

# Quadport Capable Hardware for the M1000e Modular Chassis

A Dell Technical White Paper

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## Quadport Capable Hardware for the M1000e Modular Chassis

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### Introduction:

The Dell M1000e Modular chassis brings a rich assortment of IO capabilities into a relatively small space.

This document introduces QuadPort Mezzanine Cards and PowerConnect M6348 switch that further scales Network density.

### The M1000e Chassis, Blades and IO Modules

The M1000e chassis supports up to 16 Half Height server blades, 8 full height server blades or a logical mix of the two. It also supports up to 6 IO Modules. We will focus on the Intel Quadport Gigabit ET Mezzanine card, the Broadcom NetExtreme II 5709 Quad Port Ethernet Mezzanine Card, and the Dell PowerConnect M6348 switch IOM.

TechNote: “Quad port ” implies these components are fully compatible with other Quadport devices. Quadport capable devices are also compatible with “dual port” devices minus the availability of connectivity with the 2<sup>nd</sup> pair of IO channels

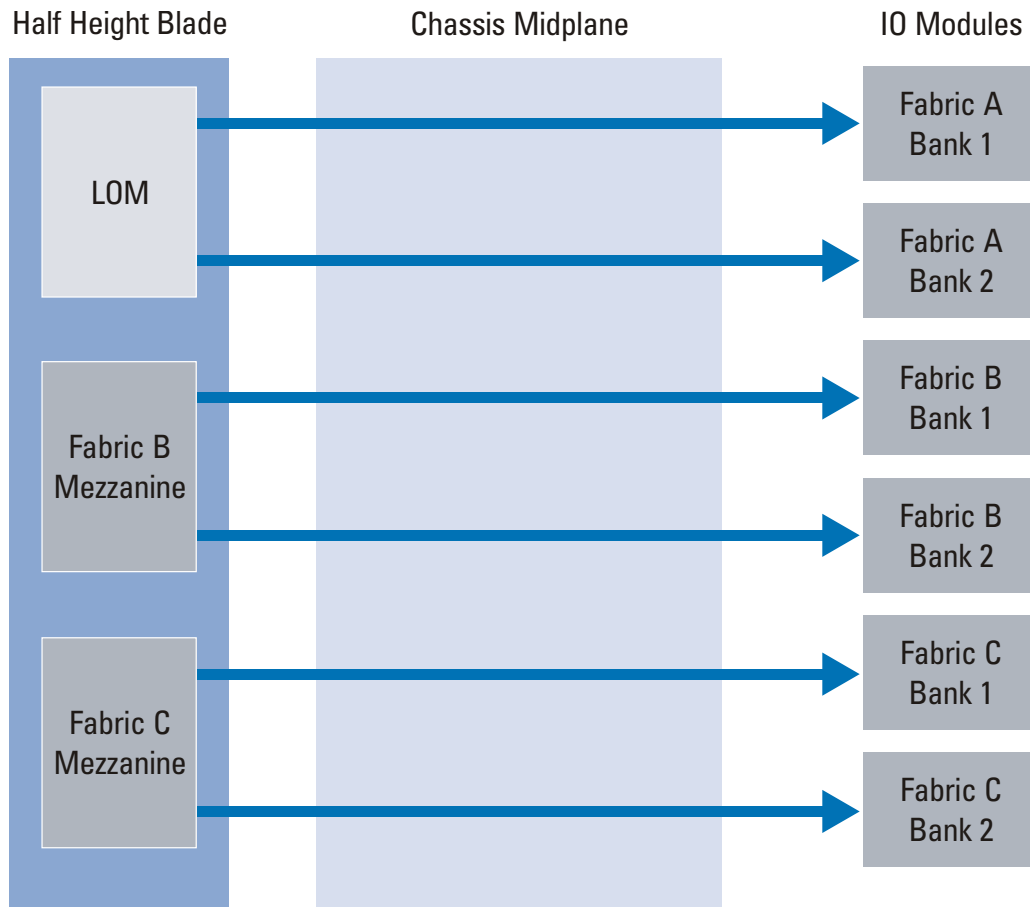
### IO Fabric Banks

Chassis IO is segregated into 3 discrete data paths by letter: A, B and C. These paths are described as “FABRICS” and support Ethernet, Fibre Channel or InfiniBand. These discrete fabric paths are split into 2 IO “Banks”, bank one and two. Each Blade IO adapter can have either 2 or 4 ports depending on capability. These ports are split out evenly to IOM banks one and two to allow for redundancy. When you deploy your Ethernet, iSCSI or FibreChannel networks, span their redundant links across banks one and two for maximum availability. We denote the discrete IOM with the fabric Identifier and the Bank number.

Example: “A1” denotes Fabric “A” in bank “1”. “C2” Denotes Fabric “C” in Bank “2”. This translates into the following logical mapping in figure one and the physical layout in figure two.

Figure 1 shows a half height blade with dual port LOMS and Mezzanine Cards and dual capable IOM’s. Figure 2 shows the numbering of each IOM slot and IOM banks one and two and six Dell Gigabit Ethernet pass-through modules installed in all 6 IOM bays.

