

S-06100-2021

**Traslado de los chasis de servidores Blade de HPE al CPM de
Nuevos Estudios**

Pliego de especificaciones técnicas

Índice

1 SITUACIÓN ACTUAL.....	4
1.1 C7000 BC5.....	6
1.1.1 <i>Vista Frontal</i>	6
1.1.2 <i>Vista Trasera</i>	7
1.1.3 <i>Elementos de interconexión</i>	8
1.1.3.1 BC5-BC5 logical interconnect group	8
1.1.3.2 Conexiones en detalle BC5	9
1.1.3.2.1.1 BC5 interconnect 1 - Ports	9
1.1.3.2.1.2 BC5 interconnect 2 - Ports.....	10
1.1.3.2.1.3 BC5 - Port Mapping - Interconnect Bay 1	10
1.1.3.2.1.4 BC5 - Port Mapping - Interconnect Bay 2	10
1.1.3.2.1.5 BC5 - Port Mapping - Interconnect Bay 3	11
1.1.3.2.1.6 BC5 - Port Mapping - Interconnect Bay 4	11
1.1.4 <i>BC5 Firmware Summary</i>	12
1.2 C7000 BC6.....	16
1.2.1 <i>Vista Delantera</i>	16
1.2.2 <i>Vista Trasera</i>	16
1.2.3 <i>BC6-BC6 logical interconnect group</i>	17
1.2.4 <i>Conexiones en detalle BC6</i>	17
1.2.4.1 BC6-BC6 logical interconnect group- Detalle	17
1.2.4.2 BC6 interconnect 1 - Ports.....	18
1.2.4.3 BC6 interconnect 2 - Ports	18
1.2.4.4 BC6 - Port Mapping - Interconnect Bay 1	19
1.2.4.5 BC6 - Port Mapping - Interconnect Bay 2.....	19
1.2.4.6 BC6 - Port Mapping - Interconnect Bay 3.....	20
1.2.4.7 BC6 - Port Mapping - Interconnect Bay 4.....	20
1.2.5 <i>BC6 Firmware Summary</i>	21
1.3 SYNERGY BC7	24
1.3.1 <i>BC7 Vista Frontal</i>	24
1.3.2 <i>BC7 Vista trasera</i>	24
1.3.3 <i>BC7 - Composable Infrastructure Appliances</i>	25
1.3.4 <i>Elementos de interconexión BC7</i>	26
1.3.4.1 LE_BC7-LIG_Ethernet_LACP	26
1.3.4.2 LE_BC7-LIG_FiberChannel_Storage-1.....	27
1.3.4.3 Puertos y detalle de elementos de interconexión.....	28

1.3.4.3.1	BC7, interconnect 1	28
1.3.4.3.2	BC7, interconnect 3	29
1.3.4.3.3	BC7, interconnect 4	31
1.3.4.3.4	BC7, interconnect 6	32
1.3.5	<i>Firmware BC7</i>	34
1.4	SYNERGY BC8	36
1.4.1	<i>BC8 Vista Frontal</i>	36
1.4.2	<i>BC8 Vista trasera</i>	36
1.4.3	<i>BC8 - Composable Infrastructure Appliances</i>	36
1.4.4	<i>Elementos de interconexión BC8</i>	38
1.4.4.1	Interconnect Bay Configuration - EG_BC8	38
1.4.4.2	Logical Interconnect - LE_BC8-LIG_Ethernet_LACP	39
1.4.4.3	Logical Interconnect - LE_BC8-LIG_FiberChannel_Storage-1	40
1.4.4.4	Puertos y detalle de elementos de interconexión	41
1.4.4.4.1	BC8, interconnect 1	41
1.4.4.4.2	BC8, interconnect 3	43
1.4.4.4.3	BC8, interconnect 4	45
1.4.4.4.4	BC8, interconnect 6	47
1.4.4.4.5	BC8_Uplink_Ethernet_LACP_Uplink Ports	49
1.4.4.4.6	Networks FC	49
1.4.5	<i>Firmware BC8</i>	50
1.5	OTROS ELEMENTOS A DESCRIBIR	52
2	DESCRIPCIÓN DEL SERVICIO	53
2.1	ALCANCE DEL SERVICIO	53
2.2	DESCRIPCIÓN DEL SERVICIO	53
2.3	ENTREGABLES	53
3	OFERTAS	55
3.1	ESTRUCTURA DE LAS OFERTAS	55
4	ANEXO I	56
4.1	UBICACIONES	56

1 Situación actual

RTVE dispone, en sus instalaciones del CPD Corporativo, de cuatro chasis de servidores blade, basados en tecnología del fabricante HP, con capacidad de proceso para sistemas operativos Windows y Linux sobre procesadores INTEL desde los que se proporcionan servicios sobre máquinas físicas y virtualizadas sobre Vmware.

Estos chasis son utilizados como infraestructura de virtualización, y también para alojar máquinas de servidores Oracle, y Tarsys Evolution (Sistema de Gestión Documental). ***Todo ello dotado de redundancia a nivel lógico, comunicaciones y funcional, para dotar de alta disponibilidad a los sistemas, y repartido entre los 4 chasis.***

A grandes rasgos, tenemos dos chasis BladeSystem c7000 Enclosure G2 (BC5 y BC6), y dos Synergy 12000 Frame (BC7 y BC8) que serán descritos en detalle a continuación.

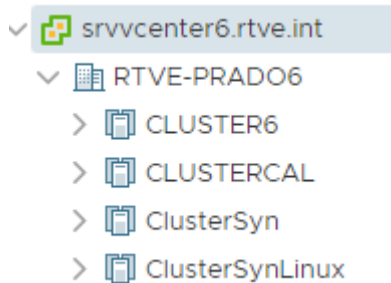
La infraestructura de virtualización Vmware actual está compuesta por el siguiente equipamiento:

- **Clúster de Producción C7000** formado por 4 servidores HPE BL460c G9 (2 máquinas en cada chasis C7000), con la siguiente configuración cada uno:
 - 2 x CPU Intel Xeon E5-2630 v4 10 Cores
 - 512 GB RAM
 - 2 x MicroSD de 8 GB
 - 2 x FlexFabric 10 Gb dualport
 - HBA FC de 8 Gb
- **Clúster de Calidad**, formado por dos servidores HP ProLiant BL660c G8 (1 máquina en cada chasis C7000), con la siguiente configuración cada uno:
 - HP Blade BL660c Gen8 con 2 procesadores E5-4640 (2.4GHz/8-core/20MB/95W) y 256 GB de memoria.
- **Clúster de Producción Synergy para virtualización de máquinas Linux** formado por 8 servidores HPE Synergy 480 Gen10 (4 máquinas en cada chasis HPE Synergy Frame 12000), con la siguiente configuración cada uno:
 - servidores HPE Synergy SY480 Gen10
 - 2 CPU Intel® Scalable Platform Xeon-Platinum 8160 (2.1GHz/24-core/150W)
 - 1 tarjeta HPE Synergy 3820c de 2 puertos a 20Gb CNA
 - 1 tarjeta HPE Synergy 3830c de 2 puertos a 16Gb FC HBA
 - 1 controladora Smart Array HW RAID E208i-c
 - 2 discos HPE de 480 RI SATA SSD
- **Clúster de Producción Synergy para virtualización de otros sistemas** formado por 8 servidores HPE Synergy 480 Gen10 (4 máquinas en cada chasis HPE Synergy Frame 12000), con la siguiente configuración cada uno:
 - servidores HPE Synergy SY480 Gen10

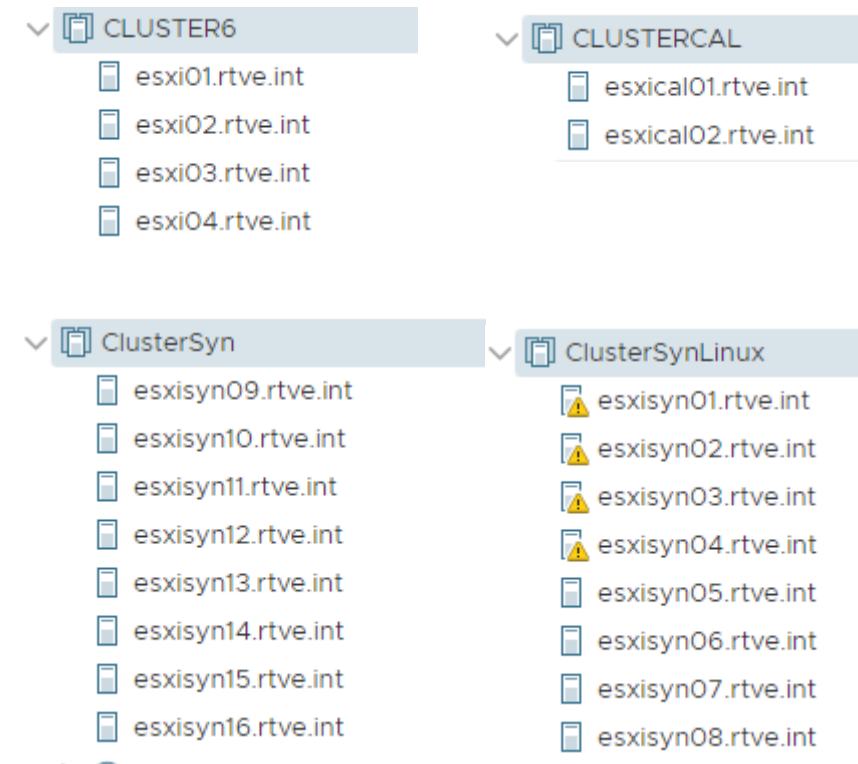
- 2 CPU Intel® Scalable Platform Xeon-Platinum 8160 (2.1GHz/24-core/150W)
- 1 tarjeta HPE Synergy 3820c de 2 puertos a 20Gb CNA
- 1 tarjeta HPE Synergy 3830c de 2 puertos a 16Gb FC HBA
- 1 controladora Smart Array HW RAID E208i-c
- 2 discos HPE de 480 RI SATA SSD

La plataforma de virtualización actual tiene la siguiente arquitectura que muestra la imagen sobre las máquinas indicadas anteriormente, en los dos **chasis HP Blade C7000 (BC5 y BC6)** y en los dos **chasis HPE Synergy Frame 12000 (BC7 y BC8)**.

Se muestra gráfico de los clústeres en el Centro de Datos RTVE-PRAD06:



Y las máquinas que forman concretamente cada uno de ellos:



RTVE dispone en este momento de aproximadamente 300 máquinas virtualizadas sobre 4 servidores físicos HPE BL460c G9 (**clúster “cluster6” de producción chasis c7000**), 2 HP ProLiant BL660c G8 (**clúster “clustercal” de calidad**), 8 servidores HPE Synergy 480 Gen10 físicos (**clúster “clusterSynLinux” de producción Synergy**) y 8 servidores HPE Synergy 480 Gen10 físicos (**clúster “clusterSyn” de producción Synergy igualmente**).

Los “Data Stores” para almacenamiento de las máquinas virtuales se encuentran en una cabina HP 3PAR Serie 10000, constando actualmente de **60 almacenes de 1TB** cada uno mediante comunicación de Fibra.

Adicionalmente, se cuenta con varias máquinas para servidores de Oracle, en los chasis BC5 y BC6 con el siguiente HW:

- ProLiant BL460c G7
- ProLiant BL460c Gen8
- ProLiant BL460c Gen10

Finalmente se cuenta con 4 servidores físicos (2 por chasis en BC7 y BC8) para sistema Tarsys:

- HPE Synergy SY480 Gen10 FISICOS TARSSYS_cada uno con:
 - 1 CPU Intel® Scalable Platform Xeon-Gold 6126 (2.6GHz/12-core/125W)
 - 4 módulos de memoria de 8GB R-DIMMs (32GB en total)
 - 1 tarjeta HPE Synergy 3820c de 2 puertos a 20Gb CNA (Mezz slot 3)
 - 1 tarjeta HPE Synergy 3830c de 2 puertos a 16Gb FC HBA
 - 1 controladora HPE Smart Array S100i SR Gen10 SW RAID
 - 2 discos HPE de 1TB SATA a 7.2K rpm

Se describe a continuación en detalle la situación actual y componentes de los 4 chasis.

