



CITIGROUP
CGC/RDC SAN Phase 4.1 & 4.2
Configuration Guide
(As of 13/12/2004)
Revision 3.2

EMC² Computer Systems (UK) Ltd

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I Document Control

DOCUMENT CONTROL					
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V3.2	Format and Notation changes	20/12/2004
REVIEWER	EMC Account Team and Citigroup SAN Team	Completed

Table 1: Document Control

II Design Completion

The purpose of the design completion section is to document that you, the customer, have reviewed the CGC/RDC SAN Phase 4.1 & 4.2 configuration guide and agree specifically with the following:

- ◆ EMC and Citigroup have jointly decided that the servers on the SAN, zoning information and port assignment lists are not included in this guide. Citigroup has a very rapidly changing and growing SAN and it is not possible to document a snapshot of what is connected and what is planned. Citigroup team will make sure that every host configuration is compatible with EMC Support Matrix and Citigroup Global Standards. Citigroup team is also following the SAN changes using internal procedures and documentation.
- ◆ Each server has at least 2 Host Bus Adapters connecting to the SAN, 1 to each fabric.
- ◆ There are no servers booting from the SAN.
- ◆ The issues list shown in Appendix A “SAN Design Issues and Concerns” and B “SAN Health Check I”.
- ◆ The purpose, scope and the contents of the document
- ◆ The storage configurations
- ◆ The topology diagrams
- ◆ The connectivity information

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Table 3: EMC Contact List

2 Objectives

2.1 Background Information

Citigroup is a global, full-service financial firm, which provides brokerage, investment banking and asset management services to corporations, governments and individuals around the world.

Citigroup has very rapidly growing and continuously changing IT infrastructure requirements to support its business objectives. The goal is to provide optimised services that are high in quality and cost effective at the same time.

As part of the Citigroup global IT infrastructure strategy, a storage area network was deployed to consolidate the existing environments into 2 data centres: Citigroup Data Centre (CGC) and Riverdale Data Centre (RDC). CGC and RDC are connected via DWDM links. This connection constructs a redundant mirrored fabric model that allows remote data replication between data centres which provides testing facilities, disaster resilience and site failover at the same time

The CGC/RDC data centres comprise of Mainframe and Open Systems (Distributed Systems) environments. This document focuses on the Open Systems (Distributed Systems) part of the SAN.

The development of the CGC/RDC SAN can be summarized in following phases:

- SAN Phase 1 is implemented in 2001-2002, mainly focused on consolidating existing data centres into CGC and RDC.
- SAN Phase 2 is implemented in 2003, mainly focused on completing the consolidation along with deployment of new capacity and connectivity in the SAN.
- SAN Phase 3 is implemented in 2003 and early 2004, mainly focused on deployment of new capacity and technological refresh.
- SAN Phase 4 is completed in 2004, mainly focused on SAN growth and major fabric changes such as building the dedicated SRDF fabric (Phase 4.1) and splitting the metro SAN between CGC and RDC (Phase 4.2).

The purpose of this configuration guide is to document the changes for SAN Phase 4.1 and SAN Phase 4.2.

This is a living document and will be updated regularly until it is finalized and released for further reference. Therefore it is imperative to check if this version is the latest version available.

2.2 Design Objectives

The design objectives of the planned phases are as follows:

- **SAN Phase 4.1 – CGC/RDC SAN Split and SRDF Fabric Build**
Currently, there are 14 domains in each fabric at CGC/RDC SAN. The maximum number of domains in a fabric supported by EMC is 16. The split of the SAN in CGC/RDC will provide room for additional growth in both sites. The Citigroup Global Standards dictate that there should be no cross-site SAN usage, thus making the CGC/RDC SAN Split possible.
The split of the CGC/RDC SAN will require building of a dedicated SRDF fabric, which will continue the synchronous data replication between CGC and RDC for business continuance. All the SRDF ports of the Symmetrix systems will be moved to SRDF fabrics. This phase also requires 2 secondary DWDM links between CGC and RDC and the refurbishment of the RDC data centre 3rd and 4th Floors for storage and director placement.
- **SAN Phase 4.2 – SAN expansion**
Citigroup CGC and RDC SAN are rapidly growing and changing environments. To provide the requested services for the business, a regular SAN expansion is required every quarter to connect additional servers and storage to the SAN.
The completion of the SAN Phase 4.1 will provide room for providing additional connectivity required for Citigroup.
This expansion includes 8 new directors and 6 DMX3000 storage arrays.

2.3 Configuration Guide Objectives

The Configuration Guide (CG) documents the design of the SAN. It is a ‘point in time’ document that has two main purposes:

- ◆ It is used by CITIGROUP to confirm that the design addresses their requirements.
- ◆ It is used by EMC Customer Engineers and TS Implementation Specialists to implement the SAN.
- ◆ It is the formal reference documentation for the current state of the ongoing CGC/RDC SAN implementation.

This document does not include host details, zoning information, port assignments and volume allocation information. Citigroup team are following and documenting the configuration using their internal documentation procedures.

2.4 Configuration Guide Modification

EMC will not be responsible for updating the CG to reflect any changes made by the customer during the course of the project, unless agreed via project change control.

3 CGC and RDC SAN Configuration

3.1 Hosts

Citigroup has a wide variety of distributed open systems hosts connected to CGC/RDC SAN. Due to the high number of different hosts connected to the SAN, it is not possible to give the complete list of the hosts. Instead, the following list of the platforms should give an overview of the systems running the applications:

- Windows/Intel based hosts running Windows NT 4.0, Windows 2000 Server, Windows 2000 Advanced Servers and MSCS Clusters. All Windows NT 4.0 systems are in the process of being upgraded to Windows 2000.
- HPQ Alpha series servers running OpenVMS 7.3 and VMS Clusters
- HP servers running HP-UX 11.0 and higher, Metro Service Guard clusters
- Sun servers running Solaris 2.6 and higher, Sun Clusters, Veritas Clusters
- IBM AIX servers running 4.3 and higher, HACMP clusters

Currently, Citigroup has its own processes to make sure that the host configurations comply with the EMC Support Matrix configurations. The hosts are connected with a variety of OEM or native Emulex, Qlogic and JNI HBAs.

3.2 Locations and EMC Site Ids

This documentation includes the SAN information in Citigroup Data Centre in Canary Wharf and Riverdale Data Centre in Lewisham.

The EMC Site Ids are as follows:

CGC: 40023443

RDC: 42023025

These EMC Site Ids are valid for other EMC equipment installed in the same data centres.

3.3 Storage

In the current environment, there is a number of Symmetrix 8730; Symmetrix 8830, Symmetrix DMX 2000 and DMX 3000 storage systems are installed. Following tables give more information on these systems.

Symmetrix Array Configuration Table			
General	Location	CGC1	RDC
	Floor	TR1/TR2	1st Floor
	Grid	69AZ	BX42-BX44
	Model Number	8730	8730
	Serial Number	CK284700679	CK284700428
	Device Name	OS01C	OS01RDC
	Microcode Version	5567.53.30	5567.53.30
	Dial Home Number	+442079862683	+442083180487
Cache	Total Existing	16GB	24GB
	Configuration	2 x 8GB	3 x 8GB
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	256	256
	# Drives 36GB	0	0
	Vacant Drive Bays	128	128
	# of Hotspares	2	2
	Total mirrored raw disk (GB)	9,344	9,344
2 port FA Director Cards	Available Ports	16	16
	Free Ports	2	2
4 port FA Director Cards	Available Ports	0	0
	Free Ports	0	0
Disk Director Cards	Total DA Cards	8	8
	Free Slots	0	0

Table 4: OS01C and OS01RDC Configuration

Symmetrix Array Configuration Table			
General	Location	CGC1	RDC
	Floor	TR1/TR2	1st Floor
	Grid	56AZ	BX01-BX03
	Model Number	8730	8730
	Serial Number	CK284700995	CK284701227
	Device Name	OS02C	OS02RDC
	Microcode Version	5567.53.30	5567.53.30
	Dial Home Number	+442079866673	+442083180506
Cache	Total Existing	16GB	16GB
	Configuration	2 x 8GB	2 x 8GB
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	256	256
	# Drives 36GB	0	0
	Vacant Drive Bays	128	128
	# of Hotspares	2	2
	Total mirrored raw disk (GB)	9,344	9,344
2 port FA Director Cards	Available Ports	16	16
	Free Ports	3	2
4 port FA Director Cards	Available Ports	0	0
	Free Ports	0	0
Disk Director Cards	Total DA Cards	8	8
	Free Slots	0	0

Table 5: OS02C and OS02RDC Configuration

Symmetrix Array Configuration Table			
General	Location	CGC1	RDC
	Floor	TR1/TR2	1st Floor
	Grid	67BN	BX06-BX08
	Model Number	8830	8830
	Serial Number	CK285701078	CK285701079
	Device Name	OS03C	OS03RDC
	Microcode Version	5567.53.30	5567.53.30
	Dial Home Number	+442079865089	+442083180664
Cache	Total Existing	24GB	16GB
	Configuration	3 x 8GB	2 x 8GB
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	232	192
	# Drives 36GB	0	0
	Vacant Drive Bays	152	192
	# of Hotspares	0	0
	Total mirrored raw disk (GB)	8,468	7,008
2 port FA Director Cards	Available Ports	0	2
	Free Ports	0	0
4 port FA Director Cards	Available Ports	22	24
	Free Ports	2	2
Disk Director Cards	Total DA Cards	8	8
	Free Slots	0	0

Table 6: OS03C and OS03RDC Configuration

Symmetrix Array Configuration Table			
General	Location	CGC2	RDC
	Floor	3rd floor	1st Floor
	Grid	BW97-BW99	BX36-BX38
	Model Number	8730	8730
	Serial Number	CK284700214	CK284700466
	Device Name	OS04C	OS04RDC
	Microcode Version	5568.56.22	5568.56.22
	Dial Home Number	+442077190117	+442083183631
Cache	Total Existing	16GB	16GB
	Configuration	2 x 8GB	2 x 8GB
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	192	192
	# Drives 36GB	0	0
	Vacant Drive Bays	192	192
	# of Hotspares	0	0
	Total mirrored raw disk (GB)	7,008	7,008
2 port FA Director Cards	Available Ports	12	12
	Free Ports	0	0
4 port FA Director Cards	Available Ports	8	8
	Free Ports	0	0
Disk Director Cards	Total DA Cards	8	8
	Free Slots	0	0

Table 7: OS04C and OS04RDC Configuration

Symmetrix Array Configuration Table			
General	Location	CGC2	RDC
	Floor	3rd Floor	1st Floor
	Grid	CB08-CB09	BX10
	Model Number	DMX2000	DMX2000
	Serial Number	SA287750129	SA287750107
	Device Name	DMX5C	DMX5R
	Microcode Version	5670.25.27	5670.25.27
	Dial Home Number	+442075169095	+442082974092
Cache	Total Existing	32GB	32GB
	Configuration	16GB - 16GB	16GB - 16GB
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	288	288
	# Drives 36GB	0	0
	Vacant Drive Bays	0	0
	# of Hotspares	0	0
	Total mirrored raw disk (GB)	9,792	9,792
FA Director Cards	Available Ports	32	32
	Free Ports	10	10
Disk Director Cards	Installed DA Cards	4	4

Table 8: DMX5C and DMX5R Configuration

Symmetrix Array Configuration Table			
General	Location	CGC2	RDC
	Floor	3rd Floor	1st Floor
	Grid	BW94-BW95	BX19
	Model Number	DMX2000	DMX2000
	Serial Number	SA287750125	SA287750096
	Device Name	DMX6C	DMX6R
	Microcode Version	5670.25.27	5670.25.27
	Dial Home Number	+442075169101	+442082974093
Cache	Total Existing	32GB	32GB
	Configuration	16GB - 16GB	16GB - 16GB
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	192	288
	# Drives 36GB	0	0
	Vacant Drive Bays	96	0
	# of Hotspares	0	0
	Total mirrored raw disk (GB)	7,008	10,512
FA Director Cards	Available Ports	32	32
	Free Ports	18	16
Disk Director Cards	Installed DA Cards	4	4

Table 9: DMX6C and DMX6R Configuration

Symmetrix Array Configuration Table			
General	Location	CGC2	RDC
	Floor	3rd Floor	1st Floor
	Grid	CB11-CB12	BX22
	Model Number	DMX2000	DMX2000
	Serial Number	SA287750122	CK287750200
	Device Name	DMX7C	DMX7R
	Microcode Version	5670.73.69	5670.73.69
	Dial Home Number	+442075196812	+442082974087
Cache	Total Existing	32GB	32GB
	Configuration	4-4-4-4-4-4-4-4	4-4-4-4-4-4-4-4
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	286	286
	# Drives 36GB	0	0
	Vacant Drive Bays	0	0
	# of Hotspares	2	2
	Total mirrored raw disk (GB)	9,724	9,724
FA Director Cards	Installed Ports	48	48
	Free/Spare Ports	20	20
Disk Director Cards	Installed DA Cards	4	4

Table 10: DMX7C and DMX7R Configuration

Symmetrix Array Configuration Table			
General	Location	CGC2	RDC
	Floor	3rd Floor	1st Floor
	Grid	BW91-BW92	BX13
	Model Number	DMX2000	DMX2000
	Serial Number	CK287750383	CK287750442
	Device Name	DMX8C	DMX8R
	Microcode Version	5670.25.27	5670.25.27
	Dial Home Number	+442075196803	+442082974094
Cache	Total Existing	32GB	32GB
	Configuration	16GB - 16GB	16GB - 16GB
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	192	192
	# Drives 36GB	0	0
	Vacant Drive Bays	96	96
	# of Hotspares	0	0
	Total mirrored disk (GB)	7,008	7,008
FA Director Cards	Available Ports	32	32
	Free Ports	18	18
Disk Director Cards	Installed DA Cards	4	4

Table 11: DMX8C and DMX8R Configuration

CLARiiON Array Configuration Table			
General	Device name	CX01C	CX01R
	Model	CX600	CX600
	Location	CGC2 3 rd Floor	RDC 1 st Floor
	EMC Site ID	40023443	42023025
	Floor Grid	CA100	BX35
	FLARE	11	11
	Serial Number	CK200040100019	CK200040800280
	Security Domain	cx_1_cgc	cx_1_rdc
	Security Domain Master Hostname	ukctipsra10	ukctidrsa10
	SP A Name	CX01C_SPA	CX01R_SPA
	SP A IP Address	169.186.51.222	169.186.198.62
	SP A Subnet Mask	255.255.255.224	255.255.255.224
	SP A Default Gateway	169.186.51.193	169.186.198.33
	SP B Name	CX01C_SPB	CX01C_SPB
	SP B IP Address	169.186.51.221	169.186.198.61
	SP B Subnet Mask	255.255.255.224	255.255.255.224
	SP B Default Gateway	169.186.51.193	169.186.198.33
	ClarAlert Tel. Number	No dial in allowed	No dial in allowed
CLARiiON Cache	Page Size	8k	8k
	Low Watermark	60%	60%
	High Watermark	80%	80%
SP A Cache	Read Cache	1422	1422
	Write Cache	2048	2048
SP B Cache	Read Cache	1422	1422
	Write Cache	2048	2048
Storage	# of DAEs (including DAE-OS)	6	11
	# drives 73GB	75	165
	# drives 146GB	0	0
	# of Hot Spares	3	6
	Hot spare drive(s) size	73GB	73GB
	Vacant Drive Bays	15	0 (165 is the top limit of CG standard)
Physical Location	EMC Site ID	40023443	42023025
	Site Name	CGC2 3 rd Floor	RDC 1 st Floor

Table 12: CX01C and CX01R Configuration

3.4 Storage Connectivity Configuration

Each storage array is connected to the SAN in a redundant way. Every connection is configured in pairs for redundancy and each member of the pair is connected to one fabric.

The tables below show the connectivity configuration for the storage arrays.