# Quadport Capable Hardware for the M1000e Modular Chassis



**FIGURE 1**

**IO ADAPTER TO IOM RELATIONSHIP**

## Quadport Capable Hardware for the M1000e Modular Chassis

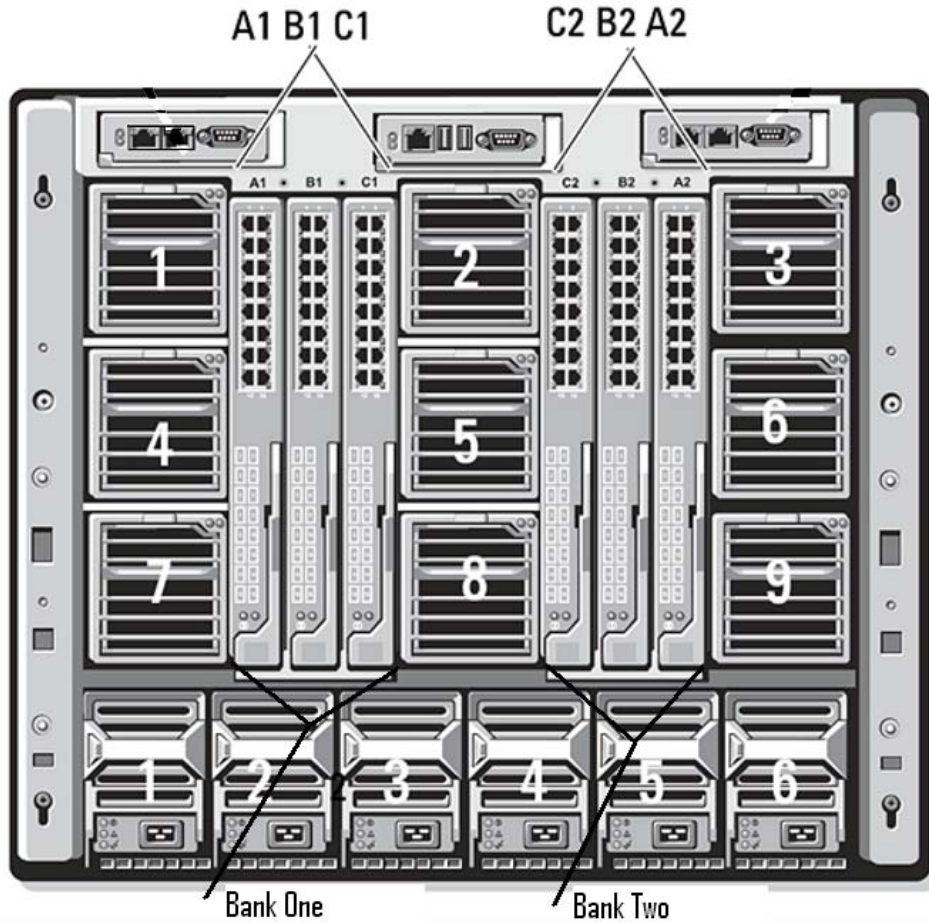


FIGURE 2

### IOM FABRIC AND BANKS

## The Blades

The M1000e chassis supports half and full height blades. The following chart shows the manifest of IO ports by blade type (Assuming Dual Port Mezzanine cards. Certain combinations of Mezzanine cards installed in certain blades do not fully scale their IO ports).

Form Factor	LOMs	Fabric A ports	Fabric B ports	Fabric C ports	Total IO Ports
Half	2	2	2	2	8
Full	4	4	4	4	16

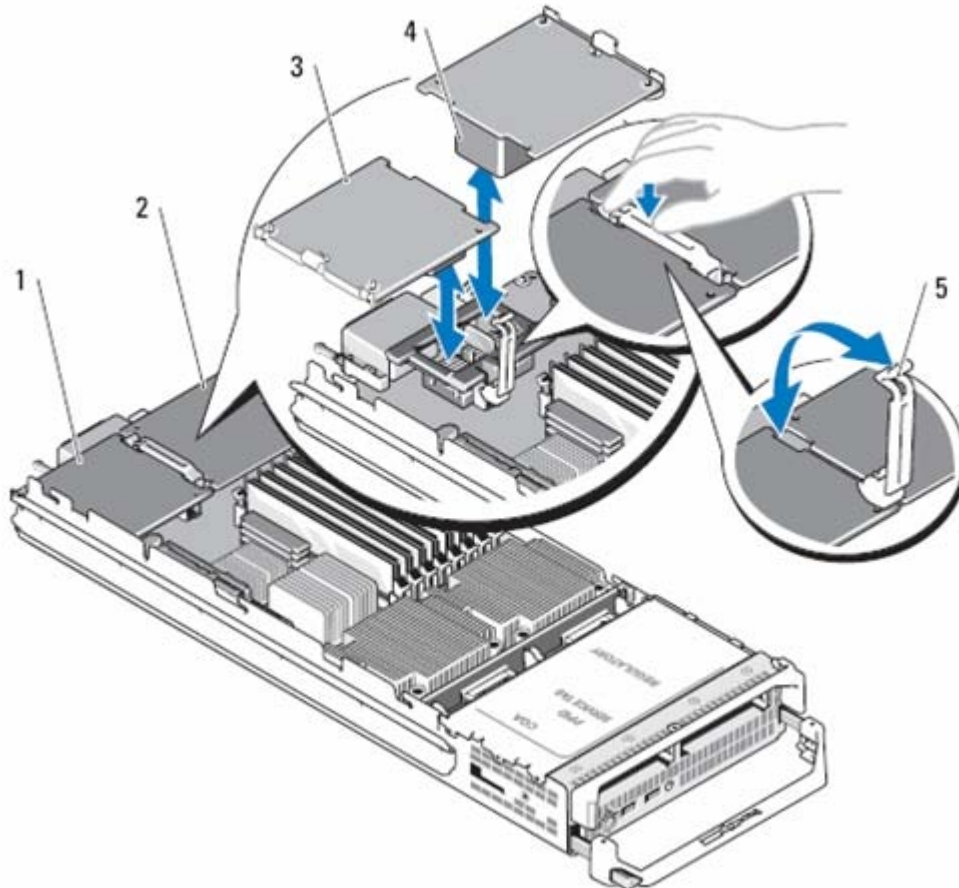
FIGURE 3

### MAXIMUM PORT COUNT BY FORM FACTOR

## Quadport Capable Hardware for the M1000e Modular Chassis

### Half Height Blades

The M600, M605 and M610 are half height form factor server blades. They feature a Broadcom 57XX dual port embedded Ethernet LOM's driving fabric "A" and two mezzanine card slots supporting fabrics "B" and "C". Figure 4 depicts the layout of optional mezzanine cards.



**FIGURE 4**  
**Half HEIGHT BLADE**

1. Fabric C mezzanine card slot "Mezz1-FAB\_C"
2. Fabric B mezzanine card slot "Mezz2-FAB\_B"
3. mezzanine card
4. mezzanine card connector
5. retention latch

## Quadport Capable Hardware for the M1000e Modular Chassis

### Full Height Blades

M710, M805 and M905 are Full height blades. The number of potential IO ports was doubled along with the form factor. There are 2 dual port Broadcom 5709 Gigabit Ethernet Lan On Motherboard controllers (LOMS) and 4 Mezzanine card slots on each full height blade. There are 2 mezzanine cards supporting Fabric "B" and 2 supporting Fabric "C". Figure 5 depicts the layout of optional mezzanine cards.

