters

| | |
|-------------------|------------------------------|
| <i>label_nome</i> | the <i>label_nome</i> to set |
|-------------------|------------------------------|

3.20.3.24 void add.dataflow.sync.GenericBranch.setPortClk (PortStdLogic1164 *portClk*)

Parameters

| | |
|----------------|---------------------------|
| <i>portClk</i> | the <i>portClk</i> to set |
|----------------|---------------------------|

3.20.3.25 void add.dataflow.sync.GenericBranch.setPortDin1 (PortStdLogicVector *portDin1*)

Parameters

| | |
|-----------------|----------------------------|
| <i>portDin1</i> | the <i>portDin1</i> to set |
|-----------------|----------------------------|

3.20.3.26 void add.dataflow.sync.GenericBranch.setPortDin2 (PortStdLogicVector *portDin2*)

Parameters

| | |
|-----------------|----------------------------|
| <i>portDin2</i> | the <i>portDin2</i> to set |
|-----------------|----------------------------|

3.20.3.27 void add.dataflow.sync.GenericBranch.setPortElse (PortStdLogic1164 *portElse*)

Parameters

| | |
|--|--|
| | |
|--|--|

| | |
|-----------------|---------------------|
| <i>portElse</i> | the portElse to set |
|-----------------|---------------------|

3.20.3.28 void add.dataflow.sync.GenericBranch.setPortEn (PortStdLogic1164 *portEn*)

Parameters

| | |
|---------------|-------------------|
| <i>portEn</i> | the portEn to set |
|---------------|-------------------|

3.20.3.29 void add.dataflow.sync.GenericBranch.setPortIf (PortStdLogic1164 *portIf*)

Parameters

| | |
|---------------|-------------------|
| <i>portIf</i> | the portIf to set |
|---------------|-------------------|

3.20.3.30 void add.dataflow.sync.GenericBranch.setPortRin1 (PortStdLogic1164 *portRin1*)

Parameters

| | |
|-----------------|---------------------|
| <i>portRin1</i> | the portRin1 to set |
|-----------------|---------------------|

3.20.3.31 void add.dataflow.sync.GenericBranch.setPortRin2 (PortStdLogic1164 *portRin2*)

Parameters

| | |
|-----------------|---------------------|
| <i>portRin2</i> | the portRin2 to set |
|-----------------|---------------------|

3.20.3.32 void add.dataflow.sync.GenericBranch.setPortRst (PortStdLogic1164 *portRst*)

Parameters

| | |
|----------------|--------------------|
| <i>portRst</i> | the portRst to set |
|----------------|--------------------|

3.20.3.33 void add.dataflow.sync.GenericBranch.setS (String *s*)

Parameters

| | |
|----------|--------------|
| <i>s</i> | the s to set |
|----------|--------------|

3.20.3.34 void add.dataflow.sync.GenericBranch.setString (String *s*)

Method responsible for updating the text displayed by the component.

Parameters

| | |
|----------|-----------------------|
| <i>s</i> | - Text to be updated. |
|----------|-----------------------|

3.20.3.35 void add.dataflow.sync.GenericBranch.setStringLabel (Label *stringLabel*)

Parameters

| | |
|--------------------|------------------------|
| <i>stringLabel</i> | the stringLabel to set |
|--------------------|------------------------|

3.20.3.36 void add.dataflow.sync.GenericBranch.setSymbol (Symbol s)

Method responsible for updating the component symbol.

Parameters

| | |
|----------|--------------------------------|
| <i>s</i> | - Symbol passed automatically. |
|----------|--------------------------------|

3.20.3.37 void add.dataflow.sync.GenericBranch.tickDown ()

Method executed when the clock signal goes to low logic level.

3.20.3.38 void add.dataflow.sync.GenericBranch.tickUp ()

Method executed when the clock signal goes to high logic level.

3.20.3.39 void add.dataflow.sync.GenericBranch.write (java.io.PrintWriter ps)

Method responsible for writing component settings to the file saved by the simulator.

Parameters

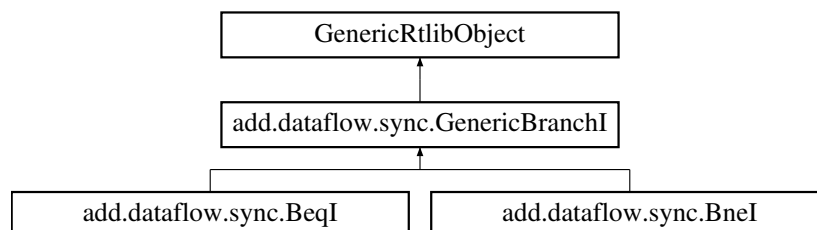
| | |
|-----------|----------------------------|
| <i>ps</i> | -Simulator writing object. |
|-----------|----------------------------|

The documentation for this class was generated from the following file:

- add/dataflow/sync/GenericBranch.java

3.21 add.dataflow.sync.GenericBranchI Class Reference

Inheritance diagram for add.dataflow.sync.GenericBranchI:



Public Member Functions

- [GenericBranchI](#) ()
- void [constructPorts](#) ()
- void [setString](#) (String componentId, String componentImmediate)
- void [setSymbol](#) (Symbol s)
- int [compute](#) (int data)
- void [reseted](#) ()

- void [tickUp](#) ()
- void [tickDown](#) ()
- void [setCompName](#) (String l)
- void [evaluate](#) (Object arg)
- boolean [needsDynamicSymbol](#) ()
- void [constructDynamicSymbol](#) ()
- void [write](#) (java.io.PrintWriter ps)
- boolean [initialize](#) (String s)
- void [mousePressed](#) (java.awt.event.MouseEvent me)
- Label [getStringLabelId](#) ()
- void [setStringLabelId](#) (Label stringLabelId)
- Label [getStringLabelImmediate](#) ()
- void [setStringLabelImmediate](#) (Label stringLabelImmediate)
- Label [getLabelNome](#) ()
- void [setLabelNome](#) (Label labelNome)
- String [getComponentId](#) ()
- void [setComponentId](#) (String componentId)
- String [getComponentImmediate](#) ()
- void [setComponentImmediate](#) (String componentImmediate)
- String [getComponentType](#) ()
- void [setComponentType](#) (String componentType)
- Rectangle [getBackground](#) ()
- void [setBackground](#) (Rectangle background)
- PortStdLogic1164 [getPortClk](#) ()
- void [setPortClk](#) (PortStdLogic1164 portClk)
- PortStdLogic1164 [getPortRst](#) ()
- void [setPortRst](#) (PortStdLogic1164 portRst)
- PortStdLogic1164 [getPortRin](#) ()
- void [setPortRin](#) (PortStdLogic1164 portRin)
- PortStdLogic1164 [getPortIf](#) ()
- void [setPortIf](#) (PortStdLogic1164 portIf)
- PortStdLogic1164 [getPortElse](#) ()
- void [setPortElse](#) (PortStdLogic1164 portElse)
- PortStdLogic1164 [getPortEn](#) ()
- void [setPortEn](#) (PortStdLogic1164 portEn)
- PortStdLogicVector [getPortDin](#) ()
- void [setPortDin](#) (PortStdLogicVector portDin)
- PortStdLogicVector [getPortDconf](#) ()
- void [setPortDconf](#) (PortStdLogicVector portDconf)
- int [getId](#) ()
- void [setId](#) (int id)
- int [getImmediate](#) ()
- void [setImmediate](#) (int immediate)

3.21.1 Detailed Description

[GenericBranchI](#) component for the ADD Accelerator Design and Deploy.

The component creates the basis for other components with an input and that make a comparison with a (immediate) constant.

Universidade Federal de Viçosa - MG - Brasil.

Author

Jeronimo Costa Penha - jeronomopenha@gmail.com
 Ricardo Santos Ferreira - cacauvicos@gmail.com

Version

1.0

3.21.2 Constructor & Destructor Documentation**3.21.2.1 add.dataflow.sync.GenericBranch1.GenericBranch1 ()**

Object Constructor.

3.21.3 Member Function Documentation**3.21.3.1 int add.dataflow.sync.GenericBranch1.compute (int *data*)**

Method responsible for the computation of the output.

Parameters

| | |
|-------------|---|
| <i>data</i> | - Value to be used for the computation. |
|-------------|---|

Returns

- Return of computation

3.21.3.2 void add.dataflow.sync.GenericBranch1.constructDynamicSymbol ()

Method responsible for dynamically constructing the component symbol.

3.21.3.3 void add.dataflow.sync.GenericBranch1.constructPorts ()

Method responsible for initializing the component input and output ports.

3.21.3.4 void add.dataflow.sync.GenericBranch1.evaluate (Object *arg*)

[evaluate\(\)](#): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events. In this case, it will be checked whether the ports are connected and will execute the compute (int data) method if the R_IN input is high level. It will execute the [reseted\(\)](#), [tickUp\(\)](#), and [tickDown\(\)](#) methods if their respective entries order it. It will update the output with the [compute\(int data\)](#) method result.

Parameters

| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

3.21.3.5 Rectangle add.dataflow.sync.GenericBranch1.getBackground ()**Returns**

the background

3.21.3.6 String add.dataflow.sync.GenericBranchI.GetComponentId ()

Returns

the componentId

3.21.3.7 String add.dataflow.sync.GenericBranchI.GetComponentImmediate ()

Returns

the componentImmediate

3.21.3.8 String add.dataflow.sync.GenericBranchI.GetComponentType ()

Returns

the componentType

3.21.3.9 int add.dataflow.sync.GenericBranchI.getId ()

Returns

the id

3.21.3.10 int add.dataflow.sync.GenericBranchI.getImmediate ()

Returns

the immediate

3.21.3.11 Label add.dataflow.sync.GenericBranchI.getLabelNome ()

Returns

the labelNome

3.21.3.12 PortStdLogic1164 add.dataflow.sync.GenericBranchI.getPortClk ()

Returns

the portClk

3.21.3.13 PortStdLogicVector add.dataflow.sync.GenericBranchI.getPortDconf ()

Returns

the portDconf

3.21.3.14 PortStdLogicVector add.dataflow.sync.GenericBranchI.getPortDin ()

Returns

the portDin

3.21.3.15 PortStdLogic1164 add.dataflow.sync.GenericBranchI.getPortElse ()

Returns

the portElse

3.21.3.16 PortStdLogic1164 add.dataflow.sync.GenericBranchI.getPortEn ()

Returns

the portEn

3.21.3.17 PortStdLogic1164 add.dataflow.sync.GenericBranchI.getPortIf ()

Returns

the portIf

3.21.3.18 PortStdLogic1164 add.dataflow.sync.GenericBranchI.getPortRin ()

Returns

the portRin

3.21.3.19 PortStdLogic1164 add.dataflow.sync.GenericBranchI.getPortRst ()

Returns

the portRst

3.21.3.20 Label add.dataflow.sync.GenericBranchI.getStringLabelId ()

Returns

the stringLabelId

3.21.3.21 Label add.dataflow.sync.GenericBranchI.getStringLabelImmediate ()

Returns

the stringLabelImmediate

3.21.3.22 boolean add.dataflow.sync.GenericBranchI.initialize (String s)

Method responsible for reading the component settings in the file saved by the simulator.

Parameters

| | |
|----------|---|
| <i>s</i> | - Settings for the component read from the file saved by the simulator. |
|----------|---|

Returns

- Returns true if the settings are read successfully.

3.21.3.23 void add.dataflow.sync.GenericBranchI.mousePressed (java.awt.event.MouseEvent *me*)

Method responsible for changing the value of the constant for more or less, depending on whether the mouse click is done by the right or left button respectively.

Parameters

| | |
|-----------|------------------------------------|
| <i>me</i> | - Object where the event occurred. |
|-----------|------------------------------------|

3.21.3.24 boolean add.dataflow.sync.GenericBranchI.needsDynamicSymbol ()

Method responsible for indicating to the simulator that the component's componentId symbol will be constructed dynamically by the [constructDynamicSymbol\(\)](#) method, or will be read from a file of the same name as the ".sym" extension.

Returns

- TRUE means that the symbol will be built dynamically.

3.21.3.25 void add.dataflow.sync.GenericBranchI.reseted ()

Method executed when the signal from the reset input goes to high logic level. In this case it clears the text displayed by the component.

3.21.3.26 void add.dataflow.sync.GenericBranchI.setBackground (Rectangle *background*)

Parameters

| | |
|-------------------|-----------------------|
| <i>background</i> | the background to set |
|-------------------|-----------------------|

3.21.3.27 void add.dataflow.sync.GenericBranchI.setCompName (String *I*)

Method responsible for changing the label that displays the name of the component.

Parameters

| | |
|----------|---|
| <i>I</i> | - String to be set to the component name. |
|----------|---|

3.21.3.28 void add.dataflow.sync.GenericBranchI.setComponentId (String *componentId*)

Parameters

| | |
|--------------------|------------------------|
| <i>componentId</i> | the componentId to set |
|--------------------|------------------------|

3.21.3.29 void add.dataflow.sync.GenericBranchI.setComponentImmediate (String *componentImmediate*)

Parameters

| | |
|----------------------------|-------------------------------|
| <i>component-Immediate</i> | the componentImmediate to set |
|----------------------------|-------------------------------|

3.21.3.30 void add.dataflow.sync.GenericBranchI.setComponentType (String *componentType*)

Parameters

| | |
|----------------------|--------------------------|
| <i>componentType</i> | the componentType to set |
|----------------------|--------------------------|

3.21.3.31 void add.dataflow.sync.GenericBranchI.setId (int *id*)

Parameters

| | |
|-----------|---------------|
| <i>id</i> | the id to set |
|-----------|---------------|

3.21.3.32 void add.dataflow.sync.GenericBranchI.setImmediate (int *immediate*)

Parameters

| | |
|------------------|----------------------|
| <i>immediate</i> | the immediate to set |
|------------------|----------------------|

3.21.3.33 void add.dataflow.sync.GenericBranchI.setLabelNome (Label *labelNome*)

Parameters

| | |
|------------------|----------------------|
| <i>labelNome</i> | the labelNome to set |
|------------------|----------------------|

3.21.3.34 void add.dataflow.sync.GenericBranchI.setPortClk (PortStdLogic1164 *portClk*)

Parameters

| | |
|----------------|--------------------|
| <i>portClk</i> | the portClk to set |
|----------------|--------------------|

3.21.3.35 void add.dataflow.sync.GenericBranchI.setPortDconf (PortStdLogicVector *portDconf*)

Parameters

| | |
|------------------|----------------------|
| <i>portDconf</i> | the portDconf to set |
|------------------|----------------------|

3.21.3.36 void add.dataflow.sync.GenericBranchI.setPortDin (PortStdLogicVector *portDin*)

Parameters

| | |
|----------------|--------------------|
| <i>portDin</i> | the portDin to set |
|----------------|--------------------|

3.21.3.37 void add.dataflow.sync.GenericBranchI.setPortElse (PortStdLogic1164 *portElse*)

Parameters

| | |
|-----------------|---------------------|
| <i>portElse</i> | the portElse to set |
|-----------------|---------------------|

3.21.3.38 void add.dataflow.sync.GenericBranchI.setPortEn (PortStdLogic1164 *portEn*)

Parameters

| | |
|---------------|-------------------|
| <i>portEn</i> | the portEn to set |
|---------------|-------------------|

3.21.3.39 void add.dataflow.sync.GenericBranchI.setPortIf (PortStdLogic1164 *portIf*)

Parameters

| | |
|---------------|-------------------|
| <i>portIf</i> | the portIf to set |
|---------------|-------------------|

3.21.3.40 void add.dataflow.sync.GenericBranchI.setPortRin (PortStdLogic1164 *portRin*)

Parameters

| | |
|----------------|--------------------|
| <i>portRin</i> | the portRin to set |
|----------------|--------------------|

3.21.3.41 void add.dataflow.sync.GenericBranchI.setPortRst (PortStdLogic1164 *portRst*)

Parameters

| | |
|----------------|--------------------|
| <i>portRst</i> | the portRst to set |
|----------------|--------------------|

3.21.3.42 void add.dataflow.sync.GenericBranchI.setString (String *componentId*, String *componentImmediate*)

Method responsible for updating the text displayed by the component.