Citigroup - CGC OS01C FA Connections						
Symmetrix Name	Symmetrix FA Port	FA Port WWN	Device	Device Port	Type	LUN count
OS01C	FA3AA	500604843E0C01C2	SW01	11	Heterogenous w/ PP	112
OS01C	FA3BA	500604843E0C01D2	SW02	17	Heterogenous w/ PP	112
OS01C	FA4AA	500604843E0C01C3	SW01	19	Heterogenous w/ PP	112
OS01C	FA4BA	500604843E0C01D3	SW02	25	Heterogenous w/ PP	112
OS01C	FA5AA	500604843E0C01C4	SW01	27	Heterogenous w/ PP	112
OS01C	FA5BA	500604843E0C01D4	SW02	03	Heterogenous w/ PP	117
OS01C	FA6AA	500604843E0C01C5	RDFSW91C	01	SRDF	0
OS01C	FA6BA	500604843E0C01D5	SPARE	SPARE	SPARE	0
OS01C	FA11AA	500604843E0C01CA	RDFSW91C	06	SRDF	0
OS01C	FA11BA	500604843E0C01DA	SPARE	SPARE	SPARE	0
OS01C	FA12AA	500604843E0C01CB	SW01	31	Heterogenous w/ PP	117
OS01C	FA12BA	500604843E0C01DB	SW02	07	Heterogenous w/ PP	112
OS01C	FA13AA	500604843E0C01CC	SW01	23	Heterogenous w/ PP	112
OS01C	FA13BA	500604843E0C01DC	SW02	29	Heterogenous w/ PP	112
OS01C	FA14AA	500604843E0C01CD	SW01	15	Heterogenous w/ PP	112
OS01C	FA14BA	500604843E0C01DD	SW02	21	Heterogenous w/ PP	112

Table 13: OS01C FA Configuration

Citigroup - CGC OS01RDC FA Connections						
Symmetrix Name	Symmetrix FA Port	FA Port WWN	Device	Device Port	Type	LUN count
OS01RDC	FA3AA	500604843E0BC302	SW01R	01	Heterogenous w/PP	217
OS01RDC	FA3BA	500604843E0BC312	SW02R	29	Heterogenous w/PP	217
OS01RDC	FA4AA	500604843E0BC303	SW01R	05	Heterogenous w/PP	217
OS01RDC	FA4BA	500604843E0BC313	SW02R	25	Heterogenous w/PP	217
OS01RDC	FA5AA	500604843E0BC304	SW01R	09	Heterogenous w/PP	217
OS01RDC	FA5BA	500604843E0BC314	SW02R	21	Heterogenous w/PP	227
OS01RDC	FA6AA	500604843E0BC305	SPARE	SPARE	SPARE	0
OS01RDC	FA6BA	500604843E0BC315	RDFSW91R	01	SRDF	0
OS01RDC	FA11AA	500604843E0BC30A	RDFSW92R	01	SRDF	0
OS01RDC	FA11BA	500604843E0BC31A	SPARE	SPARE	SPARE	0
OS01RDC	FA12AA	500604843E0BC30B	SW01R	21	Heterogenous w/PP	227
OS01RDC	FA12BA	500604843E0BC31B	SW02R	09	Heterogenous w/PP	217
OS01RDC	FA13AA	500604843E0BC30C	SW01R	25	Heterogenous w/PP	217
OS01RDC	FA13BA	500604843E0BC31C	SW02R	05	Heterogenous w/PP	217
OS01RDC	FA14AA	500604843E0BC30D	SW01R	29	Heterogenous w/PP	217
OS01RDC	FA14BA	500604843E0BC31D	SW02R	01	Heterogenous w/PP	217

Table 14: OS01RDC FA Configuration

Citigroup - CGC OS02C FA Connections						
Symmetrix Name	Symmetrix FA Port	FA Port WWN	Device	Device Port	Type	LUN count
OS02C	FA3AA	500604843E0C50C2	SW01	17	Heterogenous w/PP	163
OS02C	FA3BA	500604843E0C50D2	SW02	11	Heterogenous w/PP	163
OS02C	FA4AA	500604843E0C50C3	SW01	25	Heterogenous w/PP	163
OS02C	FA4BA	500604843E0C50D3	SW02	19	Heterogenous w/PP	112
OS02C	FA5AA	500604843E0C50C4	SW01	03	Heterogenous w/PP	111
OS02C	FA5BA	500604843E0C50D4	SW02	27	Heterogenous w/PP	113
OS02C	FA6AA	500604843E0C50C5	SPARE	SPARE	SPARE	0
OS02C	FA6BA	500604843E0C50D5	RDFSW92C	05	SRDF	0
OS02C	FA11AA	500604843E0C50CA	RDFSW91C	01	SRDF	0
OS02C	FA11BA	500604843E0C50DA	SPARE	SPARE	SPARE	0
OS02C	FA12AA	500604843E0C50CB	SW01	07	Heterogenous w/PP	113
OS02C	FA12BA	500604843E0C50DB	SW02	31	Heterogenous w/PP	111
OS02C	FA13AA	500604843E0C50CC	SW01	29	Heterogenous w/PP	112
OS02C	FA13BA	500604843E0C50DC	SW02	23	Heterogenous w/PP	163
OS02C	FA14AA	500604843E0C50CD	SW01	21	Heterogenous w/PP	163
OS02C	FA14BA	500604843E0C50DD	SW02	15	Heterogenous w/PP	163

Table 15: OS02C FA Configuration

Citigroup - CGC OS02RDC FA Connections						
Symmetrix Name	Symmetrix FA Port	FA Port WWN	Device	Device Port	Type	LUN count
OS02RDC	FA3AA	500604843E0C8AC2	SW01R	02	Heterogenous w/PP	163
OS02RDC	FA3BA	500604843E0C8AD2	SW02R	49	Heterogenous w/PP	163
OS02RDC	FA4AA	500604843E0C8AC3	SW01R	06	Heterogenous w/PP	163
OS02RDC	FA4BA	500604843E0C8AD3	SW02R	45	Heterogenous w/PP	112
OS02RDC	FA5AA	500604843E0C8AC4	SW01R	10	Heterogenous w/PP	111
OS02RDC	FA5BA	500604843E0C8AD4	SW02R	41	Heterogenous w/PP	113
OS02RDC	FA6AA	500604843E0C8AC5	SPARE	SPARE	SPARE	0
OS02RDC	FA6BA	500604843E0C8AD5	RDFS091R	05	SRDF	0
OS02RDC	FA11AA	500604843E0C8ACA	RDFS092R	05	SRDF	0
OS02RDC	FA11BA	500604843E0C8ADA	SPARE	SPARE	SPARE	0
OS02RDC	FA12AA	500604843E0C8ACB	SW01R	41	Heterogenous w/PP	113
OS02RDC	FA12BA	500604843E0C8ADB	SW02R	10	Heterogenous w/PP	111
OS02RDC	FA13AA	500604843E0C8ACC	SW01R	45	Heterogenous w/PP	112
OS02RDC	FA13BA	500604843E0C8ADC	SW02R	06	Heterogenous w/PP	163
OS02RDC	FA14AA	500604843E0C8ACD	SW01R	49	Heterogenous w/PP	163
OS02RDC	FA14BA	500604843E0C8ADD	SW02R	02	Heterogenous w/PP	163

Table 16: OS02RDC FA Configuration

Citigroup - CGC OS03C FA Distribution						
Symmetrix Name	Symmetrix FA Port	FA Port WWN	Device	Device Port	Type	LUN count
OS03C	FA3AA	5006048441DCF582	SW01	16	VMS1	24
OS03C	FA3AB	5006048441DCF5A2	SW01	20	VMS3	23
OS03C	FA3BA	5006048441DCF592	SW01	32	HP1	204
OS03C	FA3BB	5006048441DCF5B2	SW01	36	HP3	217
OS03C	FA4AA	5006048441DCF583	SW01	40	VMS2	40
OS03C	FA4AB	5006048441DCF5A3	SW01	44	VMS4	62
OS03C	FA4BA	5006048441DCF593	SW01	48	HP2	220
OS03C	FA4BB	5006048441DCF5B3	SW01	52	HP4	207
OS03C	FA5AA	5006048441DCF584	SPARE	SPARE	SPARE	7
OS03C	FA5AB	5006048441DCF5A4	SW01	38	EMC CC(SUN)	7
OS03C	FA5BA	5006048441DCF594	SW01	34	HP5	73
OS03C	FA5BB	5006048441DCF5B4	SW01	09	HP6	45
OS03C	FA6AA	5006048441DCF585	RDFSW91C	09	SRDF to OS03M	0
OS03C	FA6BA	5006048441DCF595	RDFSW91C	13	SRDF to OS03RDC	0
OS03C	FA11AA	5006048441DCF58A	RDFSW92C	09	SRDF to OS03M	0
OS03C	FA11BA	5006048441DCF59A	RDFSW92C	13	SRDF to OS03RDC	0
OS03C	FA12AA	5006048441DCF58B	SW02	14	HP6	45
OS03C	FA12AB	5006048441DCF5AB	SW02	38	HP5	73
OS03C	FA12BA	5006048441DCF59B	SW02	34	EMC CC (SUN)	7
OS03C	FA12BB	5006048441DCF5BB	SPARE	SPARE	SPARE	7
OS03C	FA13AA	5006048441DCF58C	SW02	52	HP4	207
OS03C	FA13AB	5006048441DCF5AC	SW02	48	HP2	220
OS03C	FA13BA	5006048441DCF59C	SW02	44	VMS4	62
OS03C	FA13BB	5006048441DCF5BC	SW02	40	VMS2	40
OS03C	FA14AA	5006048441DCF58D	SW02	36	HP3	217
OS03C	FA14AB	5006048441DCF5AD	SW02	32	HP1	204
OS03C	FA14BA	5006048441DCF59D	SW02	20	VMS3	23
OS03C	FA14BB	5006048441DCF5BD	SW02	16	VMS1	24

Table 17: OS03C FA Configuration

Citigroup - RDC OS03RDC FA Distribution						
Symmetrix Name	Symmetrix FA Port	FA Port WWN	Device	Device Port	Type	LUN count
OS03RDC	FA3AA	5006048441DCF5C2	SW01R	18	VMS1	35
OS03RDC	FA3AB	5006048441DCF5E2	SW01R	22	VMS3	42
OS03RDC	FA3BA	5006048441DCF5D2	SW01R	26	HP1	154
OS03RDC	FA3BB	5006048441DCF5F2	SW01R	30	HP3	154
OS03RDC	FA4AA	5006048441DCF5C3	SW01R	34	VMS2	50
OS03RDC	FA4AB	5006048441DCF5E3	SW01R	38	VMS4	81
OS03RDC	FA4BA	5006048441DCF5D3	SW01R	42	HP2	154
OS03RDC	FA4BB	5006048441DCF5F3	SW01R	48	HP4	154
OS03RDC	FA5AA	5006048441DCF5C4	SPARE	SPARE	SPARE	7
OS03RDC	FA5AB	5006048441DCF5E4	SW01R	57	EMC CC(SUN)	7
OS03RDC	FA5BA	5006048441DCF5D4	SW01R	53	HP5	139
OS03RDC	FA5BB	5006048441DCF5F4	TBC	TBC	HP6	51
OS03RDC	FA6AA	5006048441DCF5C5	SW01R	52	Heterogeneous	7
OS03RDC	FA6BA	5006048441DCF5D5	RDFS091R	09	SRDF	0
OS03RDC	FA11AA	5006048441DCF5CA	SW02R	52	Heterogeneous	7
OS03RDC	FA11BA	5006048441DCF5DA	RDFS092R	09	SRDF	0
OS03RDC	FA12AA	5006048441DCF5CB	TBC	TBC	HP6	51
OS03RDC	FA12AB	5006048441DCF5EB	SW02R	53	HP5	139
OS03RDC	FA12BA	5006048441DCF5DB	SW02R	57	EMC CC (SUN)	7
OS03RDC	FA12BB	5006048441DCF5FB	SPARE	SPARE	SPARE	7
OS03RDC	FA13AA	5006048441DCF5CC	SW02R	48	HP4	154
OS03RDC	FA13AB	5006048441DCF5EC	SW02R	42	HP2	154
OS03RDC	FA13BA	5006048441DCF5DC	SW02R	38	VMS4	81
OS03RDC	FA13BB	5006048441DCF5FC	SW02R	34	VMS2	50
OS03RDC	FA14AA	5006048441DCF5CD	SW02R	30	HP3	154
OS03RDC	FA14AB	5006048441DCF5ED	SW02R	26	HP1	154
OS03RDC	FA14BA	5006048441DCF5DD	SW02R	22	VMS3	42
OS03RDC	FA14BB	5006048441DCF5FD	SW02R	18	VMS1	35

Table 18: OS03RDC FA Configuration

Citigroup - CGC OS04C FA Connections						
Symmetrix Name	Symmetrix FA Port	FA Port WWN	Device	Device Port	Type	LUN count
OS04C	FA3AA	500604843E0B8D82	SW13	23	Heterogenous w/ PP	53
OS04C	FA3AB	500604843E0B8DA2	SPARE	SPARE	SPARE	1
OS04C	FA3BA	500604843E0B8D92	SPARE	SPARE	SPARE	1
OS04C	FA3BB	500604843E0B8DB2	SW13	27	Heterogenous w/ PP	39
OS04C	FA4AA	500604843E0B8D83	SW13	31	Heterogenous w/ PP	55
OS04C	FA4BA	500604843E0B8D93	SW13	35	Heterogenous w/ PP	39
OS04C	FA5AA	500604843E0B8D84	SPARE	SPARE	SPARE	55
OS04C	FA5BA	500604843E0B8D94	SPARE	SPARE	SPARE	39
OS04C	FA5AA	500604843E0B8D84	TBC	TBC	Heterogenous w/ PP	55
OS04C	FA5BA	500604843E0B8D94	TBC	TBC	Heterogenous w/ PP	39
OS04C	FA6AA	500604843E0B8D85	SPARE	SPARE	SPARE	1
OS04C	FA6BA	500604843E0B8D95	RDFS93C	01	SRDF	0
OS04C	FA11AA	500604843E0B8D8A	SPARE	SPARE	SPARE	1
OS04C	FA11BA	500604843E0B8D9A	RDFS94C	01	SRDF	0
OS04C	FA12AA	500604843E0B8D8B	SPARE	SPARE	SPARE	39
OS04C	FA12BA	500604843E0B8D9B	SPARE	SPARE	SPARE	55
OS04C	FA12AA	500604843E0B8D8B	TBC	TBC	Heterogenous w/ PP	39
OS04C	FA12BA	500604843E0B8D9B	TBC	TBC	Heterogenous w/ PP	55
OS04C	FA13AA	500604843E0B8D8C	SW14	35	Heterogenous w/ PP	39
OS04C	FA13BA	500604843E0B8D9C	SW14	31	Heterogenous w/ PP	55
OS04C	FA14AA	500604843E0B8D8D	SW14	27	Heterogenous w/ PP	39
OS04C	FA14AB	500604843E0B8DAD	SPARE	SPARE	SPARE	1
OS04C	FA14BA	500604843E0B8D9D	SPARE	SPARE	SPARE	1
OS04C	FA14BB	500604843E0B8DBD	SW14	23	Heterogenous w/ PP	53

Table 19: OS04C FA Configuration

Citigroup - CGC OS04RDC FA Connections						
Symmetrix Name	Symmetrix FA Port	FA Port WWN	Device	Device Port	Type	LUN count
OS04RDC	FA3AA	500604843E0BCC82	SW01R	13	Heterogenous w/ PP	53
OS04RDC	FA3AB	500604843E0BCCA2	SPARE	SPARE	SPARE	1
OS04RDC	FA3BA	500604843E0BCC92	SPARE	SPARE	SPARE	1
OS04RDC	FA3BB	500604843E0BCCB2	SW01R	33	Heterogenous w/ PP	39
OS04RDC	FA4AA	500604843E0BCC83	SW01R	43	Heterogenous w/ PP	55
OS04RDC	FA4BA	500604843E0BCC93	SW01R	55	Heterogenous w/ PP	39
OS04RDC	FA5AA	500604843E0BCC84	TBC	TBC	Heterogenous w/ PP	55
OS04RDC	FA5BA	500604843E0BCC94	TBC	TBC	Heterogenous w/ PP	39
OS04RDC	FA6AA	500604843E0BCC85	SPARE	SPARE	SPARE	1
OS04RDC	FA6BA	500604843E0BCC95	RDFSW93R	13	SRDF	0
OS04RDC	FA11AA	500604843E0BCC8A	SPARE	SPARE	SPARE	1
OS04RDC	FA11BA	500604843E0BCC9A	RDFSW92R	13	SRDF	0
OS04RDC	FA12AA	500604843E0BCC8B	TBC	TBC	Heterogenous w/ PP	39
OS04RDC	FA12BA	500604843E0BCC9B	TBC	TBC	Heterogenous w/ PP	55
OS04RDC	FA13AA	500604843E0BCC8C	SW02R	55	Heterogenous w/ PP	39
OS04RDC	FA13BA	500604843E0BCC9C	SW02R	43	Heterogenous w/ PP	55
OS04RDC	FA14AA	500604843E0BCC8D	SW02R	33	Heterogenous w/ PP	39
OS04RDC	FA14AB	500604843E0BCCAD	SPARE	SPARE	SPARE	1
OS04RDC	FA14BA	500604843E0BCC9D	SPARE	SPARE	SPARE	1
OS04RDC	FA14BB	500604843E0BCCBD	SW02R	13	Heterogenous w/ PP	53

