

# Cable the MetroCluster IP switches

**ONTAP MetroCluster** 

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## Cable the MetroCluster IP switches

# Using the port tables with the RcfFileGenerator tool or multiple MetroCluster configurations

You must understand how to use the information in the port tables to correctly generate your RCF files.

### Before you begin

Review these considerations before using the tables:

- The following tables show the port usage for site A. The same cabling is used for site B.
- The switches cannot be configured with ports of different speeds (for example, a mix of 100 Gbps ports and 40 Gbps ports).
- Keep track of the MetroCluster port group (MetroCluster 1, MetroCluster 2, etc.). You will need this information when using the RcfFileGenerator tool as described later in this configuration procedure.
- The RcfFileGenerator for MetroCluster IP also provides a per-port cabling overview for each switch. Use this cabling overview to verify your cabling.

### Cabling eight-node MetroCluster configurations

For MetroCluster configuration running ONTAP 9.8 and earlier, some procedures that are performed to transition an upgrade require the addition of a second four-node DR group to the configuration to create a temporary eight-node configuration. Beginning with ONTAP 9.9.1, permanent 8-node MetroCluster configurations are supported.

#### About this task

For such configurations, you use the same method as described above. Instead of a second MetroCluster, you are cabling an additional four-node DR group.

For example, your configuration includes the following:

- · Cisco 3132Q-V switches
- MetroCluster 1: FAS2750 platforms
- MetroCluster 2: AFF A700 platforms (these platforms are being added as a second four-node DR group)

#### **Steps**

- 1. For MetroCluster 1, cable the Cisco 3132Q-V switches using the table for the FAS2750 platform and the rows for MetroCluster 1 interfaces.
- 2. For MetroCluster 2 (the second DR group), cable the Cisco 3132Q-V switches using the table for the AFF A700 platform and the rows for MetroCluster 2 interfaces.

## Platform port assignments for Cisco 3132Q-V switches

The port usage in a MetroCluster IP configuration depends on the switch model and platform type.

## Port usage for FAS2750 or AFF A220 systems and a Cisco 3132Q-V switch

| Cabling an AFF A220 or FAS2750 to a Cisco 3132Q-V switch |               |               |         |  |
|--|---------------|---------------|---------|--|
| Part III   | FAS2750.      | Switch        |         |  |
| Port use   | IP_switch_x_1 | IP_switch_x_2 | Port    |  |
|  |               |               | 1       |  |
|  |               |               | 2       |  |
| Unused   |               |               | 3       |  |
| onuseu   |               | -             | 4       |  |
|  |               |               | 5       |  |
|  |               |               | 6       |  |
| ISL, Local Cluster                                       | 121 120       | l Clustor     | 7       |  |
| native speed / 40G / 100G                                | ISL, LOCA     | l Cluster     | 8       |  |
|  | e0a           | e0b           | 9/1     |  |
| MetroCluster 1, Shared Cluster and                       | disa          | disabled      |         |  |
| MetroCluster interface                                   | e0a           | e0b           | 10/1    |  |
|  | disabled      |               | 10/2-4  |  |
|  | e0a           | e0b           | 11/1    |  |
| MetroCluster 2, Shared Cluster and                       | disabled      | 11/2-4        |         |  |
| MetroCluster interface                                   | e0a           | e0b           | 12/1    |  |
|  | disa          | bled          | 12/2-4  |  |
|  | e0a           | e0b           | 13/1    |  |
| MetroCluster 3, Shared Cluster and                       | disa          | bled          | 13/2-4  |  |
| MetroCluster interface                                   | e0a           | e0b           | 14/1    |  |
|  | disa          | bled          | 14/2-4  |  |
| ISL, MetroCluster<br>native speed<br>40G                 | ISL, Metr     | roCluster     | 15 - 20 |  |
| ISL, MetroCluster<br>breakout mode                       |               |               | 21/1-4  |  |
| 10G  | ist, weti     | roCluster     | 22/1-4  |  |
| 100  |               |               | 23/1-4  |  |
|  |               |               | 24/1-4  |  |
| Unused   |               | -             | 25 - 32 |  |

