

DOCUMENTATION

[Table of Contents](#)
[Class Inheritance Tree](#)

NAVIGATION

[Description](#)
[Types](#)
[Subprograms & Entries](#)

Package: *Topologies*

- [Goto spec source_](#)
- [Goto body source_](#)

DESCRIPTION

package Topologies is

Uwe R. Zimmer, Australia, September 2011

TYPES

Topology_Kind (abstract)

type Topology_Kind is interface;

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[routers_configuration_structures.adb:7:82 \(reference\)](#)
[routers_configuration_st \(reference\)](#)
[topologies.adb:9:42 \(ref](#)
[topologies.adb:13:47 \(re](#)
[topologies.adb:21:44 \(reference\)](#)
[topologies.adb:442:41 \(reference\)](#)
[topologies.adb:466:41 \(reference\)](#)
[topologies.adb:492:65 \(reference\)](#)
[topologies.adb:493:65 \(reference\)](#)
[topologies.adb:494:65 \(reference\)](#)
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[topologies.adb:499:65 \(reference\)](#)
[topologies.adb:500:65 \(reference\)](#)
[topologies.adb:501:65 \(reference\)](#)
[topologies.adb:502:65 \(reference\)](#)
[topologies.ads:9:48 \(reference\)](#)
[topologies.ads:10:48 \(reference\)](#)
[topologies.ads:13:48 \(reference\)](#)
[topologies.ads:14:48 \(reference\)](#)
[topologies.ads:16:71 \(reference\)](#)
[topologies.ads:17:71 \(reference\)](#)
[topologies.ads:18:71 \(reference\)](#)
[topologies.ads:19:71 \(reference\)](#)
[topologies.ads:20:71 \(reference\)](#)

[topologies.ads:21:71](#) (reference)
[topologies.ads:22:71](#) (reference)
[topologies.ads:23:71](#) (reference)
[topologies.ads:24:71](#) (reference)
[topologies.ads:25:71](#) (reference)
[topologies.ads:26:71](#) (reference)

SUBPROGRAMS & ENTRIES

Nodes_in_Topology (abstract)

- [Goto spec in source_](#)

function Nodes_in_Topology

(Configurati : [Topology_Kind](#))
 on return Positive is
 abstract;

References:

[topologies.ads:9:13](#) (declaration)
[generic_routers_configuration.ads:15:49](#) (dispatching call)
[test_routers.adb:331:60](#) (dispatching call)
[topologies.adb:444:50](#) (dispatching call)
[topologies.adb:468:50](#) (dispatching call)

Called by:

[Max_Degree](#) defined at [topologies.ads:14:13](#)

[Min_Degree](#) defined at [topologies.ads:13:13](#)

[Test_Routers](#) defined at [test_routers.adb:17:11](#)

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function Nodes_Con

(Configu Top
 ration Kin
 : Positive)
 Node_ return
 A, Boolean is
 Node_ abstract;
 B

References:

[topologies.ads:10:13](#) (declaration)
[generic_routers.adb:41:61](#) (dispatching call)
[test_routers.adb:123:25](#) (dispatching call)
[test_routers.adb:125:28](#) (dispatching call)
[topologies.adb:454:19](#) (dispatching call)
[topologies.adb:478:19](#) (dispatching call)

Called by:

[Max_Degree](#) defined at [topologies.ads:14:13](#)

[Min_Degree](#) defined at [topologies.ads:13:13](#)

[Test_Routers.Print_Connections](#) defined at [test_routers.adb:102:20](#)

[Test_Routers.Print_Connections](#) defined at [test_routers.adb:102:20](#)

Min_Degree

- [Goto spec in source_](#)
- [Goto body in source_](#)

function Min_Degree

(Configurati :
 [Topology_Ki](#)

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on
 nd'Class)
 return
 Natural;

References:

topologies.ads:13:13 (declaration)
test_routers.adb:332:13 (call)
test_routers.adb:333:61 (call)
test_routers.adb:335:60 (call)
topologies.adb:442:13 (body)
topologies.adb:462:8 (label)

Called by:

Test_Routers defined at *test_routers.adb:17:11*
Test_Routers defined at *test_routers.adb:17:11*
Test_Routers defined at *test_routers.adb:17:11*

Calls:

Nodes_Connected defined at *topologies.ads:10:13*
Nodes_in_Topology defined at *topologies.ads:9:13*

Max_Degree

- **Goto spec in source_**
- **Goto body in source_**

function Max_Degree

(
 Configuration
 on
 :
 Topology_Ki
 nd'Class)

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topologies.ads:14:13 (d
test_routers.adb:332:48
test_routers.adb:336:60
topologies.adb:466:13 (body)
topologies.adb:486:8 (label)

Called by:

Test_Routers defined at *test_routers.adb:17:11*
Test_Routers defined at *test_routers.adb:17:11*

Calls:

Nodes_Connected defined at *topologies.ads:10:13*
Nodes_in_Topology defined at *topologies.ads:9:13*