Table 20: OS04RDC FA Configuration

CITIGROUP - CGC2 - DMX5C FA Connections							
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Segment	Type	LUN count
DMX5C	FA3aA	5006048449ADFC42	SW13C	25	1	non-clustered HP-UX 11i	52
DMX5C	FA3aB	5006048449ADFC62	spare	spare	spare	non-clustered HP-UX 11i	1
DMX5C	FA3bA	5006048449ADFC52	SW13C	28	2	non-clustered HP-UX 11i	53
DMX5C	FA3bB	5006048449ADFC72	spare	spare	spare	non-clustered HP-UX 11i	1
DMX5C	FA3cA	5006048C49ADFC42	SW13C	33	3	non-clustered HP-UX 11i	53
DMX5C	FA3cB	5006048C49ADFC62	spare	spare	spare	non-clustered HP-UX 11i	1
DMX5C	FA3dA	5006048C49ADFC52	SW13C	36	4	non-clustered HP-UX 11i	29
DMX5C	FA3dB	5006048C49ADFC72	SW13C	22	10	non-clustered HP-UX 11i	53
DMX5C	FA4aA	5006048449ADFC43	SW13C	41	5	non-clustered HP-UX 11i	53
DMX5C	FA4aB	5006048449ADFC63	spare	spare	spare	non-clustered HP-UX 11i	1
DMX5C	FA4bA	5006048449ADFC53	SW13C	44	6	non-clustered HP-UX 11i	45
DMX5C	FA4bB	5006048449ADFC73	spare	spare	spare	non-clustered HP-UX 11i	1
DMX5C	FA4cA	5006048C49ADFC43	SW13C	48	7	Solaris Mngmnt 1	7
DMX5C	FA4cB	5006048C49ADFC63	TBC	TBC	9	non-clustered HP-UX 11i	53
DMX5C	FA4dA	5006048C49ADFC53	RDFS93C	5	8	SRDF	0
DMX5C	FA4dB	5006048C49ADFC73	not used	not used	not used	not used	0
DMX5C	FA13aA	5006048449ADFC4C	SW14C	44	6	non-clustered HP-UX 11i	45
DMX5C	FA13aB	5006048449ADFC6C	spare	spare	spare	non-clustered HP-UX 11i	1
DMX5C	FA13bA	5006048449ADFC5C	SW14C	41	5	non-clustered HP-UX 11i	53
DMX5C	FA13bB	5006048449ADFC7C	spare	spare	spare	non-clustered HP-UX 11i	1
DMX5C	FA13cA	5006048C49ADFC4C	SW14C	17	7	Solaris Mngmnt 1	7
DMX5C	FA13cB	5006048C49ADFC6C	SW14C	16	9	non-clustered HP-UX 11i	53
DMX5C	FA13dA	5006048C49ADFC5C	RDFS94C	5	8	SRDF	0
DMX5C	FA13dB	5006048C49ADFC7C	not used	not used	not used	not used	0
DMX5C	FA14aA	5006048449ADFC4D	SW14C	28	2	non-clustered HP-UX 11i	53
DMX5C	FA14aB	5006048449ADFC6D	spare	spare	spare	non-clustered HP-UX 11i	1
DMX5C	FA14bA	5006048449ADFC5D	SW14C	25	1	non-clustered HP-UX 11i	52
DMX5C	FA14bB	5006048449ADFC7D	spare	spare	spare	non-clustered HP-UX 11i	1
DMX5C	FA14cA	5006048C49ADFC4D	SW14C	36	4	non-clustered HP-UX 11i	29
DMX5C	FA14cB	5006048C49ADFC6D	SW14C	22	10	non-clustered HP-UX 11i	53
DMX5C	FA14dA	5006048C49ADFC5D	SW14C	32	3	non-clustered HP-UX 11i	53
DMX5C	FA14dB	5006048C49ADFC7D	spare	spare	spare	non-clustered HP-UX 11i	1

Table 21: DMX5C FA Configuration

CITIGROUP - RDC - DMX5R FA Connections							
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Segment	Type	LUN count
DMX5R	FA3aA	5006048449ADF6C2	SW11R	87	1	non-clustered HP-UX11i	52
DMX5R	FA3aB	5006048449ADF6E2	spare	spare	spare	non-clustered HP-UX11i	1
DMX5R	FA3bA	5006048449ADF6D2	SW11R	83	2	non-clustered HP-UX11i	53
DMX5R	FA3bB	5006048449ADF6F2	spare	spare	spare	non-clustered HP-UX11i	1
DMX5R	FA3cA	5006048C49ADF6C2	SW11R	95	3	non-clustered HP-UX11i	53
DMX5R	FA3cB	5006048C49ADF6E2	spare	spare	spare	non-clustered HP-UX11i	1
DMX5R	FA3dA	5006048C49ADF6D2	SW11R	88	4	non-clustered HP-UX11i	29
DMX5R	FA3dB	5006048C49ADF6F2	SW11R	58	10	non-clustered HP-UX11i	53
DMX5R	FA4aA	5006048449ADF6C3	SW11R	75	5	non-clustered HP-UX11i	53
DMX5R	FA4aB	5006048449ADF6E3	spare	spare	spare	non-clustered HP-UX11i	1
DMX5R	FA4bA	5006048449ADF6D3	SW11R	79	6	non-clustered HP-UX11i	45
DMX5R	FA4bB	5006048449ADF6F3	spare	spare	spare	non-clustered HP-UX11i	1
DMX5R	FA4cA	5006048C49ADF6C3	SW11R	71	7	Solaris Mngmnt 1	23
DMX5R	FA4cB	5006048C49ADF6E3	SW11R	54	9	non-clustered HP-UX11i	53
DMX5R	FA4dA	5006048C49ADF6D3	RDFS91R	17	8	SRDF	0
DMX5R	FA4dB	5006048C49ADF6F3	not used	not used	not used	not used	0
DMX5R	FA13aA	5006048449ADF6CC	SW12R	79	6	non-clustered HP-UX11i	45
DMX5R	FA13aB	5006048449ADF6EC	spare	spare	spare	non-clustered HP-UX11i	1
DMX5R	FA13bA	5006048449ADF6DC	SW12R	75	5	non-clustered HP-UX11i	53
DMX5R	FA13bB	5006048449ADF6FC	spare	spare	spare	non-clustered HP-UX11i	1
DMX5R	FA13cA	5006048C49ADF6CC	SW12R	71	7	Solaris Mngmnt 1	23
DMX5R	FA13cB	5006048C49ADF6EC	SW12R	54	9	non-clustered HP-UX11i	53
DMX5R	FA13dA	5006048C49ADF6DC	RDFS92R	17	8	SRDF	0
DMX5R	FA13dB	5006048C49ADF6FC	not used	not used	not used	not used	0
DMX5R	FA14aA	5006048449ADF6CD	SW12R	83	2	non-clustered HP-UX11i	53
DMX5R	FA14aB	5006048449ADF6ED	spare	spare	spare	non-clustered HP-UX11i	1
DMX5R	FA14bA	5006048449ADF6DD	SW12R	87	1	non-clustered HP-UX11i	52
DMX5R	FA14bB	5006048449ADF6FD	spare	spare	spare	non-clustered HP-UX11i	1
DMX5R	FA14cA	5006048C49ADF6CD	SW12R	88	4	non-clustered HP-UX11i	29
DMX5R	FA14cB	5006048C49ADF6ED	SW12R	58	10	non-clustered HP-UX11i	53
DMX5R	FA14dA	5006048C49ADF6DD	SW12R	95	3	non-clustered HP-UX11i	53
DMX5R	FA14dB	5006048C49ADF6FD	spare	spare	10	non-clustered HP-UX11i	1

Table 22: DMX5R FA Configuration

CITIGROUP - CGC2 - DMX6C FA Connections							
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Segment	Type	LUN count
DMX6C	FA3aA	5006048449ADFB42	SW13C	26	1	Solaris/AIX/Windows	152
DMX6C	FA3aB	5006048449ADFB62	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA3bA	5006048449ADFB52	SW13C	30	2	Solaris/AIX/Windows	153
DMX6C	FA3bB	5006048449ADFB72	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA3cA	5006048C49ADFB42	SW13C	34	3	Solaris/AIX/Windows	153
DMX6C	FA3cB	5006048C49ADFB62	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA3dA	5006048C49ADFB52	SW13C	38	4	Solaris/AIX/Windows	153
DMX6C	FA3dB	5006048C49ADFB72	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA4aA	5006048449ADFB43	SW13C	42	5	Solaris/AIX/Windows	145
DMX6C	FA4aB	5006048449ADFB63	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA4bA	5006048449ADFB53	SW13C	46	6	Solaris/AIX/Windows	1
DMX6C	FA4bB	5006048449ADFB73	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA4cA	5006048C49ADFB43	SW13C	50	7	Solaris/AIX/Windows	1
DMX6C	FA4cB	5006048C49ADFB63	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA4dA	5006048C49ADFB53	RDFS93C	9	8	SRDF TO DMX6R	0
DMX6C	FA4dB	5006048C49ADFB73	not used	not used	not used	not used	0
DMX6C	FA13aA	5006048449ADFB4C	SW14C	46	6	Solaris/AIX/Windows	1
DMX6C	FA13aB	5006048449ADFB6C	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA13bA	5006048449ADFB5C	SW14C	42	5	Solaris/AIX/Windows	145
DMX6C	FA13bB	5006048449ADFB7C	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA13cA	5006048C49ADFB4C	TBC	TBC	7	Solaris/AIX/Windows	1
DMX6C	FA13cB	5006048C49ADFB6C	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA13dA	5006048C49ADFB5C	RDFS94C	9	8	SRDF TO DMX6R	0
DMX6C	FA13dB	5006048C49ADFB7C	not used	not used	not used	not used	0
DMX6C	FA14aA	5006048449ADFB4D	SW14C	30	2	Solaris/AIX/Windows	153
DMX6C	FA14aB	5006048449ADFB6D	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA14bA	5006048449ADFB5D	SW14C	26	1	Solaris/AIX/Windows	152
DMX6C	FA14bB	5006048449ADFB7D	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA14cA	5006048C49ADFB4D	SW14C	38	4	Solaris/AIX/Windows	153
DMX6C	FA14cB	5006048C49ADFB6D	spare	spare	spare	Solaris/AIX/Windows	1
DMX6C	FA14dA	5006048C49ADFB5D	SW14C	34	3	Solaris/AIX/Windows	153
DMX6C	FA14dB	5006048C49ADFB7D	spare	spare	spare	Solaris/AIX/Windows	1

Table 23: DMX6C FA Configuration

CITIGROUP - RDC - DMX6R FA Connections							
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Segment	Type	LUN count
DMX6R	FA3aA	5006048449ADF402	SW11R	86	1	Solaris/AIX/Windows	191
DMX6R	FA3aB	5006048449ADF422	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA3bA	5006048449ADF412	SW11R	82	2	Solaris/AIX/Windows	193
DMX6R	FA3bB	5006048449ADF432	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA3cA	5006048C49ADF402	SW11R	94	3	Solaris/AIX/Windows	193
DMX6R	FA3cB	5006048C49ADF422	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA3dA	5006048C49ADF412	SW11R	90	4	Solaris/AIX/Windows	193
DMX6R	FA3dB	5006048C49ADF432	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA4aA	5006048449ADF403	SW11R	74	5	Solaris/AIX/Windows	177
DMX6R	FA4aB	5006048449ADF423	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA4bA	5006048449ADF413	SW11R	78	6	Solaris/AIX/Windows	1
DMX6R	FA4bB	5006048449ADF433	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA4cA	5006048C49ADF403	RDFS91R	21	7	SRDF TO DMX6C	0
DMX6R	FA4cB	5006048C49ADF423	not used	not used	not used	not used	0
DMX6R	FA4dA	5006048C49ADF413	RDFS91R	25	8	SRDF TO DMX6M	0
DMX6R	FA4dB	5006048C49ADF433	not used	not used	not used	not used	0
DMX6R	FA13aA	5006048449ADF40C	SW12R	78	6	Solaris/AIX/Windows	1
DMX6R	FA13aB	5006048449ADF42C	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA13bA	5006048449ADF41C	SW12R	74	5	Solaris/AIX/Windows	177
DMX6R	FA13bB	5006048449ADF43C	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA13cA	5006048C49ADF40C	RDFS92R	21	7	SRDF TO DMX6C	0
DMX6R	FA13cB	5006048C49ADF42C	not used	not used	not used	not used	0
DMX6R	FA13dA	5006048C49ADF41C	RDFS92R	25	8	SRDF TO DMX6R	0
DMX6R	FA13dB	5006048C49ADF43C	not used	not used	not used	not used	0
DMX6R	FA14aA	5006048449ADF40D	SW12R	82	2	Solaris/AIX/Windows	193
DMX6R	FA14aB	5006048449ADF42D	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA14bA	5006048449ADF41D	SW12R	86	1	Solaris/AIX/Windows	191
DMX6R	FA14bB	5006048449ADF43D	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA14cA	5006048C49ADF40D	SW12R	90	4	Solaris/AIX/Windows	193
DMX6R	FA14cB	5006048C49ADF42D	spare	spare	spare	Solaris/AIX/Windows	1
DMX6R	FA14dA	5006048C49ADF41D	SW12R	94	3	Solaris/AIX/Windows	193
DMX6R	FA14dB	5006048C49ADF43D	spare	spare	spare	Solaris/AIX/Windows	1

Table 24: DMX6R FA Configuration

CITIGROUP - CGC2 - DMX7C FA Connections							
Symmetrix Name	Symmetrix FA Port	FA WWN	Connected to Device	Device Port	Segment	Type	LUN count
DMX7C	FA3aA	5006048449ADFA82	TBC	TBC	1	HP-UX 11i w/MCSG Cluster	52
DMX7C	FA3aB	5006048449ADFAA2	spare	spare	spare	HP-UX 11i w/ MCSG Cluster	1
DMX7C	FA3bA	5006048449ADFA92	TBC	TBC	2	HP-UX 11i w/MCSG Cluster	53
DMX7C	FA3bB	5006048449ADFAB2	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA3cA	5006048C49ADFA82	TBC	TBC	3	HP-UX 11i w/MCSG Cluster	53
DMX7C	FA3cB	5006048C49ADFAA2	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA3dA	5006048C49ADFA92	TBC	TBC	4	HP-UX 11i w/MCSG Cluster	53
DMX7C	FA3dB	5006048C49ADFAB2	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA4aA	5006048449ADFA83	TBC	TBC	5	HP-UX 11i w/MCSG Cluster	45
DMX7C	FA4aB	5006048449ADFAA3	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA4bA	5006048449ADFA93	TBC	TBC	6	Solaris/W2K Management	43
DMX7C	FA4bB	5006048449ADFAB3	spare	spare	spare	Solaris/W2K Management	1
DMX7C	FA4cA	5006048C49ADFA83	TBC	TBC	7	HP-UX 11i w/MCSG Cluster	53
DMX7C	FA4cB	5006048C49ADFAA3	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA4dA	5006048C49ADFA93	RDFS93C	17	8	SRDF to DMX7R	0
DMX7C	FA4dB	5006048C49ADFAB3	n/a	n/a	not used	not used	0
DMX7C	FA5aA	5006048449ADFA84	TBC	TBC	9	HP-UX 11i w/MCSG Cluster	101
DMX7C	FA5aB	5006048449ADFAA4	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA5bA	5006048449ADFA94	TBC	TBC	10	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA5bB	5006048449ADFAB4	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA5cA	5006048C49ADFA84	TBC	TBC	11	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA5cB	5006048C49ADFAA4	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA5dA	5006048C49ADFA94	RDFS93C	13	12	SRDF to DMX7R	0
DMX7C	FA5dB	5006048C49ADFAB4	n/a	n/a	not used	not used	0
DMX7C	FA12aA	5006048449ADFA8B	SW14C	76	10	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA12aB	5006048449ADFAAB	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA12bA	5006048449ADFA9B	SW14C	72	9	HP-UX 11i w/MCSG Cluster	101
DMX7C	FA12bB	5006048449ADFABB	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA12cA	5006048C49ADFA8B	SW14C	80	11	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA12cB	5006048C49ADFAAB	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA12dA	5006048C49ADFA9B	RDFS94C	13	12	SRDF to DMX7R	0
DMX7C	FA12dB	5006048C49ADFABB	n/a	n/a	not used	not used	0
DMX7C	FA13aA	5006048449ADFA8C	SW14C	57	6	Solaris/W2K Management	43
DMX7C	FA13aB	5006048449ADFAAC	spare	spare	spare	Solaris/W2K Management	1
DMX7C	FA13bA	5006048449ADFA9C	SW14C	56	5	HP-UX 11i w/MCSG Cluster	45
DMX7C	FA13bB	5006048449ADFABC	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA13cA	5006048C49ADFA8C	SW14C	58	7	HP-UX 11i w/MCSG Cluster	53
DMX7C	FA13cB	5006048C49ADFAAC	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA13dA	5006048C49ADFA9C	RDFS94C	21	8	SRDF to DMX7R	0
DMX7C	FA13dB	5006048C49ADFABC	n/a	n/a	not used	not used	0
DMX7C	FA14aA	5006048449ADFA8D	SW14C	53	2	HP-UX 11i w/MCSG Cluster	53
DMX7C	FA14aB	5006048449ADFAAD	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA14bA	5006048449ADFA9D	SW14C	52	1	HP-UX 11i w/MCSG Cluster	52
DMX7C	FA14bB	5006048449ADFABD	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA14cA	5006048C49ADFA8D	SW14C	55	4	HP-UX 11i w/MCSG Cluster	53
DMX7C	FA14cB	5006048C49ADFAAD	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7C	FA14dA	5006048C49ADFA9D	SW14C	54	3	HP-UX 11i w/MCSG Cluster	53
DMX7C	FA14dB	5006048C49ADFABD	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1