Port usage for FAS9000, AFF A700 and a Cisco 3132Q-V switch

| Doub.us -                 | FAS9000,      | FAS9000, AFF A700   |         |
|---------------------------|---------------|---|---------|
| Port use                  | IP_switch_x_1 | IP_switch_x_2   | Port    |
| MetroCluster 1            |               |   | 1       |
| Local Cluster interface   |               |   | 2       |
| MetroCluster 2            | See Hardwa    | re Universe   | 3       |
| Local Cluster interface   | for availa    | ble ports   | 4       |
| MetroCluster 3            |               |   | 5       |
| Local Cluster interface   |               |   | 6       |
| ISL, Local Cluster        | ISI Loca      | LClustor  | 7       |
| native speed / 40G / 100G | ist, tota     | l Cluster   | 8       |
| MetroCluster 1            | e5a           | e5b   | 9       |
| MetroCluster interface    | e5a           | e5b   | 10      |
| MetroCluster 2            | e5a           | e5b   | 11      |
| MetroCluster interface    | e5a           | e5b   | 12      |
| MetroCluster 3            | e5a           | e5b   | 13      |
| MetroCluster interface    | e5a           | e5b   | 14      |
|                           |               |   | 15      |
| ISL, MetroCluster         |               |   | 16      |
| native speed              | ISI Metr      | oCluster  | 17      |
| 40G                       | ISE, WIEL     | re Universe ble ports  I Cluster  e5b  e5b  e5b  e5b  e5b  oCluster | 18      |
| 400                       |               |   | 19      |
|                           |               |   | 20      |
| ISL, MetroCluster         |               |   | 21/1-4  |
| breakout mode<br>10G      | ISL, Metr     | oCluster  | 22/1-4  |
|                           |               |   | 23/1-4  |
|                           |               |   | 24/1-4  |
| Unused                    |               | -   | 25 - 32 |

Port usage for AFF A800 and a Cisco 3132Q-V switch

| Cabling an AFF A800 to a Cisco 3132Q-V switch |                    |                       |                |
|---|--------------------|-----------------------|----------------|
| Dd  | AFF A800           |                       | South the Book |
| Port use                                      | IP_switch_x_1      | IP_switch_x_2         | Switch Port    |
| MetroCluster 1                                |                    |                       | 1              |
| Local Cluster interface                       |                    |                       | 2              |
| MetroCluster 2                                | See Hardwa         | See Hardware Universe |                |
| Local Cluster interface                       | for availa         | ble ports             | 4              |
| MetroCluster 3                                | 1                  |                       | 5              |
| Local Cluster interface                       |                    |                       | 6              |
| ISL, Local Cluster                            | 121 1 000          | LCluster              | 7              |
| native speed / 40G / 100G                     | ISL, Local Cluster |                       | 8              |
| MetroCluster 1                                | e0b                | e1b                   | 9              |
| MetroCluster interface                        | e0b                | e1b                   | 10             |
| MetroCluster 2                                | e0b                | e1b                   | 11             |
| MetroCluster interface                        | e0b                | e1b                   | 12             |
| MetroCluster 3                                | e0b                | e1b                   | 13             |
| MetroCluster interface                        | e0b                | e1b                   | 14             |
|   |                    |                       | 15             |
| ISL, MetroCluster                             |                    |                       | 16             |
| native speed                                  | ISI Mot            | roCluster             | 17             |
| 40G   | ist, weti          | ociustei              | 18             |
| 400   |                    |                       | 19             |
|   |                    |                       | 20             |
| ISL, MetroCluster                             | ISL, MetroCluster  |                       | 21/1-4         |
| breakout mode<br>10G                          |                    |                       | 22/1-4         |
|   |                    |                       | 23/1-4         |
|   |                    |                       | 24/1-4         |
| Unused  |                    | -                     | 25 - 32        |

# Platform port assignments for Cisco 3232C or Cisco 9336C switches

The port usage in a MetroCluster IP configuration depends on the switch model and platform type.

Review these considerations before using the tables:

- The following tables show the port usage for site A. The same cabling is used for site B.
- The switches cannot be configured with ports of different speeds (for example, a mix of 100 Gbps ports and 40 Gbps ports).
- If you are configuring a single MetroCluster with the switches, use the MetroCluster 1 port group.

Keep track of the MetroCluster port group (MetroCluster 1, MetroCluster 2, or MetroCluster 3). You will need it when using the RcfFileGenerator tool as described later in this configuration procedure.

• The RcfFileGenerator for MetroCluster IP also provides a per-port cabling overview for each switch.

Use this cabling overview to verify your cabling.

### Cabling two MetroCluster configurations to the switches

When cabling more than one MetroCluster configuration to a Cisco 3132Q-V switch, then cable each MetroCluster according to the appropriate table. For example, if cabling a FAS2750 and an A700 to the same Cisco 3132Q-V switch. Then you cable the FAS2750 as per 'MetroCluster 1' in Table 1, and the A700 as per 'MetroCluster 2' or 'MetroCluster 3' in Table 2. You cannot physically cable both the FAS2750 and A700 as 'MetroCluster 1'.