Line

- **Goto spec in source_**
- **Goto body in source_**

function Line

(
 Size
 : Positive)
 return
 Topology_Ki
 nd'Class;

References:

topologies.ads:16:13 (declaration)
routers_configuration_structures.adb:13:47 (call)
topologies.adb:492:13 (body)

Called by:

Routers_Configuration_Structures.Get_Topology defined at

[routers_configuration_structures.ads:27:13](#)

Ring

- [Goto spec in source_](#)
- [Goto body in source_](#)

function Ring

```
(      Size      : Positive)
return
  Topology_Ki
nd'Class;
```

References:

[topologies.ads:17:13](#) (declaration)

[routers_configuration_structures.adb:14:47](#) (call)

[topologies.adb:493:13](#) (body)

Called by:

[Routers_Configuration_Structures.Get_Topology](#) defined at
[routers_configuration_structures.ads:27:13](#)

Star

- [Goto spec in source_](#)
- [Goto body in source_](#)

function Star

```
(      Size      : Positive)
return
  Topology_Ki
nd'Class;
```

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[routers_configuration_structures.adb:15:47](#) (call)
[topologies.adb:494:13](#) (
Called by:
[Routers_Configuration_](#)ogy defined at
[routers_configuration_structures.ads:27:13](#)

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Fully_Connected

- [Goto spec in source_](#)
- [Goto body in source_](#)

function Fully_Connected

```
(      Size      : Positive)
return
  Topology_Ki
nd'Class;
```

References:

[topologies.ads:19:13](#) (declaration)

[routers_configuration_structures.adb:16:47](#) (call)

[topologies.adb:495:13](#) (body)

Called by:

[Routers_Configuration_Structures.Get_Topology](#) defined at
[routers_configuration_structures.ads:27:13](#)

Trees

- [Goto spec in source_](#)
- [Goto body in source_](#)

function Trees

```
(      Degree,      : Positive)
```

Depths

return
Topology_Ki
nd'Class;

References:

[topologies.ads:20:13](#) (declaration)
[routers_configuration_structures.adb:17:47](#) (call)
[topologies.adb:496:13](#) (body)

Called by:

[Routers_Configuration_Structures.Get_Topology](#) defined at
[routers_configuration_structures.ads:27:13](#)

Mesh

- **Goto spec in source_**
- **Goto body in source_**

function Mesh

(
Dimension, : Positive)
return
Topology_Ki
nd'Class;

References:

[topologies.ads:21:13](#) (declaration)
[routers_configuration_structures.adb:18:47](#) (call)
[topologies.adb:497:13](#) (body)

Called by:

[pology](#) defined at
3

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- **Goto**

function Torus

(
Dimension, : Pos
return
Topology_Ki
nd'Class;

References:

[topologies.ads:22:13](#) (declaration)
[routers_configuration_structures.adb:19:47](#) (call)
[topologies.adb:498:13](#) (body)

Called by:

[Routers_Configuration_Structures.Get_Topology](#) defined at
[routers_configuration_structures.ads:27:13](#)

Hypercube

- **Goto spec in source_**
- **Goto body in source_**

function Hypercube

(
Dimension : Positive)
return
Topology_Ki
nd'Class;

References:

[topologies.ads:23:13](#) (declaration)
[routers_configuration_structures.adb:20:47](#) (call)

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[topologies.adb:499:13](#) (body)

Called by:

[Routers_Configuration_Structures.Get_Topology](#) defined at [routers_configuration_structures.ads:27:13](#)

Cube Connected Cycles

- [Goto spec in source_](#)
- [Goto body in source_](#)

```
function Cube_Connected_Cycles
  (
    Dimension : Positive)
return
  Topology_Ki
end Class;
```

References:

[topologies.ads:24:13](#) (declaration)

[routers_configuration_structures.adb:21:47](#) (call)

[topologies.adb:500:13](#) (body)

Called by:

[Routers_Configuration_Structures.Get_Topology](#) defined at [routers_configuration_structures.ads:27:13](#)

Butterfly

- [Goto spec in source_](#)
- [Goto body in source_](#)

```
function Butterfly
  (
    Dimens : Positive)
```

References:

[topologies.ads:25:13](#) (d

[routers_configuration_st](#) all)

[topologies.adb:501:13](#) (body)

Called by:

[Routers_Configuration_Structures.Get_Topology](#) defined at [routers_configuration_structures.ads:27:13](#)

Wrap Around Butterfly

- [Goto spec in source_](#)
- [Goto body in source_](#)

```
function Wrap_Around_Butterfly
  (
    Dimension : Positive)
return
  Topology_Ki
end Class;
```

References:

[topologies.ads:26:13](#) (declaration)

[routers_configuration_structures.adb:23:47](#) (call)

[topologies.adb:502:13](#) (body)

Called by:

[Routers_Configuration_Structures.Get_Topology](#) defined at [routers_configuration_structures.ads:27:13](#)

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