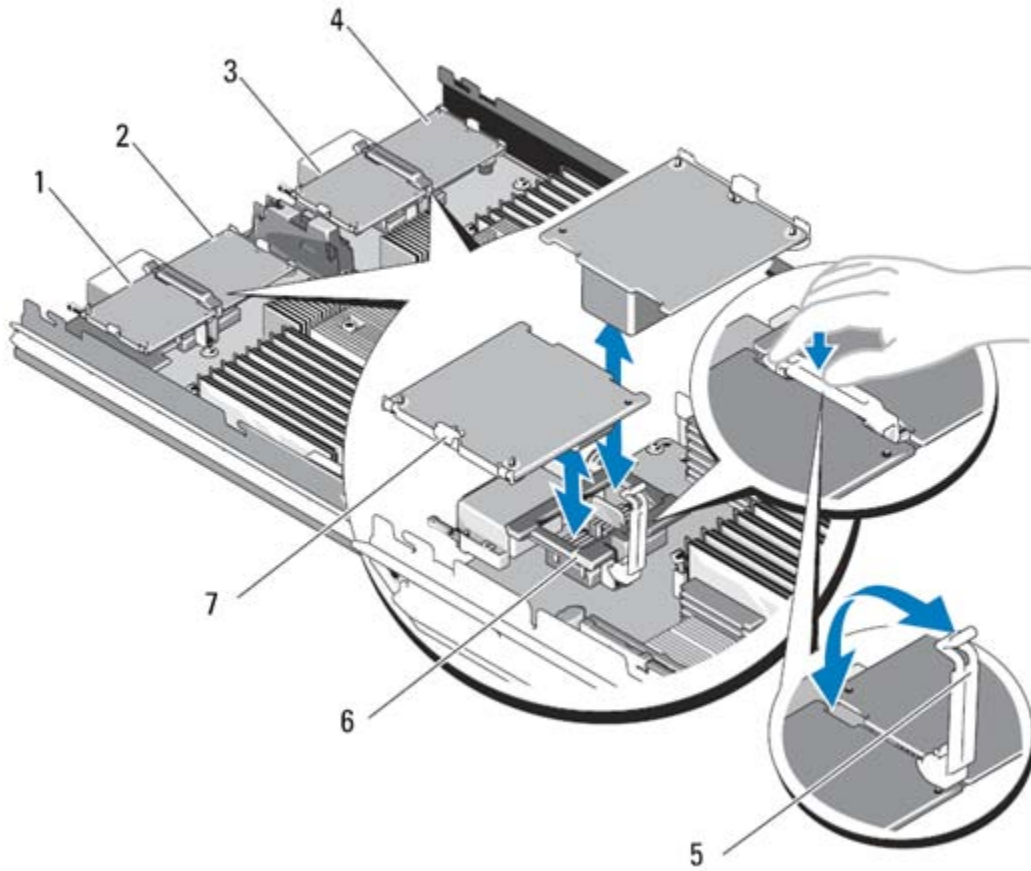


FIGURE 5

#### FULL HEIGHT BLADE

1. Fabric C mezzanine card slot "Mezz1-FAB\_C"
2. Fabric B mezzanine card slot "Mezz2-FAB\_B"
3. Fabric C mezzanine card slot "Mezz3-FAB\_C"
4. Fabric B mezzanine card slot "Mezz4-FAB\_B"
5. retention latch
6. mezzanine card connector
7. mezzanine Card



## Dual port and Quadport IOM's

The IO Modules are split into 2 types, Pass-through modules and Switches. We will focus on the PowerConnect M6348 Ethernet switch IOM.

The M6348 is a 48 port switch with 32 internal ports meaning there are double the incoming or internal Ethernet ports compared to a dual port switch where standard dual port IOM's have 16 internal ports. These 32 ports are mapped in a one to one ratio with the outgoing ports from a Quadport Mezzanine card. All switches have external outgoing or uplink ports. It is suggested that a quadport mezzanine will always be matched with a quad port switch like the M6348.

TechNote: Internal ports are the ports that face internally into the chassis and the external ports are the ports used to uplink to the core fabric

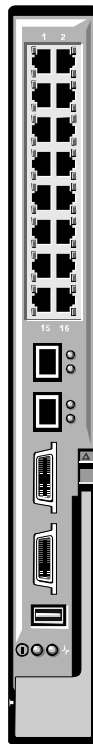


FIGURE 6

PowerConnect M6348 Ethernet Switch showing the uplink ports

## Quadport Capable Hardware for the M1000e Modular Chassis

Figure 7 is a logical drawing of a half height blade with a quadport Mezzanine card mapped to Bank 1 and Bank 2 switch IOM