Table 25: DMX7C FA Configuration

CITIGROUP - RDC - DMX7R FA Connections							
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Segment	Type	LUN count
DMX7R	FA3aA	5006048449AE0E02	SW11R	85	1	HP-UX 11i w/MCSG Cluster	52
DMX7R	FA3aB	5006048449AE0E22	spare	spare	spare	HP-UX 11i w/ MCSG Cluster	1
DMX7R	FA3bA	5006048449AE0E12	SW11R	81	2	HP-UX 11i w/MCSG Cluster	53
DMX7R	FA3bB	5006048449AE0E32	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA3cA	5006048C49AE0E02	SW11R	93	3	HP-UX 11i w/MCSG Cluster	53
DMX7R	FA3cB	5006048C49AE0E22	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA3dA	5006048C49AE0E12	SW11R	89	4	HP-UX 11i w/MCSG Cluster	53
DMX7R	FA3dB	5006048C49AE0E32	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA4aA	5006048449AE0E03	SW11R	73	5	HP-UX 11i w/MCSG Cluster	45
DMX7R	FA4aB	5006048449AE0E23	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA4bA	5006048449AE0E13	SW11R	77	6	Solaris/W2K Management	43
DMX7R	FA4bB	5006048449AE0E33	spare	spare	spare	Solaris/W2K Management	1
DMX7R	FA4cA	5006048C49AE0E03	SW11R	69	7	HP-UX 11i w/MCSG Cluster	53
DMX7R	FA4cB	5006048C49AE0E23	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA4dA	5006048C49AE0E13	RDFS91R	29	8	SRDF to DMX7C	0
DMX7R	FA4dB	5006048C49AE0E33	n/a	n/a	not used	not used	0
DMX7R	FA5aA	5006048449AE0E04	SW11R	97	9	HP-UX 11i w/MCSG Cluster	100
DMX7R	FA5aB	5006048449AE0E24	spare	spare	spare	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA5bA	5006048449AE0E14	SW11R	101	10	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA5bB	5006048449AE0E34	spare	spare	spare	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA5cA	5006048C49AE0E04	SW11R	105	11	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA5cB	5006048C49AE0E24	spare	spare	spare	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA5dA	5006048C49AE0E14	RDFS91R	26	12	SRDF to DMX7C	0
DMX7R	FA5dB	5006048C49AE0E34	n/a	n/a	not used	not used	0
DMX7R	FA12aA	5006048449AE0E0B	SW12R	101	10	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA12aB	5006048449AE0E2B	spare	spare	spare	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA12bA	5006048449AE0E1B	SW12R	97	9	HP-UX 11i w/MCSG Cluster	100
DMX7R	FA12bB	5006048449AE0E3B	spare	spare	spare	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA12cA	5006048C49AE0E0B	SW12R	105	11	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA12cB	5006048C49AE0E2B	spare	spare	spare	HP-UX 11i w/MCSG Cluster	0
DMX7R	FA12dA	5006048C49AE0E1B	RDFS92R	26	12	SRDF to DMX7C	0
DMX7R	FA12dB	5006048C49AE0E3B	n/a	n/a	not used	not used	0
DMX7R	FA13aA	5006048449AE0E0C	SW12R	77	6	Solaris/W2K Management	43
DMX7R	FA13aB	5006048449AE0E2C	spare	spare	spare	Solaris/W2K Management	1
DMX7R	FA13bA	5006048449AE0E1C	SW12R	73	5	HP-UX 11i w/MCSG Cluster	45
DMX7R	FA13bB	5006048449AE0E3C	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA13cA	5006048C49AE0E0C	SW12R	69	7	HP-UX 11i w/MCSG Cluster	53
DMX7R	FA13cB	5006048C49AE0E2C	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA13dA	5006048C49AE0E1C	RDFS92R	29	8	SRDF to DMX7C	0
DMX7R	FA13dB	5006048C49AE0E3C	n/a	n/a	not used	not used	0
DMX7R	FA14aA	5006048449AE0E0D	SW12R	81	2	HP-UX 11i w/MCSG Cluster	53
DMX7R	FA14aB	5006048449AE0E2D	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA14bA	5006048449AE0E1D	SW12R	85	1	HP-UX 11i w/MCSG Cluster	52
DMX7R	FA14bB	5006048449AE0E3D	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA14cA	5006048C49AE0E0D	SW12R	89	4	HP-UX 11i w/MCSG Cluster	53
DMX7R	FA14cB	5006048C49AE0E2D	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1
DMX7R	FA14dA	5006048C49AE0E1D	SW12R	93	3	HP-UX 11i w/MCSG Cluster	53
DMX7R	FA14dB	5006048C49AE0E3D	spare	spare	spare	HP-UX 11i w/MCSG Cluster	1

Table 26: DMX7R FA Configuration

CITIGROUP - CGC2 - DMX8C FA Connections							
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Segment	Type	LUN count
DMX8C	FA3Aa	5006048449AE4A82	SW13C	43	1	Solaris/AIX/Windows	78
DMX8C	FA3Ab	5006048449AE4AA2	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA3Ba	5006048449AE4A92	SW13C	45	2	Solaris/AIX/Windows	79
DMX8C	FA3Bb	5006048449AE4AB2	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA3Ca	5006048C49AE4A82	SW13C	49	3	Solaris/AIX/Windows	79
DMX8C	FA3Cb	5006048C49AE4AA2	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA3Da	5006048C49AE4A92	SW13C	TBC	4	Solaris/AIX/Windows	79
DMX8C	FA3Db	5006048C49AE4AB2	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA4Aa	5006048449AE4A83	TBC	TBC	5	Solaris/AIX/Windows	71
DMX8C	FA4Ab	5006048449AE4AA3	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA4Ba	5006048449AE4A93	TBC	TBC	6	Solaris/AIX/Windows	1
DMX8C	FA4Bb	5006048449AE4AB3	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA4Ca	5006048C49AE4A83	TBC	TBC	7	Solaris/AIX/Windows	1
DMX8C	FA4Cb	5006048C49AE4AA3	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA4Da	5006048C49AE4A93	RDFS93C	21	8	SRDF TO DMX8R	0
DMX8C	FA4Db	5006048C49AE4AB3	not used	not used	not used	not used	0
DMX8C	FA13Aa	5006048449AE4A8C	SW14C	64	6	Solaris/AIX/Windows	1
DMX8C	FA13Ab	5006048449AE4AAC	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA13Ba	5006048449AE4A9C	SW14C	60	5	Solaris/AIX/Windows	71
DMX8C	FA13Bb	5006048449AE4ABC	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA13Ca	5006048C49AE4A8C	SW14C	68	7	Solaris/AIX/Windows	1
DMX8C	FA13Cb	5006048C49AE4AAC	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA13Da	5006048C49AE4A9C	RDFS94C	21	8	SRDF TO DMX8R	0
DMX8C	FA13Db	5006048C49AE4ABC	not used	not used	not used	not used	0
DMX8C	FA14Aa	5006048449AE4A8D	SW14C	45	2	Solaris/AIX/Windows	79
DMX8C	FA14Ab	5006048449AE4AAD	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA14Ba	5006048449AE4A9D	SW14C	43	1	Solaris/AIX/Windows	78
DMX8C	FA14Bb	5006048449AE4ABD	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA14Ca	5006048C49AE4A8D	SW14C	59	4	Solaris/AIX/Windows	79
DMX8C	FA14Cb	5006048C49AE4AAD	spare	spare	spare	Solaris/AIX/Windows	1
DMX8C	FA14Da	5006048C49AE4A9D	SW14C	49	3	Solaris/AIX/Windows	79
DMX8C	FA14Db	5006048C49AE4ABD	spare	spare	spare	Solaris/AIX/Windows	1

Table 27: DMX8C FA Configuration

CITIGROUP - RDC - DMX8R FA Connections							
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Segment	Type	LUN count
DMX8R	FA3Aa	5006048449AE3BC2	SW11R	32	1	Solaris/AIX/Windows	78
DMX8R	FA3Ab	5006048449AE3BE2	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA3Ba	5006048449AE3BD2	SW11R	36	2	Solaris/AIX/Windows	79
DMX8R	FA3Bb	5006048449AE3BF2	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA3Ca	5006048C49AE3BC2	SW11R	40	3	Solaris/AIX/Windows	79
DMX8R	FA3Cb	5006048C49AE3BE2	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA3Da	5006048C49AE3BD2	SW11R	44	4	Solaris/AIX/Windows	79
DMX8R	FA3Db	5006048C49AE3BF2	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA4Aa	5006048449AE3BC3	SW11R	48	5	Solaris/AIX/Windows	71
DMX8R	FA4Ab	5006048449AE3BE3	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA4Ba	5006048449AE3BD3	SW11R	52	6	Solaris/AIX/Windows	1
DMX8R	FA4Bb	5006048449AE3BF3	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA4Ca	5006048C49AE3BC3	SW11R	56	7	Solaris/AIX/Windows	1
DMX8R	FA4Cb	5006048C49AE3BE3	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA4Da	5006048C49AE3BD3	RDFS91R	2	8	SRDF TO DMX8C	0
DMX8R	FA4Db	5006048C49AE3BF3	not used	not used	not used	not used	0
DMX8R	FA13Aa	5006048449AE3BCC	SW12R	52	6	Solaris/AIX/Windows	1
DMX8R	FA13Ab	5006048449AE3BEC	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA13Ba	5006048449AE3BDC	SW12R	48	5	Solaris/AIX/Windows	71
DMX8R	FA13Bb	5006048449AE3BFC	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA13Ca	5006048C49AE3BCC	SW12R	TBC	7	Solaris/AIX/Windows	1
DMX8R	FA13Cb	5006048C49AE3BEC	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA13Da	5006048C49AE3BDC	RDFS92R	2	8	SRDF TO DMX8C	0
DMX8R	FA13Db	5006048C49AE3BFC	not used	not used	not used	not used	0
DMX8R	FA14Aa	5006048449AE3BCD	SW12R	36	2	Solaris/AIX/Windows	79
DMX8R	FA14Ab	5006048449AE3BED	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA14Ba	5006048449AE3BDD	SW12R	32	1	Solaris/AIX/Windows	78
DMX8R	FA14Bb	5006048449AE3BFD	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA14Ca	5006048C49AE3BCD	SW12R	44	4	Solaris/AIX/Windows	79
DMX8R	FA14Cb	5006048C49AE3BED	spare	spare	spare	Solaris/AIX/Windows	1
DMX8R	FA14Da	5006048C49AE3BDD	SW12R	40	3	Solaris/AIX/Windows	79
DMX8R	FA14Db	5006048C49AE3BFD	spare	spare	spare	Solaris/AIX/Windows	1

Table 28: DMX8R FA Configuration

CLARiiON CX01C Fabric Connections					
Device Name	Port			Connected Device Alias	Fabric
CX01C	SP	A	0	SW13C_47	RED
CX01C	SP	A	1	SW14C_51	BLUE
CX01C	SP	A	2	SW13C_61	RED
CX01C	SP	A	3	SW14C_65	BLUE
CX01C	SP	B	0	SW14C_47	BLUE
CX01C	SP	B	1	SW13C_51	RED
CX01C	SP	B	2	SW14C_61	BLUE
CX01C	SP	B	3	SW13C_65	RED

Table 29: CX01C Port Configuration

CLARiiON CX01R Fabric Connections					
Device Name	Port			Connected Device Alias	Fabric
CX01R	SP	A	0	SW11R_04	RED
CX01R	SP	A	1	SW12R_08	BLUE
CX01R	SP	A	2	SW11R_12	RED
CX01R	SP	A	3	SW12R_16	BLUE
CX01R	SP	B	0	SW12R_04	BLUE
CX01R	SP	B	1	SW11R_08	RED
CX01R	SP	B	2	SW12R_12	BLUE
CX01R	SP	B	3	SW11R_16	RED