Parameters

| | |
|--------------------|-----------------------|
| <i>componentId</i> | - Text to be updated. |
|--------------------|-----------------------|

3.21.3.43 void add.dataflow.sync.GenericBranchI.setStringLabelId (Label *stringLabelId*)

Parameters

| | |
|----------------------|--------------------------|
| <i>stringLabelId</i> | the stringLabelId to set |
|----------------------|--------------------------|

3.21.3.44 void add.dataflow.sync.GenericBranchI.setStringLabelImmediate (Label *stringLabelImmediate*)

Parameters

| | |
|------------------------------|---------------------------------|
| <i>stringLabel-Immediate</i> | the stringLabelImmediate to set |
|------------------------------|---------------------------------|

3.21.3.45 void add.dataflow.sync.GenericBranchI.setSymbol (Symbol *s*)

Method responsible for updating the component symbol.

Parameters

| | |
|----------|--------------------------------|
| <i>s</i> | - Symbol passed automatically. |
|----------|--------------------------------|

3.21.3.46 void add.dataflow.sync.GenericBranchI.tickDown ()

Method executed when the clock signal goes to low logic level.

3.21.3.47 void add.dataflow.sync.GenericBranchI.tickUp ()

Method executed when the clock signal goes to high logic level.

3.21.3.48 void add.dataflow.sync.GenericBranchI.write (java.io.PrintWriter *ps*)

Method responsible for writing component settings to the file saved by the simulator.

Parameters

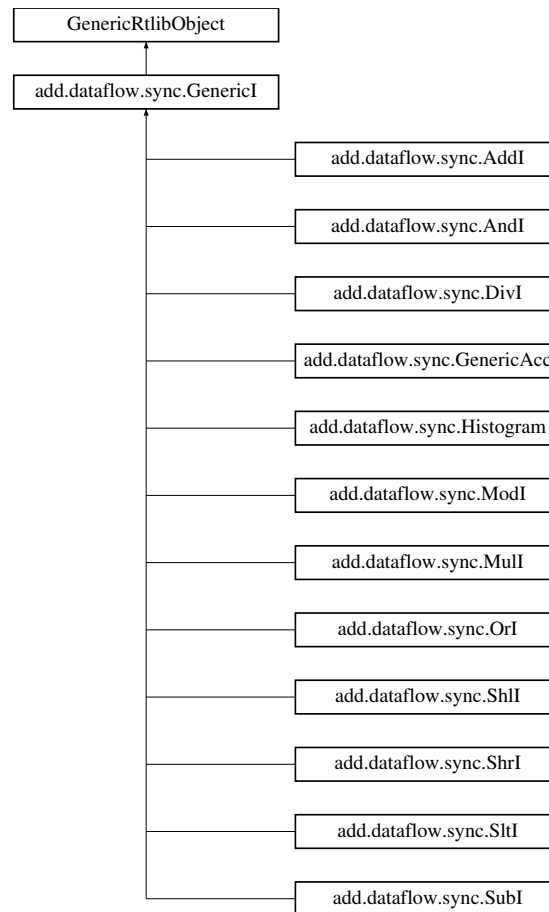
| | |
|-----------|----------------------------|
| <i>ps</i> | -Simulator writing object. |
|-----------|----------------------------|

The documentation for this class was generated from the following file:

- add/dataflow/sync/GenericBranchI.java

3.22 add.dataflow.sync.GenericI Class Reference

Inheritance diagram for add.dataflow.sync.GenericI:



Public Member Functions

- [GenericI](#) ()
- void [constructPorts](#) ()
- void [setString](#) (String componentId, String componentImmediate)
- void [setSymbol](#) (Symbol s)
- int [compute](#) (int data)
- void [notCompute](#) ()
- void [reset](#) ()
- void [tickUp](#) ()
- void [tickDown](#) ()
- void [setCompName](#) (String l)
- void [evaluate](#) (Object arg)
- boolean [needsDynamicSymbol](#) ()
- void [constructDynamicSymbol](#) ()
- void [write](#) (java.io.PrintWriter ps)
- boolean [initialize](#) (String s)
- void [mousePressed](#) (java.awt.event.MouseEvent me)
- int [getId](#) ()
- void [setId](#) (int id)
- int [getImmediate](#) ()
- void [setImmediate](#) (int immediate)
- Label [getStringLabelId](#) ()
- void [setStringLabelId](#) (Label stringLabelId)
- Label [getStringLabelImmediate](#) ()

- void [setStringLabelImmediate](#) (Label stringLabelImmediate)
- Label [getLabelNome](#) ()
- void [setLabelNome](#) (Label labelNome)
- String [getComponentId](#) ()
- void [setComponentId](#) (String componentId)
- String [getComponentImmediate](#) ()
- void [setComponentImmediate](#) (String componentImmediate)
- String [getComponentType](#) ()
- void [setComponentType](#) (String componentType)
- Rectangle [getBackground](#) ()
- void [setBackground](#) (Rectangle background)
- PortStdLogic1164 [getPortClk](#) ()
- void [setPortClk](#) (PortStdLogic1164 portClk)
- PortStdLogic1164 [getPortRst](#) ()
- void [setPortRst](#) (PortStdLogic1164 portRst)
- PortStdLogic1164 [getPortRin](#) ()
- void [setPortRin](#) (PortStdLogic1164 portRin)
- PortStdLogic1164 [getPortRout](#) ()
- void [setPortRout](#) (PortStdLogic1164 portRout)
- PortStdLogic1164 [getPortEn](#) ()
- void [setPortEn](#) (PortStdLogic1164 portEn)
- PortStdLogicVector [getPortDin](#) ()
- void [setPortDin](#) (PortStdLogicVector portDin)
- PortStdLogicVector [getPortDout](#) ()
- void [setPortDout](#) (PortStdLogicVector portDout)
- PortStdLogicVector [getPortDconf](#) ()
- void [setPortDconf](#) (PortStdLogicVector portDconf)

3.22.1 Detailed Description

[Genericl](#) component for the ADD Accelerator Design and Deploy.

The component creates the basis for other components with an input and that perform the computation with an (immediate) id.

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Version

1.0

3.22.2 Constructor & Destructor Documentation

3.22.2.1 `add.dataflow.sync.Genericl.Genericl ()`

Object Constructor.

3.22.3 Member Function Documentation

3.22.3.1 `int add.dataflow.sync.Genericl.compute (int data)`

Method responsible for the computation of the output and set the new text to be shown by the component. In this case the id.

Parameters

| | |
|-------------|---|
| <i>data</i> | - Value to be used for the computation. |
|-------------|---|

Returns

- Return of computation

3.22.3.2 void add.dataflow.sync.GenericI.constructDynamicSymbol ()

Method responsible for dynamically constructing the component symbol.

3.22.3.3 void add.dataflow.sync.GenericI.constructPorts ()

Method responsible for initializing the component input and output ports.

3.22.3.4 void add.dataflow.sync.GenericI.evaluate (Object *arg*)

evaluate(): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events. In this case, it will be checked whether the ports are connected and will execute the compute (int data) method if the R_IN input is high level. It will execute the **reset()**, **tickUp()**, and **tickDown()** methods if their respective entries order it. It will update the output with the **compute(int data)** method result.

Parameters

| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

3.22.3.5 Rectangle add.dataflow.sync.GenericI.getBackground ()

Returns

- the background

3.22.3.6 String add.dataflow.sync.GenericI.getComponentId ()

Returns

- the componentId

3.22.3.7 String add.dataflow.sync.GenericI.getComponentImmediate ()

Returns

- the componentImmediate

3.22.3.8 String add.dataflow.sync.GenericI.getComponentType ()

Returns

- the componentType

3.22.3.9 int add.dataflow.sync.Genericl.getId ()

Returns

the id

3.22.3.10 int add.dataflow.sync.Genericl.getImmediate ()

Returns

the immediate

3.22.3.11 Label add.dataflow.sync.Genericl.getLabelNome ()

Returns

the labelNome

3.22.3.12 PortStdLogic1164 add.dataflow.sync.Genericl.getPortClk ()

Returns

the portClk

3.22.3.13 PortStdLogicVector add.dataflow.sync.Genericl.getPortDconf ()

Returns

the portDconf

3.22.3.14 PortStdLogicVector add.dataflow.sync.Genericl.getPortDin ()

Returns

the portDin

3.22.3.15 PortStdLogicVector add.dataflow.sync.Genericl.getPortDout ()

Returns

the portDout

3.22.3.16 PortStdLogic1164 add.dataflow.sync.Genericl.getPortEn ()

Returns

the portEn

3.22.3.17 PortStdLogic1164 add.dataflow.sync.Genericl.getPortRin ()

Returns

the portRin

3.22.3.18 PortStdLogic1164 add.dataflow.sync.GenericI.getPortRout ()

Returns

the portRout

3.22.3.19 PortStdLogic1164 add.dataflow.sync.GenericI.getPortRst ()

Returns

the portRst

3.22.3.20 Label add.dataflow.sync.GenericI.getStringLabelId ()

Returns

the stringLabelId

3.22.3.21 Label add.dataflow.sync.GenericI.getStringLabelImmediate ()

Returns

the stringLabelImmediate

3.22.3.22 boolean add.dataflow.sync.GenericI.initialize (String s)

Method responsible for reading the component settings in the file saved by the simulator.

Parameters

| | |
|----------|---|
| <i>s</i> | - Settings for the component read from the file saved by the simulator. |
|----------|---|

Returns

- Returns true if the settings are read successfully.

3.22.3.23 void add.dataflow.sync.GenericI.mousePressed (java.awt.event.MouseEvent *me*)

Method responsible for changing the value of the id for more or less, depending on whether the mouse click is done by the right or left button respectively.

Parameters

| | |
|-----------|------------------------------------|
| <i>me</i> | - Object where the event occurred. |
|-----------|------------------------------------|

3.22.3.24 boolean add.dataflow.sync.GenericI.needsDynamicSymbol ()

Method responsible for indicating to the simulator that the component's symbol will be constructed dynamically by the [constructDynamicSymbol\(\)](#) method, or will be read from a file of the same name as the ".sym" extension.

Returns

- TRUE means that the symbol will be made dynamically.

3.22.3.25 void add.dataflow.sync.Genericl.notCompute ()

Method executed when computing is not performed.

3.22.3.26 void add.dataflow.sync.Genericl.reset ()

Method executed when the signal from the reset input goes to high logic level. It sets the new text to be shown by the component. In this case the id.

3.22.3.27 void add.dataflow.sync.Genericl.setBackground (Rectangle *background*)

Parameters

| | |
|-------------------|-----------------------|
| <i>background</i> | the background to set |
|-------------------|-----------------------|

3.22.3.28 void add.dataflow.sync.Genericl.setCompName (String *l*)

Method responsible for changing the label that displays the name of the component.

Parameters

| | |
|----------|---------------------------------------|
| <i>l</i> | - String to be set in component name. |
|----------|---------------------------------------|

3.22.3.29 void add.dataflow.sync.Genericl.setComponentId (String *componentId*)

Parameters

| | |
|--------------------|------------------------|
| <i>componentId</i> | the componentId to set |
|--------------------|------------------------|

3.22.3.30 void add.dataflow.sync.Genericl.setComponentImmediate (String *componentImmediate*)

Parameters

| | |
|----------------------------|-------------------------------|
| <i>component-Immediate</i> | the componentImmediate to set |
|----------------------------|-------------------------------|

3.22.3.31 void add.dataflow.sync.Genericl.setComponentType (String *componentType*)

Parameters

| | |
|----------------------|--------------------------|
| <i>componentType</i> | the componentType to set |
|----------------------|--------------------------|

3.22.3.32 void add.dataflow.sync.Genericl.setId (int *id*)

Parameters

| | |
|-----------|---------------|
| <i>id</i> | the id to set |
|-----------|---------------|

3.22.3.33 void add.dataflow.sync.Genericl.setImmediate (int *immediate*)

Parameters

| | |
|------------------|----------------------|
| <i>immediate</i> | the immediate to set |
|------------------|----------------------|

3.22.3.34 void add.dataflow.sync.GenericI.setLabelNome (Label *labelNome*)

Parameters

| | |
|------------------|----------------------|
| <i>labelNome</i> | the labelNome to set |
|------------------|----------------------|

3.22.3.35 void add.dataflow.sync.GenericI.setPortClk (PortStdLogic1164 *portClk*)

Parameters

| | |
|----------------|--------------------|
| <i>portClk</i> | the portClk to set |
|----------------|--------------------|

3.22.3.36 void add.dataflow.sync.GenericI.setPortDconf (PortStdLogicVector *portDconf*)

Parameters

| | |
|------------------|----------------------|
| <i>portDconf</i> | the portDconf to set |
|------------------|----------------------|

3.22.3.37 void add.dataflow.sync.GenericI.setPortDin (PortStdLogicVector *portDin*)

Parameters

| | |
|----------------|--------------------|
| <i>portDin</i> | the portDin to set |
|----------------|--------------------|

3.22.3.38 void add.dataflow.sync.GenericI.setPortDout (PortStdLogicVector *portDout*)

Parameters

| | |
|-----------------|---------------------|
| <i>portDout</i> | the portDout to set |
|-----------------|---------------------|

3.22.3.39 void add.dataflow.sync.GenericI.setPortEn (PortStdLogic1164 *portEn*)

Parameters

| | |
|---------------|-------------------|
| <i>portEn</i> | the portEn to set |
|---------------|-------------------|

3.22.3.40 void add.dataflow.sync.GenericI.setPortRin (PortStdLogic1164 *portRin*)

Parameters

| | |
|----------------|--------------------|
| <i>portRin</i> | the portRin to set |
|----------------|--------------------|

3.22.3.41 void add.dataflow.sync.GenericI.setPortRout (PortStdLogic1164 *portRout*)

Parameters

| | |
|-----------------|---------------------|
| <i>portRout</i> | the portRout to set |
|-----------------|---------------------|

3.22.3.42 void add.dataflow.sync.Genericl.setPortRst (PortStdLogic1164 *portRst*)

Parameters

| | |
|----------------|--------------------|
| <i>portRst</i> | the portRst to set |
|----------------|--------------------|

3.22.3.43 void add.dataflow.sync.Genericl.setString (String *componentId*, String *componentImmediate*)

Method responsible for updating the text displayed by the component.