1.1 C7000 BC5

1.1.1 Vista Frontal

1 empty	2 empty	3 empty	4 ● BC5_bay 4 esxical01.rtve.int BL460c Gen8	5 ● BC5_bay 5 esxi01.rtve.int BL460c Gen9	6 ● BC5_bay 6 esxi02.rtve.int BL460c Gen9	7 ● BC5_bay 7 CORPORACAL 1 BL460c G7	8 ● BC5_bay 8 CORPORACLE_ DES BL460c Gen8
9 empty	10 empty	11 empty		13 ● BC5_bay 13 CORPORACLE- PRO1 BL460c Gen10	14 ● BC5_bay 14 CORPORACLE- CAL1 BL460c Gen8	15 empty	16 empty
1 ●	2 ●	3 ●	4 ●	5 ●	6 ●		

1.1.2 Vista Trasera

1 ●	2 ●	3 ●	4 ●	5 ●
1 ● BC5_interconnect 1 HP VC FlexFabric-20/40 F8 Module	2 ● BC5_interconnect 2 HP VC FlexFabric-20/40 F8 Module			
3 ○ BC5_interconnect 3 HP B-series 8/12c SAN Switch BladeSystem c-Class	4 ○ BC5_interconnect 4 HP B-series 8/12c SAN Switch BladeSystem c-Class			
5 empty	6 empty			
7 empty	8 empty			
6 ●	7 ●	8 ●	9 ●	10 ●

1.1.3 Elementos de interconexión

1.1.3.1 BC5-BC5 logical interconnect group

✓ **BC5-BC5 logical interconnect group** Logical Interconnect ▾ ↗

Logical Interconnect



General

Consistency state: Consistent
Stacking health: Redundantly connected
Logical enclosure: [BC5](#)
Interconnects: [2 interconnects](#)
Logical interconnect group: [BC5 logical interconnect group](#)

1.1.3.2 Conexiones en detalle BC5

BC5-BC5 logical interconnect group Uplink Sets

Uplink Sets

▼ UPLINK_ETHERNET

Connection mode	Automatic
LACP timer	Long (30s)

Networks (40)

AD DNS 1	228	DMZ_SERVER_EXT...	33	GESDOC-STORNEXT	412	HEARTBEAT SIGRE	619	SERVER FIREWALL	107
AD DNS 2	229	ENLACE-NAS	104	GESTION	99	HEARTBEAT SQL	605	SERVER PRODUCC...	301
ALMACENAMIENTO	311	FILER2	111	HEARTBEAT CLUS...	604	HEARTBEAT SQL2...	613	SERVERS WIFI	312
CLUSTER2 HEARB...	607	FW PRIVADA	32	HEARTBEAT COR...	610	HEARTBEAT VCE...	608	VIDEOCONFEREN...	114
CLUSTER2 HEARB...	606	GESDOC-BACKUP...	404	HEARTBEAT INTR...	618	INFRAESTRUCTUR...	172	VMWARE	69
CONTROL HORAR...	9	GESDOC-GESTION	403	HEARTBEAT IQVis...	603	INTERCONEXION...	299	VSPHERE SC1	305
DMZ	31	GESDOC-PRE	405	HEARTBEAT LOTUS	612	SERVER CALIDAD	303	VSPHERE SC2	306
DMZ3	40	GESDOC-PRO	402	HEARTBEAT SGCE	614	SERVER DESAROL...	302	VSPHERE VMOTIO...	307

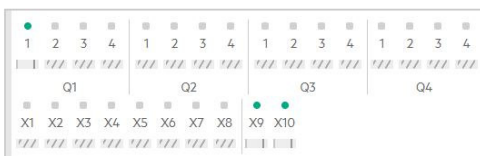
Uplinks

	Uplink	State	Operational Speed	Requested Speed	LAG	Connected To
●	BCS_interconnect_1, Q1.1	Linked active	40 Gb/s	Auto	27	94:3f:c2:9d:69:ab FortyGigE1/1/11
●	BCS_interconnect_2, Q1.1	Linked standby	40 Gb/s	Auto	<i>none</i>	94:3f:c2:9d:69:ab FortyGigE2/1/11

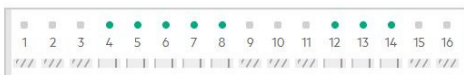
Stacking Links

from BC5_interconnect_1, X9 (internal) to BC5_interconnect_2, X9 (internal)
from BC5_interconnect_1, X10 (internal) to BC5_interconnect_2, X10 (internal)

1.1.3.2.1.1 BC5 interconnect 1 - Ports

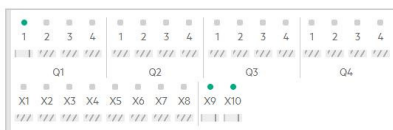
Uplink Ports > [Edit](#)

Downlink Ports >



1.1.3.2.1.2 BC5 interconnect 2 – Ports

Uplink Ports >



Downlink Ports >



1.1.3.2.1.3 BC5 - Port Mapping - Interconnect Bay 1

HP VC FlexFabric-20/40 F8 Module



Interconnect Bay Port	Port Status	Device Bay	Server Mezzanine Slot	Server Mezzanine Port
1	No connection			
2	No connection			
3	No connection			
4	OK (connected)	Bay 4	FLB	Ethernet FlexNIC (NIC 9) LOM2:1-a Ethernet FlexNIC (NIC 11) LOM2:1-b
5	OK (connected)	Bay 5	FLB	Ethernet FlexNIC (NIC 0) LOM1:1-a Ethernet FlexNIC (NIC 2) LOM1:1-b
6	OK (connected)	Bay 6	FLB	Ethernet FlexNIC (NIC 0) LOM1:1-a Ethernet FlexNIC (NIC 2) LOM1:1-b
7	OK (connected)	Bay 7	FLB	Ethernet FlexNIC (NIC 1) LOM1:1-a Ethernet FlexNIC (NIC 3) LOM1:1-b
8	OK (connected)	Bay 8	FLB	Ethernet FlexNIC (NIC 1) LOM1:1-a
9	No connection			
10	No connection			
11	No connection			
12	OK (connected)	Bay 4	FLB	Ethernet FlexNIC (NIC 1) LOM1:1-a Ethernet FlexNIC (NIC 3) LOM1:1-b
13	OK (connected)	Bay 13	FLB	Ethernet FlexNIC LOM1:1-a Ethernet FlexNIC LOM1:1-b
14	OK (connected)	Bay 14	FLB	Ethernet FlexNIC (NIC 1) LOM1:1-a
15	No connection			
16	No connection			

1.1.3.2.1.4 BC5 - Port Mapping - Interconnect Bay 2

HP VC FlexFabric-20/40 F8
Module



Interconnect Bay Port	Port Status	Device Bay	Server Mezzanine Slot	Server Mezzanine Port
1	No connection			
2	No connection			
3	No connection			
4	OK (connected)	Bay_4	FLB	Ethernet FlexNIC (NIC 10) LOM2:2-a Ethernet FlexNIC (NIC 12) LOM2:2-b
5	OK (connected)	Bay_5	FLB	Ethernet FlexNIC (NIC 1) LOM1:2-a Ethernet FlexNIC (NIC 3) LOM1:2-b
6	OK (connected)	Bay_6	FLB	Ethernet FlexNIC (NIC 1) LOM1:2-a Ethernet FlexNIC (NIC 3) LOM1:2-b
7	OK (connected)	Bay_7	FLB	Ethernet FlexNIC (NIC 2) LOM:2-a Ethernet FlexNIC (NIC 4) LOM:2-b
8	OK (connected)	Bay_8	FLB	Ethernet FlexNIC (NIC 2) LOM1:2-a
9	No connection			
10	No connection			
11	No connection			
12	OK (connected)	Bay_4	FLB	Ethernet FlexNIC (NIC 2) LOM1:2-a Ethernet FlexNIC (NIC 4) LOM1:2-b
13	OK (connected)	Bay_13	FLB	Ethernet FlexNIC LOM1:2-a Ethernet FlexNIC LOM1:2-b
14	OK (connected)	Bay_14	FLB	Ethernet FlexNIC (NIC 2) LOM1:2-a
15	No connection			
16	No connection			

1.1.3.2.1.5 BC5 - Port Mapping - Interconnect Bay 3

HP B-series 8/12c SAN Switch
BladeSystem c-Class



Interconnect Bay Port	Port Status	Device Bay	Server Mezzanine Slot	Server Mezzanine Port
1	No connection			
2	No connection			
3	No connection			
4	OK (connected)	Bay_4	Slot 1	Port 1
5	OK (connected)	Bay_5	Slot 1	Port 1
6	OK (connected)	Bay_6	Slot 1	Port 1
7	OK (connected)	Bay_7	Slot 1	Port 1
8	OK (connected)	Bay_8	Slot 1	Port 1
9	No connection			
10	No connection			
11	No connection			
12	No connection			
13	OK (connected)	Bay_13	Slot 1	Port 1
14	OK (connected)	Bay_14	Slot 1	Port 1
15	No connection			
16	No connection			

1.1.3.2.1.6 BC5 - Port Mapping - Interconnect Bay 4

HP B-series 8/12c SAN Switch
BladeSystem c-Class


Interconnect Bay Port	Port Status	Device Bay	Server Mezzanine Slot	Server Mezzanine Port
1	No connection			
2	No connection			
3	No connection			
4	OK (connected)	Bay 4	Slot 1	Port 2
5	OK (connected)	Bay 5	Slot 1	Port 2
6	OK (connected)	Bay 6	Slot 1	Port 2
7	OK (connected)	Bay 7	Slot 1	Port 2
8	OK (connected)	Bay 8	Slot 1	Port 2
9	No connection			
10	No connection			
11	No connection			
12	No connection			
13	OK (connected)	Bay 13	Slot 1	Port 2
14	OK (connected)	Bay 14	Slot 1	Port 2
15	No connection			
16	No connection			

1.1.4 BC5 Firmware Summary

Enclosure: BC5

Onboard Administrator Firmware Information

Bay	Model	Manufacturer	Serial Number	Part Number	Spare Part Number	Firmware Version
1	BladeSystem c7000 DDR2 Onboard Administrator with KVM	HP	0B96BP4553	456204-B21	503826-001	4.85 Apr 06 2018
2	BladeSystem c7000 Onboard Administrator	HP	0991MP5376	412142-B21	414055-001	4.85 Apr 06 2018

Enclosure Component Firmware Information

Bay	Device Model	Current Firmware Version	Available Firmware Version
-	BladeSystem c7000 Onboard Administrator Tray	1.7	1.7
-	BladeSystem c7000 Insight Display	2.4.3	2.4.3
1	Active Cool 200 Fan	2.9.4	2.9.4
2	Active Cool 200 Fan	2.9.4	2.9.4
3	Active Cool 200 Fan	2.9.4	2.9.4
4	Active Cool 200 Fan	2.9.4	2.9.4
5	Active Cool 200 Fan	2.9.4	2.9.4
6	Active Cool 200 Fan	2.9.4	2.9.4
7	Active Cool 200 Fan	2.9.4	2.9.4
8	Active Cool 200 Fan	2.9.4	2.9.4

Enclosure Component Firmware Information			
Bay	Device Model	Current Firmware Version	Available Firmware Version
9	Active Cool 200 Fan	2.9.4	2.9.4
10	Active Cool 200 Fan	2.9.4	2.9.4

Device Firmware Information : Offline Firmware Discovery Disabled				
Bay	Device Model	Firmware Component	Current Version	Firmware ISO Version
4	ProLiant BL660c Gen8 Discovered: No	System ROM	I32 05/21/2018	
		iL04	2.60 May 23 2018	
		Power Management Controller	3.3.0	
5	ProLiant BL460c Gen9 Discovered: No	System ROM	I36 05/21/2018	
		iL04	2.60 May 23 2018	
		Power Management Controller	1.0.9	
6	ProLiant BL460c Gen9 Discovered: No	System ROM	I36 05/21/2018	
		iL04	iL04 2.60 May 23 2018	
		Power Management Controller	1.0.9	
7	ProLiant BL460c G7 Discovered: No	System ROM	I27 05/21/2018	
		iL03	1.89 Jul 07 2017	
		Power Management Controller	1.6	
8	ProLiant BL460c Gen8 Discovered: No	System ROM	I31 05/21/2018	
		iL04	2.61 Jul 27 2018	
		Power Management Controller	3.3.0	
13	ProLiant BL460c Gen10 Discovered: No	System ROM	I41 02/02/2019	
		iL05	iL05 1.40 Feb 05 2019	
		Power Management Controller	1.0.4	
14	ProLiant BL460c Gen8 Discovered: No	System ROM	I31 05/21/2018	

iL04	2.60 May 23 2018
Power Management Controller	3.3.0

Interconnect Firmware Information		
Bay	Device Model	Firmware Version
1	HP VC FlexFabric-20/40 F8 Module	4.63
2	HP VC FlexFabric-20/40 F8 Module	4.63
3	HP B-series 8/12c SAN Switch BladeSystem c-Class	7.4.2c
4	HP B-series 8/12c SAN Switch BladeSystem c-Class	7.4.2c