## Cabling a FAS2750 or AFF A220 system to a Cisco 3232C or Cisco 9336C switch

| Cabling an AFF A220 or FAS2750 to a Cisco 3232C or Cisco 9336C switch |               |                    |                |  |
|---|---------------|--------------------|----------------|--|
|   | FAS2750,      | FAS2750, AFF A220  |                |  |
| Port use  | IP_switch_x_1 | IP_switch_x_2      | Switch<br>port |  |
| Unused  |               | -                  | 1-6            |  |
| ISL, Local Cluster  | 121 1.000     | l Clustor          | 7              |  |
| native speed / 100G   | ISE, LUCA     | ISL, Local Cluster |                |  |
|   | e0a           | e0b                | 9/1            |  |
| MetroCluster 1, Shared Cluster  | disa          | bled               | 9/2-4          |  |
| and MetroCluster interface  | e0a           | e0b                | 10/1           |  |
|   | disa          | bled               | 10/2-4         |  |
|   | e0a           | e0b                | 11/1           |  |
| MetroCluster 2, Shared Cluster  | disa          | bled               | 11/2-4         |  |
| and MetroCluster interface  | e0a           | e0b                | 12/1           |  |
|   | disa          | bled               | 12/2-4         |  |
|   | e0a           | e0b                | 13/1           |  |
| MetroCluster 3, Shared Cluster  | disa          | bled               | 13/2-4         |  |
| and MetroCluster interface  | e0a           | e0b                | 14/1           |  |
|   | disa          | bled               | 14/2-4         |  |
|   |               |                    | 15             |  |
| ISL, MetroCluster   |               |                    | 16             |  |
| native speed  | ISI Motr      | oCluster           | 17             |  |
| 40G / 100G  | ISL, MELI     | ociustei           | 18             |  |
| 400 / 1000  |               |                    | 19             |  |
|   |               |                    | 20             |  |
| ISL, MetroCluster   |               |                    | 21/1-4         |  |
| breakout mode   | ISI Matr      | oCluster           | 22/1-4         |  |
| 10G   | ist, weti     | Colubici           | 23/1-4         |  |
| 100   |               |                    | 24/1-4         |  |
| Unused  |               | -                  | 25 - 32        |  |

| Cabling a AFF A300 or FAS8200 to a Cisco 3232C or Cisco 9336C switch |
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| Cabling a AFF A300 or FAS8200 to a Cisco 3232C or Cisco 9336C switch |               |               |                |
|--|---------------|---------------|----------------|
|  | FAS8200,      | AFF A300      |                |
| Port use   | IP_switch_x_1 | IP_switch_x_2 | Switch port    |
|  |               |               | 1/1            |
| MetroCluster 1   |               |               | 1/2 - 4        |
| Local Cluster interface  |               |               | 2/1            |
|  |               |               | 2/2 - 4        |
|  | 7             |               | 3/1            |
| MetroCluster 2   | See Hardwa    | re Universe   | 3/2 - 4        |
| Local Cluster interface  | for availa    | ble ports     | 4/1            |
|  |               |               | 4/2 - 4        |
|  | 7             |               | 5/1            |
| MetroCluster 3   |               |               | 5/2 - 4        |
| Local Cluster interface  |               |               | 6/1            |
|  |               |               | 6/2 - 4        |
| ISL, Local Cluster   |               |               | 7              |
| native speed / 100G  | ISL, Loca     | l Cluster     | 8              |
|  | e1a           | e1b           | 9/1            |
| MetroCluster 1   |               | bled          | 9/2-4          |
| MetroCluster interface   | e1a           | e1b           | 10/1           |
|  |               | bled          | 10/2-4         |
|  | e1a           | e1b           | 11/1           |
| MetroCluster 2   |               | bled          | 11/2-4         |
| MetroCluster interface   | e1a           | e1b           | 12/1           |
| menodiaster menade   |               | bled          | 12/2-4         |
|  | e1a           | e1b           | 13/1           |
| MetroCluster 3   |               | bled          | 13/2-4         |
| MetroCluster interface   | e1a           | e1b           | 14/1           |
| Wetrociaster interrace   |               | bled          | 14/2-4         |
| ISL, MetroCluster  |               | oCluster      | 15 - 20        |
| ISL, MELIOCIUSIEI  | ISE, WIEL     | ociustei      | 21/1-4         |
| ISL, MetroCluster  |               |               | 22/1-4         |
| breakout mode  | ISL, Met      | roCluster     | 23/1-4         |
| 10G  |               |               |                |
|  | -1-           | -16           | 24/1-4         |
| MetroCluster 4   | e1a           | e1b<br>bled   | 25/1           |
| MetroCluster 4 MetroCluster interface                                |               |               | 25/2-4         |
| Metrocluster Interrace   | e1a           | e1b           | 26/1           |
| Harrier I  | disa          | bled          | 26/2-4         |
| Unused   |               |               | 27 - 28        |
|  |               | re Universe   | 29/1<br>29/2-4 |
| MetroCluster 4   |               | disabled      |                |
| Local Cluster interface  |               | re Universe   | 30/1           |
|  | disa          | bled          | 30/2-4         |
| Unused   |               | -             | 31 - 32        |