Parameters

| | |
|----------------------------|-----------------------|
| <i>componentId</i> | - Text to be updated. |
| <i>component-Immediate</i> | - Text to be updated. |

3.22.3.44 void add.dataflow.sync.Genericl.setStringLabelId (Label *stringLabelId*)

Parameters

| | |
|----------------------|--------------------------|
| <i>stringLabelId</i> | the stringLabelId to set |
|----------------------|--------------------------|

3.22.3.45 void add.dataflow.sync.Genericl.setStringLabelImmediate (Label *stringLabelImmediate*)

Parameters

| | |
|------------------------------|---------------------------------|
| <i>stringLabel-Immediate</i> | the stringLabelImmediate to set |
|------------------------------|---------------------------------|

3.22.3.46 void add.dataflow.sync.Genericl.setSymbol (Symbol *s*)

Method responsible for updating the component symbol.

Parameters

| | |
|----------|--------------------------------|
| <i>s</i> | - Symbol passed automatically. |
|----------|--------------------------------|

3.22.3.47 void add.dataflow.sync.Genericl.tickDown ()

Method executed when the clock signal goes to low logic level.

3.22.3.48 void add.dataflow.sync.Genericl.tickUp ()

Method executed when the clock signal goes to high logic level.

3.22.3.49 void add.dataflow.sync.GenericI.write (java.io.PrintWriter *ps*)

Method responsible for writing component settings to the file saved by the simulator.

Parameters

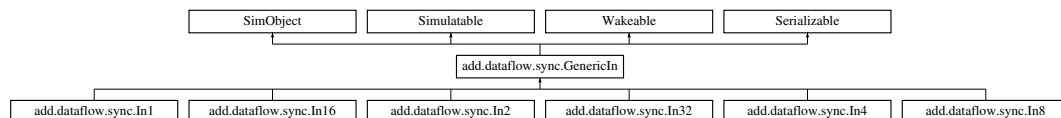
| | |
|-----------|----------------------------|
| <i>ps</i> | -Simulator writing object. |
|-----------|----------------------------|

The documentation for this class was generated from the following file:

- add/dataflow/sync/GenericIn.java

3.23 add.dataflow.sync.GenericIn Class Reference

Inheritance diagram for add.dataflow.sync.GenericIn:



Public Member Functions

- [GenericIn](#) ()
- [GenericIn](#) (int QTDE_PORTS)
- void [constructPorts](#) ()
- void [setVectorIn](#) (int[] vectorIn)
- void [setCompName](#) (String l)
- void [evaluate](#) (Object arg)
- boolean [needsDynamicSymbol](#) ()
- void [constructDynamicSymbol](#) ()
- void [write](#) (java.io.PrintWriter ps)
- boolean [initialize](#) (String s)
- double [getDelay](#) ()
- void [setDelay](#) (double _delay)
- void [setDelay](#) (String s)
- void [wakeUp](#) (Object arg)
- void [updateSymbol](#) ()
- int [getN_bits](#) ()
- void [setN_bits](#) (int n_bits)
- StdLogicVector [getVector](#) ()
- void [setVector](#) (StdLogicVector vector)
- StdLogicVector [getVector_UUU](#) ()
- void [setVector_UUU](#) (StdLogicVector vector_UUU)
- StdLogicVector [getVector_XXX](#) ()
- void [setVector_XXX](#) (StdLogicVector vector_XXX)
- StdLogicVector [getVector_ZZZ](#) ()
- void [setVector_ZZZ](#) (StdLogicVector vector_ZZZ)
- StdLogicVector [getVector_000](#) ()
- void [setVector_000](#) (StdLogicVector vector_000)
- StdLogicVector [getVector_111](#) ()
- void [setVector_111](#) (StdLogicVector vector_111)
- PortStdLogicVector [getVectorOutputPort](#) ()
- void [setVectorOutputPort](#) (PortStdLogicVector vectorOutputPort)
- double [getDefaultdelay](#) ()
- void [setDefaultdelay](#) (double defaultdelay)
- boolean [isEnabledAnimationFlag](#) ()

- void [setEnabledAnimationFlag](#) (boolean enableAnimationFlag)
- ColoredValueLabel [getValueLabel](#) ()
- void [setValueLabel](#) (ColoredValueLabel valueLabel)
- FlexibleLabelFormatter [getLabelFormatter](#) ()
- void [setLabelFormatter](#) (FlexibleLabelFormatter labelFormatter)
- String [getComponentType](#) ()
- void [setComponentType](#) (String componentType)
- int [getQTDE_PORTS](#) ()
- int [getTOT_PORTS](#) ()
- PortStdLogic1164 [getPortClk](#) ()
- void [setPortClk](#) (PortStdLogic1164 portClk)
- PortStdLogic1164 [getPortRst](#) ()
- void [setPortRst](#) (PortStdLogic1164 portRst)
- PortStdLogic1164 [getPortEnOut](#) ()
- void [setPortEnOut](#) (PortStdLogic1164 portEnOut)
- PortStdLogic1164 [getPortRdy](#) ()
- void [setPortRdy](#) (PortStdLogic1164 portRdy)
- PortStdLogicVector[] [getPortDout](#) ()
- void [setPortDout](#) (PortStdLogicVector[] portDout)
- PortStdLogic1164[] [getPortRout](#) ()
- void [setPortRout](#) (PortStdLogic1164[] portRout)
- PortStdLogicVector [getPortDconf](#) ()
- void [setPortDconf](#) (PortStdLogicVector portDconf)
- int[] [getVectorIn](#) ()
- int [getIdxDin](#) ()
- void [setIdxDin](#) (int idxDin)
- boolean [isStart](#) ()
- void [setStart](#) (boolean start)

Protected Member Functions

- void [constructStandardValues](#) ()

3.23.1 Detailed Description

[GenericIn](#) component for the ADD Accelerator Design and Deploy.

The component creates the basis for other components that implement input queues with 1, 2, 4, 8, 16, or 32 outputs.

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Author

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Ricardo Santos Ferreira - cacauvicosa@gmail.com

Version

1.0

3.23.2 Constructor & Destructor Documentation

3.23.2.1 `add.dataflow.sync.GenericIn.GenericIn ()`

Object Constructor. By default, an input queue of an output is created.

3.23.2.2 add.dataflow.sync.GenericIn.GenericIn (int *QTDE_PORTS*)

Object Constructor. An input queue of N outputs is created.

Parameters

| | |
|-------------------|---|
| <i>QTDE_PORTS</i> | - Number of queue outputs to be created |
|-------------------|---|

3.23.3 Member Function Documentation**3.23.3.1 void add.dataflow.sync.GenericIn.constructDynamicSymbol ()**

Method responsible for dynamically constructing the component symbol.

3.23.3.2 void add.dataflow.sync.GenericIn.constructPorts ()

Method responsible for initializing the component input and output ports.

3.23.3.3 void add.dataflow.sync.GenericIn.constructStandardValues () [protected]

Method responsible for creating some auxiliary variables for working with bit vectors.

3.23.3.4 void add.dataflow.sync.GenericIn.evaluate (Object *arg*)

[evaluate\(\)](#): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events. In this case, it will be checked whether the ports are connected. It Will pass the vector data to the outputs.

Parameters

| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

3.23.3.5 String add.dataflow.sync.GenericIn.getComponentType ()

Returns

the componentType

3.23.3.6 double add.dataflow.sync.GenericIn.getDefaultdelay ()

Returns

the defaultdelay

3.23.3.7 double add.dataflow.sync.GenericIn.getDelay ()

Method responsible for returning the value of the delay variable that contains the response delay time of the component.

Returns

- Returns the delay of the component.

3.23.3.8 `int add.dataflow.sync.GenericIn.getIdxDin ()`

Returns

the idxDin

3.23.3.9 `FlexibleLabelFormatter add.dataflow.sync.GenericIn.getLabelFormatter ()`

Returns

the labelFormatter

3.23.3.10 `int add.dataflow.sync.GenericIn.getN_bits ()`

Returns

the n_bits

3.23.3.11 `PortStdLogic1164 add.dataflow.sync.GenericIn.getPortClk ()`

Returns

the portClk

3.23.3.12 `PortStdLogicVector add.dataflow.sync.GenericIn.getPortDconf ()`

Returns

the portDconf

3.23.3.13 `PortStdLogicVector [] add.dataflow.sync.GenericIn.getPortDout ()`

Returns

the portDout

3.23.3.14 `PortStdLogic1164 add.dataflow.sync.GenericIn.getPortEnOut ()`

Returns

the portEnOut

3.23.3.15 `PortStdLogic1164 add.dataflow.sync.GenericIn.getPortRdy ()`

Returns

the portRdy

3.23.3.16 `PortStdLogic1164 [] add.dataflow.sync.GenericIn.getPortRout ()`

Returns

the portRout

3.23.3.17 PortStdLogic1164 add.dataflow.sync.GenericIn.getPortRst ()

Returns

the portRst

3.23.3.18 int add.dataflow.sync.GenericIn.getQTDE_PORTS ()

Returns

the QTDE_PORTS

3.23.3.19 int add.dataflow.sync.GenericIn.getTOT_PORTS ()

Returns

the TOT_PORTS

3.23.3.20 ColoredValueLabel add.dataflow.sync.GenericIn.getValueLabel ()

Returns

the valueLabel

3.23.3.21 StdLogicVector add.dataflow.sync.GenericIn.getVector ()

Returns

the vector

3.23.3.22 StdLogicVector add.dataflow.sync.GenericIn.getVector_000 ()

Returns

the vector_000

3.23.3.23 StdLogicVector add.dataflow.sync.GenericIn.getVector_111 ()

Returns

the vector_111

3.23.3.24 StdLogicVector add.dataflow.sync.GenericIn.getVector_UUU ()

Returns

the vector_UUU

3.23.3.25 StdLogicVector add.dataflow.sync.GenericIn.getVector_XXX ()

Returns

the vector_XXX

3.23.3.26 StdLogicVector add.dataflow.sync.GenericIn.getVector_ZZZ ()

Returns

the vector_ZZZ

3.23.3.27 int [] add.dataflow.sync.GenericIn.getVectorIn ()

Returns

the vectorIn

3.23.3.28 PortStdLogicVector add.dataflow.sync.GenericIn.getVectorOutputPort ()

Returns

the vectorOutputPort

3.23.3.29 boolean add.dataflow.sync.GenericIn.initialize (String s)

Method responsible for reading the component settings in the file saved by the simulator.

Parameters

| | |
|---|---|
| s | - Settings for the component read from the file saved by the simulator. |
|---|---|

Returns

- Returns true if the settings are read successfully.

3.23.3.30 boolean add.dataflow.sync.GenericIn.isEnabledAnimationFlag ()

Returns

the enableAnimationFlag

3.23.3.31 boolean add.dataflow.sync.GenericIn.isStart ()

Returns

the start

3.23.3.32 boolean add.dataflow.sync.GenericIn.needsDynamicSymbol ()

Method responsible for indicating to the simulator that the component's symbol will be constructed dynamically by the [constructDynamicSymbol\(\)](#) method, or will be read from a file of the same name as the ".sym" extension.

Returns

- TRUE means that the symbol will be built dynamically.

3.23.3.33 void add.dataflow.sync.GenericIn.setCompName (String l)

Method responsible for changing the label that displays the name of the component.

Parameters

| | |
|----------|---|
| <i>/</i> | - String to be set to the component name. |
|----------|---|

3.23.3.34 void add.dataflow.sync.GenericIn.setComponentType (String *componentType*)

Parameters

| | |
|----------------------|--------------------------|
| <i>componentType</i> | the componentType to set |
|----------------------|--------------------------|

3.23.3.35 void add.dataflow.sync.GenericIn.setDefaultdelay (double *defaultdelay*)

Parameters

| | |
|---------------------|-------------------------|
| <i>defaultdelay</i> | the defaultdelay to set |
|---------------------|-------------------------|

3.23.3.36 void add.dataflow.sync.GenericIn.setDelay (double *_delay*)

Method responsible for changing the value of the delay variable that contains the response delay time of the component.

Parameters

| | |
|---------------|--|
| <i>_delay</i> | |
|---------------|--|

3.23.3.37 void add.dataflow.sync.GenericIn.setDelay (String *s*)

Method responsible for changing the value of the delay variable that contains the response delay time of the component.