1.2 C7000 BC6

1.2.1 Vista Delantera

1 empty	2 empty	3 empty	4 ● BC6, bay 4 esxical02.rtve.int BL460c Gen8	5 ● BC6, bay 5 esxi03.rtve.int BL460c Gen9	6 ● BC6, bay 6 esxi04.rtve.int BL460c Gen9	7 ● BC6, bay 7 CORPORACAL2 BL460c G7	8 ● BC6, bay 8 SRVDATOS BL460c G7
9 empty	10 empty	11 empty		13 ● BC6, bay 13 CORPORACLE-PRO2 BL460c Gen10	14 ● BC6, bay 14 CORPORACLE-CAL2.rtve.int BL460c Gen8	15 empty	16 empty
1 ●	2 ●	3 ●	4 ●	5 ●	6 ●		

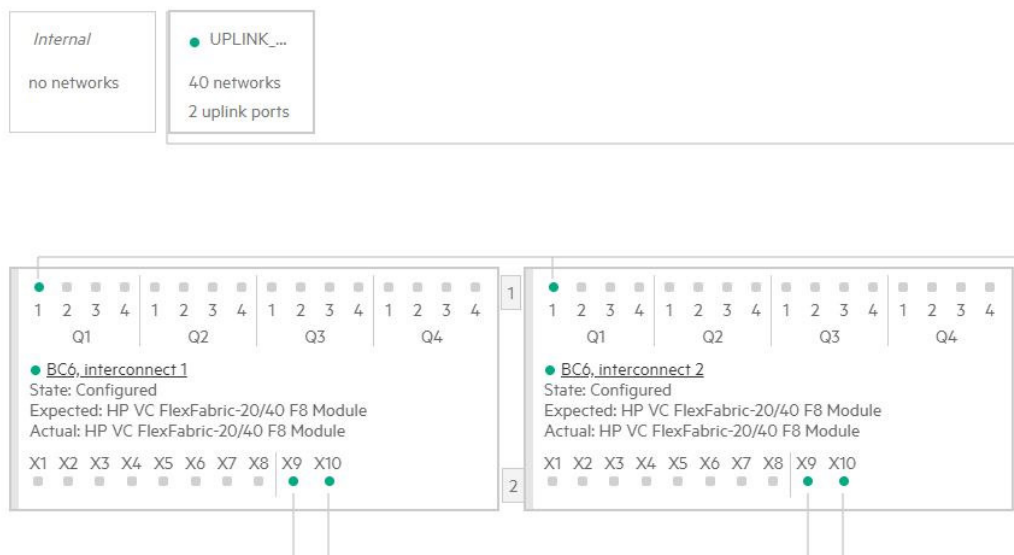
1.2.2 Vista Trasera

1 ●	2 ●	3 ●	4 ●	5 ●
1 ● BC6, interconnect 1 HP VC FlexFabric-20/40 F8 Module	2 ● BC6, interconnect 2 HP VC FlexFabric-20/40 F8 Module			
3 ○ BC6, interconnect 3 HP B-series 8/12c SAN Switch BladeSystem c-Class	4 ○ BC6, interconnect 4 HP B-series 8/12c SAN Switch BladeSystem c-Class			
5 empty	6 empty			
7 empty	8 empty			
6 ●	7 ●	8 ●	9 ●	10 ●

1.2.3 BC6-BC6 logical interconnect group

✓ **BC6-BC6 logical interconnect group** Logical Interconnect ▾ ⌵

Logical Interconnect [Edit](#)



General

Consistency state: Consistent
Stacking health: Redundantly connected
Logical enclosure: [BC6](#)
Interconnects: 2 interconnects

1.2.4 Conexiones en detalle BC6

1.2.4.1 BC6-BC6 logical interconnect group- Detalle

Uplink Sets [Edit](#)

▼ UPLINK_ETHERNET

Connection mode: Automatic
LACP timer: Short (1s)

Networks (40)

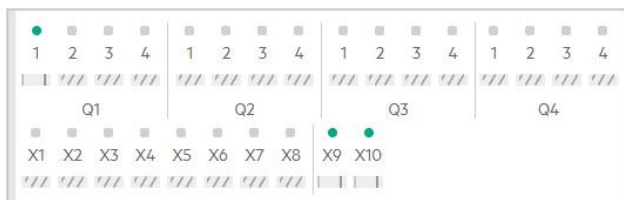
AD_DNS_1	228	DMZ_SERVER_EXT...	33	GESDOC-STORNEXT	412	HEARTBEAT SIGRE	619	SERVER FIREWALL	107
AD_DNS_2	229	ENLACE-NAS	104	GESTION	99	HEARTBEAT SQL	605	SERVER PRODUCC...	301
ALMACENAMIENTO	311	FILER2	111	HEARTBEAT CLUS...	604	HEARTBEAT SQL2...	613	SERVER WIFI	312
CLUSTER2 HEART...	607	FW PRIVADA	32	HEARTBEAT COR...	610	HEARTBEAT VCE...	608	VIDEOCONFEREN...	114
CLUSTER2 HEART...	606	GESDOC-BACKUP...	404	HEARTBEAT INTR...	618	INFRAESTRUCTUR...	172	VMWARE	69
CONTROL HORAR...	9	GESDOC-GESTION	403	HEARTBEAT IQvis...	603	INTERCONEXION...	299	VSPHERE_SC1	305
DMZ	31	GESDOC-PRE	405	HEARTBEAT LOTUS	612	SERVER CALIDAD	303	VSPHERE_SC2	306
DMZ3	40	GESDOC-PRO	402	HEARTBEAT SGCE	614	SERVER DESAROL...	302	VSPHERE VMOTIQ...	307

Uplinks

Uplink	Speed
Bay 1, Port Q11	Auto
Bay 2, Port Q11	Auto

1.2.4.2 BC6 interconnect 1 – Ports

Uplink Ports >

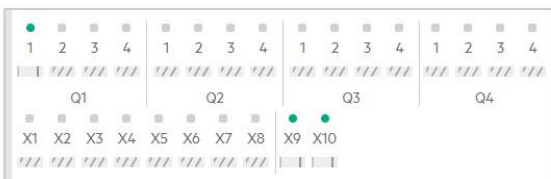
[Edit](#)


Downlink Ports >



1.2.4.3 BC6 interconnect 2 – Ports

Uplink Ports >

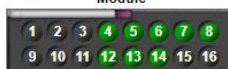


Downlink Ports >



1.2.4.4 BC6 - Port Mapping - Interconnect Bay 1

HP VC FlexFabric-20/40 F8 Module



Interconnect Bay Port	Port Status	Device Bay	Server Mezzanine Slot	Server Mezzanine Port
1	No connection			
2	No connection			
3	No connection			
4	✓ OK (connected)	Bay 4	FLB	Ethernet FlexNIC (NIC 9) LOM2:1-a
5	✓ OK (connected)	Bay 5	FLB	Ethernet FlexNIC (NIC 0) LOM1:1-a Ethernet FlexNIC (NIC 2) LOM1:1-b
6	✓ OK (connected)	Bay 6	FLB	Ethernet FlexNIC (NIC 0) LOM1:1-a Ethernet FlexNIC (NIC 2) LOM1:1-b
7	✓ OK (connected)	Bay 7	FLB	Ethernet FlexNIC (NIC 1) LOM1:1-a Ethernet FlexNIC (NIC 3) LOM1:1-b
8	✓ OK (connected)	Bay 8	FLB	Ethernet FlexNIC (NIC 1) LOM:1-a
9	No connection			
10	No connection			
11	No connection			
12	✓ OK (connected)	Bay 4	FLB	Ethernet FlexNIC (NIC 1) LOM1:1-a Ethernet FlexNIC (NIC 3) LOM1:1-b
13	✓ OK (connected)	Bay 13	FLB	Ethernet FlexNIC LOM1:1-a Ethernet FlexNIC LOM1:1-b
14	✓ OK (connected)	Bay 14	FLB	Ethernet FlexNIC (NIC 1) LOM1:1-a
15	No connection			
16	No connection			

1.2.4.5 BC6 - Port Mapping - Interconnect Bay 2

HP VC FlexFabric-20/40 F8 Module



Interconnect Bay Port	Port Status	Device Bay	Server Mezzanine Slot	Server Mezzanine Port
1	No connection			
2	No connection			
3	No connection			
4	✓ OK (connected)	Bay 4	FLB	Ethernet FlexNIC (NIC 10) LOM2:2-a
5	✓ OK (connected)	Bay 5	FLB	Ethernet FlexNIC (NIC 1) LOM1:2-a Ethernet FlexNIC (NIC 3) LOM1:2-b
6	✓ OK (connected)	Bay 6	FLB	Ethernet FlexNIC (NIC 1) LOM1:2-a Ethernet FlexNIC (NIC 3) LOM1:2-b
7	✓ OK (connected)	Bay 7	FLB	Ethernet FlexNIC (NIC 2) LOM:2-a Ethernet FlexNIC (NIC 4) LOM:2-b
8	✓ OK (connected)	Bay 8	FLB	Ethernet FlexNIC (NIC 2) LOM:2-a
9	No connection			
10	No connection			
11	No connection			
12	✓ OK (connected)	Bay 4	FLB	Ethernet FlexNIC (NIC 2) LOM1:2-a Ethernet FlexNIC (NIC 4) LOM1:2-b
13	✓ OK (connected)	Bay 13	FLB	Ethernet FlexNIC LOM1:2-a Ethernet FlexNIC LOM1:2-b
14	✓ OK (connected)	Bay 14	FLB	Ethernet FlexNIC (NIC 2) LOM1:2-a
15	No connection			
16	No connection			

1.2.4.6 BC6 - Port Mapping - Interconnect Bay 3

HP B-series 8/12c SAN Switch
BladeSystem c-Class



Interconnect Bay Port	Port Status	Device Bay	Server Mezzanine Slot	Server Mezzanine Port
1	No connection			
2	No connection			
3	No connection			
4	OK (connected)	Bay 4	Slot 1	Port 1
5	OK (connected)	Bay 5	Slot 1	Port 1
6	OK (connected)	Bay 6	Slot 1	Port 1
7	OK (connected)	Bay 7	Slot 1	Port 1
8	OK (connected)	Bay 8	Slot 1	Port 1
9	No connection			
10	No connection			
11	No connection			
12	No connection			
13	OK (connected)	Bay 13	Slot 1	Port 1
14	OK (connected)	Bay 14	Slot 1	Port 1
15	No connection			
16	No connection			

1.2.4.7 BC6 - Port Mapping - Interconnect Bay 4

HP B-series 8/12c SAN Switch
BladeSystem c-Class



Interconnect Bay Port	Port Status	Device Bay	Server Mezzanine Slot	Server Mezzanine Port
1	No connection			
2	No connection			
3	No connection			
4	OK (connected)	Bay 4	Slot 1	Port 2
5	OK (connected)	Bay 5	Slot 1	Port 2
6	OK (connected)	Bay 6	Slot 1	Port 2
7	OK (connected)	Bay 7	Slot 1	Port 2
8	OK (connected)	Bay 8	Slot 1	Port 2
9	No connection			
10	No connection			
11	No connection			
12	No connection			
13	OK (connected)	Bay 13	Slot 1	Port 2
14	OK (connected)	Bay 14	Slot 1	Port 2
15	No connection			
16	No connection			

1.2.5 BC6 Firmware Summary

Enclosure: BC6

Onboard Administrator Firmware Information						
Bay	Model	Manufacturer	Serial Number	Part Number	Spare Part Number	Firmware Version
1	BladeSystem c7000 DDR2 Onboard Administrator with KVM	HP	0B96BP4150	456204- B21	503826- 001	4.85 Apr 06 2018
2	BladeSystem c7000 Onboard Administrator	HP	0991MP4256	412142- B21	414055- 001	4.85 Apr 06 2018