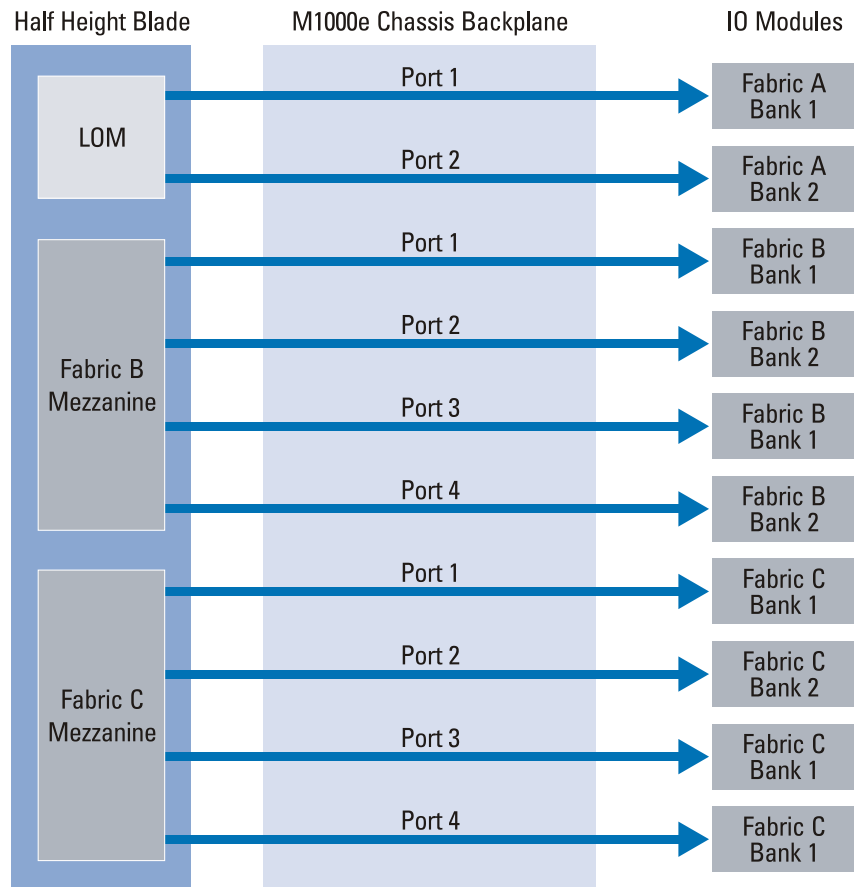


FIGURE 7

### Quad port to IOM relationship

## IO Adapters

All Dell blades feature embedded Ethernet Controllers with at least 2 discrete ports. These discrete ports are directly mapped to IOM's installed in Fabric "A", banks one and two. IOM slots "A1" and "A2" can only accept Ethernet IO Modules.

Optional IO adapters or "Mezzanine cards" can be installed in a server blade to enable fabric B and C. These mezzanine cards can be dual port or Quadport. An Ethernet Mezzanine card installed in Fabric B slot in a blade will enable a Matching Ethernet IO Module to be placed in IOM slots B1 and B2. The same population rule applies for fabric "C".

Technote: Some blades cannot support full IO capability in Fabric "C". Refer to the IO limitation chart in this document for details

### Mezzanine Card Enumeration

Mezzanine cards are identified and ordered by: MEZZn\_FAB\_x. Where n is 1 to the maximum number of mezz card slots in the blade, and X is the fabric position of the mezz card, either "B" or "C". Figure 8 shows this numbering in a half height and full height blade

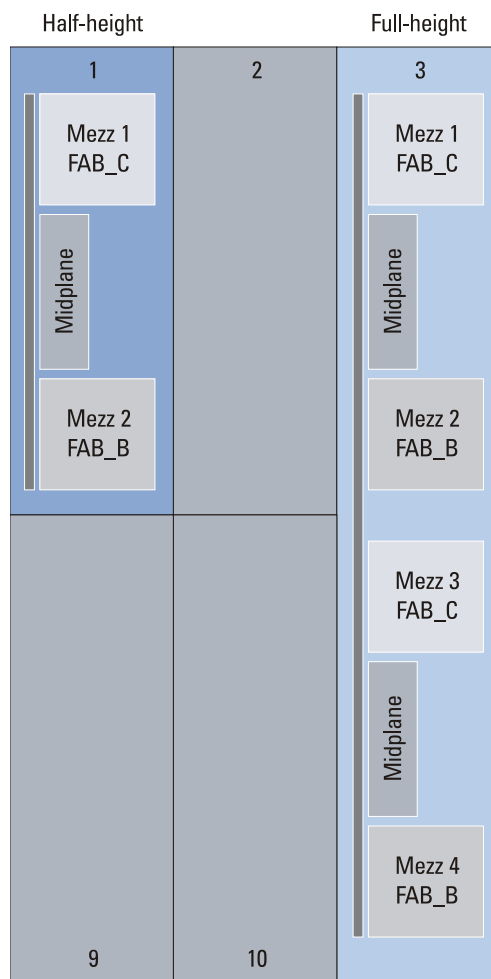


FIGURE 8

MEZZANINE NUMBERING AND LOCATION HALF AND FULL HEIGHT BLADES

## IO to IOM Port Ordering

### MAC and WWN Order

For all IO adapters, port one maps to IOM bank one and port two maps to IOM bank two. Port one of the LOM or Mezzanine adapters will always be the lowest Physical Identifier and will scale with the port count. The Physical Identifier is either a MAC address for Ethernet or a WWN (World Wide Name) for FibreChannel. In the case of a Quadport Mezzanine card the same is true with the addition of port 3 mapping to bank 1 and port 4 mapping to bank2. The FlexAddress MAC and WWN's can retain this same ordering.

Figure 9 shows a Intel and a Broadcom Quadport mezzanine card and the relationship of the MAC addresses and the IOM banks.