Parameters

| | |
|----------|--|
| <i>s</i> | |
|----------|--|

3.23.3.38 void add.dataflow.sync.GenericIn.setEnableAnimationFlag (boolean *enableAnimationFlag*)

Parameters

| | |
|-----------------------------|--------------------------------|
| <i>enable-AnimationFlag</i> | the enableAnimationFlag to set |
|-----------------------------|--------------------------------|

3.23.3.39 void add.dataflow.sync.GenericIn.setIdxDin (int *idxDin*)

Parameters

| | |
|---------------|-------------------|
| <i>idxDin</i> | the idxDin to set |
|---------------|-------------------|

3.23.3.40 void add.dataflow.sync.GenericIn.setLabelFormatter (FlexibleLabelFormatter *labelFormatter*)

Parameters

| | |
|-----------------------|---------------------------|
| <i>labelFormatter</i> | the labelFormatter to set |
|-----------------------|---------------------------|

3.23.3.41 void add.dataflow.sync.GenericIn.setN_bits (int *n_bits*)

Parameters

| | |
|---------------|-------------------|
| <i>n_bits</i> | the n_bits to set |
|---------------|-------------------|

3.23.3.42 void add.dataflow.sync.GenericIn.setPortClk (PortStdLogic1164 *portClk*)

Parameters

| | |
|----------------|--------------------|
| <i>portClk</i> | the portClk to set |
|----------------|--------------------|

3.23.3.43 void add.dataflow.sync.GenericIn.setPortDconf (PortStdLogicVector *portDconf*)

Parameters

| | |
|------------------|----------------------|
| <i>portDconf</i> | the portDconf to set |
|------------------|----------------------|

3.23.3.44 void add.dataflow.sync.GenericIn.setPortDout (PortStdLogicVector[] *portDout*)

Parameters

| | |
|-----------------|---------------------|
| <i>portDout</i> | the portDout to set |
|-----------------|---------------------|

3.23.3.45 void add.dataflow.sync.GenericIn.setPortEnOut (PortStdLogic1164 *portEnOut*)

Parameters

| | |
|------------------|----------------------|
| <i>portEnOut</i> | the portEnOut to set |
|------------------|----------------------|

3.23.3.46 void add.dataflow.sync.GenericIn.setPortRdy (PortStdLogic1164 *portRdy*)

Parameters

| | |
|----------------|--------------------|
| <i>portRdy</i> | the portRdy to set |
|----------------|--------------------|

3.23.3.47 void add.dataflow.sync.GenericIn.setPortRout (PortStdLogic1164[] *portRout*)

Parameters

| | |
|-----------------|---------------------|
| <i>portRout</i> | the portRout to set |
|-----------------|---------------------|

3.23.3.48 void add.dataflow.sync.GenericIn.setPortRst (PortStdLogic1164 *portRst*)

Parameters

| | |
|----------------|--------------------|
| <i>portRst</i> | the portRst to set |
|----------------|--------------------|

3.23.3.49 void add.dataflow.sync.GenericIn.setStart (boolean *start*)

Parameters

| | |
|--------------|------------------|
| <i>start</i> | the start to set |
|--------------|------------------|

3.23.3.50 void add.dataflow.sync.GenericIn.setValueLabel (ColoredValueLabel *valueLabel*)

Parameters

| | |
|-------------------|-----------------------|
| <i>valueLabel</i> | the valueLabel to set |
|-------------------|-----------------------|

3.23.3.51 void add.dataflow.sync.GenericIn.setVector (StdLogicVector *vector*)

Parameters

| | |
|---------------|-------------------|
| <i>vector</i> | the vector to set |
|---------------|-------------------|

3.23.3.52 void add.dataflow.sync.GenericIn.setVector_000 (StdLogicVector *vector_000*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_000</i> | the vector_000 to set |
|-------------------|-----------------------|

3.23.3.53 void add.dataflow.sync.GenericIn.setVector_111 (StdLogicVector *vector_111*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_111</i> | the vector_111 to set |
|-------------------|-----------------------|

3.23.3.54 void add.dataflow.sync.GenericIn.setVector_UUU (StdLogicVector *vector_UUU*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_UUU</i> | the vector_UUU to set |
|-------------------|-----------------------|

3.23.3.55 void add.dataflow.sync.GenericIn.setVector_XXX (StdLogicVector *vector_XXX*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_XXX</i> | the vector_XXX to set |
|-------------------|-----------------------|

3.23.3.56 void add.dataflow.sync.GenericIn.setVector_ZZZ (StdLogicVector *vector_ZZZ*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_ZZZ</i> | the vector_ZZZ to set |
|-------------------|-----------------------|

3.23.3.57 void add.dataflow.sync.GenericIn.setVectorIn (int[] *vectorIn*)

Method responsible to set the data vector to be delivered to the outputs.

Parameters

| | |
|-----------------|--|
| <i>vectorIn</i> | - Vector that will be delivered to the outputs |
|-----------------|--|

3.23.3.58 void add.dataflow.sync.GenericIn.setVectorOutputPort (PortStdLogicVector *vectorOutputPort*)

Parameters

| | |
|-------------------------|-----------------------------|
| <i>vectorOutputPort</i> | the vectorOutputPort to set |
|-------------------------|-----------------------------|

3.23.3.59 void add.dataflow.sync.GenericIn.updateSymbol ()

Method responsible for updating the component symbol.

3.23.3.60 void add.dataflow.sync.GenericIn.wakeup (Object *arg*)

[wakeup\(\)](#): Called by the simulator as a reaction to our own `scheduleWakeup()`-calls. For RTLIB components, a [wakeup\(\)](#) is normally used to update the value label on its graphical symbol. A `WakeupEvent` for this purpose should have either 'null' or the current 'this' object as its payload.

A second use is to update our internal 'vector' variable at a specified simulation time, which is needed to implement the `assign()` method from interface `hades.simulator.Assignable`. A `WakeupEvent` for this purpose is expected to hold a `StdLogicVector` object (with the 'value' from the `assign` call) as its payload.

Parameters

| | |
|------------|--------------------------|
| <i>arg</i> | - Object to be awakened. |
|------------|--------------------------|

3.23.3.61 void add.dataflow.sync.GenericIn.write (java.io.PrintWriter *ps*)

Method responsible for writing component settings to the file saved by the simulator.

Parameters

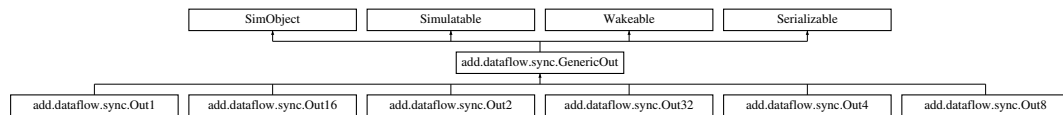
| | |
|-----------|-----------------------------|
| <i>ps</i> | - Simulator writing object. |
|-----------|-----------------------------|

The documentation for this class was generated from the following file:

- add/dataflow/sync/GenericIn.java

3.24 add.dataflow.sync.GenericOut Class Reference

Inheritance diagram for `add.dataflow.sync.GenericOut`:



Public Member Functions

- [GenericOut](#) ()
- [GenericOut](#) (int QTDE_PORTS)
- void [constructPorts](#) ()
- boolean [getDoneSignal](#) ()
- void [setQtdeSave](#) (int qtde_save)
- void [setVector](#) (int k)
- int[] [getVectorOut](#) ()
- void [setCompName](#) (String l)
- void [evaluate](#) (Object arg)
- boolean [needsDynamicSymbol](#) ()
- void [constructDynamicSymbol](#) ()
- void [write](#) (java.io.PrintWriter ps)
- boolean [initialize](#) (String s)
- double [getDelay](#) ()
- void [setDelay](#) (double _delay)
- void [setDelay](#) (String s)
- void [wakeup](#) (Object arg)
- void [updateSymbol](#) ()
- int [getN_bits](#) ()
- void [setN_bits](#) (int n_bits)
- StdLogicVector [getVector](#) ()
- void [setVector](#) (StdLogicVector vector)
- StdLogicVector [getVector_UUU](#) ()
- void [setVector_UUU](#) (StdLogicVector vector_UUU)
- StdLogicVector [getVector_XXX](#) ()
- void [setVector_XXX](#) (StdLogicVector vector_XXX)
- StdLogicVector [getVector_ZZZ](#) ()
- void [setVector_ZZZ](#) (StdLogicVector vector_ZZZ)
- StdLogicVector [getVector_000](#) ()
- void [setVector_000](#) (StdLogicVector vector_000)
- StdLogicVector [getVector_111](#) ()
- void [setVector_111](#) (StdLogicVector vector_111)
- PortStdLogicVector [getVectorOutputPort](#) ()
- void [setVectorOutputPort](#) (PortStdLogicVector vectorOutputPort)
- double [getDefaultdelay](#) ()
- void [setDefaultdelay](#) (double defaultdelay)
- boolean [isEnabledAnimationFlag](#) ()
- void [setEnabledAnimationFlag](#) (boolean enableAnimationFlag)
- ColoredValueLabel [getValueLabel](#) ()
- void [setValueLabel](#) (ColoredValueLabel valueLabel)
- FlexibleLabelFormatter [getLabelFormatter](#) ()
- void [setLabelFormatter](#) (FlexibleLabelFormatter labelFormatter)
- String [getComponentType](#) ()
- void [setComponentType](#) (String componentType)
- int [getQTDE_PORTS](#) ()
- int [getTOT_PORTS](#) ()
- PortStdLogic1164 [getPortClk](#) ()

- void [setPortClk](#) (PortStdLogic1164 portClk)
- PortStdLogic1164 [getPortRst](#) ()
- void [setPortRst](#) (PortStdLogic1164 portRst)
- PortStdLogic1164 [getPortRdy](#) ()
- void [setPortRdy](#) (PortStdLogic1164 portRdy)
- PortStdLogic1164 [getPortEn](#) ()
- void [setPortEn](#) (PortStdLogic1164 portEn)
- PortStdLogicVector[] [getPortDin](#) ()
- void [setPortDin](#) (PortStdLogicVector[] portDin)
- PortStdLogic1164[] [getPortRin](#) ()
- void [setPortRin](#) (PortStdLogic1164[] portRin)
- void [setVectorOut](#) (int[] vectorOut)
- int [getIdxDout](#) ()
- void [setIdxDout](#) (int idxDout)
- int [getTamVectorOut](#) ()
- void [setTamVectorOut](#) (int tamVectorOut)
- boolean [isDone](#) ()
- void [setDone](#) (boolean done)
- int [getQtdeSave](#) ()

Protected Member Functions

- void [constructStandardValues](#) ()

3.24.1 Detailed Description

[GenericOut](#) component for the ADD Accelerator Design and Deploy.

The component creates the basis for other components that implement output queues with 1, 2, 4, 8, 16, or 32 inputs.

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 Ricardo Santos Ferreira - cacauvicosa@gmail.com

Version

1.0

3.24.2 Constructor & Destructor Documentation

3.24.2.1 `add.dataflow.sync.GenericOut.GenericOut ()`

Object Constructor. By default, an input queue of an output is created.

3.24.2.2 `add.dataflow.sync.GenericOut.GenericOut (int QTDE_PORTS)`

Object Constructor. An output queue of N inputs is created.

Parameters

| | |
|-------------------|--|
| <i>QTDE_PORTS</i> | - Number of queue inputs to be created |
|-------------------|--|

3.24.3 Member Function Documentation

3.24.3.1 void add.dataflow.sync.GenericOut.constructDynamicSymbol ()

Method responsible for dynamically constructing the component symbol.

3.24.3.2 void add.dataflow.sync.GenericOut.constructPorts ()

Method responsible for initializing the component input and output ports.

3.24.3.3 void add.dataflow.sync.GenericOut.constructStandardValues () [protected]

Method responsible for creating some auxiliary variables for working with bit vectors.

3.24.3.4 void add.dataflow.sync.GenericOut.evaluate (Object *arg*)

[evaluate\(\)](#): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events. In this case, it will be checked whether the ports are connected and if the R_IN inputs are high level. It Will pass the data from the inputs to the vector.

Parameters

| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

3.24.3.5 String add.dataflow.sync.GenericOut.getComponentType ()

Returns

the componentType

3.24.3.6 double add.dataflow.sync.GenericOut.getDefaultdelay ()

Returns

the defaultdelay

3.24.3.7 double add.dataflow.sync.GenericOut.getDelay ()

Method responsible for returning the value of the delay variable that contains the response delay time of the component.

Returns

- Returns component delay

3.24.3.8 boolean add.dataflow.sync.GenericOut.getDoneSignal ()

Method responsible for returning end of data entry.

Returns

- Returns the value of done signal.

3.24.3.9 int add.dataflow.sync.GenericOut.getIdxDout ()

Returns

the idxDout

3.24.3.10 FlexibleLabelFormatter add.dataflow.sync.GenericOut.getLabelFormatter ()

Returns

the labelFormatter

3.24.3.11 int add.dataflow.sync.GenericOut.getN_bits ()

Returns

the n_bits

3.24.3.12 PortStdLogic1164 add.dataflow.sync.GenericOut.getPortClk ()

Returns

the portClk

3.24.3.13 PortStdLogicVector [] add.dataflow.sync.GenericOut.getPortDin ()

Returns

the portDin

3.24.3.14 PortStdLogic1164 add.dataflow.sync.GenericOut.getPortEn ()

Returns

the portEn

3.24.3.15 PortStdLogic1164 add.dataflow.sync.GenericOut.getPortRdy ()

Returns

the portRdy

3.24.3.16 PortStdLogic1164 [] add.dataflow.sync.GenericOut.getPortRin ()

Returns

the portRin

3.24.3.17 PortStdLogic1164 add.dataflow.sync.GenericOut.getPortRst ()

Returns

the portRst

3.24.3.18 int add.dataflow.sync.GenericOut.getQTDE_PORTS ()

Returns

the QTDE_PORTS

3.24.3.19 int add.dataflow.sync.GenericOut.getQtdeSave ()

Returns

the qtdeSave

3.24.3.20 int add.dataflow.sync.GenericOut.getTamVectorOut ()

Returns

the tamVectorOut

3.24.3.21 int add.dataflow.sync.GenericOut.getTOT_PORTS ()

Returns

the TOT_PORTS

3.24.3.22 ColoredValueLabel add.dataflow.sync.GenericOut.getValueLabel ()

Returns

the valueLabel

3.24.3.23 StdLogicVector add.dataflow.sync.GenericOut.getVector ()

Returns

the vector

3.24.3.24 StdLogicVector add.dataflow.sync.GenericOut.getVector_000 ()

Returns

the vector_000

3.24.3.25 StdLogicVector add.dataflow.sync.GenericOut.getVector_111 ()

Returns

the vector_111

3.24.3.26 StdLogicVector add.dataflow.sync.GenericOut.getVector_UUU ()

Returns

the vector_UUU

3.24.3.27 StdLogicVector add.dataflow.sync.GenericOut.getVector_XXX ()

Returns

the vector_XXX

3.24.3.28 StdLogicVector add.dataflow.sync.GenericOut.getVector_ZZZ ()

Returns

the vector_ZZZ

3.24.3.29 int [] add.dataflow.sync.GenericOut.getVectorOut ()

Method responsible for returning the data vector received by the queue entries.

Returns

- Returns the vector with the processed data.

3.24.3.30 PortStdLogicVector add.dataflow.sync.GenericOut.getVectorOutputPort ()

Returns

the vectorOutputPort

3.24.3.31 boolean add.dataflow.sync.GenericOut.initialize (String s)

Method responsible for reading the component settings in the file saved by the simulator.

Parameters

| | |
|---|---|
| s | - Settings for the component read from the file saved by the simulator. |
|---|---|

Returns

- Returns true if the settings are read successfully.