Enclosure Component Firmware Information			
Bay	Device Model	Current Firmware Version	Available Firmware Version
-	BladeSystem c7000 Onboard Administrator Tray	1.7	1.7
-	BladeSystem c7000 Insight Display	2.4.3	2.4.3
1	Active Cool 200 Fan	2.9.4	2.9.4
2	Active Cool 200 Fan	2.9.4	2.9.4
3	Active Cool 200 Fan	2.9.4	2.9.4
4	Active Cool 200 Fan	2.9.4	2.9.4
5	Active Cool 200 Fan	2.9.4	2.9.4
6	Active Cool 200 Fan	2.9.4	2.9.4
7	Active Cool 200 Fan	2.9.4	2.9.4
8	Active Cool 200 Fan	2.9.4	2.9.4
9	Active Cool 200 Fan	2.9.4	2.9.4
10	Active Cool 200 Fan	2.9.4	2.9.4

Device Firmware Information : Offline Firmware Discovery Disabled				
Bay	Device Model	Firmware Component	Current Version	Firmware ISO Version
4	ProLiant BL660c Gen8 Discovered: No	System ROM	I32 05/21/2018	
		iL04	2.60 May 23 2018	
		Power Management Controller	3.3.0	
5	ProLiant BL460c Gen9 Discovered: No	System ROM	I36 10/17/2018	
		iL04	2.61 Jul 27 2018	
		Power Management Controller	1.0.9	
6	ProLiant BL460c Gen9 Discovered: No	System ROM	I36 05/21/2018	
		iL04	2.60 May 23 2018	
		Power Management Controller	1.0.9	
7	ProLiant BL460c G7 Discovered: No	System ROM	I27 05/21/2018	
		iL03	1.89 Jul 07 2017	
		Power Management Controller	1.6	
8	ProLiant BL460c G7 Discovered: No	System ROM	I27 08/16/2015	
		iL03	1.88 Jul 13 2016	
		Power Management Controller	1.6	
13	ProLiant BL460c Gen10 Discovered: No	System ROM	I41 02/02/2019	
		iL05	1.40 Feb 05 2019	
		Power Management Controller	1.0.4	
14	ProLiant BL460c Gen8 Discovered: No	System ROM	I31 05/21/2018	
		iL04	iL04 2.61 Jul 27 2018	

Power Management Controller	3.3.0
--------------------------------	-------

Interconnect Firmware Information		
Bay	Device Model	Firmware Version
1	HP VC FlexFabric-20/40 F8 Module	4.63
2	HP VC FlexFabric-20/40 F8 Module	4.63
3	HP B-series 8/12c SAN Switch BladeSystem c-Class	7.4.2c
4	HP B-series 8/12c SAN Switch BladeSystem c-Class	7.4.2c

1.3 SYNERGY BC7

1.3.1 BC7 Vista Frontal

 CI1 Synergy Composer	1  BC7.bay 1 ESXISYN01 SY 480 Gen10	2  BC7.bay 2 ESXISYN03 SY 480 Gen10	3  BC7.bay 3 ESXISYN05 SY 480 Gen10	4  BC7.bay 4 ESXISYN07 SY 480 Gen10	5  BC7.bay 5 TARSYN01 SY 480 Gen10	6 <i>empty</i>
	7  BC7.bay 7 ESXISYN09 SY 480 Gen10	8  BC7.bay 8 ESXISYN11 SY 480 Gen10	9  BC7.bay 9 ESXISYN13 SY 480 Gen10	10  BC7.bay 10 ESXISYN15 SY 480 Gen10	11  BC7.bay 11 TARSYN03 SY 480 Gen10	12 <i>empty</i>

1.3.2 BC7 Vista trasera

1	 BC7.interconnect 1 Virtual Connect SE 16Gb FC Module for Synergy						
2	<i>empty</i>						
FLM1	1	2	3	4	5		
3	 BC7.interconnect 3 Virtual Connect SE 40Gb F8 Module for Synergy						
1	2	3					
4	 BC7.interconnect 4 Virtual Connect SE 16Gb FC Module for Synergy						
5	<i>empty</i>						
FLM2	6	7	8	9	10		
6	 BC7.interconnect 6 Virtual Connect SE 40Gb F8 Module for Synergy						
4	5	6					

1.3.3 BC7 - Composable Infrastructure Appliances

✓ BC7 Composable Infrastructure Appliances ▾ 🔍

Composable Infrastructure Appliances

Bay ▲ ●	Model	Power	Serial Number	Part Number	Spare Part Number
1	● Synergy Composer	On	CN781607VS	804353-B21	807964-001
2	● Synergy Composer	On	CN781605YC	804353-B21	807964-001

Frame Link Modules

Bay ▲ ●	Model	State	MGMT Port State	LINK Port State
▶ 1	● Synergy Frame Link Module	active	active, linked to 94:3F:C2:08:A4:4C port GigabitEthernet2/0/9	linked to BC7 , link module 2
▶ 2	● Synergy Frame Link Module	standby	standby, linked to 94:3F:C2:08:A4:4C port GigabitEthernet1/0/9	linked to BC7 , link module 1

1.3.4 Elementos de interconexión BC7

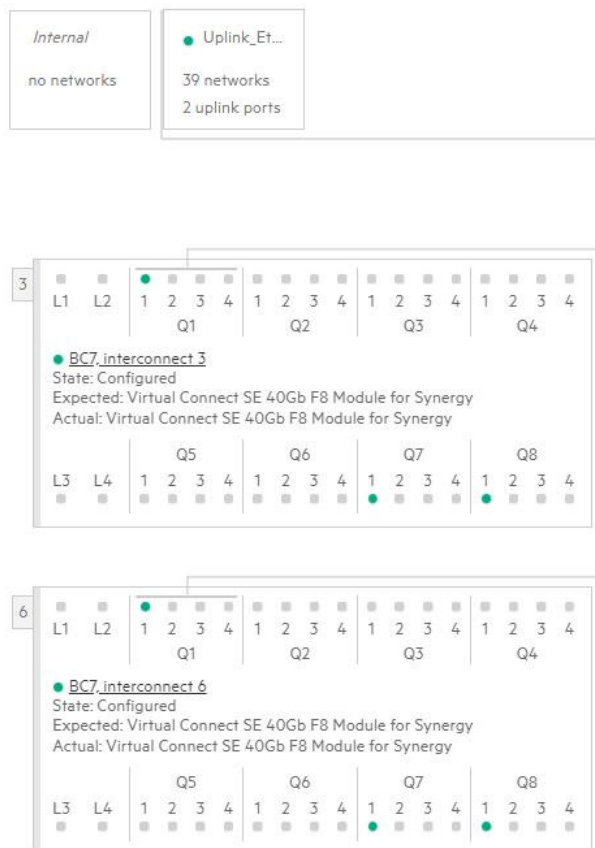
1.3.4.1 LE_BC7-LIG_Ethernet_LACP

LE_BC7-LIG_Ethernet_LACP

Logical Interconnect ▾



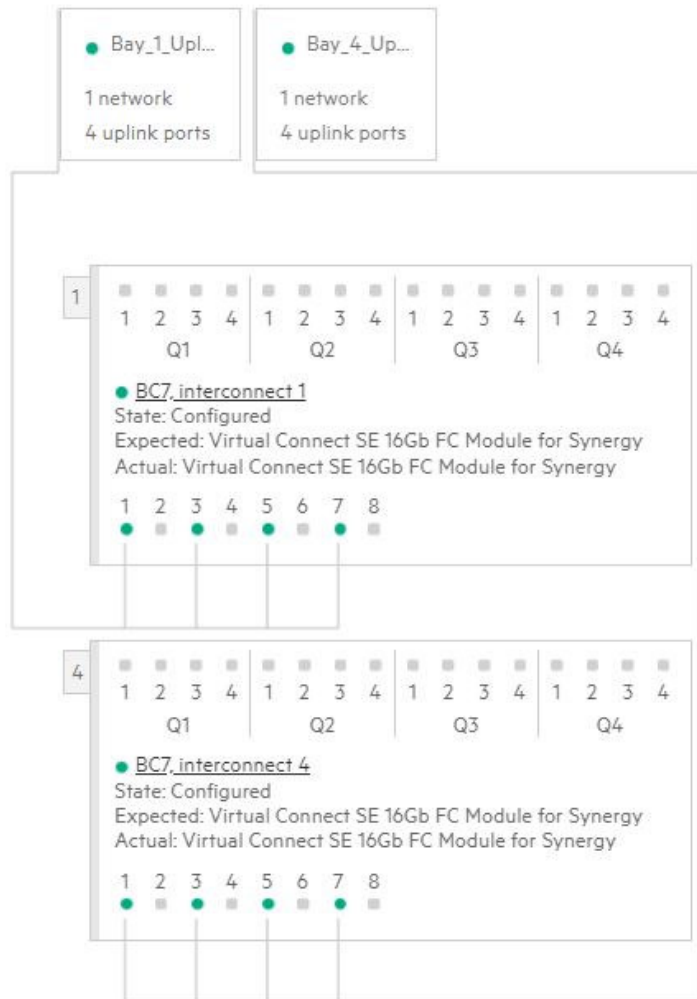
Logical Interconnect



1.3.4.2 LE_BC7-LIG_FiberChannel_Storage-1

✓ LE_BC7-LIG_FiberChannel_Storage-1 | Logical Interconnect ▾ | 🔍

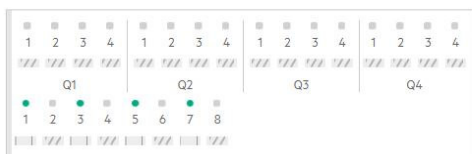
Logical Interconnect



1.3.4.3 Puertos y detalle de elementos de interconexión

1.3.4.3.1 BC7, interconnect 1

Uplink Ports >



Downlink Ports >



Uplink Ports

	Port	Type	State	Speed (Gb/s)	Utilization	Uplink Set	Trunk Master Port	Connected To	PortWWN
▶	1	FC	Linked logged in	8		Bay 1 Uplink FC Storage Access Gateway	none	10:00:00:05:1e:4b:cf:01	20:19:00:14:38:c8:8d:87
▶	2	none	Unlinked not logged in			none	none		
▶	3	FC	Linked logged in	8		Bay 1 Uplink FC Storage Access Gateway	none	10:00:00:05:1e:4b:cf:01	20:1b:00:14:38:c8:8d:87
▶	4	none	Unlinked not logged in			none	none		
▶	5	FC	Linked logged in	8		Bay 1 Uplink FC Storage Access Gateway	none	10:00:00:05:1e:4b:cf:01	20:1d:00:14:38:c8:8d:87
▶	6	none	Unlinked not logged in			none	none		
▶	7	FC	Linked logged in	8		Bay 1 Uplink FC Storage Access Gateway	none	10:00:00:05:1e:4b:cf:01	20:1f:00:14:38:c8:8d:87
▶	8	none	Unlinked not logged in			none	none		
▶	Q11	none	Unlinked not logged in			none	none		
▶	Q12	none	Unlinked not logged in			none	none		
▶	Q13	none	Unlinked not logged in			none	none		
▶	Q14	none	Unlinked not logged in			none	none		
▶	Q21	none	Unlinked not logged in			none	none		
▶	Q22	none	Unlinked not logged in			none	none		
▶	Q23	none	Unlinked not logged in			none	none		
▶	Q24	none	Unlinked not logged in			none	none		
▶	Q31	none	Unlinked not logged in			none	none		
▶	Q32	none	Unlinked not logged in			none	none		
▶	Q33	none	Unlinked not logged in			none	none		
▶	Q34	none	Unlinked not logged in			none	none		
▶	Q41	none	Unlinked not logged in			none	none		
▶	Q42	none	Unlinked not logged in			none	none		
▶	Q43	none	Unlinked not logged in			none	none		
▶	Q44	none	Unlinked not logged in			none	none		