Table 30: CX01R Port Configuration

3.5 CGC/RDC Initial SAN Logical Topology

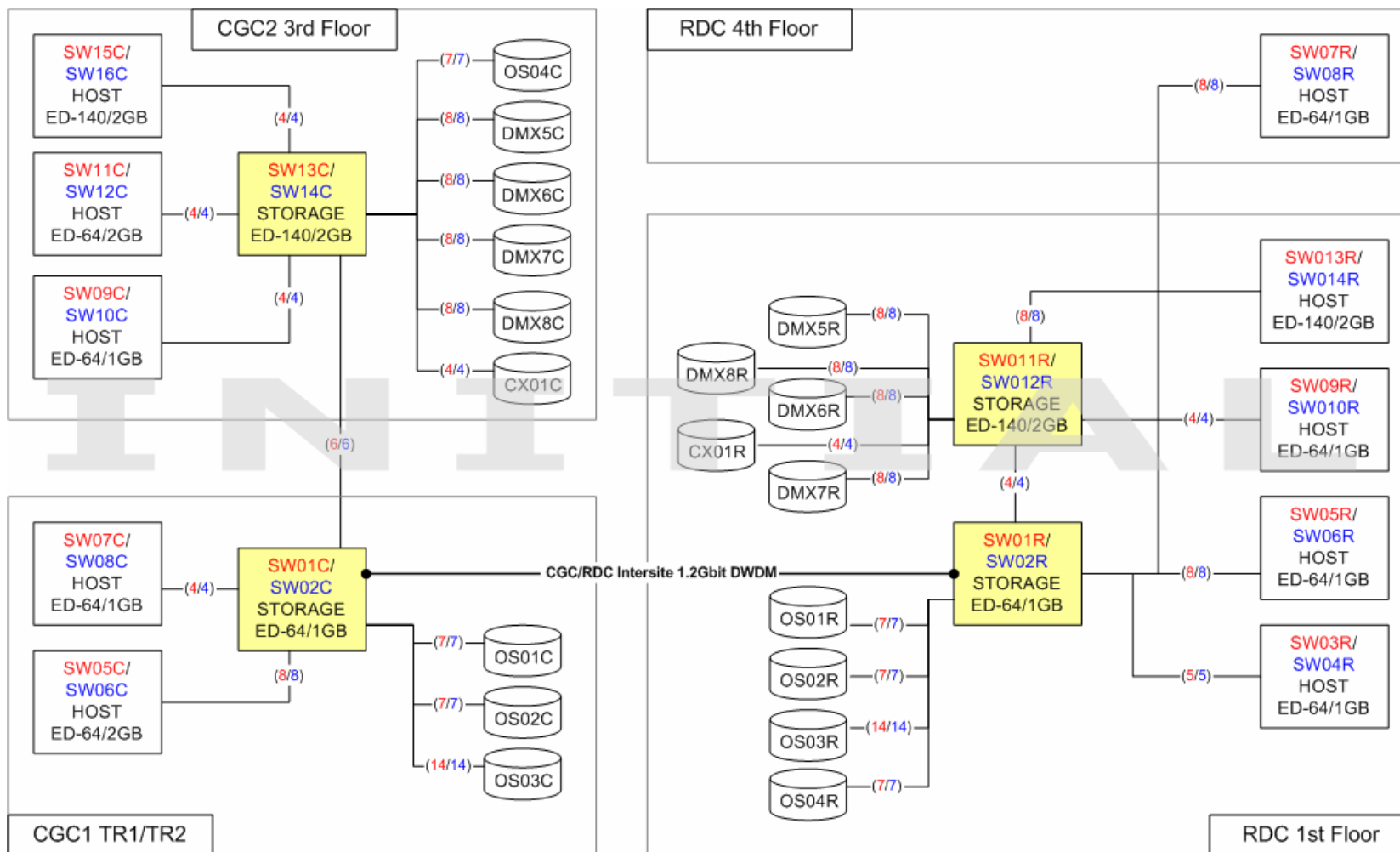


Figure 1: Initial CGC/RDC SAN Logical Topology

3.6 CGC/RDC Initial SRDF DWDM Topology

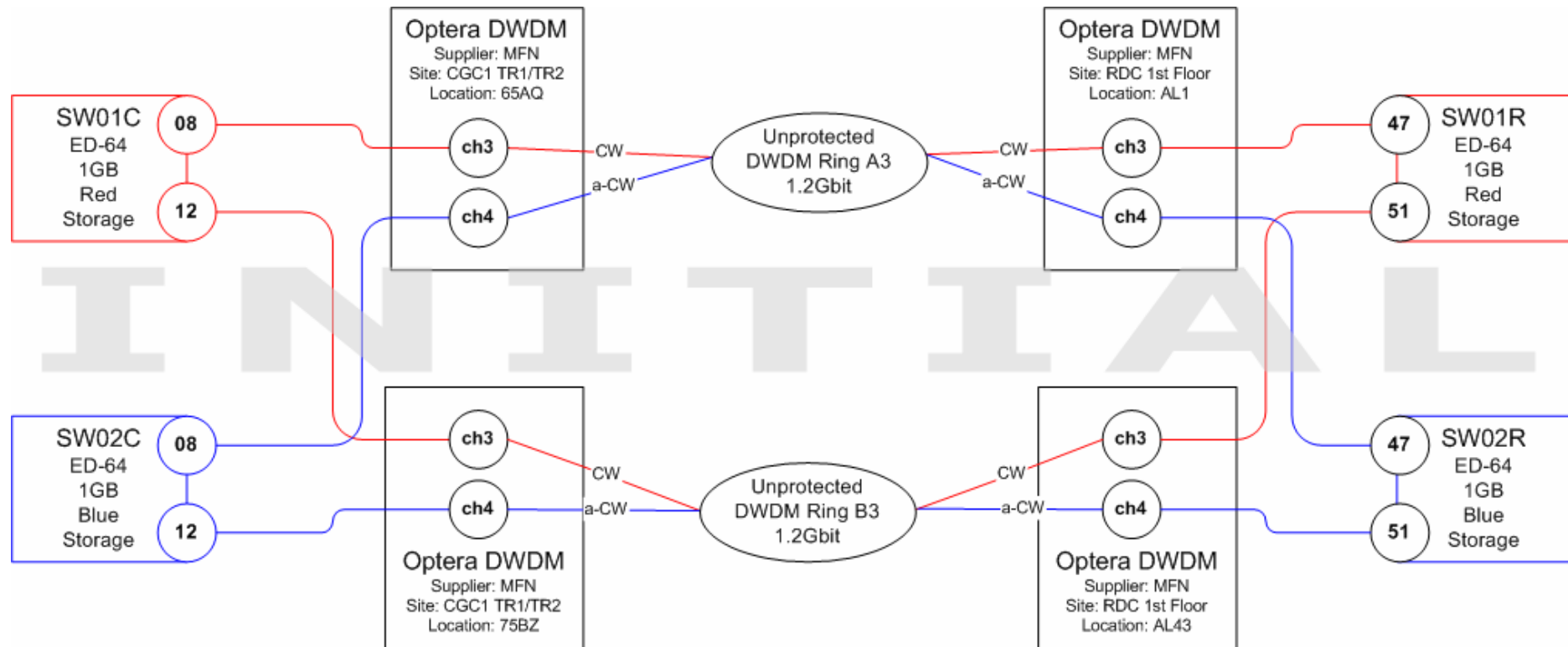


Figure 2: Initial CGC/RDC SAN DWDM Topology

3.7 CGC Initial Connectrix Information

CGC Connectrix Hardware Information Table																			
Device Name	New/Existing	Site	Floor	Cabinet Location	Serial #	Model	1GB/2GB	# of Ports	Firmware	Cnx. Mngr.	Fabric	Connected Device Type	Domain ID	Switch Priority	Insistent D_ID?	Interop. Mode	IP Address	SP Cabinet	SP IP Address
SW01C	Existing	CGC1	TR1/TR2	59AN	MC5FJ01158	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Storage	1	Principal	No	McData Fab. 1.0	10.1.7.1	59AN	192.32.1.1
SW02C	Existing	CGC1	TR1/TR2	71CF	MC5FJ01182	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Storage	1	Principal	No	McData Fab. 1.0	10.1.8.1	71CF	192.32.1.2
SW03C	not used, decommissioned																		
SW04C	not used, decommissioned																		
SW05C	Existing	CGC1	TR1/TR2	59AN	MC5FJ01267	ED-64	2GB	64	4.01.04 2	6.03.01 5	Red	Host	30	Never Principal	Yes	McData Fab. 1.0	10.2.7.3	59AN	192.32.1.1
SW06C	Existing	CGC1	TR1/TR2	71CF	MC5FJ01308	ED-64	2GB	64	4.01.04 2	6.03.01 5	Blue	Host	30	Never Principal	Yes	McData Fab. 1.0	10.2.8.3	71CF	192.32.1.2
SW07C	Existing	CGC1	TR1/TR2	59AN	MC5FJ01159	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	29	Never Principal	No	McData Fab. 1.0	10.1.7.2	59AN	192.32.1.1
SW08C	Existing	CGC1	TR1/TR2	71CF	MC5FJ01183	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	29	Never Principal	No	McData Fab. 1.0	10.1.8.2	71CF	192.32.1.2
SW09C	Existing	CGC2	3rd Floor	BW100	MC5FJ07225	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	25	Never Principal	No	McData Fab. 1.0	10.1.7.5	59AN	192.32.1.1
SW10C	Existing	CGC2	3rd Floor	CB05	MC5FJ07208	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	25	Never Principal	No	McData Fab. 1.0	10.1.8.5	71CF	192.32.1.2
SW11C	Existing	CGC2	3rd Floor	BW100	MC5FJ01673	ED-64	2GB	64	4.01.04 2	6.03.01 5	Red	Host	24	Never Principal	Yes	McData Fab. 1.0	10.1.7.6	59AN	192.32.1.1
SW12C	Existing	CGC2	3rd Floor	CB05	MC5FJ09611	ED-64	2GB	64	4.01.04 2	6.03.01 5	Blue	Host	24	Never Principal	Yes	McData Fab. 1.0	10.1.8.6	71CF	192.32.1.2
SW13C	Existing	CGC2	3rd Floor	BW100	MC5IN01268	ED-140	2GB	72	4.01.04 2	6.03.01 5	Red	Storage	23	Principal	Yes	McData Fab. 1.0	10.1.7.7	59AN	192.32.1.1
SW14C	Existing	CGC2	3rd Floor	CB05	MC5IN01267	ED-140	2GB	72	4.01.04 2	6.03.01 5	Blue	Storage	23	Principal	Yes	McData Fab. 1.0	10.1.8.7	71CF	192.32.1.2
SW15C	Existing	CGC2	3rd Floor	BT94	MC5IN01483	ED-140	2GB	120	4.01.04 2	6.03.01 5	Red	Host	20	Never Principal	Yes	McData Fab. 1.0	10.1.7.9	59AN	192.32.1.1
SW16C	Existing	CGC2	3rd Floor	BT06	MC5IN01484	ED-140	2GB	120	4.01.04 2	6.03.01 5	Blue	Host	20	Never Principal	Yes	McData Fab. 1.0	10.3.8.1	71CF	192.32.1.2

Table 31: CGC Initial Connectrix Information

3.8 RDC Initial Connectrix Information

RDC Connectrix Hardware Information Table																			
Device Name	New/Existing	Site	Floor	Cabinet Location	Serial #	Model	1GB/2GB	# of Ports	Firmware	Cnx. Mngr.	Fabric	Connected Device Type	Domain ID	Switch Priority	Insistent D_ID?	Interop. Mode	IP Address	SP Cabinet	SP IP Address
SW01R	Existing	RDC	1st Floor	BX04	MC5FJ01954	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Storage	2	Principal	No	McData Fab. 1.0	10.1.8.1	BX04	192.32.1.11
SW02R	Existing	RDC	1st Floor	BX40	MC5FJ02061	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Storage	2	Principal	No	McData Fab. 1.0	10.1.8.1	BX40	192.32.1.12
SW03R	Existing	RDC	1st Floor	BX04	MC5FJ01953	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	28	Never Principal	No	McData Fab. 1.0	10.1.8.2	BX04	192.32.1.11
SW04R	Existing	RDC	1st Floor	BX40	MC5FJ02060	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	28	Never Principal	No	McData Fab. 1.0	10.1.8.2	BX40	192.32.1.12
SW05R	Existing	RDC	1st Floor	BX04	MC5FJ07237	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	27	Never Principal	No	McData Fab. 1.0	10.1.8.3	BX04	192.32.1.11
SW06R	Existing	RDC	1st Floor	BX40	MC5FJ07236	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	27	Never Principal	No	McData Fab. 1.0	10.1.8.3	BX40	192.32.1.12
SW07R	Existing	RDC	4th Floor	BU18	MC5FJ01848	ED-64	1GB	60	4.01.04 2	6.03.01 5	Red	Host	26	Never Principal	No	McData Fab. 1.0	10.2.8.1	BX04	192.32.1.11
SW08R	Existing	RDC	4th Floor	BU26	MC5FJ02020	ED-64	1GB	60	4.01.04 2	6.03.01 5	Blue	Host	26	Never Principal	No	McData Fab. 1.0	10.2.8.1	BX40	192.32.1.12
SW09R	Existing	RDC	1st Floor	BX04	MC5FJ01292	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	22	Never Principal	Yes	McData Fab. 1.0	10.1.8.4	BX04	192.32.1.11
SW10R	Existing	RDC	1st Floor	BX40	MC5FJ01297	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	22	Never Principal	Yes	McData Fab. 1.0	10.1.8.4	BX40	192.32.1.12
SW11R	Existing	RDC	1st Floor	BU01	MC5IN01485	ED-140	2GB	140	4.01.04 2	6.03.01 5	Red	Storage	3	Principal	Yes	McData Fab. 1.0	10.3.8.1	BX04	192.32.1.11
SW12R	Existing	RDC	1st Floor	BU39	MC5IN01482	ED-140	2GB	140	4.01.04 2	6.03.01 5	Blue	Storage	3	Principal	Yes	McData Fab. 1.0	10.3.8.1	BX40	192.32.1.12
SW13R	Existing	RDC	1st Floor	BU01	MC5IN01584	ED-140	2GB	140	4.01.04 2	6.03.01 5	Red	Host	21	Never Principal	Yes	McData Fab. 1.0	10.3.8.2	BX04	192.32.1.11
SW14R	Existing	RDC	1st Floor	BU39	MC5IN01585	ED-140	2GB	140	4.01.04 2	6.03.01 5	Blue	Host	21	Never Principal	Yes	McData Fab. 1.0	10.3.8.2	BX40	192.32.1.12
RDFSW91R	New	RDC	1st Floor	BX18	MC5FJ21148	ED-64	2GB	32	6.01	7.2	Green	SRDF	3	default	Yes	McData Fab. 1.0	TBC	BX18	192.32.1.15
RDFSW92R	New	RDC	1st Floor	BX36	MC5FJ21144	ED-64	2GB	32	6.01	7.2	Black	SRDF	4	default	Yes	McData Fab. 1.0	TBC	BX36	192.32.1.16
RDFSW93R	New	RDC	4th Floor	M03	MC5FJ21147	ED-64	2GB	32	6.01	7.2	Green	SRDF	7	default	Yes	McData Fab. 1.0	TBC	BX18	192.32.1.15
RDFSW94R	New	RDC	4th Floor	M45	MC5FJ21146	ED-64	2GB	32	6.01	7.2	Black	SRDF	8	default	Yes	McData Fab. 1.0	TBC	BX36	192.32.1.16

Table 32: RDC Initial Connectrix Information

4 SAN Phase 4.1 SAN Split and SRDF Fabric Implementation (as of 13/12/2004)

4.1 Implementation Overview

The CGC/RDC SAN will be split in 3 SAN environments, 6 fabrics in total:

- RED/BLUE fabrics in CGC
- RED/BLUE fabrics in RDC
- GREEN/BLACK SRDF fabric

The Citigroup standards do not allow for cross-site usage of the SAN, thus making the split possible. The SRDF traffic and the DWDM connections between the sites will be moved to the SRDF fabric.

New host/edge switches, a new storage/core switch in RDC and new storage arrays will be deployed as part of this phase.

4.2 SAN Phase 4.1 – Environment Description

Following changes will be implemented:

- A second pair of DWDM links will be connected between RDC and CGC for redundancy and additional bandwidth. 2 new cards will be installed to the OPTERA frames and the firmware of the new cards will be upgraded.
- The DWDM connections in RDC are terminated in RDC 1st floor for both 1st floor and 4th floor connections. Additional cabling from 1st floor to 4th floor will be provided by Citigroup infrastructure team.
- New network and fiber cabling infrastructure cabling will be completed for:
 - New cabinets
 - Re-located cabinets
 - RDC 3rd floor
 - RDC 3rd floor and RDC 4th floor connections to prepare for SAN Phase 4.2.
- 2 new EC-1500 cabinets will be deployed in CGC2 3rd floor for SRDF fabric. 1 x 32 ports ED-64M will be installed in each cabinet. The switches will be called RDFS93C for Green fabric and RDFS94C for Black fabric.
- 2 new EC-1500 cabinets will be deployed in CGC1 TR1/TR2 for SRDF fabric. 1 x 32 ports ED-64M will be installed in each cabinet. The switches will be called RDFS91C for Green fabric and RDFS92C for Black fabric.

- 2 new EC-1500 cabinets will be deployed in RDC 1st floor for SRDF fabric. 1 x 32 ports ED-64M will be installed in each cabinet. The switches will be called RDFS91R for Green fabric and RDFS92R for Black fabric.
- 2 new EC-1500 cabinets will be deployed in RDC 4th floor for SRDF fabric. 1 x 32 ports ED-64M will be installed in each cabinet. The switches will be called RDFS93R for Green fabric and RDFS94R for Black fabric.
- ISL links between floors and DWDM links between sites will connect following directors in Green fabric: RDFS91C, RDFS93C, RDFS91R and RDFS93R.
- ISL links between floor and DWDM links between sites will connect following directors in Black fabric: RDFS92C, RDFS94C, RDFS92R and RDFS94R.
- The SRDF fabric will be managed primarily from CGC, but the switches will be managed from an SP at the site they are located in.
- The private management network for the SAN uses a private network hub to connect to the SAN Management workstation at each site. Citigroup will check the free port availability and the cable length required for the new connections.
- Since RDC and CGC Blue/Red SAN are not connected anymore, a second SAN Management workstation will be deployed in RDC to manage this environment.
- The network connections in CGC require copper-to-fiber converters to plug into the inter-floor LAN cable. New converters will be purchased for CGC to provide network connectivity for green and black SRDF fabrics.
- The new EC-1500 cabinets are delivered with new 1U Service Processors and KVM unit.
- The new Green/Black fabric will be running Connectrix firmware 6.01 and Connectrix Manager 7.2. Once the switches are installed and powered up the loaded software and firmware will be replaced with these versions.
- Before all the storage connectivity and SRDF ports are moved to Green/Black fabric, new DMX systems will be used for testing of this fabric.
- The storage core switches on both sites will require additional UPMs which will be reclaimed from existing switches where possible. Citigroup team will identify:
 - Which UPMs are not used
 - Where should these UPMs be installed

4.3 SAN Phase 4.1 – Connectrix Information

CGC Connectrix Hardware Information Table																			
Device Name	New/ Existing	Site	Floor	Cabinet Location	Serial #	Model	1GB/ 2GB	# of Ports	Firmware	Cnx. Mngr.	Fabric	Connected Device Type	Domain ID	Switch Priority	Insistent D_ID?	Interop. Mode	IP Address	SP Cabinet	SP IP Address
SW01C	Existing	CGC1	TR1/TR2	59AN	MC5FJ01158	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Storage	1	Principal	No	McData Fab. 1.0	10.1.7.1	59AN	192.32.1.1
SW02C	Existing	CGC1	TR1/TR2	71CF	MC5FJ01182	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Storage	1	Principal	No	McData Fab. 1.0	10.1.8.1	71CF	192.32.1.2
SW05C	Existing	CGC1	TR1/TR2	59AN	MC5FJ01267	ED-64	2GB	64	4.01.04 2	6.03.01 5	Red	Host	30	Never Principal	Yes	McData Fab. 1.0	10.2.7.3	59AN	192.32.1.1
SW06C	Existing	CGC1	TR1/TR2	71CF	MC5FJ01308	ED-64	2GB	64	4.01.04 2	6.03.01 5	Blue	Host	30	Never Principal	Yes	McData Fab. 1.0	10.2.8.3	71CF	192.32.1.2
SW07C	Existing	CGC1	TR1/TR2	59AN	MC5FJ01159	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	29	Never Principal	No	McData Fab. 1.0	10.1.7.2	59AN	192.32.1.1
SW08C	Existing	CGC1	TR1/TR2	71CF	MC5FJ01183	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	29	Never Principal	No	McData Fab. 1.0	10.1.8.2	71CF	192.32.1.2
SW09C	Existing	CGC2	3rd Floor	BW100	MC5FJ07225	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	25	Never Principal	No	McData Fab. 1.0	10.1.7.5	59AN	192.32.1.1
SW10C	Existing	CGC2	3rd Floor	CB05	MC5FJ07208	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	25	Never Principal	No	McData Fab. 1.0	10.1.8.5	71CF	192.32.1.2
SW11C	Existing	CGC2	3rd Floor	BW100	MC5FJ01673	ED-64	2GB	64	4.01.04 2	6.03.01 5	Red	Host	24	Never Principal	Yes	McData Fab. 1.0	10.1.7.6	59AN	192.32.1.1
SW12C	Existing	CGC2	3rd Floor	CB05	MC5FJ09611	ED-64	2GB	64	4.01.04 2	6.03.01 5	Blue	Host	24	Never Principal	Yes	McData Fab. 1.0	10.1.8.6	71CF	192.32.1.2
SW13C	Existing	CGC2	3rd Floor	BW100	MC5IN01268	ED-140	2GB	108	4.01.04 2	6.03.01 5	Red	Storage	23	Principal	Yes	McData Fab. 1.0	10.1.7.7	59AN	192.32.1.1
SW14C	Existing	CGC2	3rd Floor	CB05	MC5IN01267	ED-140	2GB	108	4.01.04 2	6.03.01 5	Blue	Storage	23	Principal	Yes	McData Fab. 1.0	10.1.8.7	71CF	192.32.1.2
SW15C	Existing	CGC2	3rd Floor	BW101	MC5IN01483	ED-140	2GB	120	4.01.04 2	6.03.01 5	Red	Host	20	Never Principal	Yes	McData Fab. 1.0	10.1.7.9	59AN	192.32.1.1
SW16C	Existing	CGC2	3rd Floor	CB06	MC5IN01484	ED-140	2GB	120	4.01.04 2	6.03.01 5	Blue	Host	20	Never Principal	Yes	McData Fab. 1.0	10.3.8.1	71CF	192.32.1.2
RDFSW91C	New	CGC1	TR1/TR2	60AN	MC5FJ21145	ED-64	2GB	32	6.01	7.02	Green	SRDF	1	default	Yes	McData Fab. 1.0	10.101.7.1	CA96	TBC
RDFSW92C	New	CGC1	TR1/TR2	70CF	MC5FJ21143	ED-64	2GB	32	6.01	7.02	Black	SRDF	2	default	Yes	McData Fab. 1.0	10.101.7.1	CB14	TBC
RDFSW93C	New	CGC2	3rd Floor	CA96	MC5TN01414	ED-64	2GB	32	6.01	7.02	Green	SRDF	5	default	Yes	McData Fab. 1.0	10.103.7.1	CA96	TBC
RDFSW94C	New	CGC2	3rd Floor	CB14	MC5TN01415	ED-64	2GB	32	6.01	7.02	Black	SRDF	6	default	Yes	McData Fab. 1.0	10.103.7.1	CB14	TBC