## Cabling a AFF A250 or FAS500f to a Cisco 3232C or Cisco 9336C switch

| Cabling an AFF A250 or FAS500f to a Cisco 3232C or Cisco 9336C switch |                    |                   |             |  |
|---|--------------------|-------------------|-------------|--|
|   | FAS500f,           | FAS500f, AFF A250 |             |  |
| Port use  | IP_switch_x_1      | IP_switch_x_2     | Switch port |  |
| Unused  |                    | -                 | 1-6         |  |
| ISL, Local Cluster  | ISL, Local Cluster |                   | 7           |  |
| native speed / 100G   | ISL, LOCA          | Cluster           | 8           |  |
| MetroCluster 1, Shared  | e0c                | e0d               | 9/1         |  |
| Cluster and MetroCluster  | disa               | bled              | 9/2-4       |  |
| interface   | e0c                | e0d               | 10/1        |  |
| interrace   | disa               | bled              | 10/2-4      |  |
| MetroCluster 2, Shared  | e0c                | e0d               | 11/1        |  |
| Cluster and MetroCluster  | disabled           |                   | 11/2-4      |  |
| interface   | e0c e0d            | 12/1              |             |  |
| interrace   | disabled           |                   | 12/2-4      |  |
| MetroCluster 3, Shared  | e0c                | e0d               | 13/1        |  |
| Cluster and MetroCluster  | disa               | bled              | 13/2-4      |  |
| interface   | e0c                | e0d               | 14/1        |  |
| interrace   | disa               | bled              | 14/2-4      |  |
|   |                    |                   | 15          |  |
| ISL, MetroCluster   |                    |                   | 16          |  |
| native speed  | ISI Mot            | oCluster          | 17          |  |
| 40G / 100G  | ist, wet           | ociustei          | 18          |  |
| 400 / 1000  |                    |                   | 19          |  |
|   |                    |                   | 20          |  |
| ISL, MetroCluster   |                    |                   | 21/1-4      |  |
| breakout mode   | ISI Mot            | roCluster         | 22/1-4      |  |
| 10G   | ist, weti          | ociustei          | 23/1-4      |  |
| 100   |                    |                   | 24/1-4      |  |
| Unused  |                    | -                 | 25 - 32     |  |

Cabling a AFF A320 to a Cisco 3232C or Cisco 9336C switch

| Cabling a AFF A320 to a Cisco 3232C or Cisco 9336C switch |                    |               |             |  |
|---|--------------------|---------------|-------------|--|
|   | AFF A320           |               |             |  |
| Port use  | IP_switch_x_1      | IP_switch_x_2 | Switch port |  |
| MetroCluster 1,   |                    |               | 1           |  |
| Local Cluster interface                                   |                    |               | 2           |  |
| MetroCluster 2,   | See Hardwa         | re Universe   | 3           |  |
| Local Cluster interface                                   | for availa         | ble ports     | 4           |  |
| MetroCluster 3,   |                    |               | 5           |  |
| Local Cluster interface                                   |                    |               | 6           |  |
| ISL, Local Cluster  | ISI Loca           | l Clustor     | 7           |  |
| native speed / 100G                                       | ISL, Local Cluster |               | 8           |  |
| MetroCluster 1,   | e0g                | e0h           | 9           |  |
| MetroCluster interface                                    | e0g                | e0h           | 10          |  |
| MetroCluster 2,   | e0g                | e0h           | 11          |  |
| MetroCluster interface                                    | e0g                | e0h           | 12          |  |
| MetroCluster 3,   | e0g                | e0h           | 13          |  |
| MetroCluster interface                                    | e0g                | e0h           | 14          |  |
|   |                    | ·             |             |  |
| ISL, MetroCluster   |                    |               | 16          |  |
| native speed  | ISI Metr           | oCluster      | 17          |  |
| 40G / 100G  | iot, with          | ociustei      | 18          |  |
| 4007 1000   |                    |               | 19          |  |
|   |                    |               | 20          |  |
| ISL, MetroCluster   |                    |               | 21/1-4      |  |
| breakout mode   | ISI. Metr          | oCluster      | 22/1-4      |  |
| 10G   | iot, meti          | oordster      | 23/1-4      |  |
|   |                    |               | 24/1-4      |  |
|   |                    |               | 25          |  |
|   |                    |               | 26          |  |
|   |                    |               | 27          |  |
| Unused  |                    |               | 28          |  |
| Shasea  | onusea -           |               | 29          |  |
|   |                    |               | 30          |  |
|   |                    |               | 31          |  |
|   |                    |               | 32          |  |