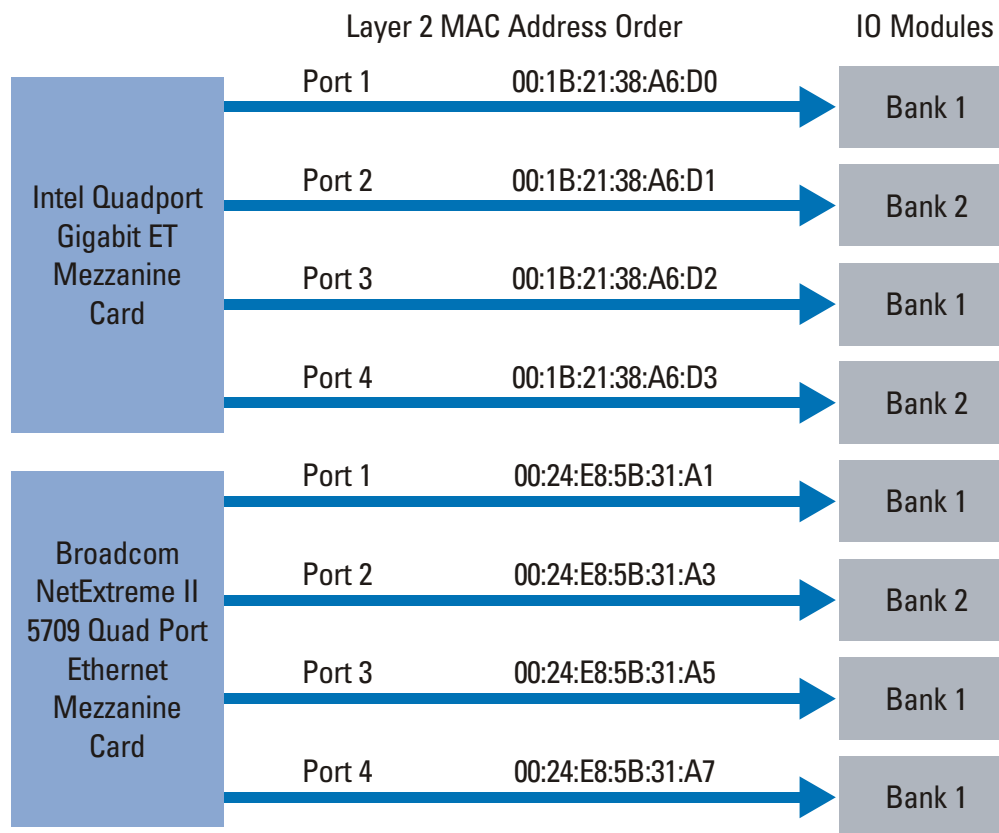


FIGURE 9

MEZZANINE CARD MAC ADDRESS TO IOM PORT RELATIONSHIP

### Half Height Blade IO to IOM mapping

Mapping for quadport components in half height blades uses the following formulas:

***(“N” being the slot the blade is installed into; 1-8. P = The internal Port Number)***

“Mezz1-FAB\_C”, port one and two: “P = N” (Internal Port number = Blade Slot number)

“Mezz1-FAB\_C”, port three and four: “P = N+16” (Internal port number = Blade slot number + 16)

“Mezz2-Fab\_B”, port one and two: “P = N” (Internal Port number = Blade Slot number)

“Mezz2-Fab\_B”, port three and four: “P = N+16” (Internal port number = Blade slot number + 16)

#### **Example:**

Half height blade installed in chassis slot one, a Quadport Mezzanine card in “Mezz2-Fab\_B”

- “Mezz2-Fab\_B” port 1 maps to IOM B1, port 1
- “Mezz2-Fab\_B” port 2 maps to IOM B2, port 1
- “Mezz2-Fab\_B” port 3 maps to IOM B1 port 17
- “Mezz2-Fab\_B” port 4 maps to IOM B2 port 17

Figure 10 shows the physical mapping of the ports for a Half height blade installed in chassis slot 1 and a Quadport Mezzanine card installed in Mezz2-Fab\_B. The ports illustrated on the IOM are incoming ports, not external uplink ports.

# Quadport Capable Hardware for the M1000e Modular Chassis

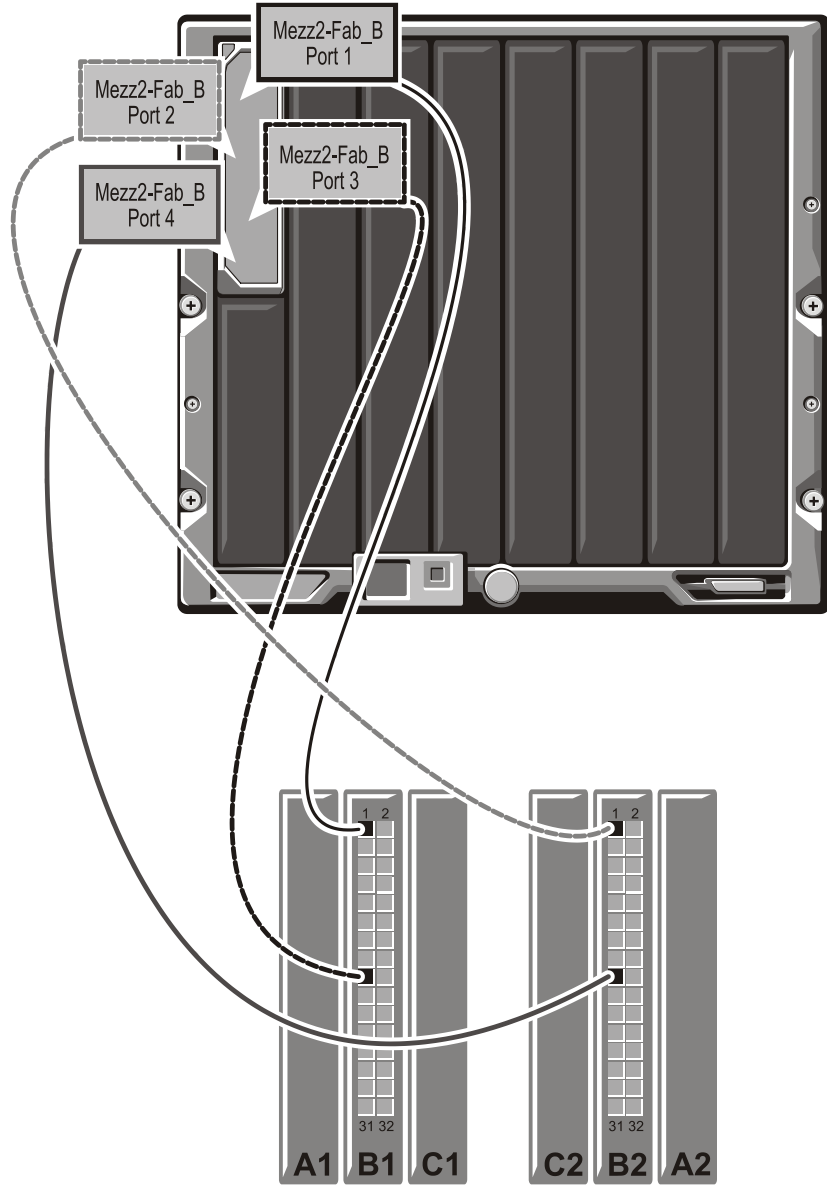


FIGURE 10

HALF HEIGHT BLADE IO TO IOM MAPPING

## Quadport Capable Hardware for the M1000e Modular Chassis

### Full Height Blade IO to IOM mapping

Mapping for quadport capable components in full height blades uses the following formulas:

*(“N” being the slot the blade is installed into; 1-8. P = The internal Port Number)*

“Mezz1-FAB\_C”, port one and two: “P = N” (Internal Port number = Blade Slot number)