Table 33: SAN Phase 4.1- CGC Connectrix Information

RDC Connectrix Hardware Information Table																			
Device Name	New/ Existing	Site	Floor	Cabinet Location	Serial #	Model	1GB/ 2GB	# of Ports	Firmware	Cnx. Mngr.	Fabric	Connected Device Type	Domain ID	Switch Priority	Insistent D_ID?	Interop. Mode	IP Address	SP Cabinet	SP IP Address
SW01R	Existing	RDC	1st Floor	BX04	MC5FJ01954	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Storage	2	Principal	No	McData Fab. 1.0	10.1.8.1	BX04	192.32.1.11
SW02R	Existing	RDC	1st Floor	BX40	MC5FJ02061	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Storage	2	Principal	No	McData Fab. 1.0	10.1.8.1	BX40	192.32.1.12
SW03R	Existing	RDC	1st Floor	BX04	MC5FJ01953	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	28	Never Principal	No	McData Fab. 1.0	10.1.8.2	BX04	192.32.1.11
SW04R	Existing	RDC	1st Floor	BX40	MC5FJ02060	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	28	Never Principal	No	McData Fab. 1.0	10.1.8.2	BX40	192.32.1.12
SW05R	Existing	RDC	1st Floor	BX04	MC5FJ07237	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	27	Never Principal	No	McData Fab. 1.0	10.1.8.3	BX04	192.32.1.11
SW06R	Existing	RDC	1st Floor	BX40	MC5FJ07236	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	27	Never Principal	No	McData Fab. 1.0	10.1.8.3	BX40	192.32.1.12
SW07R	Existing	RDC	4th Floor	BU18	MC5FJ01848	ED-64	1GB	60	4.01.04 2	6.03.01 5	Red	Host	26	Never Principal	No	McData Fab. 1.0	10.2.8.1	BX04	192.32.1.11
SW08R	Existing	RDC	4th Floor	BU26	MC5FJ02020	ED-64	1GB	60	4.01.04 2	6.03.01 5	Blue	Host	26	Never Principal	No	McData Fab. 1.0	10.2.8.1	BX40	192.32.1.12
SW09R	Existing	RDC	1st Floor	BX04	MC5FJ01292	ED-64	1GB	64	4.01.04 2	6.03.01 5	Red	Host	22	Never Principal	Yes	McData Fab. 1.0	10.1.8.4	BX04	192.32.1.11
SW10R	Existing	RDC	1st Floor	BX40	MC5FJ01297	ED-64	1GB	64	4.01.04 2	6.03.01 5	Blue	Host	22	Never Principal	Yes	McData Fab. 1.0	10.1.8.4	BX40	192.32.1.12
SW11R	Existing	RDC	1st Floor	BU01	MC5IN01485	ED-140	2GB	140	4.01.04 2	6.03.01 5	Red	Storage	3	Principal	Yes	McData Fab. 1.0	10.3.8.1	BX04	192.32.1.11
SW12R	Existing	RDC	1st Floor	BU39	MC5IN01482	ED-140	2GB	140	4.01.04 2	6.03.01 5	Blue	Storage	3	Principal	Yes	McData Fab. 1.0	10.3.8.1	BX40	192.32.1.12
SW13R	Existing	RDC	1st Floor	BU01	MC5IN01584	ED-140	2GB	140	4.01.04 2	6.03.01 5	Red	Host	21	Never Principal	Yes	McData Fab. 1.0	10.3.8.2	BX04	192.32.1.11
SW14R	Existing	RDC	1st Floor	BU39	MC5IN01585	ED-140	2GB	140	4.01.04 2	6.03.01 5	Blue	Host	21	Never Principal	Yes	McData Fab. 1.0	10.3.8.2	BX40	192.32.1.12
RDFSW91R	New	RDC	1st Floor	BX18	MC5FJ21148	ED-64	2GB	32	6.01	7.02	Green	SRDF	3	default	Yes	McData Fab. 1.0	TBC	BX18	192.32.1.15
RDFSW92R	New	RDC	1st Floor	BX36	MC5FJ21144	ED-64	2GB	32	6.01	7.02	Black	SRDF	4	default	Yes	McData Fab. 1.0	TBC	BX36	192.32.1.16
RDFSW93R	New	RDC	4th Floor	M03	MC5FJ21147	ED-64	2GB	32	6.01	7.02	Green	SRDF	7	default	Yes	McData Fab. 1.0	TBC	BX18	192.32.1.15
RDFSW94R	New	RDC	4th Floor	M45	MC5FJ21146	ED-64	2GB	32	6.01	7.02	Black	SRDF	8	default	Yes	McData Fab. 1.0	TBC	BX36	192.32.1.16

Table 34: SAN Phase 4.1- RDC Connectrix Information

4.4 SAN Phase 4.1 – SAN Split and SRDF Fabric Environment Topology

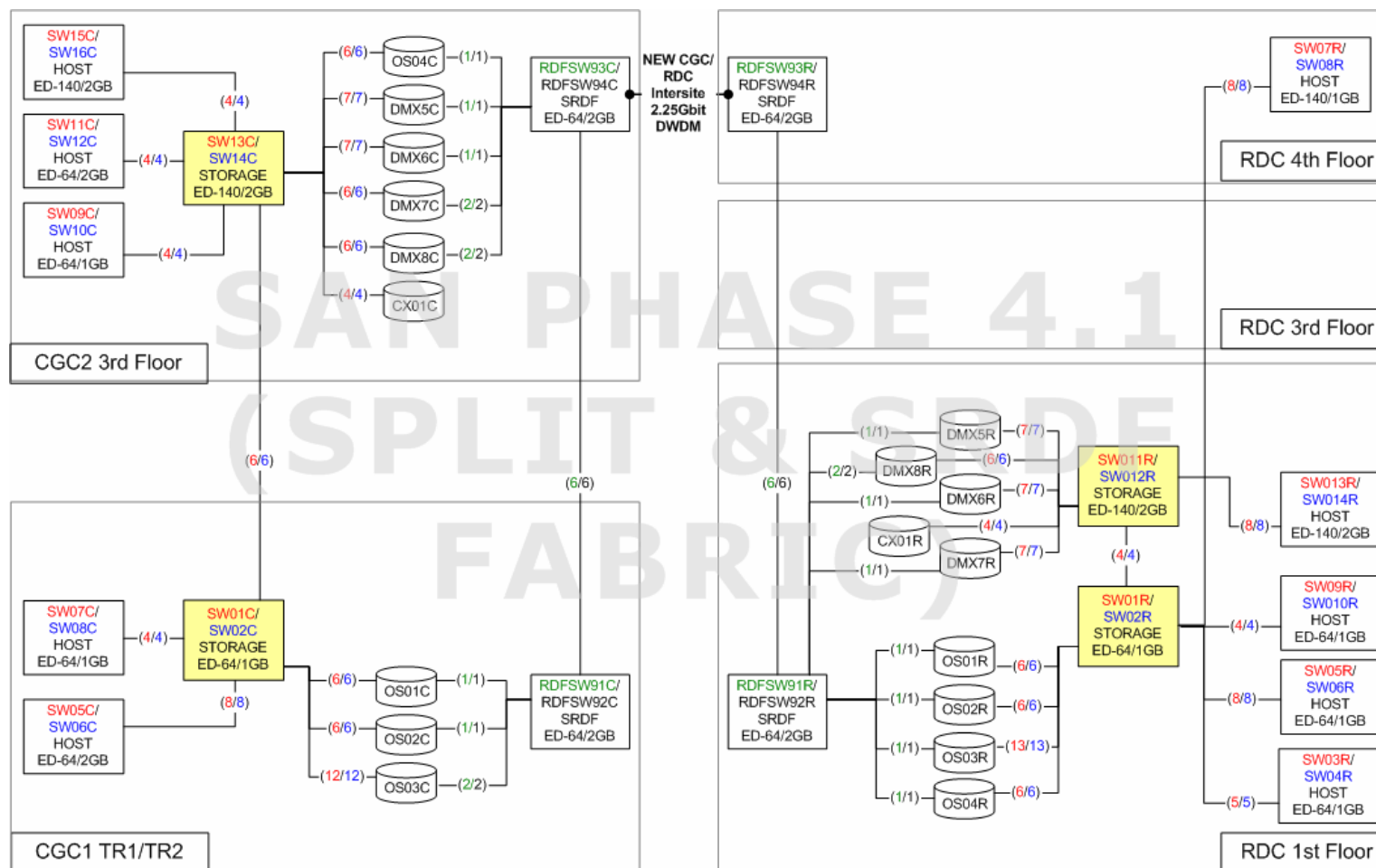


Figure 3: SAN Phase 4.1- SAN Split Logical Topology

4.5 SAN Phase 4.1 – SAN Split and SRDF Fabric DWDM Topology

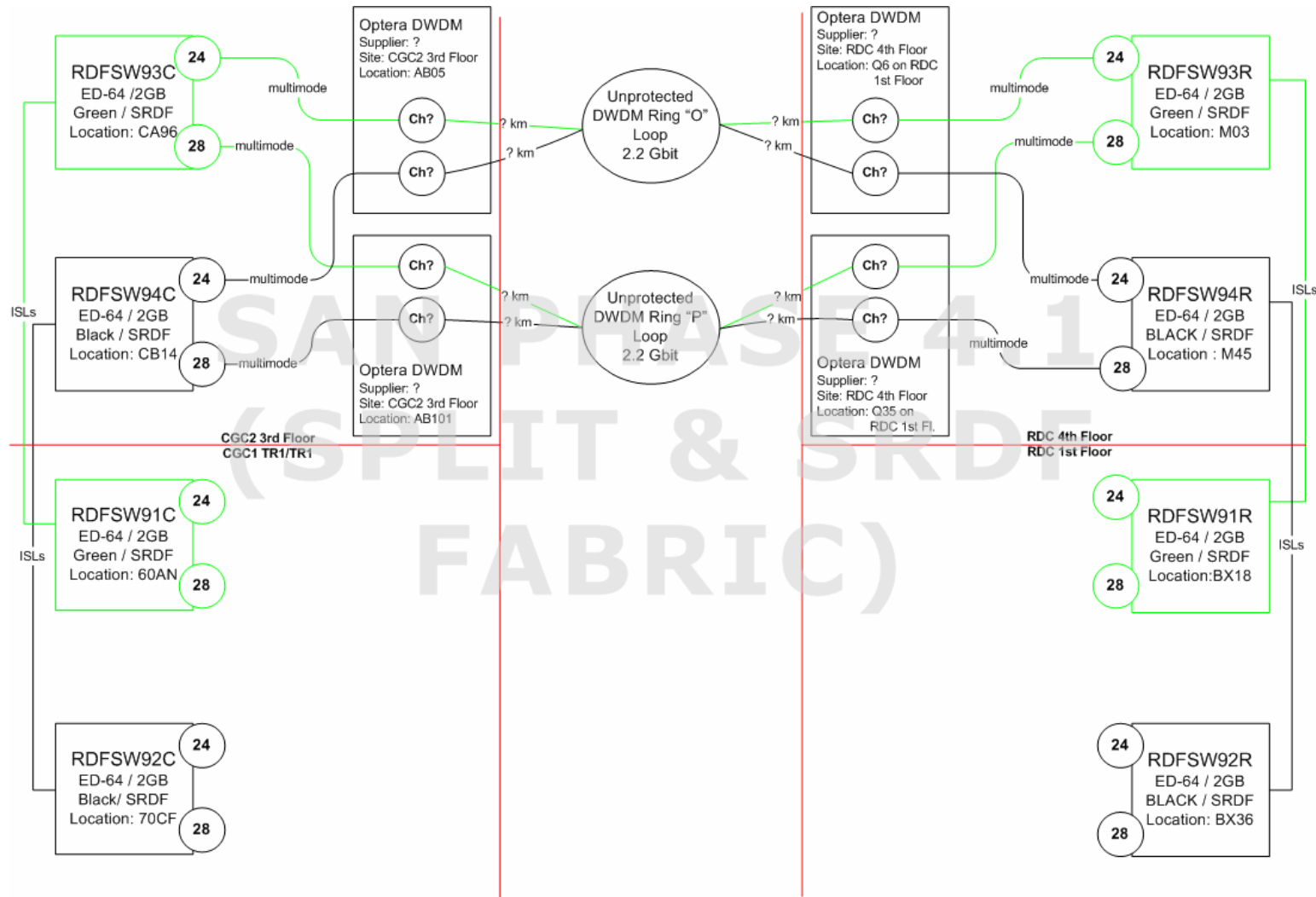


Figure 4: SAN Phase 4.1- SAN Split DWDM Topology

4.6 SAN Phase 4.1 – SRDF Fabric DWDM Cable Path

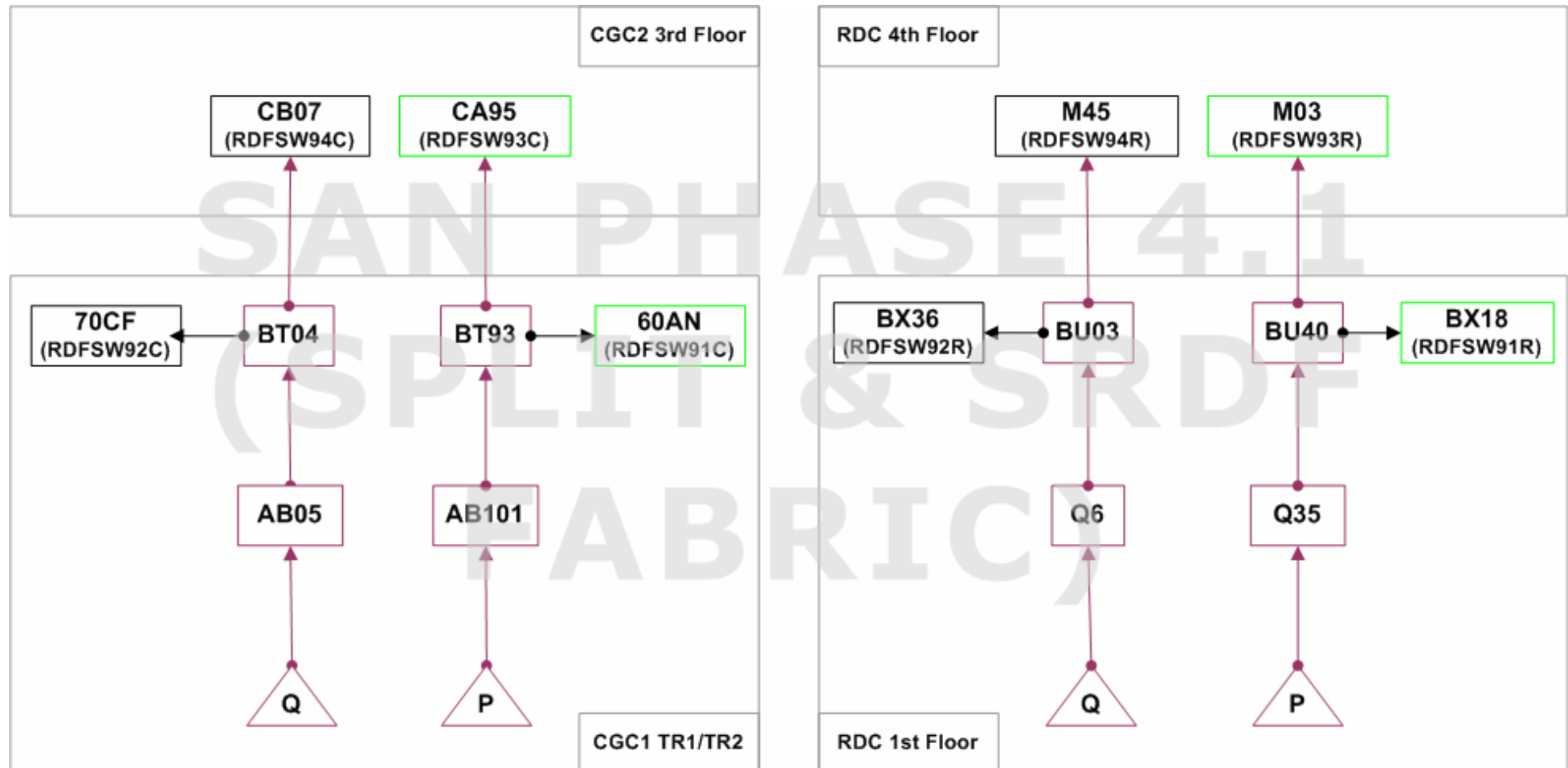


Figure 5: SAN Phase 4.1- DWDM Physical Cable Path in Data Centres

5 SAN Phase 4.1 – SRDF Fabric Connectrix Port Assignments

CITIGROUP - Port Assignments - CGC1 - RDFS91C (Domain 01)						
Port	Device Vendor	Device	Device Name	FA / Port	Device Alias	Notes
00	EMC	ED-64M	RDFS91C	00	RDFS91C_00	ISL to CGC2
01	EMC	8730	OS01C	FA6aA	OS01C_FA6AA	
02						
03						
04	EMC	ED-64M	RDFS91C	04	RDFS91C_04	ISL to CGC2
05	EMC	8730	OS02C	FA11aA	OS02C_FA11AA	
06	EMC	8730	OS01C	FA11aA	OS01C_FA11AA	
07						
08	EMC	ED-64M	RDFS91C	08	RDFS91C_08	ISL to CGC2
09	EMC	8830	OS03C	FA6aA	OS03C_FA6AA	
10						
11						
12	EMC	ED-64M	RDFS91C	12	RDFS91C_12	ISL to CGC2
13	EMC	8830	OS03C	FA6bA	OS03C_FA6BA	
14						
15						
16	EMC	ED-64M	RDFS91C	16	RDFS91C_16	ISL to CGC2
17						
18						
19						
20	EMC	ED-64M	RDFS91C	20	RDFS91C_20	ISL to CGC2
21						
22						
23						
24	Optera	CGC1 TR1/TR2	DWDM_CGC1_Green	A3_Loop	DWDM_CGC1_GREEN_A3_LOOP	DWDM
25						
26						
27						
28	Optera	CGC1 TR1/TR2	DWDM_CGC1_Green	B3_Loop	DWDM_CGC1_GREEN_B3_LOOP	DWDM
29						
30						
31						
32	Ports 32 to 63 are not installed					
to						
63						