Cabling an AFF A400, FAS8300 or FAS8700 to a Cisco 3232C or Cisco 9336C switch

| Cabling a AFF A400, FAS8300 or FAS8700<br>to a Cisco 3232C or Cisco 9336C switch |                            |               |             |  |
|--|----------------------------|---------------|-------------|--|
|  | FAS8300, FAS8700, AFF A400 |               |             |  |
| Port use   | IP_switch_x_1              | IP_switch_x_2 | Switch port |  |
| MetroCluster 1,  |                            |               | 1           |  |
| Local Cluster interface  |                            |               | 2           |  |
| MetroCluster 2,  | See Hardwa                 | re Universe   | 3           |  |
| Local Cluster interface  | for availa                 | ble ports     | 4           |  |
| MetroCluster 3,  |                            |               | 5           |  |
| Local Cluster interface  |                            |               | 6           |  |
| ISL, Local Cluster   | ISI Loca                   | l Cluster     | 7           |  |
| native speed / 100G  | 131, 100                   | Cluster       | 8           |  |
| MetroCluster 1,  | e1a                        | e1b           | 9           |  |
| MetroCluster interface   | e1a                        | e1b           | 10          |  |
| MetroCluster 2,  | e1a                        | e1b           | 11          |  |
| MetroCluster interface   | e1a                        | e1b           | 12          |  |
| MetroCluster 3,  | e1a                        | e1b           | 13          |  |
| MetroCluster interface   | e1a                        | e1b           | 14          |  |
|  |                            |               | 15          |  |
| ISL, MetroCluster  |                            |               | 16          |  |
| native speed   | ISI Motr                   | oCluster      | 17          |  |
| 40G / 100G   | ISL, MELI                  | ociustei      | 18          |  |
| 400 / 1000   |                            |               | 19          |  |
|  |                            |               | 20          |  |
| ISL, MetroCluster  |                            |               | 21/1-4      |  |
| breakout mode  | ISI Motr                   | oCluster      | 22/1-4      |  |
| 10G  | ISE, IVIEU                 | ociustei      | 23/1-4      |  |
| 100  |                            |               | 24/1-4      |  |
|  |                            |               | 25          |  |
|  |                            |               | 26          |  |
|  |                            |               | 27          |  |
| Unused   |                            | _             | 28          |  |
| onuseu   |                            | •             | 29          |  |
|  |                            |               | 30          |  |
|  |                            |               | 31          |  |
|  |                            |               | 32          |  |

Cabling a AFF A700 or FAS9000 to a Cisco 3232C or Cisco 9336C switch

| Cabling a AFF A700 or FAS9000 to a Cisco 3232C or Cisco 9336C switch |               |                   |                |  |
|--|---------------|-------------------|----------------|--|
|  | FAS9000,      | FAS9000, AFF A700 |                |  |
| Port use   | IP_switch_x_1 | IP_switch_x_2     | Switch<br>port |  |
| MetroCluster 1,  |               |                   | 1              |  |
| Local Cluster interface  |               |                   | 2              |  |
| MetroCluster 2,  | See Hardwa    | re Universe       | 3              |  |
| Local Cluster interface  | for availa    | ble ports         | 4              |  |
| MetroCluster 3,  |               |                   | 5              |  |
| Local Cluster interface  |               |                   | 6              |  |
| ISL, Local Cluster   | 121 1000      | LCluster          | 7              |  |
| native speed / 100G  | ISL, LOCA     | l Cluster         | 8              |  |
| MetroCluster 1,  | e5a           | e5b               | 9              |  |
| MetroCluster interface   | e5a           | e5b               | 10             |  |
| MetroCluster 2,  | e5a           | e5b               | 11             |  |
| MetroCluster interface   | e5a           | e5b               | 12             |  |
| MetroCluster 3,  | e5a           | e5b               | 13             |  |
| MetroCluster interface   | e5a           | e5b               | 14             |  |
|  |               |                   | 15             |  |
| ICL Material Charter   |               |                   | 16             |  |
| ISL, MetroCluster  | ICI Mante     | Cluster           | 17             |  |
| native speed   | ISL, Meti     | roCluster         | 18             |  |
| 40G / 100G   |               |                   | 19             |  |
|  |               |                   | 20             |  |
| 101 - 14-1 011   |               |                   | 21/1-4         |  |
| ISL, MetroCluster  | 101 84-4      | Cluster           | 22/1-4         |  |
| breakout mode  | ISL, Meti     | roCluster         | 23/1-4         |  |
| 10G  |               |                   | 24/1-4         |  |
|  |               |                   | 25             |  |
|  |               |                   | 26             |  |
|  |               |                   | 27             |  |
| Hauss d  |               |                   | 28             |  |
| Unused   |               | -                 | 29             |  |
|  |               |                   | 30             |  |
|  |               |                   | 31             |  |
|  |               |                   | 32             |  |

Cabling a AFF A800 to a Cisco 3232C or Cisco 9336C switch

| Cabling an AFF A800 to a Cisco 3232C or Cisco 9336C switch |                         |             |             |
|--|-------------------------|-------------|-------------|
|  | AFF A800  IP_switch_x_1 |             |             |
| Port use   |                         |             | Switch port |
| MetroCluster 1,  |                         |             | 1           |
| Local Cluster interface                                    |                         |             | 2           |
| MetroCluster 2,  | See Hardwa              | re Universe | 3           |
| Local Cluster interface                                    | for availa              | ble ports   | 4           |
| MetroCluster 3,  |                         |             | 5           |
| Local Cluster interface                                    |                         |             | 6           |
| ISL, Local Cluster   | 121 1000                | l Cluster   | 7           |
| native speed / 100G  | ISL, LOCA               | rciuster    | 8           |
| MetroCluster 1,  | e0b                     | e1b         | 9           |
| MetroCluster interface                                     | e0b                     | e1b         | 10          |
| MetroCluster 2,  | e0b                     | e1b         | 11          |
| MetroCluster interface                                     | e0b                     | e1b         | 12          |
| MetroCluster 3,  | e0b                     | e1b         | 13          |
| MetroCluster interface                                     | e0b                     | e1b         | 14          |
|  |                         |             | 15          |
| ISL, MetroCluster  |                         |             | 16          |
| native speed   | ISI Mot                 | oCluster    | 17          |
| 40G / 100G   | ist, Weti               | ociustei    | 18          |
| 400 / 1000   |                         |             | 19          |
|  |                         |             | 20          |
| ISL, MetroCluster  |                         |             | 21/1-4      |
| breakout mode  | ISI Metr                | oCluster    | 22/1-4      |
| 10G  | ISE, WIEL               | ociustei    | 23/1-4      |
| 100  |                         |             | 24/1-4      |
|  |                         |             | 25          |
|  |                         |             | 26          |
|  |                         |             | 27          |
| Unused   |                         |             | 28          |
| onuseu   |                         | _           | 29          |
|  |                         |             | 30          |
|  |                         |             | 31          |
|  |                         |             | 32          |