“Mezz1-FAB\_C”, port three and four: “P = N+16” (Internal port number = Blade slot number + 16)

“Mezz2-Fab\_B”, port one and two: “P = N” (Internal Port number = Blade Slot number)

“Mezz2-Fab\_B”, port three and four: “P = N+16” (Internal port number = Blade slot number + 16)

“Mezz3-FAB\_C”, port one and two: “P + 8” (Internal Port number = Blade Slot number + 8)

“Mezz3-FAB\_C”, port three and four: “P = N+24” (Internal port number = Blade slot number + 24)

“Mezz4-Fab\_B”, port one and two: “P + 8” (Internal Port number = Blade Slot number + 8)

“Mezz4-Fab\_B”, port three and four: “P = N+24” (Internal port number = Blade slot number + 24)

#### Example:

Full height blade installed in chassis slot 1, 2 Quadport capable Mezzanine cards in “Mezz2-Fab\_B” and “Mezz4-Fab\_B”.

- “Mezz2-Fab\_B” port 1 Maps to IOM B1, port 1
- “Mezz2-Fab\_B” port 2 Maps to IOM B2, port 1
- “Mezz2-Fab\_B” port 3 Maps to IOM B1 port 17
- “Mezz2-Fab\_B” port 4 Maps to IOM B2 port 17
- “Mezz4-Fab\_B” port 1 Maps to IOM B1, port 9
- “Mezz4-Fab\_B” port 2 Maps to IOM B2, port 9
- “Mezz4-Fab\_B” port 3 Maps to IOM B1 port 25
- “Mezz4-Fab\_B” port 4 Maps to IOM B2 port 25

## Quadport Capable Hardware for the M1000e Modular Chassis

Figure 11 shows the physical mapping of the ports for a full height blade installed in chassis slot 1 and two Quadport Mezzanine cards installed in Mezz2-Fab\_B and Mezz4-Fab\_B. The ports illustrated on the IOM are incoming ports, not external uplink ports.

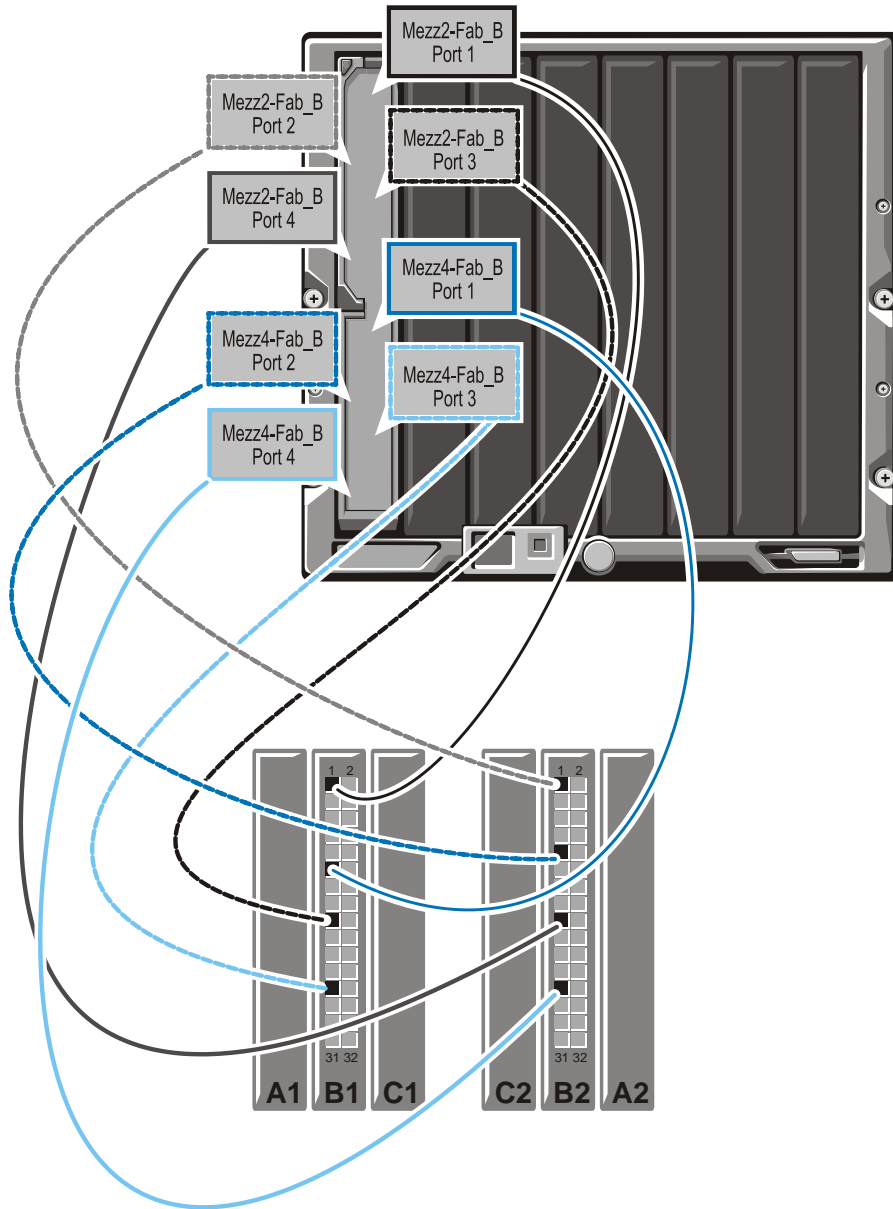


FIGURE 11

A SINGLE FULL HEIGHT BLADE WITH A QUAD PORT CARD



## Quadport Capable Hardware for the M1000e Modular Chassis

### IO to IOM Mapping Charts: Half Height Blades

These charts list and illustrate the IO to IOM mapping for LOMs and Quad port mezzanine cards.