19 <=Unused Ports

Table 35: RDFS91C Port Assignments

CITIGROUP - Port Assignments - CGC1 - RDFS92C (Domain 02)						
Port	Device Vendor	Device	Device Name	FA / Port	Device Alias	Notes
00	EMC	ED-64M	RDFS92C	00	RDFS92C_00	ISL to CGC2
01	EMC	8730	OS01C	FA11aA	OS01C_FA11AA	
02						
03						
04	EMC	ED-64M	RDFS92C	04	RDFS92C_04	ISL to CGC2
05	EMC	8730	OS02C	FA11aA	OS02C_FA11AA	
06						
07						
08	EMC	ED-64M	RDFS92C	08	RDFS92C_08	ISL to CGC2
09	EMC	8830	OS03C	FA11aA	OS03C_FA11AA	
10						
11						
12	EMC	ED-64M	RDFS92C	12	RDFS92C_12	ISL to CGC2
13	EMC	8830	OS03C	FA11bA	OS03C_FA11BA	
14						
15						
16	EMC	ED-64M	RDFS92C	16	RDFS92C_16	ISL to CGC2
17						
18						
19						
20	EMC	ED-64M	RDFS92C	20	RDFS92C_20	ISL to CGC2
21						
22						
23						
24	Optera	CGC1 TR1/TR2	DWDM CGC1 Black	A3 Loop	DWDM CGC1_BLACK_A3_LOOP	DWDM
25						
26						
27						
28	Optera	CGC1 TR1/TR2	DWDM CGC1 Black	B3 Loop	DWDM CGC1_BLACK_B3_LOOP	DWDM
29						
30						
31						
32	Ports 32 to 63 are not installed					
to						
63						

20 <=Unused Ports

Table 36: RDFS92C Port Assignments

CITIGROUP - Port Assignments - CGC2 - RDFS93C (Domain 05)						
Port	Device Vendor	Device	Device Name	FA / Port	Device Alias	Notes
00	EMC	ED-64M	RDFS93C	00	RDFS93C_00	ISL to CGC1
01	EMC	8730	OS04C	FA6bA	OS04C_FA6BA	
02	EMC	DMX3000	DMX10C	FA7dA	DMX10C_FA7DA	Reserved
03						
04	EMC	ED-64M	RDFS93C	04	RDFS93C_04	ISL to CGC1
05	EMC	DMX2000	DMX5C	FA4dA	DMX5C_FA4DA	
06	EMC	DMX3000	DMX10C	FA8dA	DMX10C_FA8DA	Reserved
07						
08	EMC	ED-64M	RDFS93C	08	RDFS93C_08	ISL to CGC1
09	EMC	DMX2000	DMX6C	FA4dA	DMX6C_FA4DA	
10	EMC	DMX3000	DMX11C	FA7dA	DMX11C_FA7DA	Reserved
11						
12	EMC	ED-64M	RDFS93C	12	RDFS93C_12	ISL to CGC1
13	EMC	DMX2000	DMX7C	FA5dA	DMX7C_FA5DA	
14	EMC	DMX3000	DMX11C	FA8dA	DMX11C_FA8DA	Reserved
15						
16	EMC	ED-64M	RDFS93C	16	RDFS93C_16	ISL to CGC1
17	EMC	DMX2000	DMX7C	FA4dA	DMX7C_FA4DA	
18						
19						
20	EMC	ED-64M	RDFS93C	20	RDFS93C_20	ISL to CGC1
21	EMC	DMX2000	DMX8C	FA4dA	DMX8C_FA4DA	
22	EMC	DMX2000	DMX7C	FA5dA	DMX7C_FA5DA	ISL to CGC1
23						
24	Optera	CGC2 3rd Floor	DWDM_CGC2_Green	O_Loop	DWDM_CGC2_GREEN_O_LOOP	DWDM
25	EMC	DMX3000	DMX9C	FA7dA	DMX9C_FA7DA	Reserved
26						
27						
28	Optera	CGC2 3rd Floor	DWDM_CGC2_Green	P_Loop	DWDM_CGC2_GREEN_P_LOOP	DWDM
29	EMC	DMX3000	DMX9C	FA8dA	DMX9C_FA8DA	Reserved
30						
31						
32	Ports 32 to 63 are not installed					
to						
63						

11 <=Unused Ports

Table 37: RDFS93C Ports Assignments

CITIGROUP - Port Assignments - CGC2 - RDFS94C (Domain 06)						
Port	Device Vendor	Device	Device Name	FA / Port	Device Alias	Notes
00	EMC	ED-64M	RDFS94C	00	RDFS94C 00	ISL to CGC1
01	EMC	8730	OS04C	FA11bA	OS04C FA11BA	
02	EMC	DMX3000	DMX10C	FA9dA	DMX10C FA9DA	Reserved
03						
04	EMC	ED-64M	RDFS94C	04	RDFS94C 04	ISL to CGC1
05	EMC	DMX2000	DMX5C	FA13dA	DMX5C FA13DA	
06	EMC	DMX3000	DMX10C	FA10dA	DMX10C FA10DA	Reserved
07						
08	EMC	ED-64M	RDFS94C	08	RDFS94C 08	ISL to CGC1
09	EMC	DMX2000	DMX6C	FA13dA	DMX6C FA13DA	
10	EMC	DMX3000	DMX11C	FA9dA	DMX11C FA9DA	Reserved
11						
12	EMC	ED-64M	RDFS94C	12	RDFS94C 12	ISL to CGC1
13	EMC	DMX2000	DMX7C	FA12dA	DMX7C FA12DA	
14	EMC	DMX3000	DMX11C	FA10dA	DMX11C FA10DA	Reserved
15						
16	EMC	ED-64M	RDFS94C	16	RDFS94C 16	ISL to CGC1
17	EMC	DMX2000	DMX7C	FA13dA	DMX7C FA13DA	
18						
19						
20	EMC	ED-64M	RDFS94C	20	RDFS94C 20	ISL to CGC1
21	EMC	DMX2000	DMX8C	FA13dA	DMX8C FA13DA	
22						
23						
24	Optera	CGC2 3rd Floor	DWDM CGC2 Black	O Loop	DWDM CGC2 BLACK O LOOP	DWDM
25	EMC	DMX3000	DMX9C	FA9dA	DMX9C FA9DA	Reserved
26						
27						
28	Optera	CGC2 3rd Floor	DWDM CGC2 Black	P Loop	DWDM CGC2 BLACK P LOOP	DWDM
29	EMC	DMX3000	DMX9C	FA10dA	DMX9C FA10DA	Reserved
30						
31						
32	Ports 32 to 63 are not installed					
to						
63						

12 <=Unused Ports

Table 38: RDFS94C Port Assignments

CITIGROUP - Port Assignments - RDC - RDFSW91R (Domain 03)						
Port	Device Vendor	Device	Device Name	FA / Port	Device Alias	Notes
00	EMC	ED-64M	RDFSW93R	00	RDFSW93R_00	ISL to RDC 4th Floor
01	EMC	8730	OS01RDC	FA6aA	OS01RDC_FA6AA	
02	EMC	DMX2000	DMX8R	FA4dA	DMX8R_FA4DA	
03						
04	EMC	ED-64M	RDFSW93R	04	RDFSW93R_04	ISL to RDC 4th Floor
05	EMC	8730	OS02RDC	FA6bA	OS02RDC_FA6BA	
06	EMC	8730	OS01RDC	FA11aA	OS01RDC_FA11AA	
07						
08	EMC	ED-64M	RDFSW93R	08	RDFSW93R_08	ISL to RDC 4th Floor
09	EMC	8830	OS03RDC	FA6bA	OS03RDC_FA6BA	
10						
11						
12	EMC	ED-64M	RDFSW93R	12	RDFSW93R_12	ISL to RDC 4th Floor
13	EMC	8730	OS04RDC	FA6bA	OS04RDC_FA6BA	
14						
15						
16	EMC	ED-64M	RDFSW93R	16	RDFSW93R_16	ISL to RDC 4th Floor
17	EMC	DMX2000	DMX5R	FA4dA	DMX5R_FA4DA	
18						
19						
20	EMC	ED-64M	RDFSW93R	20	RDFSW93R_20	ISL to RDC 4th Floor
21	EMC	DMX2000	DMX6R	FA4cA	DMX6R_FA4CA	
22						
23						
24	Optera	RDC 1st Floor	DWDM RDC1 Green	A3 Loop	DWDM_RDC1_GREEN_A3_LOOP	DWDM
25	EMC	DMX2000	DMX6R	FA4dA	DMX6R_FA4DA	
26	EMC	DMX2000	DMX7R	FA5dA	DMX7R_FA5DA	
27						
28	Optera	RDC 1st Floor	DWDM RDC1 Green	B3 Loop	DWDM_RDC1_GREEN_B3_LOOP	DWDM
29	EMC	DMX2000	DMX7R	FA4dA	DMX7R_FA4DA	
30						
31						
32	Ports 32 to 63 are not installed					
to						
63						

13 <=Unused Ports

Table 39: RDFSW91R Port Assignments

CITIGROUP - Port Assignments - RDC - RDFS92R (Domain 04)						
Port	Device Vendor	Device	Device Name	FA / Port	Device Alias	Notes
00	EMC	ED-64M	RDFS94R	00	RDFS94R_00	ISL to RDC 4th Floor
01	EMC	8730	OS01RDC	FA11aA	OS01RDC_FA11AA	
02	EMC	DMX2000	DMX8R	FA13dA	DMX8R_FA13DA	
03						
04	EMC	ED-64M	RDFS94R	04	RDFS94R_04	ISL to RDC 4th Floor
05	EMC	8730	OS02RDC	FA11aA	OS02RDC_FA11AA	
06						
07						
08	EMC	ED-64M	RDFS94R	08	RDFS94R_08	ISL to RDC 4th Floor
09	EMC	8830	OS03RDC	FA11bA	OS03RDC_FA11BA	
10						
11						
12	EMC	ED-64M	RDFS94R	12	RDFS94R_12	ISL to RDC 4th Floor
13	EMC	8730	OS04RDC	FA11bA	OS04RDC_FA11BA	
14						
15						
16	EMC	ED-64M	RDFS94R	16	RDFS94R_16	ISL to RDC 4th Floor
17	EMC	DMX2000	DMX5R	FA13dA	DMX5R_FA13DA	
18						
19						
20	EMC	ED-64M	RDFS94R	20	RDFS94R_20	ISL to RDC 4th Floor
21	EMC	DMX2000	DMX6R	FA13cA	DMX6R_FA13CA	
22						
23						
24	Optera	RDC 1st Floor	DWDM RDC1 Black	A3 Loop	DWDM_RDC1_BLACK_A3_LOOP	DWDM
25	EMC	DMX2000	DMX6R	FA13dA	DMX6R_FA13DA	
26	EMC	DMX2000	DMX7R	FA12dA	DMX7R_FA12DA	
27						
28	Optera	RDC 1st Floor	DWDM RDC1 Black	B3 Loop	DWDM_RDC1_BLACK_B3_LOOP	DWDM
29	EMC	DMX2000	DMX7R	FA13dA	DMX7R_FA13DA	
30						
31						
32	Ports 32 to 63 are not installed					
to						
63						

14 <=Unused Ports

Table 40: RDFS92R Port Assignments

CITIGROUP - Port Assignments - RDC - RDFS93R (Domain 07)						
Port	Device Vendor	Device	Device Name	FA / Port	Device Alias	Notes
00	EMC	ED-64M	RDFS93R	00	RDFS93R_00	ISL to RDC 1st Floor
01	EMC	DMX3000	DMX9R	FA7dA	DMX9R_FA7DA	Reserved
02						
03						
04	EMC	ED-64M	RDFS93R	04	RDFS93R_04	ISL to RDC 1st Floor
05	EMC	DMX3000	DMX9R	FA8dA	DMX9R_FA8DA	Reserved
06						
07						
08	EMC	ED-64M	RDFS93R	08	RDFS93R_08	ISL to RDC 1st Floor
09	EMC	DMX3000	DMX10R	FA7dA	DMX10R_FA7DA	Reserved
10						
11						
12	EMC	ED-64M	RDFS93R	12	RDFS93R_12	ISL to RDC 1st Floor
13	EMC	DMX3000	DMX10R	FA8dA	DMX10R_FA8DA	Reserved
14						
15						
16	EMC	ED-64M	RDFS93R	16	RDFS93R_16	ISL to RDC 1st Floor
17	EMC	DMX3000	DMX11R	FA7dA	DMX11R_FA7DA	Reserved
18						
19						
20	EMC	ED-64M	RDFS93R	20	RDFS93R_20	ISL to RDC 1st Floor
21	EMC	DMX3000	DMX11R	FA8dA	DMX11R_FA8DA	Reserved
22						
23						
24	Optera	RDC 4th Floor	DWDM RDC4 Black	O Loop	DWDM RDC4 BLACK O LOOP	DWDM
25						
26						
27						
28	Optera	RDC 4th Floor	DWDM RDC4 Black	P Loop	DWDM RDC4 BLACK P LOOP	DWDM
29						
30						
31						
32	Ports 32 to 63 are not installed					
to						
63						

18 <=Unused Ports

Table 41: RDFS93R Port Assignments

CITIGROUP - Port Assignments - RDC - RDFS94R (Domain 08)						
Port	Device Vendor	Device	Device Name	FA / Port	Device Alias	Notes
00	EMC	ED-64M	RDFS94R	00	RDFS94R_00	ISL to RDC 1st Floor
01	EMC	DMX3000	DMX9R	FA9dA	DMX9R_FA9DA	Reserved
02						
03						
04	EMC	ED-64M	RDFS94R	04	RDFS94R_04	ISL to RDC 1st Floor
05	EMC	DMX3000	DMX9R	FA10dA	DMX9R_FA10DA	Reserved
06						
07						
08	EMC	ED-64M	RDFS94R	08	RDFS94R_08	ISL to RDC 1st Floor
09	EMC	DMX3000	DMX10R	FA9dA	DMX10R_FA9DA	Reserved
10						
11						
12	EMC	ED-64M	RDFS94R	12	RDFS94R_12	ISL to RDC 1st Floor
13	EMC	DMX3000	DMX10R	FA10dA	DMX10R_FA10DA	Reserved
14						
15						
16	EMC	ED-64M	RDFS94R	16	RDFS94R_16	ISL to RDC 1st Floor
17	EMC	DMX3000	DMX11R	FA9dA	DMX11R_FA9DA	Reserved
18						
19						
20	EMC	ED-64M	RDFS94R	20	RDFS94R_20	ISL to RDC 1st Floor
21	EMC	DMX3000	DMX11R	FA10dA	DMX11R_FA10DA	Reserved
22						
23						
24	Optera	RDC 4th Floor	DWDM RDC4 Black	O_Loop	DWDM RDC4 BLACK O LOOP	DWDM
25						
26						
27						
28	Optera	RDC 4th Floor	DWDM RDC4 Black	P_Loop	DWDM RDC4 BLACK P LOOP	DWDM
29						
30						
31						
32	Ports 32 to 63 are not installed					
to						
63						

18 <=Unused Ports

Table 42: RDFS94R Port Assignments

6 SAN Phase 4.2 – Expansion

6.1 Implementation Overview

The CITIGROUP CGC/RDC SAN has regular quarterly expansions to accommodate the new and/or changed resource requirements. Once the SAN split is performed, the existing fabric will be able to grow up to 16 domains each.