Cabling a AFF A900 to a Cisco 3232C or Cisco 9336C switch

| Cabling an AFF A900 to a Cisco 3232C or Cisco 9336C-FX2 switch |                                |               |             |  |
|--|--------------------------------|---------------|-------------|--|
|  | AFF A900                       |               |             |  |
| Port use   | IP_switch_x_1                  | IP_switch_x_2 | Switch port |  |
| MetroCluster 1,  |                                |               | 1           |  |
| Local Cluster interface  |                                |               | 2           |  |
| MetroCluster 2,  | See Hardwa                     | re Universe   | 3           |  |
| Local Cluster interface  |                                | able ports    | 4           |  |
| MetroCluster 3,<br>Local Cluster interface                     |                                | ,             | 5           |  |
| Ports for Transition (10/40/100Gbps)                           |                                |               | 6           |  |
| ISL, Local Cluster   |                                |               | 7           |  |
| native speed / 100G  | ISL, Loca                      | al Cluster    | 8           |  |
| MetroCluster 1,  | e5a                            | e7a           | 9           |  |
| MetroCluster interface   |                                |               | 10          |  |
| MetroCluster 2,  | e5a                            | e7a           |             |  |
| MetroCluster 2,  | e5a                            | e7a           | 11          |  |
|  | e5a                            | e7a           | 12          |  |
| MetroCluster 3,<br>MetroCluster interface                      | e5a                            | e7a           | 13          |  |
| MetroCluster Interrace   | e5a                            | e7a           | 14          |  |
|  |                                |               | 15          |  |
| ISL, MetroCluster  |                                |               | 16          |  |
| native speed   | ISL, Metr                      | roCluster     | 17          |  |
| 40G / 100G   |                                |               | 18          |  |
|  |                                |               | 19          |  |
|  |                                |               | 20          |  |
| ISL, MetroCluster  |                                |               | 21/1-4      |  |
| breakout mode  | ISL, Metr                      | roCluster     | 22/1-4      |  |
| 10G  | •                              |               | 23/1-4      |  |
|  |                                |               | 24/1-4      |  |
|  |                                |               | 25          |  |
|  |                                |               | 26          |  |
|  |                                |               | 27          |  |
| Unused   | _                              |               | 28          |  |
|  |                                | 29            |             |  |
|  |                                |               | 30          |  |
|  |                                |               | 31          |  |
|  |                                |               | 32          |  |
|  |                                |               | 33          |  |
| 9336C-FX2 only: Ports disabled                                 | 9336C-FX2 only: Ports disabled |               | 34          |  |
| -  |                                |               | 35          |  |
|  |                                |               | 36          |  |