BC7, interconnect 1

Downlink Ports

Downlink Ports

	Port	State	Speed (Gb/s)	Server Hardware	Adapter Port	Server Profile
▶ ●	1	Linked logged in	16	BC7_bay_1	Mezzanine 1:1	Synergv_ESXi_Bay1
▶ ●	2	Linked logged in	16	BC7_bay_2	Mezzanine 1:1	Synergv_ESXi_Bay2
▶ ●	3	Linked logged in	16	BC7_bay_3	Mezzanine 1:1	Synergv_ESXi_Bay3
▶ ●	4	Linked logged in	16	BC7_bay_4	Mezzanine 1:1	Synergv_ESXi_Bay4
▶ ●	5	Linked logged in	16	BC7_bay_5	Mezzanine 1:1	Synergv_TarSys_Bay5
▶ ■	6	Unlinked not logged in				none
▶ ●	7	Linked logged in	16	BC7_bay_7	Mezzanine 1:1	Synergv_ESXi_Bay7
▶ ●	8	Linked logged in	16	BC7_bay_8	Mezzanine 1:1	Synergv_ESXi_Bay8
▶ ●	9	Linked logged in	16	BC7_bay_9	Mezzanine 1:1	Synergv_ESXi_Bay9
▶ ●	10	Linked logged in	16	BC7_bay_10	Mezzanine 1:1	Synergv_ESXi_Bay10
▶ ●	11	Linked logged in	16	BC7_bay_11	Mezzanine 1:1	Synergv_TarSys_Bay11
▶ ■	12	Unlinked not logged in				none

1.3.4.3.2 BC7, interconnect 3

Uplink Ports >



Downlink Ports >



BC7, interconnect 3

Downlink Ports

Downlink Ports

	Port	State	Speed (Gb/s)	Server Hardware	Adapter Port	Server Profile
▶ ●	1	Linked	20	BC7_bay_1	Mezzanine 3:1	Synergv_ESXi_Bay1
▶ ●	2	Linked	20	BC7_bay_2	Mezzanine 3:1	Synergv_ESXi_Bay2
▶ ●	3	Linked	20	BC7_bay_3	Mezzanine 3:1	Synergv_ESXi_Bay3
▶ ●	4	Linked	20	BC7_bay_4	Mezzanine 3:1	Synergv_ESXi_Bay4
▶ ●	5	Linked	20	BC7_bay_5	Mezzanine 3:1	Synergv_TarSys_Bay5
▶ ■	6	Unlinked				none
▶ ●	7	Linked	20	BC7_bay_7	Mezzanine 3:1	Synergv_ESXi_Bay7
▶ ●	8	Linked	20	BC7_bay_8	Mezzanine 3:1	Synergv_ESXi_Bay8
▶ ●	9	Linked	20	BC7_bay_9	Mezzanine 3:1	Synergv_ESXi_Bay9
▶ ●	10	Linked	20	BC7_bay_10	Mezzanine 3:1	Synergv_ESXi_Bay10
▶ ●	11	Linked	20	BC7_bay_11	Mezzanine 3:1	Synergv_TarSys_Bay11
▶ ■	12	Unlinked				none

BC7, interconnect 3

Uplink Ports

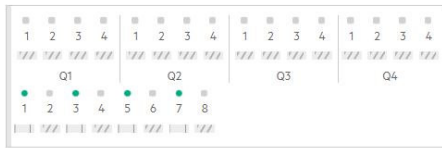


Uplink Ports

	Port	Type	State	Speed (Gb/s)	Utilization	Uplink Set	Connected To
▶ ●	Q1	Ethernet	Linked active	40		Uplink Ethernet LACP	94:3f:c2:9d:69:ab (FortyGigE1/1/14)
▶ ■	Q2	none	Unlinked unpopulated			none	
▶ ■	Q2:1	none	Unlinked			none	
▶ ■	Q2:2	none	Unlinked			none	
▶ ■	Q2:3	none	Unlinked			none	
▶ ■	Q2:4	none	Unlinked			none	
▶ ■	Q3	none	Unlinked unpopulated			none	
▶ ■	Q3:1	none	Unlinked			none	
▶ ■	Q3:2	none	Unlinked			none	
▶ ■	Q3:3	none	Unlinked			none	
▶ ■	Q3:4	none	Unlinked			none	
▶ ■	Q4	none	Unlinked unpopulated			none	
▶ ■	Q4:1	none	Unlinked			none	
▶ ■	Q4:2	none	Unlinked			none	
▶ ■	Q4:3	none	Unlinked			none	
▶ ■	Q4:4	none	Unlinked			none	
▶ ■	Q5	none	Unlinked unpopulated			none	
▶ ■	Q5:1	none	Unlinked			none	
▶ ■	Q5:2	none	Unlinked			none	
▶ ■	Q5:3	none	Unlinked			none	
▶ ■	Q5:4	none	Unlinked			none	
▶ ■	Q6	none	Unlinked unpopulated			none	
▶ ■	Q6:1	none	Unlinked			none	
▶ ■	Q6:2	none	Unlinked			none	
▶ ■	Q6:3	none	Unlinked			none	
▶ ■	Q6:4	none	Unlinked			none	
▶ ●	Q7	Stacking	Linked	40		none	2TV815005C (Q7)
▶ ●	Q8	Stacking	Linked	40		none	2TV815005C (Q8)

1.3.4.3.3 BC7, interconnect 4

Uplink Ports >



Downlink Ports >



BC7, interconnect 4

Downlink Ports ▾

Downlink Ports

	Port	State	Speed (Gb/s)	Server Hardware	Adapter Port	Server Profile
▶ ●	1	Linked logged in	16	BC7_bay_1	Mezzanine 1:2	Synergy_ESXi_Bay1
▶ ●	2	Linked logged in	16	BC7_bay_2	Mezzanine 1:2	Synergy_ESXi_Bay2
▶ ●	3	Linked logged in	16	BC7_bay_3	Mezzanine 1:2	Synergy_ESXi_Bay3
▶ ●	4	Linked logged in	16	BC7_bay_4	Mezzanine 1:2	Synergy_ESXi_Bay4
▶ ●	5	Linked logged in	16	BC7_bay_5	Mezzanine 1:2	Synergy_TarSys_Bay5
▶ ■	6	Unlinked not logged in				none
▶ ●	7	Linked logged in	16	BC7_bay_7	Mezzanine 1:2	Synergy_ESXi_Bay7
▶ ●	8	Linked logged in	16	BC7_bay_8	Mezzanine 1:2	Synergy_ESXi_Bay8
▶ ●	9	Linked logged in	16	BC7_bay_9	Mezzanine 1:2	Synergy_ESXi_Bay9
▶ ●	10	Linked logged in	16	BC7_bay_10	Mezzanine 1:2	Synergy_ESXi_Bay10
▶ ●	11	Linked logged in	16	BC7_bay_11	Mezzanine 1:2	Synergy_TarSys_Bay11
▶ ■	12	Unlinked not logged in				none

BC7, interconnect 4

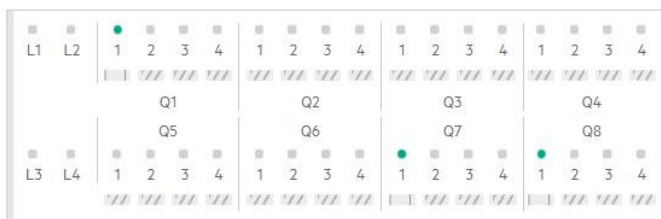
Uplink Ports ▾

Uplink Ports

	Port	Type	State	Speed (Gb/s)	Utilization	Uplink Set	Trunk Master Port	Connected To	PortWWN
▶ ●	1	FC	Linked logged in	8		Bay_4_Uplink_FC_Storage_Access_Gateway	none	10:00:00:05:1e:4a:e1:01	20:19:00:14:38:c8:8d:d8
▶ ■	2	none	Unlinked not logged in			none	none		
▶ ●	3	FC	Linked logged in	8		Bay_4_Uplink_FC_Storage_Access_Gateway	none	10:00:00:05:1e:4a:e1:01	20:1b:00:14:38:c8:8d:d8
▶ ■	4	none	Unlinked not logged in			none	none		
▶ ●	5	FC	Linked logged in	8		Bay_4_Uplink_FC_Storage_Access_Gateway	none	10:00:00:05:1e:4a:e1:01	20:1d:00:14:38:c8:8d:d8
▶ ■	6	none	Unlinked not logged in			none	none		
▶ ●	7	FC	Linked logged in	8		Bay_4_Uplink_FC_Storage_Access_Gateway	none	10:00:00:05:1e:4a:e1:01	20:1f:00:14:38:c8:8d:d8
▶ ■	8	none	Unlinked not logged in			none	none		
▶ ■	Q1:1	none	Unlinked not logged in			none	none		
▶ ■	Q1:2	none	Unlinked not logged in			none	none		
▶ ■	Q1:3	none	Unlinked not logged in			none	none		
▶ ■	Q1:4	none	Unlinked not logged in			none	none		
▶ ■	Q2:1	none	Unlinked not logged in			none	none		
▶ ■	Q2:2	none	Unlinked not logged in			none	none		
▶ ■	Q2:3	none	Unlinked not logged in			none	none		
▶ ■	Q2:4	none	Unlinked not logged in			none	none		
▶ ■	Q3:1	none	Unlinked not logged in			none	none		
▶ ■	Q3:2	none	Unlinked not logged in			none	none		
▶ ■	Q3:3	none	Unlinked not logged in			none	none		
▶ ■	Q3:4	none	Unlinked not logged in			none	none		
▶ ■	Q4:1	none	Unlinked not logged in			none	none		
▶ ■	Q4:2	none	Unlinked not logged in			none	none		
▶ ■	Q4:3	none	Unlinked not logged in			none	none		
▶ ■	Q4:4	none	Unlinked not logged in			none	none		

1.3.4.3.4 BC7, interconnect 6

Uplink Ports >

[Edit](#)


Downlink Ports >



BC7, interconnect 6

Uplink Ports

Uplink Ports

	Port	Type	State	Speed (Gb/s)	Utilization	Uplink Set	Connected To	PortWWN
▶	Q1	Ethernet	Linked active	40		<u>Uplink Ethernet LACP</u>	94:3f:c2:9d:69:ab (FortyGigE2/1/14)	n/a
▶	Q2	none	Unlinked unpopulated			none		n/a
▶	Q2:1	none	Unlinked			none		n/a
▶	Q2:2	none	Unlinked			none		n/a
▶	Q2:3	none	Unlinked			none		n/a
▶	Q2:4	none	Unlinked			none		n/a
▶	Q3	none	Unlinked unpopulated			none		n/a
▶	Q3:1	none	Unlinked			none		n/a
▶	Q3:2	none	Unlinked			none		n/a
▶	Q3:3	none	Unlinked			none		n/a
▶	Q3:4	none	Unlinked			none		n/a
▶	Q4	none	Unlinked unpopulated			none		n/a
▶	Q4:1	none	Unlinked			none		n/a
▶	Q4:2	none	Unlinked			none		n/a
▶	Q4:3	none	Unlinked			none		n/a
▶	Q4:4	none	Unlinked			none		n/a
▶	Q5	none	Unlinked unpopulated			none		n/a
▶	Q5:1	none	Unlinked			none		n/a
▶	Q5:2	none	Unlinked			none		n/a
▶	Q5:3	none	Unlinked			none		n/a
▶	Q5:4	none	Unlinked			none		n/a
▶	Q6	none	Unlinked unpopulated			none		n/a
▶	Q6:1	none	Unlinked			none		n/a
▶	Q6:2	none	Unlinked			none		n/a
▶	Q6:3	none	Unlinked			none		n/a
▶	Q6:4	none	Unlinked			none		n/a
▶	Q7	Stacking	Linked	40		none	2TV8150043 (Q7)	n/a
▶	Q8	Stacking	Linked	40		none	2TV8150043 (Q8)	n/a

BC7, interconnect 6 Downlink Ports

Downlink Ports

	Port	State	Speed (Gb/s)	Server Hardware	Adapter Port	Server Profile
▶ ●	1	Linked	20	BC7_bay_1	Mezzanine 3:2	Synergy_ESXi_Bay1
▶ ●	2	Linked	20	BC7_bay_2	Mezzanine 3:2	Synergy_ESXi_Bay2
▶ ●	3	Linked	20	BC7_bay_3	Mezzanine 3:2	Synergy_ESXi_Bay3
▶ ●	4	Linked	20	BC7_bay_4	Mezzanine 3:2	Synergy_ESXi_Bay4
▶ ●	5	Linked	20	BC7_bay_5	Mezzanine 3:2	Synergy_TarSys_Bay5
▶ ■	6	Unlinked				<i>none</i>
▶ ●	7	Linked	20	BC7_bay_7	Mezzanine 3:2	Synergy_ESXi_Bay7
▶ ●	8	Linked	20	BC7_bay_8	Mezzanine 3:2	Synergy_ESXi_Bay8
▶ ●	9	Linked	20	BC7_bay_9	Mezzanine 3:2	Synergy_ESXi_Bay9
▶ ●	10	Linked	20	BC7_bay_10	Mezzanine 3:2	Synergy_ESXi_Bay10
▶ ●	11	Linked	20	BC7_bay_11	Mezzanine 3:2	Synergy_TarSys_Bay11
▶ ■	12	Unlinked				<i>none</i>