3.24.3.32 boolean add.dataflow.sync.GenericOut.isDone ()

Returns

the done

3.24.3.33 boolean add.dataflow.sync.GenericOut.isEnabledAnimationFlag ()

Returns

the enableAnimationFlag

3.24.3.34 boolean add.dataflow.sync.GenericOut.needsDynamicSymbol ()

Method responsible for indicating to the simulator that the component's symbol will be constructed dynamically by the [constructDynamicSymbol\(\)](#) method, or will be read from a file of the same name as the ".sym" extension.

Returns

- TRUE means that the symbol will be built dynamically.

3.24.3.35 void add.dataflow.sync.GenericOut.setCompName (String /)

Method responsible for changing the label that displays the name of the component.

Parameters

| | |
|---|---|
| / | - String to be set to the component name. |
|---|---|

3.24.3.36 void add.dataflow.sync.GenericOut.setComponentType (String *componentType*)

Parameters

| | |
|----------------------|--------------------------|
| <i>componentType</i> | the componentType to set |
|----------------------|--------------------------|

3.24.3.37 void add.dataflow.sync.GenericOut.setDefaultdelay (double *defaultdelay*)

Parameters

| | |
|---------------------|-------------------------|
| <i>defaultdelay</i> | the defaultdelay to set |
|---------------------|-------------------------|

3.24.3.38 void add.dataflow.sync.GenericOut.setDelay (double *_delay*)

Method responsible for changing the value of the delay variable that contains the response delay time of the component.

Parameters

| | |
|---------------|--|
| <i>_delay</i> | |
|---------------|--|

3.24.3.39 void add.dataflow.sync.GenericOut.setDelay (String *s*)

Method responsible for changing the value of the delay variable that contains the response delay time of the component.

Parameters

| | |
|----------|--|
| <i>s</i> | |
|----------|--|

3.24.3.40 void add.dataflow.sync.GenericOut.setDone (boolean *done*)

Parameters

| | |
|-------------|-----------------|
| <i>done</i> | the done to set |
|-------------|-----------------|

3.24.3.41 void add.dataflow.sync.GenericOut.setEnableAnimationFlag (boolean *enableAnimationFlag*)

Parameters

| | |
|-----------------------------|--------------------------------|
| <i>enable-AnimationFlag</i> | the enableAnimationFlag to set |
|-----------------------------|--------------------------------|

3.24.3.42 void add.dataflow.sync.GenericOut.setIdxDout (int *idxDout*)

Parameters

| | |
|----------------|--------------------|
| <i>idxDout</i> | the idxDout to set |
|----------------|--------------------|

3.24.3.43 void add.dataflow.sync.GenericOut.setLabelFormatter (FlexibleLabelFormatter *labelFormatter*)

Parameters

| | |
|-----------------------|---------------------------|
| <i>labelFormatter</i> | the labelFormatter to set |
|-----------------------|---------------------------|

3.24.3.44 void add.dataflow.sync.GenericOut.setN_bits (int *n_bits*)

Parameters

| | |
|---------------|-------------------|
| <i>n_bits</i> | the n_bits to set |
|---------------|-------------------|

3.24.3.45 void add.dataflow.sync.GenericOut.setPortClk (PortStdLogic1164 *portClk*)

Parameters

| | |
|----------------|--------------------|
| <i>portClk</i> | the portClk to set |
|----------------|--------------------|

3.24.3.46 void add.dataflow.sync.GenericOut.setPortDin (PortStdLogicVector[] *portDin*)

Parameters

| | |
|----------------|--------------------|
| <i>portDin</i> | the portDin to set |
|----------------|--------------------|

3.24.3.47 void add.dataflow.sync.GenericOut.setPortEn (PortStdLogic1164 *portEn*)

Parameters

| | |
|---------------|-------------------|
| <i>portEn</i> | the portEn to set |
|---------------|-------------------|

3.24.3.48 void add.dataflow.sync.GenericOut.setPortRdy (PortStdLogic1164 *portRdy*)

Parameters

| | |
|----------------|--------------------|
| <i>portRdy</i> | the portRdy to set |
|----------------|--------------------|

3.24.3.49 void add.dataflow.sync.GenericOut.setPortRin (PortStdLogic1164[] *portRin*)

Parameters

| | |
|----------------|--------------------|
| <i>portRin</i> | the portRin to set |
|----------------|--------------------|

3.24.3.50 void add.dataflow.sync.GenericOut.setPortRst (PortStdLogic1164 *portRst*)

Parameters

| | |
|----------------|--------------------|
| <i>portRst</i> | the portRst to set |
|----------------|--------------------|

3.24.3.51 void add.dataflow.sync.GenericOut.setQtdeSave (int *qtde_save*)

Parameters

| | |
|------------------|--|
| <i>qtde_save</i> | |
|------------------|--|

3.24.3.52 void add.dataflow.sync.GenericOut.setTamVectorOut (int *tamVectorOut*)

Parameters

| | |
|---------------------|-------------------------|
| <i>tamVectorOut</i> | the tamVectorOut to set |
|---------------------|-------------------------|

3.24.3.53 void add.dataflow.sync.GenericOut.setValueLabel (ColoredValueLabel *valueLabel*)

Parameters

| | |
|-------------------|-----------------------|
| <i>valueLabel</i> | the valueLabel to set |
|-------------------|-----------------------|

3.24.3.54 void add.dataflow.sync.GenericOut.setVector (int *k*)

Method responsible for inserting elements into the vector.

Parameters

| | |
|----------|-----------------------------------|
| <i>k</i> | - Value to be inserted in vector. |
|----------|-----------------------------------|

3.24.3.55 void add.dataflow.sync.GenericOut.setVector (StdLogicVector *vector*)

Parameters

| | |
|---------------|-------------------|
| <i>vector</i> | the vector to set |
|---------------|-------------------|

3.24.3.56 void add.dataflow.sync.GenericOut.setVector_000 (StdLogicVector *vector_000*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_000</i> | the vector_000 to set |
|-------------------|-----------------------|

3.24.3.57 void add.dataflow.sync.GenericOut.setVector_111 (StdLogicVector *vector_111*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_111</i> | the vector_111 to set |
|-------------------|-----------------------|

3.24.3.58 void add.dataflow.sync.GenericOut.setVector_UUU (StdLogicVector *vector_UUU*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_UUU</i> | the vector_UUU to set |
|-------------------|-----------------------|

3.24.3.59 void add.dataflow.sync.GenericOut.setVector_XXX (StdLogicVector *vector_XXX*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_XXX</i> | the vector_XXX to set |
|-------------------|-----------------------|

3.24.3.60 void add.dataflow.sync.GenericOut.setVector_ZZZ (StdLogicVector *vector_ZZZ*)

Parameters

| | |
|-------------------|-----------------------|
| <i>vector_ZZZ</i> | the vector_ZZZ to set |
|-------------------|-----------------------|

3.24.3.61 void add.dataflow.sync.GenericOut.setVectorOut (int[] *vectorOut*)

Parameters

| | |
|------------------|----------------------|
| <i>vectorOut</i> | the vectorOut to set |
|------------------|----------------------|

3.24.3.62 void add.dataflow.sync.GenericOut.setVectorOutputPort (PortStdLogicVector *vectorOutputPort*)

Parameters

| | |
|-------------------------|-----------------------------|
| <i>vectorOutputPort</i> | the vectorOutputPort to set |
|-------------------------|-----------------------------|

3.24.3.63 void add.dataflow.sync.GenericOut.updateSymbol ()

Method responsible for updating the component symbol.

3.24.3.64 void add.dataflow.sync.GenericOut.wakeup (Object *arg*)

[wakeup\(\)](#): Called by the simulator as a reaction to our own `scheduleWakeup()`-calls. For RTLIB components, a [wakeup\(\)](#) is normally used to update the value label on its graphical symbol. A `WakeupEvent` for this purpose should have either 'null' or the current 'this' object as its payload.

A second use is to update our internal 'vector' variable at a specified simulation time, which is needed to implement the `assign()` method from interface `hades.simulator.Assignable`. A `WakeupEvent` for this purpose is expected to hold a `StdLogicVector` object (with the 'value' from the `assign` call) as its payload.

Parameters

| | |
|------------|--------------------------|
| <i>arg</i> | - Object to be awakened. |
|------------|--------------------------|

3.24.3.65 void add.dataflow.sync.GenericOut.write (java.io.PrintWriter *ps*)

Method responsible for writing component settings to the file saved by the simulator.

Parameters

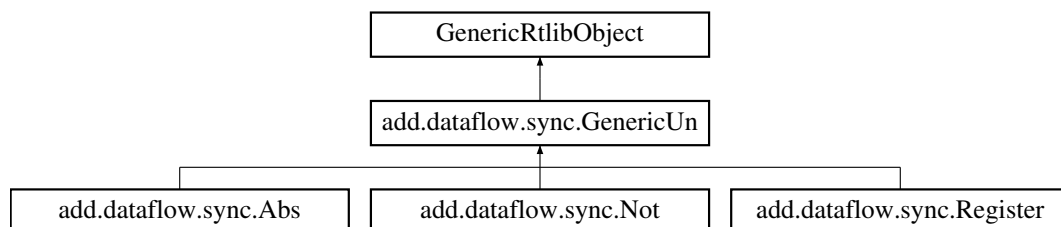
| | |
|-----------|-----------------------------|
| <i>ps</i> | - Simulator writing object. |
|-----------|-----------------------------|

The documentation for this class was generated from the following file:

- `add/dataflow/sync/GenericOut.java`

3.25 add.dataflow.sync.GenericUn Class Reference

Inheritance diagram for `add.dataflow.sync.GenericUn`:



Public Member Functions

- [GenericUn](#) ()
- void [constructPorts](#) ()
- void [setString](#) (String *s*)
- void [setSymbol](#) (Symbol *s*)
- int [compute](#) (int *data*)
- void [notCompute](#) ()
- void [reseted](#) ()
- void [tickUp](#) ()
- void [tickDown](#) ()
- void [setCompName](#) (String *l*)
- void [evaluate](#) (Object *arg*)
- boolean [needsDynamicSymbol](#) ()
- void [constructDynamicSymbol](#) ()
- void [write](#) (java.io.PrintWriter *ps*)
- boolean [initialize](#) (String *s*)

- Label [getStringLabel](#) ()
- void [setStringLabel](#) (Label stringLabel)
- Label [getLabelNome](#) ()
- void [setLabelNome](#) (Label labelNome)
- String [getS](#) ()
- void [setS](#) (String s)
- String [getComponentType](#) ()
- void [setComponentType](#) (String componentType)
- Rectangle [getBackground](#) ()
- void [setBackground](#) (Rectangle background)
- PortStdLogic1164 [getPortClk](#) ()
- void [setPortClk](#) (PortStdLogic1164 portClk)
- PortStdLogic1164 [getPortRst](#) ()
- void [setPortRst](#) (PortStdLogic1164 portRst)
- PortStdLogic1164 [getPortRin](#) ()
- void [setPortRin](#) (PortStdLogic1164 portRin)
- PortStdLogic1164 [getPortRout](#) ()
- void [setPortRout](#) (PortStdLogic1164 portRout)
- PortStdLogic1164 [getPortEn](#) ()
- void [setPortEn](#) (PortStdLogic1164 portEn)
- PortStdLogicVector [getPortDin](#) ()
- void [setPortDin](#) (PortStdLogicVector portDin)
- PortStdLogicVector [getPortDout](#) ()
- void [setPortDout](#) (PortStdLogicVector portDout)

3.25.1 Detailed Description

[GenericUn](#) component for the ADD Accelerator Design and Deploy.

The component creates the basis for other components with one input.

Universidade Federal de Viçosa - MG - Brasil.

Author

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Version

1.0

3.25.2 Constructor & Destructor Documentation

3.25.2.1 `add.dataflow.sync.GenericUn.GenericUn ()`

Object Constructor.

3.25.3 Member Function Documentation

3.25.3.1 `int add.dataflow.sync.GenericUn.compute (int data)`

Method responsible for the computation of the output.

Parameters

| | |
|-------------|---|
| <i>data</i> | - Value to be used for the computation. |
|-------------|---|

Returns

- Return of computation

3.25.3.2 void add.dataflow.sync.GenericUn.constructDynamicSymbol ()

Method responsible for dynamically constructing the component symbol.

3.25.3.3 void add.dataflow.sync.GenericUn.constructPorts ()

Method responsible for initializing the component input and output ports.

3.25.3.4 void add.dataflow.sync.GenericUn.evaluate (Object *arg*)

[evaluate\(\)](#): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events. In this case, it will be checked whether the ports are connected and will execute the compute (int data) method if the R_IN input is high level. It will execute the [reseted\(\)](#), [tickUp\(\)](#), and [tickDown\(\)](#) methods if their respective entries order it. It will update the output with the [compute\(int data\)](#) method result.

Parameters

| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

3.25.3.5 Rectangle add.dataflow.sync.GenericUn.getBackground ()

Returns

the background

3.25.3.6 String add.dataflow.sync.GenericUn.getComponentType ()

Returns

the componentType

3.25.3.7 Label add.dataflow.sync.GenericUn.getLabelNome ()

Returns

the labelNome

3.25.3.8 PortStdLogic1164 add.dataflow.sync.GenericUn.getPortClk ()

Returns

the portClk

3.25.3.9 PortStdLogicVector add.dataflow.sync.GenericUn.getPortDin ()

Returns

the portDin

3.25.3.10 PortStdLogicVector add.dataflow.sync.GenericUn.getPortDout ()

Returns

the portDout

3.25.3.11 PortStdLogic1164 add.dataflow.sync.GenericUn.getPortEn ()

Returns

the portEn

3.25.3.12 PortStdLogic1164 add.dataflow.sync.GenericUn.getPortRin ()

Returns

the portRin

3.25.3.13 PortStdLogic1164 add.dataflow.sync.GenericUn.getPortRout ()

Returns

the portRout

3.25.3.14 PortStdLogic1164 add.dataflow.sync.GenericUn.getPortRst ()

Returns

the portRst

3.25.3.15 String add.dataflow.sync.GenericUn.getS ()

Returns

the s

3.25.3.16 Label add.dataflow.sync.GenericUn.getStringLabel ()

Returns

the stringLabel

3.25.3.17 boolean add.dataflow.sync.GenericUn.initialize (String s)

Method responsible for reading the component settings in the file saved by the simulator.

Parameters

| | |
|----------|---|
| <i>s</i> | - Settings for the component read from the file saved by the simulator. |
|----------|---|

Returns

- Returns true if the settings are read successfully.