# Cabling an AFF A320, AFF A400, AFF A700 or AFF A800 to a Cisco 9336C-FX2 shared switch

| MetroCluster 1,         |                       |                   | 1  |
|-------------------------|-----------------------|-------------------|----|
| Local Cluster Interface | See Hardwa            | re Universe       | 2  |
| MetroCluster 2,         | for available ports   |                   | 3  |
| Local Cluster Interface |                       |                   | 4  |
| Storago shelf 1 (0)     | NSM-A, e0a            | NSM-A, e0b        | 5  |
| Storage shelf 1 (9)     | NSM-B, e0a NSM-B, e0b |                   | 6  |
| ISL, Local Cluster      | 121 121               | l Cluster         | 7  |
| native speed / 100G     | ISL, LUCA             | ii Clustei        | 8  |
| MetroCluster 1,         | Port 'A'              | Port 'B'          | 9  |
| MetroCluster interface  | Port 'A'              | Port 'B'          | 10 |
| MetroCluster 2,         | Port 'A'              | Port 'B'          | 11 |
| MetroCluster interface  | Port 'A'              | Port 'B'          | 12 |
| ISL, MetroCluster,      |                       |                   | 13 |
| native speed 40G / 100G | ISL, MetroCluster     | ISL, MetroCluster | 14 |
| breakout mode 10G       | ist, wetrocluster     | ist, Metrocluster | 15 |
| breakout mode 100       |                       |                   | 16 |
| MetroCluster 1,         | *                     |                   | 17 |
| Storage Interface       | See Hardwa            | re Universe       | 18 |
| MetroCluster 2,         | for availa            | ible ports        | 19 |
| Storage Interface       |                       | 111 25 11         | 20 |
| Storage shelf 2 (8)     | NSM-A, e0a            | NSM-A, e0b        | 21 |
| Storage shell 2 (6)     | NSM-B, e0a            | NSM-B, e0b        | 22 |
| Storage shelf 3 (7)     | NSM-A, e0a            | NSM-A, e0b        | 23 |
| Storage shell 3 (7)     | NSM-B, e0a            | NSM-B, e0b        | 24 |
| Storage shelf 4 (6)     | NSM-A, e0a            | NSM-A, e0b        | 25 |
| Storage shell 4 (0)     | NSM-B, e0a            | NSM-B, e0b        | 26 |
| Storage shelf 5 (5)     | NSM-A, e0a            | NSM-A, e0b        | 27 |
| Storage shell 3 (3)     | NSM-B, e0a            | NSM-B, e0b        | 28 |
| Storage shelf 6 (4)     | NSM-A, e0a            | NSM-A, e0b        | 29 |
| Storage shell 0 (4)     | NSM-B, e0a            | NSM-B, e0b        | 30 |
| Storage shelf 7 (3)     | NSM-A, e0a            | NSM-A, e0b        | 31 |
| Storage Silen 7 (3)     | NSM-B, e0a            | NSM-B, e0b        | 32 |
| Storage shelf 8 (2)     | NSM-A, e0a            | NSM-A, e0b        | 33 |
| Storage stiell o (2)    | NSM-B, e0a            | NSM-B, e0b        | 34 |
| Storage shelf 9 (1)     | NSM-A, e0a            | NSM-A, e0b        | 35 |
| Storage stien 3 (1)     | NSM-B, e0a NSM-B, e0b |                   | 36 |

| MetroCluster interfaces per platform |          |          |  |
|--------------------------------------|----------|----------|--|
| Platform                             | Port 'A' | Port 'B' |  |
| AFF A320                             | e0g      | e0h      |  |
| AFF A400                             | e1a      | e1b      |  |
| AFF A700                             | e5a      | e5b      |  |
| AFF A800                             | e0b      | e1b      |  |

# Platform port assignments for Broadcom supported BES-53248 IP switches

The port usage in a MetroCluster IP configuration depends on the switch model and platform type.

The switches cannot be used with remote ISL ports of different speeds (for example, a 25 Gbps port connected to a 10 Gbps ISL port).

#### Notes for the tables below:

- For some platforms, you can use ports 49 54 for MetroCluster ISLs or MetroCluster interface connections.
   These ports require an additional license.
- 2. Only a single four-node MetroCluster using A320 systems can be connected to the switch.

Features that require a switched cluster are not supported in this configuration, including MetroCluster FC to IP transition and tech refresh procedures.

3. AFF A320 systems configured with Broadcom BES-53248 switches might not support all features.

Any configuration or feature that requires that the local cluster connections are connected to a switch is not supported. For example, the following configurations and procedures are not supported:

- Eight-node MetroCluster configurations
- Transitioning from MetroCluster FC to MetroCluster IP configurations
- Refreshing a four-node MetroCluster IP configuration (ONTAP 9.8 and later)

## Switch port usage for AFF A220 or FAS2750 systems

| Cabling a AFF A220 or FAS2750 to a Broadcom BES-53248 switch |                    |                   |              |  |
|--|--------------------|-------------------|--------------|--|
| Port use   | FAS2750, A220      |                   | Curital part |  |
| Port use   | IP_switch_x_1      | IP_switch_x_2     | Switch port  |  |
| Unused   | -                  |                   | 1-6          |  |
| MetroCluster 3, Shared Cluster and                           | e0a                | e0b               | 9            |  |
| MetroCluster interface                                       | e0a                | e0b               | 10           |  |
| MetroCluster 4, Shared Cluster and                           | e0a                | e0b               | 11           |  |
| MetroCluster interface                                       | e0a                | e0b               | 12           |  |
| ISI MotroCluster   |                    | 13                |              |  |
| ISL, MetroCLuster  | ISI Mot            | ISI Matas Shartas | 14           |  |
| native speed<br>10G / 25G                                    | ist, weti          | ISL, MetroCluster |              |  |
| 10G / 25G  |                    |                   | 16           |  |
| Unused   | -                  |                   | 17 - 52      |  |
| ISL, MetroCluster, native speed                              | ISL, MetroCluster  |                   | 53           |  |
| 40G / 100G (see note 1)                                      |                    |                   | 54           |  |
| ISL, Local Cluster   | ISL, Local Cluster |                   | 55           |  |
| native speed / 100G  |                    |                   | 56           |  |