1.3.5 Firmware BC7

Name	Component	Installed
BC7, frame link module 1	Frame link module	2.02.03
BC7, frame link module 2	Frame link module	2.02.03
BC7, bay 1	Synergy_ESXi_Bay1	
	iLO5	1.30
	ROM	142 06/20/2018
BC7, bay 2	Synergy_ESXi_Bay2	
	iLO5	1.30
	ROM	142 06/20/2018
BC7, bay 3	Synergy_ESXi_Bay3	
	iLO5	2.11
	ROM	142 03/09/2020
BC7, bay 4	Synergy_ESXi_Bay4	
	iLO5	1.30
	ROM	142 06/20/2018
BC7, bay 5	Synergy_TarSys_Bay5	
	iLO5	2.14
	ROM	142 06/20/2018
BC7, bay 7	Synergy_ESXi_Bay7	

Name	Component	Installed
	iL05	1.30
	ROM	142 06/20/2018
BC7, bay 8	Synergy_ESXi_Bay8	
	iL05	1.30
	ROM	142 06/20/2018
BC7, bay 9	Synergy_ESXi_Bay9	
	iL05	1.30
	ROM	142 06/20/2018
BC7, bay 10	Synergy_ESXi_Bay10	
	iL05	1.30
	ROM	142 06/20/2018
BC7, bay 11	Synergy_TarSys_Bay11	
	iL05	2.14
	ROM	142 06/20/2018
BC7, interconnect 1	Virtual Connect SE 16Gb FC Module for Synergy	4.10.50
BC7, interconnect 3	Virtual Connect SE 40Gb F8 Module for Synergy	1.3.0.1005
BC7, interconnect 4	Virtual Connect SE 16Gb FC Module for Synergy	4.10.50
BC7, interconnect 6	Virtual Connect SE 40Gb F8 Module for Synergy	1.3.0.1005

1.4 SYNERGY BC8

1.4.1 BC8 Vista Frontal

 CI1 Synergy Composer	1	2	3	4	5	6
	 <u>BC8, bay 1</u> ESXISYN02 SY 480 Gen10	 <u>BC8, bay 2</u> ESXISYN04 SY 480 Gen10	 <u>BC8, bay 3</u> ESXISYN06 SY 480 Gen10	 <u>BC8, bay 4</u> ESXISYN08 SY 480 Gen10	 <u>BC8, bay 5</u> TARSYN02 SY 480 Gen10	empty
	7	8	9	10	11	12
	 <u>BC8, bay 7</u> ESXISYN10 SY 480 Gen10	 <u>BC8, bay 8</u> ESXISYN12 SY 480 Gen10	 <u>BC8, bay 9</u> ESXISYN14 SY 480 Gen10	 <u>BC8, bay 10</u> ESXISYN16 SY 480 Gen10	 <u>BC8, bay 11</u> TARSYN04 SY 480 Gen10	empty

1.4.2 BC8 Vista trasera

1	 <u>BC8, interconnect 1</u> Virtual Connect SE 16Gb FC Module for Synergy					empty
FLM1	1	2	3	4	5	
3	 <u>BC8, interconnect 3</u> Virtual Connect SE 40Gb F8 Module for Synergy					
1	2	3				
4	 <u>BC8, interconnect 4</u> Virtual Connect SE 16Gb FC Module for Synergy					
5	empty					
FLM2	6	7	8	9	10	
6	 <u>BC8, interconnect 6</u> Virtual Connect SE 40Gb F8 Module for Synergy					
4	5	6				

1.4.3 BC8 - Composable Infrastructure Appliances

Composable Infrastructure Appliances

Bay ▲ ●	Model	Power	Serial Number	Part Number	Spare Part Number
1	 Synergy Composer	On	CN781607VL	804353-B21	807964-001
2	 Synergy Composer	On	CN781607VK	804353-B21	807964-001

Frame Link Modules

Bay ▲ ●	Model	State	MGMT Port State	LINK Port State
▼ 1	 Synergy Frame Link Module	active	standby, linked to 94:3F:C2:08:A4:4C port GigabitEthernet1/0/10	linked to BC8 , link module 2
Serial number		CN7724V17N		
Part number		802341-B21		
Spare part number		807963-001		
MGMT port status		OK		
MGMT port speed		10 Gb/s		
Negotiated MGMT port speed		1 Gb/s		
LINK port status		OK		
LINK port speed		10 Gb/s		
Negotiated LINK port speed		10 Gb/s		
▼ 2	 Synergy Frame Link Module	standby	active, linked to 94:3F:C2:08:A4:4C port GigabitEthernet2/0/10	linked to BC8 , link module 1
Serial number		CN7814V2KT		
Part number		802341-B21		
Spare part number		807963-001		
MGMT port status		OK		
MGMT port speed		10 Gb/s		
Negotiated MGMT port speed		1 Gb/s		
LINK port status		OK		
LINK port speed		10 Gb/s		
Negotiated LINK port speed		10 Gb/s		

1.4.4 Elementos de interconexión BC8

1.4.4.1 Interconnect Bay Configuration - EG_BC8

✓ EG_BC8 | Interconnect Bay Configuration ▾ | ⚙

Interconnect Bay Configuration

Enclosure 1

1	Virtual Connect SE 16Gb FC Module for Synergy Logical interconnect group LIG FiberChannel Storage
3	Virtual Connect SE 40Gb F8 Module for Synergy Logical interconnect group LIG Ethernet LACP
4	Virtual Connect SE 16Gb FC Module for Synergy Logical interconnect group LIG FiberChannel Storage
6	Virtual Connect SE 40Gb F8 Module for Synergy Logical interconnect group LIG Ethernet LACP

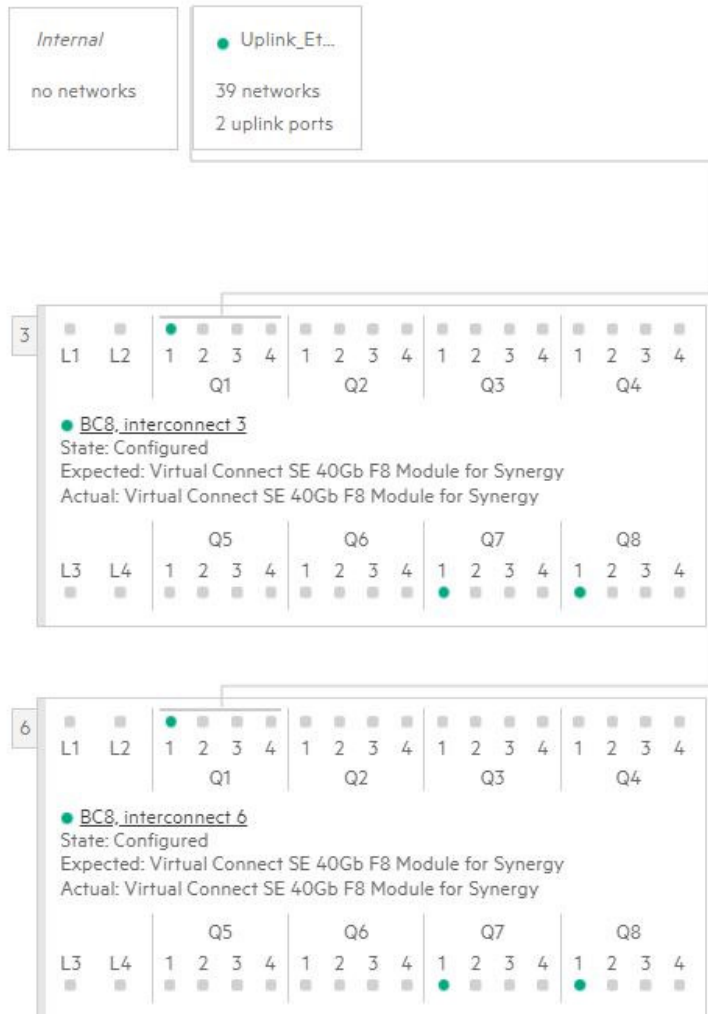
1.4.4.2 Logical Interconnect - LE_BC8-LIG_Ethernet_LACP

LE_BC8-LIG_Ethernet_LACP

Logical Interconnect



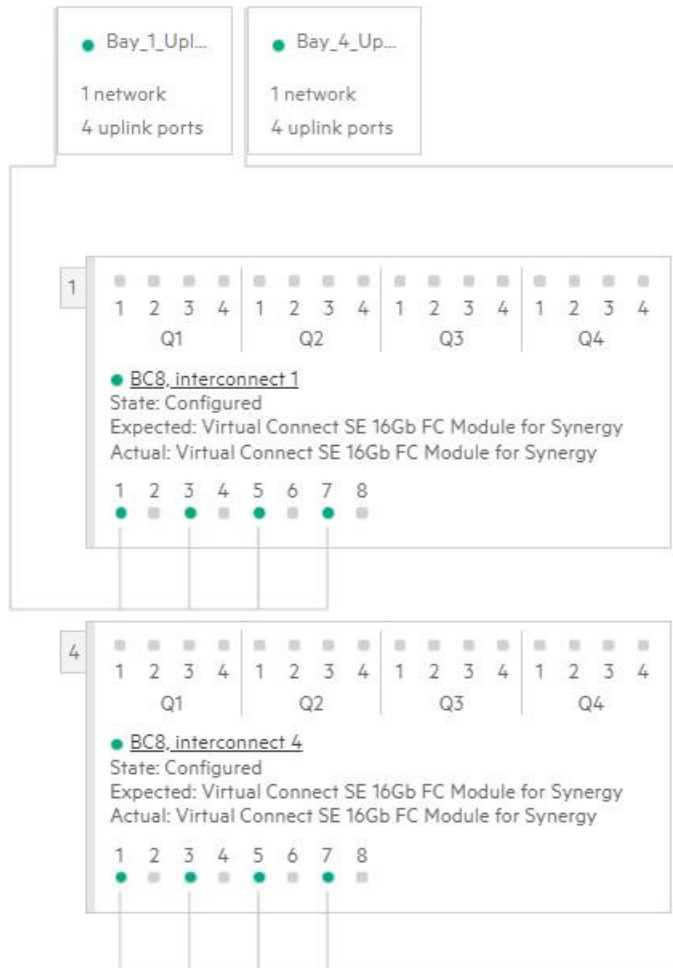
Logical Interconnect



1.4.4.3 Logical Interconnect - LE_BC8-LIG_FiberChannel_Storage-1

LE_BC8-LIG_FiberChannel_Storage-1 Logical Interconnect

Logical Interconnect [Edit](#)



1.4.4.4 Puertos y detalle de elementos de interconexión

1.4.4.4.1 BC8, interconnect 1

Uplink Ports >



Downlink Ports >



Edit BC8, interconnect 1

Downlink Ports ▾

Downlink Ports

Port	Enabled	State	Server Hardware	Adapter Port
1	☒	Linked logged in	BC8, bay 1	Mezzanine 1:1
2	☒	Linked logged in	BC8, bay 2	Mezzanine 1:1
3	☒	Linked logged in	BC8, bay 3	Mezzanine 1:1
4	☒	Linked logged in	BC8, bay 4	Mezzanine 1:1
5	☒	Linked logged in	BC8, bay 5	Mezzanine 1:1
6	n/a	Unlinked not logged in		
7	☒	Linked logged in	BC8, bay 7	Mezzanine 1:1
8	☒	Linked logged in	BC8, bay 8	Mezzanine 1:1
9	☒	Linked logged in	BC8, bay 9	Mezzanine 1:1
10	☒	Linked logged in	BC8, bay 10	Mezzanine 1:1
11	☒	Linked logged in	BC8, bay 11	Mezzanine 1:1
12	n/a	Unlinked not logged in		