3.25.3.18 boolean add.dataflow.sync.GenericUn.needsDynamicSymbol ()

Method responsible for indicating to the simulator that the component's symbol will be constructed dynamically by the [constructDynamicSymbol\(\)](#) method, or will be read from a file of the same name as the ".sym" extension.

Returns

- TRUE means that the symbol will be made dynamically.

3.25.3.19 void add.dataflow.sync.GenericUn.notCompute ()

Method executed when computing is not performed. In this case it clears the text displayed by the component.

3.25.3.20 void add.dataflow.sync.GenericUn.reseted ()

Method executed when the signal from the reset input goes to high logic level. In this case it clears the text displayed by the component.

3.25.3.21 void add.dataflow.sync.GenericUn.setBackground (Rectangle *background*)

Parameters

| | |
|-------------------|-----------------------|
| <i>background</i> | the background to set |
|-------------------|-----------------------|

3.25.3.22 void add.dataflow.sync.GenericUn.setCompName (String *l*)

Method responsible for changing the label that displays the name of the component.

Parameters

| | |
|----------|---------------------------------------|
| <i>l</i> | - String to be set in component name. |
|----------|---------------------------------------|

3.25.3.23 void add.dataflow.sync.GenericUn.setComponentType (String *componentType*)

Parameters

| | |
|----------------------|--------------------------|
| <i>componentType</i> | the componentType to set |
|----------------------|--------------------------|

3.25.3.24 void add.dataflow.sync.GenericUn.setLabelNome (Label *labelNome*)

Parameters

| | |
|------------------|----------------------|
| <i>labelNome</i> | the labelNome to set |
|------------------|----------------------|

3.25.3.25 void add.dataflow.sync.GenericUn.setPortClk (PortStdLogic1164 *portClk*)

Parameters

| | |
|----------------|--------------------|
| <i>portClk</i> | the portClk to set |
|----------------|--------------------|

3.25.3.26 void add.dataflow.sync.GenericUn.setPortDin (PortStdLogicVector *portDin*)

Parameters

| | |
|----------------|--------------------|
| <i>portDin</i> | the portDin to set |
|----------------|--------------------|

3.25.3.27 void add.dataflow.sync.GenericUn.setPortDout (PortStdLogicVector *portDout*)

Parameters

| | |
|-----------------|---------------------|
| <i>portDout</i> | the portDout to set |
|-----------------|---------------------|

3.25.3.28 void add.dataflow.sync.GenericUn.setPortEn (PortStdLogic1164 *portEn*)

Parameters

| | |
|---------------|-------------------|
| <i>portEn</i> | the portEn to set |
|---------------|-------------------|

3.25.3.29 void add.dataflow.sync.GenericUn.setPortRin (PortStdLogic1164 *portRin*)

Parameters

| | |
|----------------|--------------------|
| <i>portRin</i> | the portRin to set |
|----------------|--------------------|

3.25.3.30 void add.dataflow.sync.GenericUn.setPortRout (PortStdLogic1164 *portRout*)

Parameters

| | |
|-----------------|---------------------|
| <i>portRout</i> | the portRout to set |
|-----------------|---------------------|

3.25.3.31 void add.dataflow.sync.GenericUn.setPortRst (PortStdLogic1164 *portRst*)

Parameters

| | |
|----------------|--------------------|
| <i>portRst</i> | the portRst to set |
|----------------|--------------------|

3.25.3.32 void add.dataflow.sync.GenericUn.setS (String *s*)

Parameters

| | |
|----------|--------------|
| <i>s</i> | the s to set |
|----------|--------------|

3.25.3.33 void add.dataflow.sync.GenericUn.setString (String *s*)

Method responsible for updating the text displayed by the component.

Parameters

| | |
|----------|-----------------------|
| <i>s</i> | - Text to be updated. |
|----------|-----------------------|

3.25.3.34 void add.dataflow.sync.GenericUn.setStringLabel (Label *stringLabel*)

Parameters

| | |
|--------------------|------------------------|
| <i>stringLabel</i> | the stringLabel to set |
|--------------------|------------------------|

3.25.3.35 void add.dataflow.sync.GenericUn.setSymbol (Symbol *s*)

Method responsible for updating the component symbol.

Parameters

| | |
|----------|--------------------------------|
| <i>s</i> | - Symbol passed automatically. |
|----------|--------------------------------|

3.25.3.36 void add.dataflow.sync.GenericUn.tickDown ()

Method executed when the clock signal goes to low logic level.

3.25.3.37 void add.dataflow.sync.GenericUn.tickUp ()

Method executed when the clock signal goes to high logic level.

3.25.3.38 void add.dataflow.sync.GenericUn.write (java.io.PrintWriter *ps*)

Method responsible for writing component settings to the file saved by the simulator.

Parameters

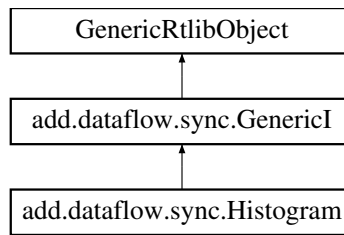
| | |
|-----------|----------------------------|
| <i>ps</i> | -Simulator writing object. |
|-----------|----------------------------|

The documentation for this class was generated from the following file:

- add/dataflow/sync/GenericUn.java

3.26 add.dataflow.sync.Histogram Class Reference

Inheritance diagram for add.dataflow.sync.Histogram:



Public Member Functions

- [Histogram](#) ()
- int [compute](#) (int data)
- void [reset](#) ()
- void [evaluate](#) (Object arg)
- int[] [getHistogram](#) ()
- void [setHistogram](#) (int[] histogram)
- int [getCounter](#) ()
- void [setCounter](#) (int counter)
- int [getDecr](#) ()
- void [setDecr](#) (int decr)
- int [getNumBITS](#) ()
- void [setNUMBITS](#) (int NUMBITS)

3.26.1 Detailed Description

[Histogram](#) component for the UFV synchronous data flow simulator.

The component is responsible for computing the amount of times a given value is delivered at its input.

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Author

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Version

1.0

3.26.2 Constructor & Destructor Documentation

3.26.2.1 `add.dataflow.sync.Histogram.Histogram ()`

Object Constructor.

3.26.3 Member Function Documentation

3.26.3.1 `int add.dataflow.sync.Histogram.compute (int data)`

Method responsible for the component computation: in this case it performs the logical operation "AND" between the parameter and the (immediate) id.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

- Returns the result of the computation. In this case the result of the logical operation "AND" between the parameter and the id.

3.26.3.2 void add.dataflow.sync.Histogram.evaluate (Object *arg*)

[evaluate\(\)](#): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events.

In this case, it will be checked whether the ports are connected and will execute the compute (int data) method if the R_IN input is high level. It will execute the [reset\(\)](#), [tickUp\(\)](#), and [tickDown\(\)](#) methods if their respective entries order it. It will update the output with the [compute\(int data\)](#) method result.

Parameters

| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

3.26.3.3 int add.dataflow.sync.Histogram.getCounter ()

Returns

the counter

3.26.3.4 int add.dataflow.sync.Histogram.getDecr ()

Returns

the decr

3.26.3.5 int [] add.dataflow.sync.Histogram.getHistogram ()

Returns

the histogram

3.26.3.6 int add.dataflow.sync.Histogram.getNUMBITS ()

Returns

the NUMBITS

3.26.3.7 void add.dataflow.sync.Histogram.reset ()

Method executed when the signal from the reset input goes to high logic level. It sets the new text to be shown by the component. In this case the id.

3.26.3.8 void add.dataflow.sync.Histogram.setCounter (int *counter*)

Parameters

| | |
|----------------|--------------------|
| <i>counter</i> | the counter to set |
|----------------|--------------------|

3.26.3.9 void add.dataflow.sync.Histogram.setDecr (int *decr*)

Parameters

| | |
|-------------|-----------------|
| <i>decr</i> | the decr to set |
|-------------|-----------------|

3.26.3.10 void add.dataflow.sync.Histogram.setHistogram (int[] *histogram*)

Parameters

| | |
|------------------|----------------------|
| <i>histogram</i> | the histogram to set |
|------------------|----------------------|

3.26.3.11 void add.dataflow.sync.Histogram.setNUMBITS (int *NUMBITS*)

Parameters

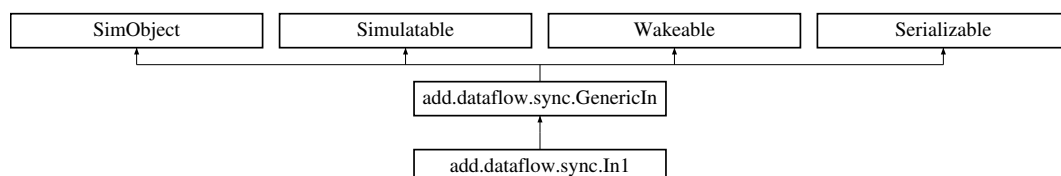
| | |
|----------------|--------------------|
| <i>NUMBITS</i> | the NUMBITS to set |
|----------------|--------------------|

The documentation for this class was generated from the following file:

- add/dataflow/sync/Histogram.java

3.27 add.dataflow.sync.In1 Class Reference

Inheritance diagram for add.dataflow.sync.In1:



Public Member Functions

- [In1](#) ()

Additional Inherited Members

3.27.1 Detailed Description

[In1](#) component for the ADD Accelerator Design and Deploy.

The component implements an input queue with 1 output.

Universidade Federal de Viçosa - MG - Brasil.

Author

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Version

1.0

3.27.2 Constructor & Destructor Documentation**3.27.2.1 add.dataflow.sync.In1.In1 ()**

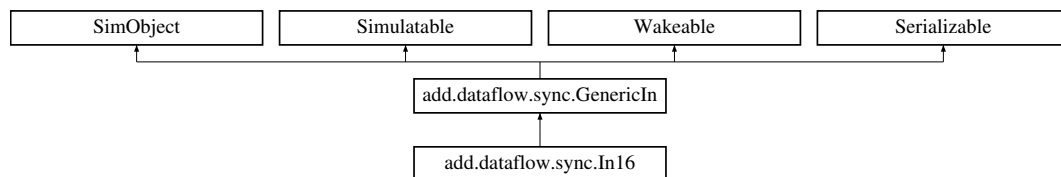
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/In1.java

3.28 add.dataflow.sync.In16 Class Reference

Inheritance diagram for add.dataflow.sync.In16:

**Public Member Functions**

- [In16 \(\)](#)

Additional Inherited Members**3.28.1 Detailed Description**

[In16](#) component for the ADD Accelerator Design and Deploy.

The component implements an input queue with 16 output.

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Author

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Version

1.0

3.28.2 Constructor & Destructor Documentation

3.28.2.1 add.dataflow.sync.In16.In16 ()

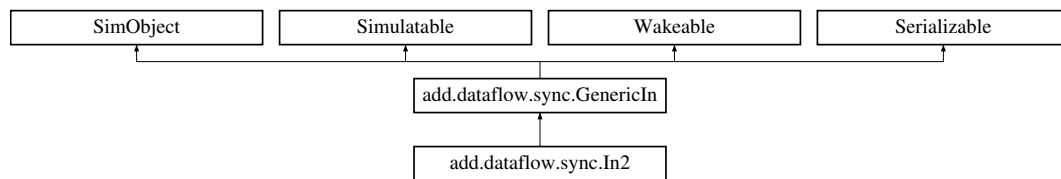
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/In16.java

3.29 add.dataflow.sync.In2 Class Reference

Inheritance diagram for add.dataflow.sync.In2:



Public Member Functions

- [In2](#) ()

Additional Inherited Members

3.29.1 Detailed Description

[In2](#) component for the ADD Accelerator Design and Deploy.

The component implements an input queue with 2 output.

Universidade Federal de Viçosa - MG - Brasil.

Author

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Version

1.0

3.29.2 Constructor & Destructor Documentation

3.29.2.1 add.dataflow.sync.In2.In2 ()

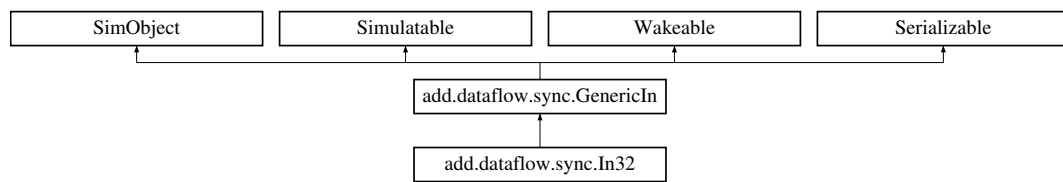
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/In2.java

3.30 add.dataflow.sync.In32 Class Reference

Inheritance diagram for add.dataflow.sync.In32:



Public Member Functions

- [In32](#) ()

Additional Inherited Members

3.30.1 Detailed Description

[In32](#) component for the ADD Accelerator Design and Deploy.

The component implements an input queue with 32 output.

Universidade Federal de Viçosa - MG - Brasil.

Author

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Ricardo Santos Ferreira - cacauvicosa@gmail.com

Version

1.0

3.30.2 Constructor & Destructor Documentation

3.30.2.1 add.dataflow.sync.In32.In32 ()

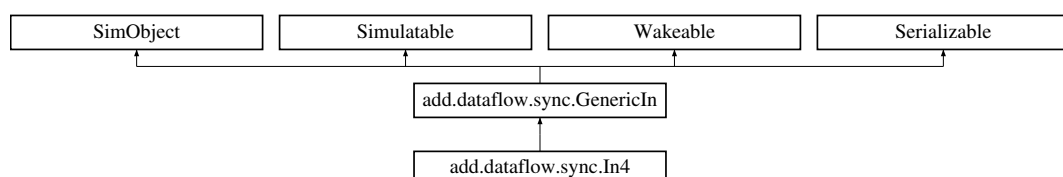
Object Constructor.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/In32.java`

3.31 add.dataflow.sync.In4 Class Reference

Inheritance diagram for add.dataflow.sync.In4:



Public Member Functions

- [In4](#) ()

Additional Inherited Members

3.31.1 Detailed Description

[In4](#) component for the ADD Accelerator Design and Deploy.

The component implements an input queue with 4 output.

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Author

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Version

1.0

3.31.2 Constructor & Destructor Documentation

3.31.2.1 add.dataflow.sync.In4.In4 ()

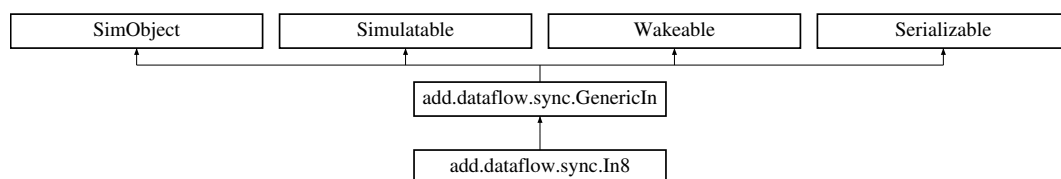
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/In4.java

3.32 add.dataflow.sync.In8 Class Reference

Inheritance diagram for add.dataflow.sync.In8:



Public Member Functions

- [In8](#) ()

Additional Inherited Members

3.32.1 Detailed Description

[In8](#) component for the ADD Accelerator Design and Deploy.