## Switch port usage for AFF A250 or FAS500f systems

| Cabling a AFF A250 or FAS500f to a Broadcom BES-53248 switch |                    |                               |             |
|--|--------------------|-------------------------------|-------------|
| Port use   | FAS500f, A250      |                               | Switch port |
| Port use   | IP_switch_x_1      | IP_switch_x_1   IP_switch_x_2 |             |
| Unused   |                    | -                             |             |
| MetroCluster 3, Shared Cluster                               | e0c                | e0d                           | 9           |
| and MetroCluster interface                                   | e0c                | e0d                           | 10          |
| MetroCluster 4, Shared Cluster                               | e0c                | e0d                           | 11          |
| and MetroCluster interface                                   | e0c                | e0d                           | 12          |
| ISI MatroClustor   | ISL, MetroCluster  |                               | 13          |
| ISL, MetroCLuster  |                    |                               | 14          |
| native speed<br>10G / 25G                                    |                    |                               | 15          |
| 10G / 25G  |                    |                               | 16          |
| Unused   | -                  |                               | 17 - 52     |
| ISL, MetroCluster, native speed                              | ISL, MetroCluster  |                               | 53          |
| 40G / 100G (see note 1)                                      |                    |                               | 54          |
| ISL, Local Cluster   | ISL, Local Cluster |                               | 55          |
| native speed / 100G  |                    |                               | 56          |

## Switch port usage for AFF A300 or FAS8200 systems

| Cabling a AFF A300 or FAS8200 to a Broadcom BES-53248 switch |                               |               |             |
|--|-------------------------------|---------------|-------------|
|  | FAS8200, AFF A300             |               |             |
| Port use   | Port use IP_switch_x_1 IP_swi | IP_switch_x_2 | Switch port |
| MetroCluster 1, Local Cluster interface                      |                               |               | 1           |
| Wetroclaster 1, Local claster interface                      | See Hardwa                    | re Universe   | 2           |
| MetroCluster 2, Local Cluster interface                      | for availa                    | ble ports     | 3           |
| Metrociaster 2, Local Claster Interface                      |                               |               | 4           |
| MetroCluster 1, MetroCluster interface                       | e1a                           | e1b           | 5           |
| Metrocluster 1, Metrocluster Interrace                       | e1a                           | e1b           | 6           |
| MetroCluster 2, MetroCluster interface                       | e1a                           | e1b           | 7           |
| Metrocluster 2, Metrocluster Interface                       | e1a                           | e1b           | 8           |
|  |                               |               | 9           |
| Unused   |                               | _             |             |
| onuseu   | -                             |               | 11          |
|  |                               |               | 12          |
| ISL, MetroCLuster  | ISL, MetroCluster             |               | 13          |
| native speed   |                               |               | 14          |
| 10G / 25G  |                               |               | 15          |
| 100 / 230  |                               |               | 16          |
| Unused   | -                             |               | 17 - 52     |
| ISL, MetroCluster, native speed                              | ISL, MetroCluster             |               | 53          |
| 40G / 100G (see note 1)                                      |                               |               | 54          |
| ISL, Local Cluster   | ISL, Local Cluster            |               | 55          |
| native speed / 100G  |                               |               | 56          |

| Cabling a AFF A320 to a Broadcom BES-53248 switch |                   |               |             |
|---|-------------------|---------------|-------------|
| Port use  | AFF A320          |               | Switch port |
| Portuse   | IP_switch_x_1     | IP_switch_x_2 | Switch port |
| Ports not used                                    | Ports not used    |               | 1 - 12      |
| ISL, MetroCLuster                                 | ISL, MetroCluster |               | 13          |
|   |                   |               | 14          |
| native speed                                      |                   |               | 15          |
| 10G / 25G   |                   |               | 16          |
| Ports not licensed (17 - 52)                      |                   |               |             |
| ISL, MetroCluster, native speed                   | ISL, MetroCluster |               | 53          |
| 40G / 100G (see note 1)                           |                   |               | 54          |
| MetroCluster 1, MetroCluster interface            | e0g               | e0h           | 55          |
| (see note 2)                                      | e0g               | e0h           | 56          |

Switch port usage for AFF A400, FAS8300 or FAS8700 systems

| Cabling a FAS8300, A400 or FAS8700 to a Broadcom BES-53248 switch |                       |               |                    |  |
|---|-----------------------|---------------|--------------------|--|
| Port use  | FAS8300,FAS8700, A400 |               | Considerate manufa |  |
|   | IP_switch_x_1         | IP_switch_x_2 | Switch port        |  |
| Unused  | -                     |               | 1 - 12             |  |
| ISL, MetroCluster   | ISL, MetroCluster     |               | 13                 |  |
| •   |                       |               | 14                 |  |
| native speed<br>10G / 25G   |                       |               | 15                 |  |
| 10G / 25G   |                       |               | 16                 |  |
| Unused  | -                     |               | 17 - 48            |  |
| MetroCluster 5, Local Cluster interface                           | See Hardware Universe |               | 49                 |  |
| (see note 1)  | for available ports   |               | 50                 |  |
| MetroCluster 5, MetroCluster interface                            | e1a                   | e1b           | 51                 |  |
| (see note 1)  | e1a                   | e1b           | 52                 |  |
| ISL, MetroCluster, native speed                                   | ISL, MetroCluster     |               | 53                 |  |
| 40G / 100G (see note 1)   |                       |               | 54                 |  |
| ISL, Local Cluster  | ISL, Local Cluster    |               | 55                 |  |
| native speed / 100G   |                       |               | 56                 |  |

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