Edit BC8, interconnect 1

Uplink Ports ▾

Uplink Ports

Port	Type	Speed (Gb/s)	Enabled	Uplink Set	Connected To
1	FC	8	☒	Bay 1 Uplink FC Storage Access Gateway	10:00:00:05:1e:4b:cf:01
2	none		n/a	none	
3	FC	8	☒	Bay 1 Uplink FC Storage Access Gateway	10:00:00:05:1e:4b:cf:01
4	none		n/a	none	
5	FC	8	☒	Bay 1 Uplink FC Storage Access Gateway	10:00:00:05:1e:4b:cf:01
6	none		n/a	none	
7	FC	8	☒	Bay 1 Uplink FC Storage Access Gateway	10:00:00:05:1e:4b:cf:01
8	none		n/a	none	
Q1:1	none		n/a	none	
Q1:2	none		n/a	none	
Q1:3	none		n/a	none	
Q1:4	none		n/a	none	
Q2:1	none		n/a	none	
Q2:2	none		n/a	none	
Q2:3	none		n/a	none	
Q2:4	none		n/a	none	
Q3:1	none		n/a	none	
Q3:2	none		n/a	none	
Q3:3	none		n/a	none	
Q3:4	none		n/a	none	
Q4:1	none		n/a	none	
Q4:2	none		n/a	none	
Q4:3	none		n/a	none	
Q4:4	none		n/a	none	

Edit Bay_1_Uplink_FC_Storage_Access_Gateway

Networks ▾

Networks

Network

SAN_PAR

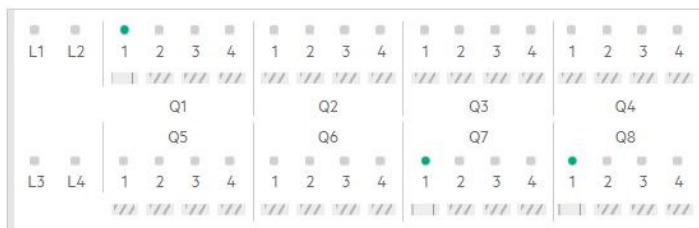
✕ 🔍

Uplink Ports

Interconnect Module	Port	Speed
BC8, interconnect 1	1	Auto ✕
BC8, interconnect 1	3	Auto ✕
BC8, interconnect 1	5	Auto ✕
BC8, interconnect 1	7	Auto ✕

1.4.4.4.2 BC8, interconnect 3

Uplink Ports >



Downlink Ports >



Edit BC8, interconnect 3

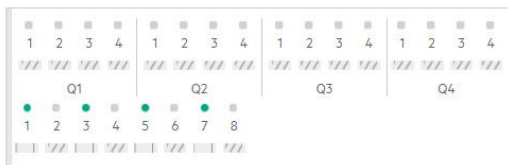
Uplink Ports ▾

Uplink Ports

Port	Type	Speed (Gb/s)	Enabled	Uplink Set	Connected To
Q1	Ethernet	40	☒	<u>Uplink Ethernet LACP</u>	94:3f:c2:9d:69:ab (FortyGigE1/1/13)
Q2	none		☒	none	
Q2:1	none		☒	none	
Q2:2	none		☒	none	
Q2:3	none		☒	none	
Q2:4	none		☒	none	
Q3	none		☒	none	
Q3:1	none		☒	none	
Q3:2	none		☒	none	
Q3:3	none		☒	none	
Q3:4	none		☒	none	
Q4	none		☒	none	
Q4:1	none		☒	none	
Q4:2	none		☒	none	
Q4:3	none		☒	none	
Q4:4	none		☒	none	
Q5	none		☒	none	
Q5:1	none		☒	none	
Q5:2	none		☒	none	
Q5:3	none		☒	none	
Q5:4	none		☒	none	
Q6	none		☒	none	
Q6:1	none		☒	none	
Q6:2	none		☒	none	
Q6:3	none		☒	none	
Q6:4	none		☒	none	
Q7	Stacking	40	☐	none	2TV815000G (Q7)
Q8	Stacking	40	☒	none	2TV815000G (Q8)

1.4.4.4.3 BC8, interconnect 4

Uplink Ports >



Downlink Ports >



Edit BC8, interconnect 4

Uplink Ports ▾

Uplink Ports

Port	Type	Speed (Gb/s)	Enabled	Uplink Set	Connected To
1	FC	8	☒	Bay 4 Uplink FC Storage Access Gateway	10:00:00:05:1e:4a:e1:01
2	none		n/a	none	
3	FC	8	☒	Bay 4 Uplink FC Storage Access Gateway	10:00:00:05:1e:4a:e1:01
4	none		n/a	none	
5	FC	8	☒	Bay 4 Uplink FC Storage Access Gateway	10:00:00:05:1e:4a:e1:01
6	none		n/a	none	
7	FC	8	☒	Bay 4 Uplink FC Storage Access Gateway	10:00:00:05:1e:4a:e1:01
8	none		n/a	none	
Q1:1	none		n/a	none	
Q1:2	none		n/a	none	
Q1:3	none		n/a	none	
Q1:4	none		n/a	none	
Q2:1	none		n/a	none	
Q2:2	none		n/a	none	
Q2:3	none		n/a	none	
Q2:4	none		n/a	none	
Q3:1	none		n/a	none	
Q3:2	none		n/a	none	
Q3:3	none		n/a	none	
Q3:4	none		n/a	none	
Q4:1	none		n/a	none	
Q4:2	none		n/a	none	
Q4:3	none		n/a	none	
Q4:4	none		n/a	none	

Edit Bay_4_Uplink_FC_Storage_Access_Gateway Networks ▾

Networks

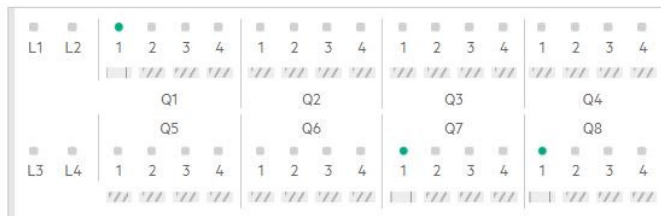
Network SAN_IMPAR ✕ 🔍

Uplink Ports

Interconnect Module	Port	Speed	
BC8, Interconnect 4	1	Auto ▾	✕
BC8, Interconnect 4	3	Auto ▾	✕
BC8, Interconnect 4	5	Auto ▾	✕
BC8, Interconnect 4	7	Auto ▾	✕

1.4.4.4.4 BC8, interconnect 6

Uplink Ports >



Downlink Ports >



Edit BC8, interconnect 6 Uplink Ports

Uplink Ports

Port	Type	Speed (Gb/s)	Enabled	Uplink Set	Connected To
Q1	Ethernet	40	☒	<u>Uplink Ethernet LACP</u>	94:3f:c2:9d:69:ab (FortyGigE2/1/13)
Q2	none		☒	none	
Q2:1	none		☒	none	
Q2:2	none		☒	none	
Q2:3	none		☒	none	
Q2:4	none		☒	none	
Q3	none		☒	none	
Q3:1	none		☒	none	
Q3:2	none		☒	none	
Q3:3	none		☒	none	
Q3:4	none		☒	none	
Q4	none		☒	none	
Q4:1	none		☒	none	
Q4:2	none		☒	none	
Q4:3	none		☒	none	
Q4:4	none		☒	none	
Q5	none		☒	none	
Q5:1	none		☒	none	
Q5:2	none		☒	none	
Q5:3	none		☒	none	
Q5:4	none		☒	none	
Q6	none		☒	none	
Q6:1	none		☒	none	
Q6:2	none		☒	none	
Q6:3	none		☒	none	
Q6:4	none		☒	none	
Q7	Stacking	40	☐	none	2TV8140058 (Q7)
Q8	Stacking	40	☐	none	2TV8140058 (Q8)

1.4.4.4.5 BC8_Uplink_Ethernet_LACP_Uplink Ports

Uplink Ports

Interconnect Module	Port	Capability	Speed	Auto-negotiation
BC8, interconnect 3	Q1	Ethernet + FCoE	Auto	Enabled
BC8, interconnect 6	Q1	Ethernet + FCoE	Auto	Enabled

1.4.4.4.6 Networks FC

SAN_PAR Overview

General

Type	Fibre Channel Fabric attach
Associated SAN	none
SAN manager	none
Preferred bandwidth	8 Gb/s
Maximum bandwidth	16 Gb/s
Uplink set	Bay 1 Uplink FC Storage Access Gateway
Login redistribution	Auto
Link stability interval	30 seconds
Used by	10 server_profiles

SAN_IMPAR Overview

General

Type	Fibre Channel Fabric attach
Associated SAN	none
SAN manager	none
Preferred bandwidth	8 Gb/s
Maximum bandwidth	16 Gb/s
Uplink set	Bay 4 Uplink FC Storage Access Gateway
Login redistribution	Auto
Link stability interval	30 seconds
Used by	10 server_profiles

1.4.5 Firmware BC8

Name	Component	Installed
BC8, frame link module 1	Frame link module	2.02.03
BC8, frame link module 2	Frame link module	2.02.03
BC8, bay 1	Synergy_ESXi_Bay1	
	iL05	1.30
	ROM	I42 v1.42 (06/20/2018)
BC8, bay 2	Synergy_ESXi_Bay2	
	iL05	1.30
	ROM	I42 v1.42 (06/20/2018)
BC8, bay 3	Synergy_ESXi_Bay3	
	iL05	1.30
	ROM	I42 v1.42 (06/20/2018)
BC8, bay 4	Synergy_ESXi_Bay4	
	iL05	1.30
	ROM	I42 v1.42 (06/20/2018)
BC8, bay 5	Synergy_TarSys_Bay5	
	iL05	2.14
	ROM	I42 v1.42 (06/20/2018)
BC8, bay 7	Synergy_ESXi_Bay7	

Name	Component	Installed
	iL05	1.30
	ROM	I42 v1.42 (06/20/2018)
BC8, bay 8	Synergy_ESXi_Bay8	
	iL05	2.15
	ROM	I42 v2.34 (04/08/2020)
BC8, bay 9	Synergy_ESXi_Bay9	
	iL05	1.30
	ROM	I42 v1.42 (06/20/2018)
BC8, bay 10	Synergy_ESXi_Bay10	
	iL05	1.30
	ROM	I42 v1.42 (06/20/2018)
BC8, bay 11	Synergy_TarSys_Bay11	
	iL05	2.14
	ROM	I42 v1.42 (06/20/2018)
BC8, interconnect 1	Virtual Connect SE 16Gb FC Module for Synergy	4.10.50
BC8, interconnect 3	Virtual Connect SE 40Gb F8 Module for Synergy	1.3.0.1005
BC8, interconnect 4	Virtual Connect SE 16Gb FC Module for Synergy	4.10.50
BC8, interconnect 6	Virtual Connect SE 40Gb F8 Module for Synergy	1.3.0.1005

1.5 Otros elementos

- La distancia entre CPD y CPM es de 700m. aproximadamente.
- Tanto el CPD origen como el CPM destino disponen de muelle de carga y montacargas para poder trasladar los chasis (no hay que salvar rampas ni escaleras para el traslado).
- Todos los trabajos se realizarán en horario laboral estándar.
- RTVE será la encargada de la gestión de los accesos y traslado tanto en origen como en destino.
- RTVE proporcionará tomas eléctricas, puertos LAN y puertos SAN necesarios en destino.
- Conexiones LAN HP C7000
 - 1 x UTP (1Gbps) para tráfico de gestión
 - 2 x MMF (1Gbps) para tráfico de datos
- Conexiones SAN HP C7000
 - 4 x MMF (8Gbps) para tráfico de datos
- Conexiones LAN HP Synergy
 - 2 x UTP (1Gbps) para tráfico de gestión
 - 2 x MMF (1Gbps) para tráfico de datos
- Conexiones SAN HP Synergy
 - 8 x MMF (8Gbps) para tráfico de datos
- Conexionado eléctrico
 - C7000 = 2 x CETAC 32A
 - SYNERGY = 2 x PDU
- Tanto el conexionado UTP como el MMF se realizará dentro del mismo rack o al rack contiguo directamente al equipamiento o a patch-panel.
- Las canalizaciones (rejiband) discurren debajo del suelo técnico.
- Valoración económica de cara al seguro de transporte: 200.000€

2 Descripción del Servicio

2.1 Alcance del Servicio

El alcance consiste, para los elementos que se indican, en la desinstalación del CPD de Corporación (en adelante CPD), traslado hasta el CPM de Nuevos Estudios (en adelante CPM) e instalación, conexonado y configuración hasta su total operatividad, con la menor afección posible al servicio.

- Un chasis HPE C7000 (BC6).
- Un chasis HPE 12000 Synergy (BC8).