The component implements an input queue with 8 output.

Universidade Federal de Viçosa - MG - Brasil.

Author

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Version

1.0

3.32.2 Constructor & Destructor Documentation

3.32.2.1 `add.dataflow.sync.In8.In8 ()`

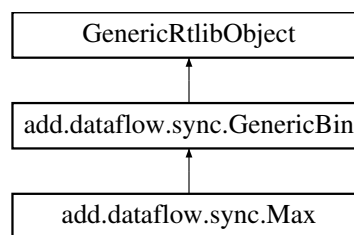
Object Constructor.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/In8.java`

3.33 `add.dataflow.sync.Max` Class Reference

Inheritance diagram for `add.dataflow.sync.Max`:



Public Member Functions

- `Max ()`
- `int compute (int data1, int data2)`

3.33.1 Detailed Description

`Max` component for the ADD Accelerator Design and Deploy.

The component is responsible for passing the output to the largest value input.

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Author

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Version

1.0

3.33.2 Constructor & Destructor Documentation

3.33.2.1 add.dataflow.sync.Max.Max ()

Object Constructor.

3.33.3 Member Function Documentation

3.33.3.1 int add.dataflow.sync.Max.compute (int *data1*, int *data2*)

Method responsible for the computation of components: in this case, it performs a comparison between the parameters and returns the largest between the two.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

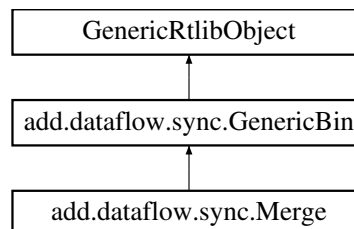
- Returns the result of the computation. In this case, the largest of the parameters.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Max.java

3.34 add.dataflow.sync.Merge Class Reference

Inheritance diagram for add.dataflow.sync.Merge:



Public Member Functions

- [Merge](#) ()
- void [evaluate](#) (Object arg)

3.34.1 Detailed Description

[Merge](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for choosing which of the inputs to pass to the output depending on the value of R_IN1 and R_IN2.

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Version

1.0

3.34.2 Constructor & Destructor Documentation**3.34.2.1 add.dataflow.sync.Merge.Merge ()**

Object Constructor.

3.34.3 Member Function Documentation**3.34.3.1 void add.dataflow.sync.Merge.evaluate (Object *arg*)**

evaluate(): called by the simulation engine on all events that concern this object. The object is responsible for updating its internal state and for scheduling all pending output events. In this case, it will be checked if any of the R_IN (1 or 2) inputs is at high level and put the respective input value in the output. If the two R_IN signals are at high level, the value of input 1 will be set to the output. If both are 0, nothing will be done.

Parameters

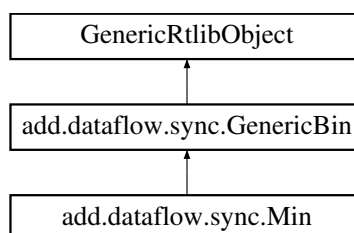
| | |
|------------|------------------------------|
| <i>arg</i> | an arbitrary object argument |
|------------|------------------------------|

The documentation for this class was generated from the following file:

- add/dataflow/sync/Merge.java

3.35 add.dataflow.sync.Min Class Reference

Inheritance diagram for add.dataflow.sync.Min:

**Public Member Functions**

- **Min** ()
- int **compute** (int data1, int data2)

3.35.1 Detailed Description

Min component for the ADD Accelerator Design and Deploy.

The component is responsible for passing the output to the lowest value input.

Universidade Federal de Viçosa - MG - Brasil.

Author

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Version

1.0

3.35.2 Constructor & Destructor Documentation**3.35.2.1 add.dataflow.sync.Min.Min ()**

Object Constructor.

3.35.3 Member Function Documentation**3.35.3.1 int add.dataflow.sync.Min.compute (int *data1*, int *data2*)**

Method responsible for the computation of components: in this case, it performs a comparison between the parameters and returns the smaller between the two.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

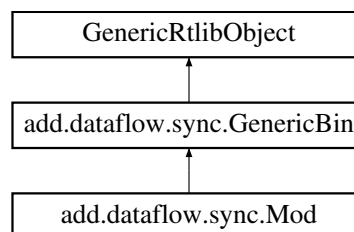
- Returns the result of the computation. In this case, the smallest of the parameters.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Min.java

3.36 add.dataflow.sync.Mod Class Reference

Inheritance diagram for add.dataflow.sync.Mod:

**Public Member Functions**

- [Mod](#) ()
- int [compute](#) (int data1, int data2)

3.36.1 Detailed Description

Mod component for the ADD Accelerator Design and Deploy.

The component is responsible for calculating the rest of the integer division of the first input by the second one.

Universidade Federal de Viçosa - MG - Brasil.

Author

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Version

1.0

3.36.2 Constructor & Destructor Documentation

3.36.2.1 `add.dataflow.sync.Mod.Mod ()`

Object Constructor.

3.36.3 Member Function Documentation

3.36.3.1 `int add.dataflow.sync.Mod.compute (int data1, int data2)`

Method responsible for the component computation: in this case, it returns the rest of the division between the parameters.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

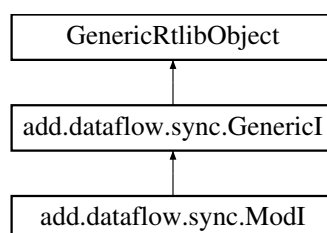
- Returns the result of the computation. In this case, it returns the rest of the division between the parameters.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Mod.java`

3.37 `add.dataflow.sync.ModI` Class Reference

Inheritance diagram for `add.dataflow.sync.ModI`:



Public Member Functions

- [Modl](#) ()
- int [compute](#) (int data)

3.37.1 Detailed Description

[Modl](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for calculating the rest of the integer division of the input by a id (immediate).

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Version

1.0

3.37.2 Constructor & Destructor Documentation

3.37.2.1 add.dataflow.sync.Modl.Modl ()

Object Constructor.

3.37.3 Member Function Documentation

3.37.3.1 int add.dataflow.sync.Modl.compute (int *data*)

Method responsible for the component computation: in this case, it returns the rest of the division of the parameter by the id.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

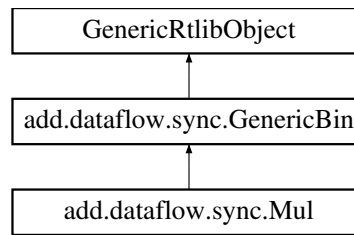
- Returns the result of the computation. In this case, it returns the rest of the division of the parameter by the id.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Modl.java

3.38 add.dataflow.sync.Mul Class Reference

Inheritance diagram for add.dataflow.sync.Mul:



Public Member Functions

- [Mul](#) ()
- int [compute](#) (int data1, int data2)

3.38.1 Detailed Description

[Mul](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for multiplying the inputs.

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Version

1.0

3.38.2 Constructor & Destructor Documentation

3.38.2.1 `add.dataflow.sync.Mul.Mul ()`

Object Constructor.

3.38.3 Member Function Documentation

3.38.3.1 `int add.dataflow.sync.Mul.compute (int data1, int data2)`

Method responsible for the component computation: in this case performs a multiplication of the parameters.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

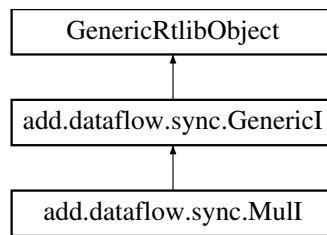
- Returns the result of the computation. In this case the value of the multiplication of the parameters.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Mul.java`

3.39 add.dataflow.sync.Mull Class Reference

Inheritance diagram for add.dataflow.sync.Mull:



Public Member Functions

- [Mull](#) ()
- int [compute](#) (int data)

3.39.1 Detailed Description

[Mull](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for multiplying the input by a (immediate) id.

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Version

1.0

3.39.2 Constructor & Destructor Documentation

3.39.2.1 add.dataflow.sync.Mull.Mull ()

Object Constructor.

3.39.3 Member Function Documentation

3.39.3.1 int add.dataflow.sync.Mull.compute (int *data*)

Method responsible for the component computation: in this case performs a multiplying of the parameter by an (immediate) id.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

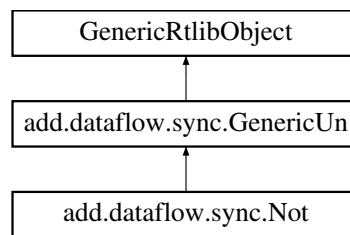
- Returns the result of the computation. In this case the value of the multiplication of the parameter by the id.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Mull.java`

3.40 `add.dataflow.sync.Not` Class Reference

Inheritance diagram for `add.dataflow.sync.Not`:

**Public Member Functions**

- `Not ()`
- `int compute (int data)`

3.40.1 Detailed Description

`Not` component for the ADD Accelerator Design and Deploy.

The component is responsible for the bitwise inversion of the input.

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Version

1.0

3.40.2 Constructor & Destructor Documentation

3.40.2.1 `add.dataflow.sync.Not.Not ()`

Object Constructor.

3.40.3 Member Function Documentation

3.40.3.1 `int add.dataflow.sync.Not.compute (int data)`

Method responsible for the component computation: in this case performs a bitwise inversion of the parameter.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

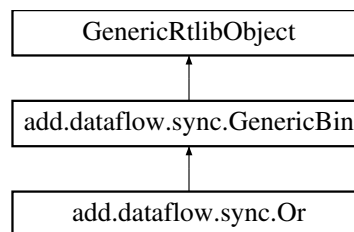
- Returns the result of the computation. In this case the value of the bitwise inversion of the parameter.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Not.java

3.41 add.dataflow.sync.Or Class Reference

Inheritance diagram for add.dataflow.sync.Or:



Public Member Functions

- [Or](#) ()
- int [compute](#) (int data1, int data2)

3.41.1 Detailed Description

[Or](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for the logical operation "Or" between the input

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1.0

3.41.2 Constructor & Destructor Documentation

3.41.2.1 add.dataflow.sync.Or.Or ()

Object Constructor.

3.41.3 Member Function Documentation

3.41.3.1 `int add.dataflow.sync.Or.compute (int data1, int data2)`

Method responsible for the component computation: in this case it performs the logical operation "Or" between the parameters.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

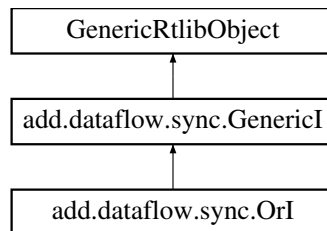
- Returns the result of the computation. In this case the result of the logical operation "Or" between the parameters.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Or.java

3.42 add.dataflow.sync.Orl Class Reference

Inheritance diagram for add.dataflow.sync.Orl:



Public Member Functions

- [Orl](#) ()
- int [compute](#) (int data)

3.42.1 Detailed Description

[Orl](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for the logical operation "OR" between the input and a id (immediate)

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Version

1.0

3.42.2 Constructor & Destructor Documentation

3.42.2.1 add.dataflow.sync.Orl.Orl ()

Object Constructor.

3.42.3 Member Function Documentation

3.42.3.1 `int add.dataflow.sync.Orl.compute (int data)`

Method responsible for the component computation: in this case it performs the logical operation "OR" between the parameter and the (immediate) id.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

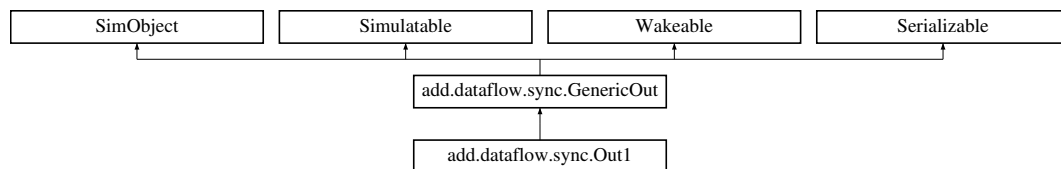
- Returns the result of the computation. In this case the result of the logical operation "OR" between the parameter and the id.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Or1.java

3.43 add.dataflow.sync.Out1 Class Reference

Inheritance diagram for add.dataflow.sync.Out1:



Public Member Functions

- [Out1](#) ()

Additional Inherited Members

3.43.1 Detailed Description

[Out1](#) component for the ADD Accelerator Design and Deploy.

The component implements an output queue with 1 input.

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Version

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3.43.2 Constructor & Destructor Documentation

3.43.2.1 add.dataflow.sync.Out1.Out1 ()

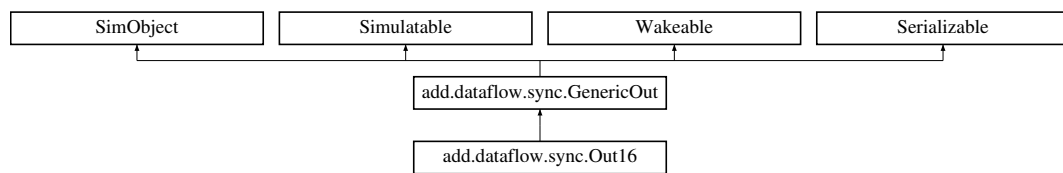
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Out1.java

3.44 add.dataflow.sync.Out16 Class Reference

Inheritance diagram for add.dataflow.sync.Out16:



Public Member Functions

- [Out16](#) ()

Additional Inherited Members

3.44.1 Detailed Description

[Out16](#) component for the ADD Accelerator Design and Deploy.

O implements an input queue with 16 output.

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Version

1.0

3.44.2 Constructor & Destructor Documentation

3.44.2.1 add.dataflow.sync.Out16.Out16 ()

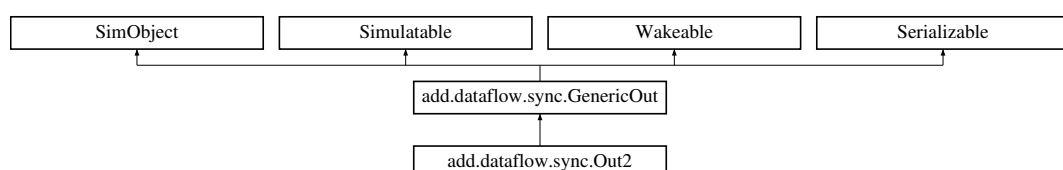
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Out16.java

3.45 add.dataflow.sync.Out2 Class Reference

Inheritance diagram for add.dataflow.sync.Out2:



Public Member Functions

- [Out2](#) ()

Additional Inherited Members

3.45.1 Detailed Description

[Out2](#) component for the ADD Accelerator Design and Deploy.