Blade 1						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	1					
LOM 2						1
Fabric B1 Port 1		1				
Fabric B1 Port 2					1	
Fabric B1 Port 3		17				
Fabric B1 Port 4					17	
Fabric C1 Port 1			1			
Fabric C1 Port 2				1		
Fabric C1 Port 3			17			
Fabric C1 Port 4				17		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 2						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	2					
LOM 2						2
Fabric B1 Port 1		2				
Fabric B1 Port 2					2	
Fabric B1 Port 3		18				
Fabric B1 Port 4					18	
Fabric C1 Port 1			2			
Fabric C1 Port 2				2		
Fabric C1 Port 3			18			
Fabric C1 Port 4				18		

Blade 3						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	3					
LOM 2						3
Fabric B1 Port 1		3				
Fabric B1 Port 2					3	
Fabric B1 Port 3		19				
Fabric B1 Port 4					19	
Fabric C1 Port 1			3			
Fabric C1 Port 2				3		
Fabric C1 Port 3			19			
Fabric C1 Port 4				19		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 4						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	4					
LOM 2						4
Fabric B1 Port 1		4				
Fabric B1 Port 2					4	
Fabric B1 Port 3		20				
Fabric B1 Port 4					20	
Fabric C1 Port 1			4			
Fabric C1 Port 2				4		
Fabric C1 Port 3			20			
Fabric C1 Port 4				20		

Blade 5						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	5					
LOM 2						5
Fabric B1 Port 1		5				
Fabric B1 Port 2					5	
Fabric B1 Port 3		21				
Fabric B1 Port 4					21	
Fabric C1 Port 1			5			
Fabric C1 Port 2				5		
Fabric C1 Port 3			21			
Fabric C1 Port 4				21		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 6						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	6					
LOM 2						6
Fabric B1 Port 1		6				
Fabric B1 Port 2					6	
Fabric B1 Port 3		22				
Fabric B1 Port 4					22	
Fabric C1 Port 1			6			
Fabric C1 Port 2				6		
Fabric C1 Port 3			22			
Fabric C1 Port 4				22		

Blade 7						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	7					
LOM 2						7
Fabric B1 Port 1		7				
Fabric B1 Port 2					7	
Fabric B1 Port 3		23				
Fabric B1 Port 4					23	
Fabric C1 Port 1			7			
Fabric C1 Port 2				7		
Fabric C1 Port 3			23			
Fabric C1 Port 4				23		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 8						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	8					
LOM 2						8
Fabric B1 Port 1		8				
Fabric B1 Port 2					8	
Fabric B1 Port 3		24				
Fabric B1 Port 4					24	
Fabric C1 Port 1			8			
Fabric C1 Port 2				8		
Fabric C1 Port 3			24			
Fabric C1 Port 4				24		

Blade 9						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	9					
LOM 2						9
Fabric B1 Port 1		9				
Fabric B1 Port 2					9	
Fabric B1 Port 3		25				
Fabric B1 Port 4					25	
Fabric C1 Port 1			9			
Fabric C1 Port 2				9		
Fabric C1 Port 3			25			
Fabric C1 Port 4				25		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 10						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	10					
LOM 2						10
Fabric B1 Port 1		10				
Fabric B1 Port 2					10	
Fabric B1 Port 3		26				
Fabric B1 Port 4					26	
Fabric C1 Port 1			10			
Fabric C1 Port 2				10		
Fabric C1 Port 3			26			
Fabric C1 Port 4				26		

Blade 11						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	11					
LOM 2						11
Fabric B1 Port 1		11				
Fabric B1 Port 2					11	
Fabric B1 Port 3		27				
Fabric B1 Port 4					27	
Fabric C1 Port 1			11			
Fabric C1 Port 2				11		
Fabric C1 Port 3			27			
Fabric C1 Port 4				27		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 12						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	12					
LOM 2						12
Fabric B1 Port 1		12				
Fabric B1 Port 2					12	
Fabric B1 Port 3		28				
Fabric B1 Port 4					28	
Fabric C1 Port 1			12			
Fabric C1 Port 2				12		
Fabric C1 Port 3			28			
Fabric C1 Port 4				28		

Blade 13						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	13					
LOM 2						13
Fabric B1 Port 1		13				
Fabric B1 Port 2					13	
Fabric B1 Port 3		29				
Fabric B1 Port 4					29	
Fabric C1 Port 1			13			
Fabric C1 Port 2				13		
Fabric C1 Port 3			29			
Fabric C1 Port 4				29		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 14						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	14					
LOM 2						14
Fabric B1 Port 1		14				
Fabric B1 Port 2					14	
Fabric B1 Port 3		30				
Fabric B1 Port 4					30	
Fabric C1 Port 1			14			
Fabric C1 Port 2				14		
Fabric C1 Port 3			30			
Fabric C1 Port 4				30		

Blade 15						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	15					
LOM 2						15
Fabric B1 Port 1		15				
Fabric B1 Port 2					15	
Fabric B1 Port 3		31				
Fabric B1 Port 4					31	
Fabric C1 Port 1			15			
Fabric C1 Port 2				15		
Fabric C1 Port 3			31			
Fabric C1 Port 4				31		



**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 16						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	16					
LOM 2						16
Fabric B1 Port 1		16				
Fabric B1 Port 2					16	
Fabric B1 Port 3		32				
Fabric B1 Port 4					32	
Fabric C1 Port 1			16			
Fabric C1 Port 2				16		
Fabric C1 Port 3			32			
Fabric C1 Port 4				32		