2.2 Descripción del Servicio

El servicio consiste en:

- Contratación del seguro de transporte. La valoración de los equipos es de 150.000 €.
- Revisión de matriz de compatibilidad de los diferentes elementos.
- Diseño de conexonado buscando alta disponibilidad de LAN, SAN y eléctrica.
- Elaboración del plan de intervención: movimiento/apagado de máquinas en origen, movimiento/arranque de máquinas en destino, mapa de conexonado, etc.
- Elaboración del plan de pruebas.
- Actualización de firmware y drivers de los diferentes elementos si resulta necesario.
- Desconexión de cableado existente (y recuperación para uso posterior) de LAN, SAN y eléctrico tanto de fibra como de cobre y desmontaje físico en el CPD.
- Traslado al CPM.
- Montaje físico de los chasis y cableado LAN, SAN y eléctrico en el CPM.
- Ejecución del plan de pruebas.
- Suministro de los latiguillos necesarios en el CPM si no está disponible del recuperado del CPD.

2.3 Entregables

Los licitadores deberán presentar un plan de intervención y un cronograma lo más detallado posible, de los plazos que consideren para llevar a cabo el proyecto y a la que se ajustará la ejecución de los trabajos posteriormente, deberán ser aprobados por RTVE.

Por su parte, el adjudicatario tiene obligación de documentar todas las actividades y tareas del servicio hasta el final del contrato, para ello entregarán a RTVE, como mínimo:

- Plan de intervención final.
- Resultados del plan de pruebas.

- Cronograma final.
- Esquema de la instalación.
- Configuración final.

3 Ofertas

3.1 Estructura de las ofertas

Las ofertas se presentarán necesariamente en formato electrónico e incluirán una descripción detallada de los aspectos técnicos requeridos en este documento para el servicio, además de aquellos otros que consideren necesarios para el mismo, de acuerdo al siguiente índice de contenidos:

1. INTRODUCCIÓN
2. DESCRIPCION DEL SERVICIO
3. PLAN DE INTERVENCIÓN Y CRONOGRAMA PROPUESTOS
4. MEDIDAS DE SEGURIDAD

4 Anexo I

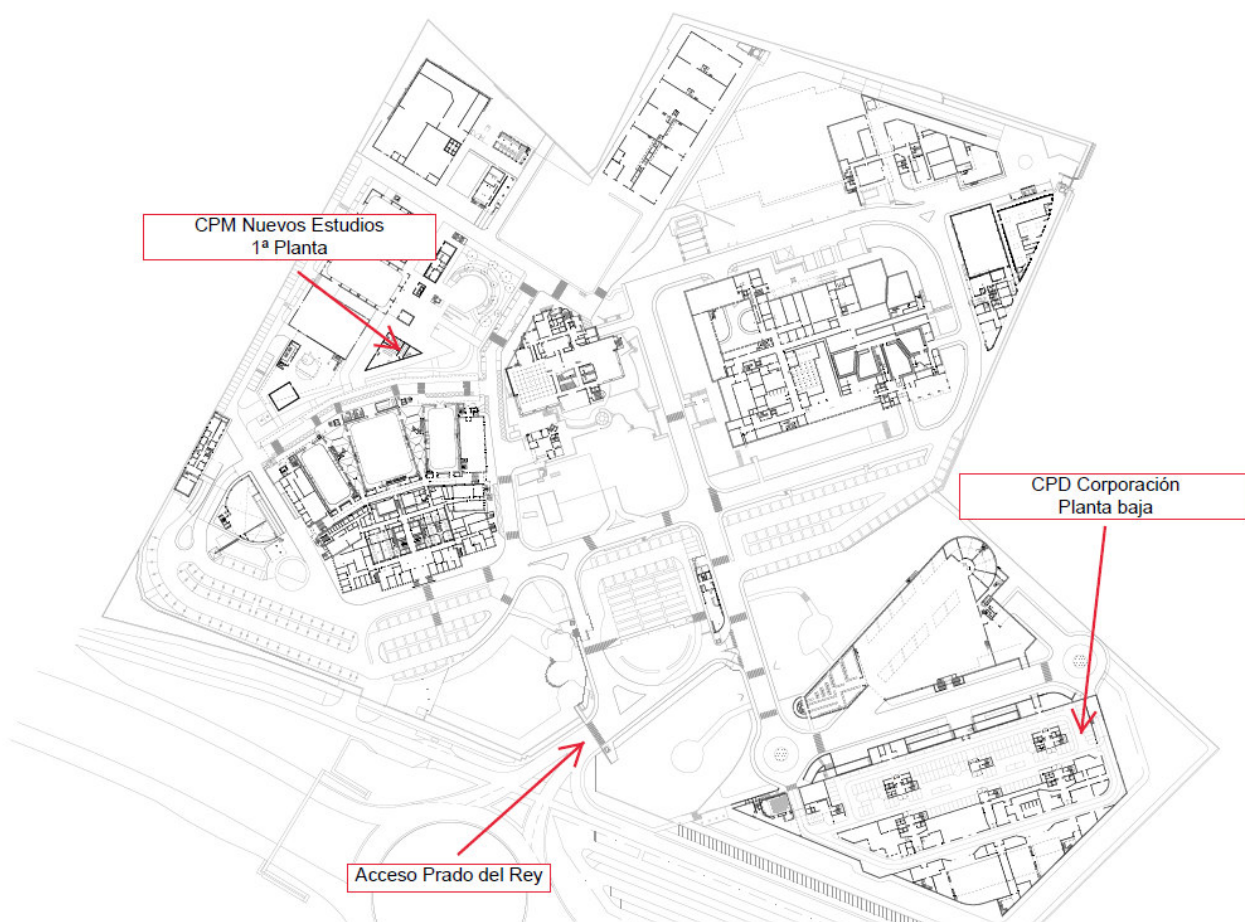
4.1 Ubicaciones

Av. Radio Televisión 4. 28223-Pozuelo de Alarcón. Madrid.

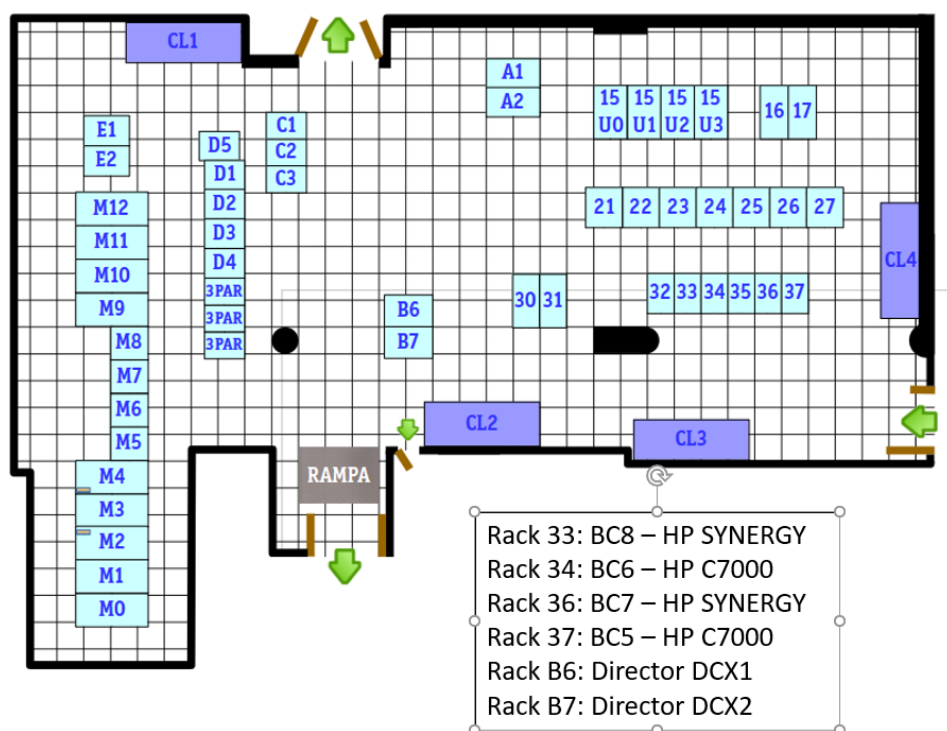
CPD – Edificio Corporación. Planta baja.

CPM – Edificio Nuevos Estudios. Planta 1ª

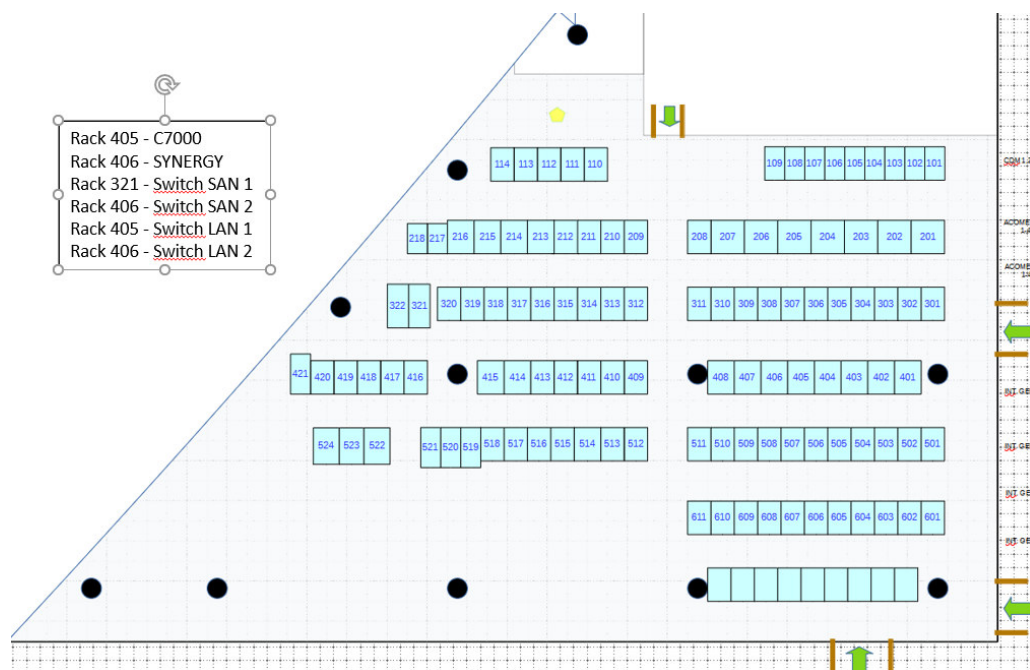
Ubicación de los puntos de origen y destino en el campus de Prado del Rey.



Ubicación de los racks de origen en CPD.



Ubicación de los racks de destino en CPM.



Ubicación de los chasis en los racks de destino en CPM.

RACK 405			RACK 406		
46	MMF-24p a 321_2	1	46	Pasahilos	1
45	CPD-CCTT_2 (Cisco 6504E)	2	45	MMF-24p a 321_1	2
44		3	44	Pasahilos	3
43		4	43	MMF-24p a 322_2	4
42		5	42	Pasahilos	5
41		6	41	MMF-24p a 322_1	6
40		7	40	CPM_SW2 (IBM 384B)	7
39	CPD-DIST_3 (HPE 5950)	8	39	CPD-DIST_4 (HPE 5950)	8
38	Pasahilos	9	38	Pasahilos	9
37		10	37		10
36	CPD-CORE_2 (HPE 5950)	11	36	CPD2-AC03_2	11
35	FORTI_CPM (Fortigate 3100D)	12	35	CPD2-AC03_1	12
34		13	34	CPM_SW4 (IHP SN6000B)	13
33		14	33		14
32		15	32		15
31	AMP-CPM CONT. ARUBA WIFI	16	31		16
30		17	30	PDU - C107B (32A)	17
29	PDU - C103B (32A)	18	29		18
28		19	28	PDU - C107A (32A)	19
27	PDU - C103A (32A)	20	27	KVM	20
26		21	26		21
25		22	25		22
24		23	24		23
23		24	23		24
22		25	22		25
21		26	21		26
20		27	20		27
19		28	19		28
18		29	18		29
17		30	17		30
16		31	16		31
15		32	15		32
14		33	14		33
13		34	13		34
12		35	12		35
11		36	11		36
10	BLADE C7000 Alimentar con CETAC C104A y C104B (Futuro)	37	10		37
9		38	9	Synergy Frame 12000 Alimentar desde PDU C107A y C107B (Futuro)	38
8		39	8		39
7		40	7		40
6		41	6		41
5		42	5		42
4		43	4		43
3		44	3		44
2		45	2		45
1		46	1		46