The component implements an output queue with 2 input..

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Version

1.0

3.45.2 Constructor & Destructor Documentation

3.45.2.1 add.dataflow.sync.Out2.Out2 ()

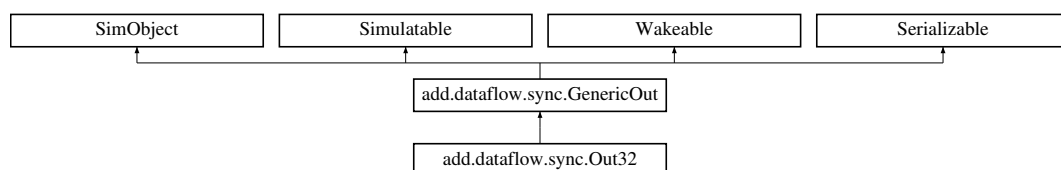
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Out2.java

3.46 add.dataflow.sync.Out32 Class Reference

Inheritance diagram for add.dataflow.sync.Out32:



Public Member Functions

- [Out32](#) ()

Additional Inherited Members

3.46.1 Detailed Description

[Out32](#) component for the ADD Accelerator Design and Deploy.

The component implements an output queue with 32 input.

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Version

1.0

3.46.2 Constructor & Destructor Documentation**3.46.2.1 add.dataflow.sync.Out32.Out32 ()**

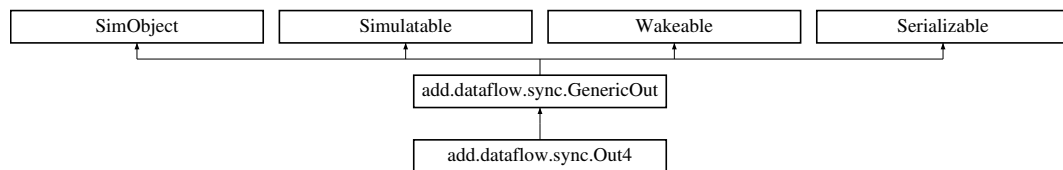
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Out32.java

3.47 add.dataflow.sync.Out4 Class Reference

Inheritance diagram for add.dataflow.sync.Out4:

**Public Member Functions**

- [Out4](#) ()

Additional Inherited Members**3.47.1 Detailed Description**

[Out4](#) component for the ADD Accelerator Design and Deploy.

The component implements an output queue with 4 input.

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Version

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3.47.2 Constructor & Destructor Documentation

3.47.2.1 add.dataflow.sync.Out4.Out4 ()

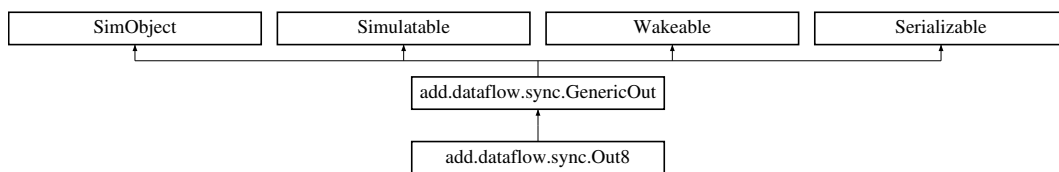
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Out4.java

3.48 add.dataflow.sync.Out8 Class Reference

Inheritance diagram for add.dataflow.sync.Out8:



Public Member Functions

- [Out8](#) ()

Additional Inherited Members

3.48.1 Detailed Description

[Out8](#) component for the ADD Accelerator Design and Deploy.

The component implements an output queue with 8 input.

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Version

1.0

3.48.2 Constructor & Destructor Documentation

3.48.2.1 add.dataflow.sync.Out8.Out8 ()

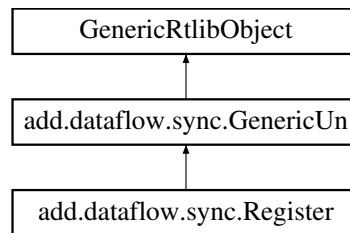
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Out8.java

3.49 add.dataflow.sync.Register Class Reference

Inheritance diagram for add.dataflow.sync.Register:



Public Member Functions

- [Register \(\)](#)

3.49.1 Detailed Description

[Register](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for pass the input to the output when a clock pulse occurs.

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Version

1.0

3.49.2 Constructor & Destructor Documentation

3.49.2.1 add.dataflow.sync.Register.Register ()

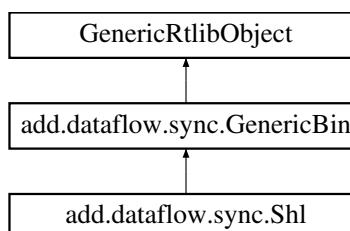
Object Constructor.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Register.java

3.50 add.dataflow.sync.Shl Class Reference

Inheritance diagram for add.dataflow.sync.Shl:



Public Member Functions

- [Shl](#) ()
- int [compute](#) (int data1, int data2)

3.50.1 Detailed Description

[Shl](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for moving all the bits of the first input to the left N times, where N is equal to the value of the second input.

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Version

1.0

3.50.2 Constructor & Destructor Documentation

3.50.2.1 add.dataflow.sync.Shl.Shl ()

Object Constructor.

3.50.3 Member Function Documentation

3.50.3.1 int add.dataflow.sync.Shl.compute (int *data1*, int *data2*)

Method responsible for the component computation: in this case, it moves all the bits of the first parameter to the left N times, where N is equal to the value of the second parameter.

Parameters

| | |
|--------------|-------------------------------------|
| <i>data1</i> | - Value 1 to be used for computing. |
| <i>data2</i> | - Value 2 to be used for computing. |

Returns

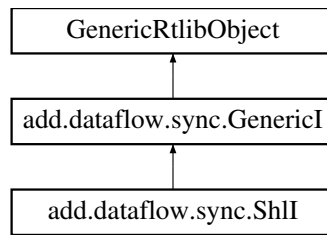
- Returns the result of the computation. In this case, it moves all the bits of the first parameter to the left N times, where N is equal to the value of second parameter.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Shl.java

3.51 add.dataflow.sync.Shl Class Reference

Inheritance diagram for add.dataflow.sync.Shl:



Public Member Functions

- [ShII](#) ()
- int [compute](#) (int data)

3.51.1 Detailed Description

[ShII](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for moving all the bits of the input to the left N times, where N is equal to the value of a (immediate) id.

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Version

1.0

3.51.2 Constructor & Destructor Documentation

3.51.2.1 `add.dataflow.sync.ShII.ShII ()`

Object Constructor.

3.51.3 Member Function Documentation

3.51.3.1 `int add.dataflow.sync.ShII.compute (int data)`

Method responsible for the component computation: in this case, it moves all the bits of the parameter to the left N times, where N is equal to the value of a (immediate) id.

@param data - Value to be used for computing.
 @return - Returns the result of the computation. In this case, it moves

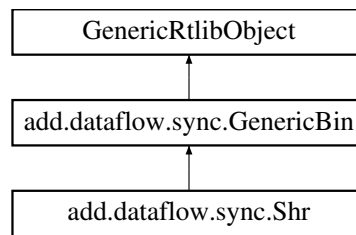
all the bits of the parameter to the left N times, where N is equal to the value of a (immediate) id.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/ShII.java`

3.52 add.dataflow.sync.Shr Class Reference

Inheritance diagram for add.dataflow.sync.Shr:



Public Member Functions

- [Shr](#) ()
- int [compute](#) (int data1, int data2)

3.52.1 Detailed Description

[Shr](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for moving all the bits of the first input to the right N times, where N is equal to the value of the value from the second input.

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Version

1.0

3.52.2 Constructor & Destructor Documentation

3.52.2.1 add.dataflow.sync.Shr.Shr ()

Object Constructor.

3.52.3 Member Function Documentation

3.52.3.1 int add.dataflow.sync.Shr.compute (int *data1*, int *data2*)

Method responsible for the component computation: in this case, it moves all the bits of the first parameter to the right N times, where N is equal to the value of the second parameter.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
|--------------|--|

| | |
|--------------|--|
| <i>data2</i> | - Value to be used for the computation related to input 2. |
|--------------|--|

Returns

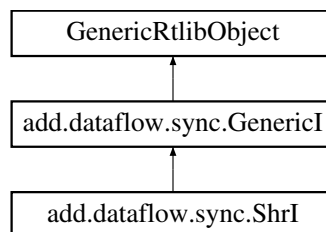
- Returns the result of the computation. In this case, it moves all the bits of the first parameter to the right N times, where N is equal to the value of the second parameter.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Shr.java`

3.53 `add.dataflow.sync.Shrl` Class Reference

Inheritance diagram for `add.dataflow.sync.Shrl`:



Public Member Functions

- [Shrl](#) ()
- `int compute` (int data)

3.53.1 Detailed Description

[Shrl](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for moving all the bits of the input to the right N times, where N is equal to the value of a (immediate) id.

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Version

1.0

3.53.2 Constructor & Destructor Documentation

3.53.2.1 `add.dataflow.sync.Shrl.Shrl` ()

Object Constructor.

3.53.3 Member Function Documentation

3.53.3.1 `int add.dataflow.sync.Shrl.compute (int data)`

Method responsible for the component computation: in this case, it moves all the bits of the parameter to the right N times, where N is equal to the value of a (immediate) id.

```
@param data - Value to be used for computing.
@return - Returns the result of the computation. In this case, it moves
```

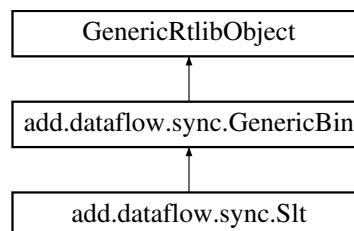
all the bits of the parameter to the right N times, where N is equal to the value of a (immediate) id.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Shrl.java`

3.54 add.dataflow.sync.Slt Class Reference

Inheritance diagram for `add.dataflow.sync.Slt`:



Public Member Functions

- [Slt \(\)](#)
- `int compute (int data1, int data2)`

3.54.1 Detailed Description

[Slt](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for returning the value 1 if the first input is less than the second one.

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Version

1.0

3.54.2 Constructor & Destructor Documentation

3.54.2.1 `add.dataflow.sync.Slt.Slt ()`

Object Constructor.

3.54.3 Member Function Documentation

3.54.3.1 `int add.dataflow.sync.Slt.compute (int data1, int data2)`

Method responsible for the component computation: in this case performs a comparison if the first parameter is less than the other one.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

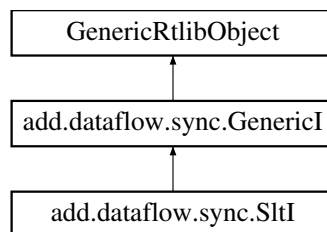
- Returns the result of the computation. In this case 1 or 0 depending on the comparison between the parameters.

The documentation for this class was generated from the following file:

- `add/dataflow/sync/Slt.java`

3.55 `add.dataflow.sync.SltI` Class Reference

Inheritance diagram for `add.dataflow.sync.SltI`:



Public Member Functions

- [SltI](#) ()
- `int compute` (int data)

3.55.1 Detailed Description

[SltI](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for returning the value 1 if the input is less than the (immediate) id.

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Version

1.0

3.55.2 Constructor & Destructor Documentation

3.55.2.1 add.dataflow.sync.Sltl.Sltl ()

Object Constructor.

3.55.3 Member Function Documentation

3.55.3.1 int add.dataflow.sync.Sltl.compute (int *data*)

Method responsible for the component computation: in this case performs a comparison if parameter is less than the (immediate) id.

Parameters

| | |
|-------------|-----------------------------------|
| <i>data</i> | - Value to be used for computing. |
|-------------|-----------------------------------|

Returns

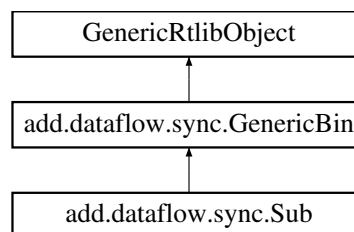
- Returns the result of the computation. In this case 1 or 0 depending on the comparison between the parameter and the id.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Sltl.java

3.56 add.dataflow.sync.Sub Class Reference

Inheritance diagram for add.dataflow.sync.Sub:



Public Member Functions

- [Sub](#) ()
- int [compute](#) (int data1, int data2)

3.56.1 Detailed Description

[Sub](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for subtracting the inputs.

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Version

1.0

3.56.2 Constructor & Destructor Documentation

3.56.2.1 add.dataflow.sync.Sub.Sub ()

Object Constructor.

3.56.3 Member Function Documentation

3.56.3.1 int add.dataflow.sync.Sub.compute (int *data1*, int *data2*)

Method responsible for the component computation: in this case performs a subtraction of the parameters.

Parameters

| | |
|--------------|--|
| <i>data1</i> | - Value to be used for the computation related to input 1. |
| <i>data2</i> | - Value to be used for the computation related to input 2. |

Returns

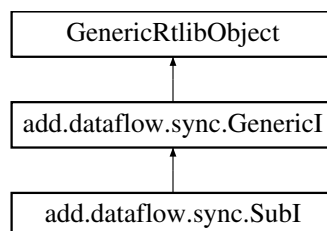
- Returns the result of the computation. In this case the value of the subtraction of the parameters.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Sub.java

3.57 add.dataflow.sync.SubI Class Reference

Inheritance diagram for add.dataflow.sync.SubI:



Public Member Functions

- [SubI](#) ()
- int [compute](#) (int data)

3.57.1 Detailed Description

[SubI](#) component for the ADD Accelerator Design and Deploy.

The component is responsible for subtracting the input by a id (immediate).

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1.0

3.57.2 Constructor & Destructor Documentation**3.57.2.1 add.dataflow.sync.Subl.Subl ()**

Object Constructor.

3.57.3 Member Function Documentation**3.57.3.1 int add.dataflow.sync.Subl.compute (int *data*)**

Method responsible for the component computation: in this case performs a subtraction of the parameter by an (immediate) id.

```
@param data - Value to be used for computing.  
@return - Returns the result of the computation. In this case the value
```

of the subtraction of the parameter by the id.

The documentation for this class was generated from the following file:

- add/dataflow/sync/Subl.java

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