**Quadport Capable Hardware for the M1000e Modular Chassis**

**IO to IOM Mapping Charts: Full Height Blades**

Blade 1						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	1					
LOM 2						1
LOM 3	9					
LOM 4						9
Fabric B1 Port 1		1				
Fabric B1 Port 2					1	
Fabric B1 Port 3		17				
Fabric B1 Port 4					17	
Fabric C1 Port 1			1			
Fabric C1 Port 2				1		
Fabric C1 Port 3			17			
Fabric C1 Port 4				17		
Fabric B2 Port 1		9				
Fabric B2 Port 2					9	
Fabric B2 Port 3		25				
Fabric B2 Port 4					25	
Fabric C2 Port 1			9			
Fabric C2 Port 2				9		
Fabric C2 Port 3			25			
Fabric C2 Port 4				25		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 2						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	2					
LOM 2						2
LOM 3	10					
LOM 4						10
Fabric B1 Port 1		2				
Fabric B1 Port 2					2	
Fabric B1 Port 3		18				
Fabric B1 Port 4					18	
Fabric C1 Port 1			2			
Fabric C1 Port 2				2		
Fabric C1 Port 3			18			
Fabric C1 Port 4				18		
Fabric B2 Port 1		10				
Fabric B2 Port 2					10	
Fabric B2 Port 3		26				
Fabric B2 Port 4					26	
Fabric C2 Port 1			10			
Fabric C2 Port 2				10		
Fabric C2 Port 3			26			
Fabric C2 Port 4				26		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 3						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	3					
LOM 2						3
LOM 3	11					
LOM 4						11
Fabric B1 Port 1		3				
Fabric B1 Port 2					3	
Fabric B1 Port 3		19				
Fabric B1 Port 4					19	
Fabric C1 Port 1			3			
Fabric C1 Port 2				3		
Fabric C1 Port 3			19			
Fabric C1 Port 4				19		
Fabric B2 Port 1		11				
Fabric B2 Port 2					11	
Fabric B2 Port 3		27				
Fabric B2 Port 4					27	
Fabric C2 Port 1			11			
Fabric C2 Port 2				11		
Fabric C2 Port 3			27			
Fabric C2 Port 4				27		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 4						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	4					
LOM 2						4
LOM 3	12					
LOM 4						12
Fabric B1 Port 1		4				
Fabric B1 Port 2					4	
Fabric B1 Port 3		20				
Fabric B1 Port 4					20	
Fabric C1 Port 1			4			
Fabric C1 Port 2				4		
Fabric C1 Port 3			20			
Fabric C1 Port 4				20		
Fabric B2 Port 1		12				
Fabric B2 Port 2					12	
Fabric B2 Port 3		28				
Fabric B2 Port 4					28	
Fabric C2 Port 1			12			
Fabric C2 Port 2				12		
Fabric C2 Port 3			28			
Fabric C2 Port 4				28		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 5						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	5					
LOM 2						5
LOM 3	13					
LOM 4						13
Fabric B1 Port 1		5				
Fabric B1 Port 2					5	
Fabric B1 Port 3		21				
Fabric B1 Port 4					21	
Fabric C1 Port 1			5			
Fabric C1 Port 2				5		
Fabric C1 Port 3			21			
Fabric C1 Port 4				21		
Fabric B2 Port 1		13				
Fabric B2 Port 2					13	
Fabric B2 Port 3		29				
Fabric B2 Port 4					29	
Fabric C2 Port 1			13			
Fabric C2 Port 2				13		
Fabric C2 Port 3			29			
Fabric C2 Port 4				29		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 6						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	6					
LOM 2						6
LOM 3	14					
LOM 4						14
Fabric B1 Port 1		6				
Fabric B1 Port 2					6	
Fabric B1 Port 3		22				
Fabric B1 Port 4					22	
Fabric C1 Port 1			6			
Fabric C1 Port 2				6		
Fabric C1 Port 3			22			
Fabric C1 Port 4				22		
Fabric B2 Port 1		14				
Fabric B2 Port 2					14	
Fabric B2 Port 3		30				
Fabric B2 Port 4					30	
Fabric C2 Port 1			14			
Fabric C2 Port 2				14		
Fabric C2 Port 3			30			
Fabric C2 Port 4				30		

**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 7						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	7					
LOM 2						7
LOM 3	15					
LOM 4						15
Fabric B1 Port 1		7				
Fabric B1 Port 2					7	
Fabric B1 Port 3		23				
Fabric B1 Port 4					23	
Fabric C1 Port 1			7			
Fabric C1 Port 2				7		
Fabric C1 Port 3			23			
Fabric C1 Port 4				23		
Fabric B2 Port 1		15				
Fabric B2 Port 2					15	
Fabric B2 Port 3		31				
Fabric B2 Port 4					31	
Fabric C2 Port 1			15			
Fabric C2 Port 2				15		
Fabric C2 Port 3			31			
Fabric C2 Port 4				31		



**Quadport Capable Hardware for the M1000e Modular Chassis**

Blade 8						
Device	IOM A1	IOM B1	IOM C1	IOM C2	IOM B2	IOM A2
LOM 1	8					
LOM 2						8
LOM 3	16					
LOM 4						16
Fabric B1 Port 1		8				
Fabric B1 Port 2					8	
Fabric B1 Port 3		24				
Fabric B1 Port 4					24	
Fabric C1 Port 1			8			
Fabric C1 Port 2				8		
Fabric C1 Port 3			24			
Fabric C1 Port 4				24		
Fabric B2 Port 1		16				
Fabric B2 Port 2					16	
Fabric B2 Port 3		32				
Fabric B2 Port 4					32	
Fabric C2 Port 1			16			
Fabric C2 Port 2				16		
Fabric C2 Port 3			32			
Fabric C2 Port 4				32		

## Port Count Limitations by Blade Model

Due to a blade chipset limitation not all blades support all mezzanine cards installed in fabric C slots on the system board. The following Quad port Mezzanine cards are affected:

- Intel Quadport Gigabit ET Mezzanine card
- Broadcom NetExtreme II 5709 Quad Port Ethernet Mezzanine Card

The following chart lists the limitations.

PowerEdge Blade	Mezz1-FAB_C		Mezz2-FAB_B	
	Bank 1	Bank 2	Bank 1	Bank 2
	IOM C1	IOM C2	IOM B1	IOM B2
	Port	Port	Port	Port
	1&3	2&4	1&3	2&4
M600	Y	Y	Y	Y
M605	N	N	Y	Y
M610	Y	Y	Y	Y

PowerEdge Blade	Mezz1-FAB_C		Mezz2-FAB_B		Mezz3-FAB_C		Mezz3-FAB_B	
	Bank 1	Bank 2	Bank 1	Bank 2	Bank 1	Bank 2	Bank 1	Bank 2
	IOM C1	IOM C2	IOM B1	IOM B2	IOM C1	IOM C2	IOM B1	IOM B2
	Port	Port	Port	Port	Port	Port	Port	Port
	1&3	2&4	1&3	2&4	1&3	2&4	1&3	2&4
M710	Y	Y	Y	Y	Y	N	Y	Y
M805	Y	Y	N	N	N	N	N	N
M905	Y	Y	Y	Y	N	N	N	N