6.2 SAN Phase 4.2 – Expansion Environment Description

Following brief summary describes the expansion phase:

- 8 new directors, 6 new DMX3000 and 2 new CX700 storage arrays will be added to the CGC/RDC SAN in this phase.
- All new directors will be installed in their dedicated 8 EC-1500 cabinets.
- 2 new ED-140M storage/core directors with 72 ports (1 for blue fabric, 1 for red fabric) will be installed in RDC 4th floor. The directors will be named SW15R/SW16R.
- The existing directors SW07R/SW08R will be moved to RDC 3rd floor with their cabinet. They will be renamed SW17R/SW18R and reconnected to new storage core SW15R/SW16R.
- 2 new ED-140M host/edge directors with 72 ports (1 for blue fabric, 1 for red fabric) will be installed in RDC 4th floor. The directors will be named SW07R/SW08R and will substitute the existing directors which are moved to RDC 3rd floor.
- 2 new ED-140M host/edge directors with 96 ports (1 for blue fabric, 1 for red fabric) will be installed in RDC 1st floor. The directors will be named SW19R/SW20R. The directors will be connected to existing storage cores SW11R/SW12R.
- 2 new ED-140M host/edge directors with 96 ports (1 for blue fabric, 1 for red fabric) will be installed in CGC2 3rd Floor. The directors will be SW03/SW04.
- Symmetrix DMX3000 storage arrays DMX9C, DMX10C, DMX11C will be deployed in CGC 3rd floor. The storage arrays will be connected to existing storage core directors SW13C/SW14C.
- Symmetrix DMX3000 storage arrays DMX9R, DMX10R, DMX11R will be deployed in RDC 4th floor. They will be connected to new storage core directors SW15R/SW16R for host connectivity and SRDF fabric for replication.

6.3 SAN Phase 4.2 – New Storage

Symmetrix Array Configuration Table			
General	Location	CGC2	RDC
	Floor	3rd Floor	4th Floor
	Grid	BC05-BC07	C03-C06
	Model Number	DMX3000	DMX3000
	Serial Number	287890296	287890275
	Device Name	DMX9C	DMX9R
	Microcode Version	5670.73.69	5670.73.69
	Dial Home Number	+442075080813	+442075008632
Cache	Total Existing	64GB	64GB
	Configuration	8 cards x 8GB	8 cards x 8GB
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	480	480
	# Drives 36GB	0	0
	Vacant Drive Bays	96	96
	# of Hotspares	0	0
	Total mirrored disk (GB)	16,320	16,320
FA Director Cards	Available Ports	64	64
	Free Slots	none	none
Disk Director Cards	Installed DA Cards	8	8

Table 43: DMX9C and DMX9R Configuration

Symmetrix Array Configuration Table			
General	Location	CGC2	RDC
	Floor	3rd Floor	4th Floor
	Grid	BH99-BH101	C41-C44
	Model Number	DMX3000	DMX3000
	Serial Number	287890294	287890300
	Device Name	DMX10C	DMX10R
	Microcode Version	5670.73.69	5670.73.69
	Dial Home Number	+442075080814	+442079869964
Cache	Total Existing	64GB	64GB
	Configuration	8 cards x 8GB	8 cards x 8GB
Storage (raw capacities)	# Drives 146GB	112	304
	# Drives 73GB	0	0
	# Drives 36GB	0	0
	Vacant Drive Bays	464	272
	# of Hotspares	0	0
	Total mirrored disk (GB)	7,616	20,672
FA Director Cards	Available Ports	64	64
	Free Slots	none	none
Disk Director Cards	Installed DA Cards	8	8

Table 44: DMX10C and DMX10R Configuration

Symmetrix Array Configuration Table			
General	Location	CGC2	RDC
	Floor	3rd Floor	4th Floor
	Grid	AZ06-AZ08	F03-F06
	Model Number	DMX3000	DMX3000
	Serial Number	287890298	287890293
	Device Name	DMX11C	DMX11R
	Microcode Version	5670.73.69	5670.73.69
	Dial Home Number	+442075080820	+442075080881
Cache	Total Existing	64GB	64GB
	Configuration	8 cards x 8GB	8 cards x 8GB
Storage (raw capacities)	# Drives 181GB	0	0
	# Drives 73GB	192	192
	# Drives 36GB	0	0
	Vacant Drive Bays	384	384
	# of Hotspares	0	0
	Total mirrored disk (GB)	6,528	6,528
FA Director Cards	Available Ports	48	48
	Free Slots	28	28
Disk Director Cards	Installed DA Cards	8	8

Table 45: DMX11C and DMX11R Configuration

6.4 SAN Phase 4.2 – Storage Connectivity

CITIGROUP - CGC2 - DMX9C FA Connections						
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Type	LUN count
DMX9C	FA3Aa	500604844A36DE02	SW13C	TBC	SEGMENT 1 (Sol/AIX/Win)	52
DMX9C	FA3Ab	500604844A36DE22	spare	spare	SEGMENT 17 (Sol/AIX/Win)	1
DMX9C	FA3Ba	500604844A36DE12	SW13C	TBC	SEGMENT 2 (Sol/AIX/Win)	53
DMX9C	FA3Bb	500604844A36DE32	spare	spare	SEGMENT 18 (Sol/AIX/Win)	1
DMX9C	FA3Ca	5006048C4A36DE02	SW13C	TBC	SEGMENT 3 (Sol/AIX/Win)	53
DMX9C	FA3Cb	5006048C4A36DE22	spare	spare	SEGMENT 19 (Sol/AIX/Win)	1
DMX9C	FA3Da	5006048C4A36DE12	SW13C	TBC	SEGMENT 4 (Sol/AIX/Win)	53
DMX9C	FA3Db	5006048C4A36DE32	spare	spare	SEGMENT 20 (Sol/AIX/Win)	1
DMX9C	FA4Aa	500604844A36DE03	SW13C	TBC	SEGMENT 5 (Sol/AIX/Win)	53
DMX9C	FA4Ab	500604844A36DE23	spare	spare	SEGMENT 21 (Sol/AIX/Win)	1
DMX9C	FA4Ba	500604844A36DE13	SW13C	TBC	SEGMENT 6 (Sol/AIX/Win)	53
DMX9C	FA4Bb	500604844A36DE33	spare	spare	SEGMENT 22 (Sol/AIX/Win)	1
DMX9C	FA4Ca	5006048C4A36DE03	SW13C	TBC	SEGMENT 7 (Sol/AIX/Win)	53
DMX9C	FA4Cb	5006048C4A36DE23	spare	spare	SEGMENT 23 (Sol/AIX/Win)	1
DMX9C	FA4Da	5006048C4A36DE13	SW13C	TBC	SEGMENT 8 (Sol/AIX/Win)	53
DMX9C	FA4Db	5006048C4A36DE33	spare	spare	SEGMENT 24 (Sol/AIX/Win)	1
DMX9C	FA7Aa	500604844A36DE06	SW13C	TBC	SEGMENT 9 (Sol/AIX/Win)	53
DMX9C	FA7Ab	500604844A36DE26	spare	spare	SEGMENT 25 (Sol/AIX/Win)	1
DMX9C	FA7Ba	500604844A36DE16	SW13C	TBC	SEGMENT 10 (Sol/AIX/Win)	53
DMX9C	FA7Bb	500604844A36DE36	spare	spare	SEGMENT 26 (Sol/AIX/Win)	1
DMX9C	FA7Ca	5006048C4A36DE06	SW13C	TBC	SEGMENT 11 (Sol/AIX/Win)	53
DMX9C	FA7Cb	5006048C4A36DE26	spare	spare	SEGMENT 27 (Sol/AIX/Win)	1
DMX9C	FA7Da	5006048C4A36DE16	RDFS93C	25	SEGMENT 12 (SRDF pair 1)	0
DMX9C	FA7Db	5006048C4A36DE36	not used	not used	not usable	0
DMX9C	FA8Aa	500604844A36DE07	SW13C	TBC	SEGMENT 13 (Sol/AIX/Win)	53
DMX9C	FA8Ab	500604844A36DE27	spare	spare	SEGMENT 28 (Sol/AIX/Win)	1
DMX9C	FA8Ba	500604844A36DE17	SW13C	TBC	SEGMENT 14 (Sol/AIX/Win)	1
DMX9C	FA8Bb	500604844A36DE37	spare	spare	SEGMENT 29 (Sol/AIX/Win)	1
DMX9C	FA8Ca	5006048C4A36DE07	SW13C	TBC	SEGMENT 15 (Sol/AIX/Win)	1
DMX9C	FA8Cb	5006048C4A36DE27	spare	spare	SEGMENT 30 (Sol/AIX/Win)	1
DMX9C	FA8Da	5006048C4A36DE17	RDFS93C	29	SEGMENT 16 (SRDF pair 2)	0
DMX9C	FA8Db	5006048C4A36DE37	not used	not used	not usable	0
DMX9C	FA9Aa	500604844A36DE08	SW14C	TBC	SEGMENT 14 (Sol/AIX/Win)	1
DMX9C	FA9Ab	500604844A36DE28	spare	spare	SEGMENT 29 (Sol/AIX/Win)	1
DMX9C	FA9Ba	500604844A36DE18	SW14C	105	SEGMENT 13 (Sol/AIX/Win)	53
DMX9C	FA9Bb	500604844A36DE38	spare	spare	SEGMENT 28 (Sol/AIX/Win)	1
DMX9C	FA9Ca	5006048C4A36DE08	SW14C	TBC	SEGMENT 15 (Sol/AIX/Win)	1
DMX9C	FA9Cb	5006048C4A36DE28	spare	spare	SEGMENT 30 (Sol/AIX/Win)	1
DMX9C	FA9Da	5006048C4A36DE18	RDFS94C	25	SEGMENT 16 (SRDF pair 2)	0
DMX9C	FA9Db	5006048C4A36DE38	not used	not used	not usable	0
DMX9C	FA10Aa	500604844A36DE09	SW14C	93	SEGMENT 10 (Sol/AIX/Win)	53
DMX9C	FA10Ab	500604844A36DE29	spare	spare	SEGMENT 26 (Sol/AIX/Win)	1
DMX9C	FA10Ba	500604844A36DE19	SW14C	97	SEGMENT 9 (Sol/AIX/Win)	53
DMX9C	FA10Bb	500604844A36DE39	spare	spare	SEGMENT 25 (Sol/AIX/Win)	1
DMX9C	FA10Ca	5006048C4A36DE09	SW14C	100	SEGMENT 11 (Sol/AIX/Win)	53
DMX9C	FA10Cb	5006048C4A36DE29	spare	spare	SEGMENT 27 (Sol/AIX/Win)	1
DMX9C	FA10Da	5006048C4A36DE19	RDFS94C	29	SEGMENT 12 (SRDF pair 1)	0
DMX9C	FA10Db	5006048C4A36DE39	not used	not used	not usable	0
DMX9C	FA13Aa	500604844A36DE0C	SW14C	77	SEGMENT 6 (Sol/AIX/Win)	53
DMX9C	FA13Ab	500604844A36DE2C	spare	spare	SEGMENT 22 (Sol/AIX/Win)	1
DMX9C	FA13Ba	500604844A36DE1C	SW14C	89	SEGMENT 5 (Sol/AIX/Win)	53
DMX9C	FA13Bb	500604844A36DE3C	spare	spare	SEGMENT 21 (Sol/AIX/Win)	1
DMX9C	FA13Ca	5006048C4A36DE0C	SW14C	85	SEGMENT 8 (Sol/AIX/Win)	53
DMX9C	FA13Cb	5006048C4A36DE2C	spare	spare	SEGMENT 24 (Sol/AIX/Win)	1
DMX9C	FA13Da	5006048C4A36DE1C	SW14C	81	SEGMENT 7 (Sol/AIX/Win)	53
DMX9C	FA13Db	5006048C4A36DE3C	spare	spare	SEGMENT 23 (Sol/AIX/Win)	1
DMX9C	FA14Aa	500604844A36DE0D	SW14C	69	SEGMENT 2 (Sol/AIX/Win)	53
DMX9C	FA14Ab	500604844A36DE2D	spare	spare	SEGMENT 18 (Sol/AIX/Win)	1
DMX9C	FA14Ba	500604844A36DE1D	SW14C	73	SEGMENT 1 (Sol/AIX/Win)	52
DMX9C	FA14Bb	500604844A36DE3D	spare	spare	SEGMENT 17 (Sol/AIX/Win)	1
DMX9C	FA14Ca	5006048C4A36DE0D	SW14C	67	SEGMENT 4 (Sol/AIX/Win)	53
DMX9C	FA14Cb	5006048C4A36DE2D	spare	spare	SEGMENT 20 (Sol/AIX/Win)	1
DMX9C	FA14Da	5006048C4A36DE1D	SW14C	101	SEGMENT 3 (Sol/AIX/Win)	53
DMX9C	FA14Db	5006048C4A36DE3D	spare	spare	SEGMENT 19 (Sol/AIX/Win)	1

Table 46: DMX9C FA Configuration

CITIGROUP - RDC - DMX9R FA Connections						
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Type	LUN count
DMX9R	FA3Aa	500604844A36D8C2	SW15R	17	SEGMENT 1 (Sol/AIX/Win)	52
DMX9R	FA3Ab	500604844A36D8E2	spare	spare	SEGMENT 17 (Sol/AIX/Win)	1
DMX9R	FA3Ba	500604844A36D8D2	SW15R	22	SEGMENT 2 (Sol/AIX/Win)	53
DMX9R	FA3Bb	500604844A36D8F2	spare	spare	SEGMENT 18 (Sol/AIX/Win)	1
DMX9R	FA3Ca	5006048C4A36D8C2	SW15R	26	SEGMENT 3 (Sol/AIX/Win)	53
DMX9R	FA3Cb	5006048C4A36D8E2	spare	spare	SEGMENT 19 (Sol/AIX/Win)	1
DMX9R	FA3Da	5006048C4A36D8D2	SW15R	30	SEGMENT 4 (Sol/AIX/Win)	53
DMX9R	FA3Db	5006048C4A36D8F2	spare	spare	SEGMENT 20 (Sol/AIX/Win)	1
DMX9R	FA4Aa	500604844A36D8C3	SW15R	33	SEGMENT 5 (Sol/AIX/Win)	53
DMX9R	FA4Ab	500604844A36D8E3	spare	spare	SEGMENT 21 (Sol/AIX/Win)	1
DMX9R	FA4Ba	500604844A36D8D3	SW15R	38	SEGMENT 6 (Sol/AIX/Win)	53
DMX9R	FA4Bb	500604844A36D8F3	spare	spare	SEGMENT 22 (Sol/AIX/Win)	1
DMX9R	FA4Ca	5006048C4A36D8C3	SW15R	42	SEGMENT 7 (Sol/AIX/Win)	53
DMX9R	FA4Cb	5006048C4A36D8E3	spare	spare	SEGMENT 23 (Sol/AIX/Win)	1
DMX9R	FA4Da	5006048C4A36D8D3	SW15R	46	SEGMENT 8 (Sol/AIX/Win)	53
DMX9R	FA4Db	5006048C4A36D8F3	spare	spare	SEGMENT 24 (Sol/AIX/Win)	1
DMX9R	FA7Aa	500604844A36D8C6	SW15R	50	SEGMENT 9 (Sol/AIX/Win)	53
DMX9R	FA7Ab	500604844A36D8E6	spare	spare	SEGMENT 25 (Sol/AIX/Win)	1
DMX9R	FA7Ba	500604844A36D8D6	SW15R	54	SEGMENT 10 (Sol/AIX/Win)	53
DMX9R	FA7Bb	500604844A36D8F6	spare	spare	SEGMENT 26 (Sol/AIX/Win)	1
DMX9R	FA7Ca	5006048C4A36D8C6	SW15R	58	SEGMENT 11 (Sol/AIX/Win)	53
DMX9R	FA7Cb	5006048C4A36D8E6	spare	spare	SEGMENT 27 (Sol/AIX/Win)	1
DMX9R	FA7Da	5006048C4A36D8D6	RDFS93R	1	SEGMENT 12 (SRDF pair 1)	0
DMX9R	FA7Db	5006048C4A36D8F6	not used	not used	not usable	0
DMX9R	FA8Aa	500604844A36D8C7	SW15R	62	SEGMENT 13 (Sol/AIX/Win)	53
DMX9R	FA8Ab	500604844A36D8E7	spare	spare	SEGMENT 28 (Sol/AIX/Win)	1
DMX9R	FA8Ba	500604844A36D8D7	SW15R	TBC	SEGMENT 14 (Sol/AIX/Win)	1
DMX9R	FA8Bb	500604844A36D8F7	spare	spare	SEGMENT 29 (Sol/AIX/Win)	1
DMX9R	FA8Ca	5006048C4A36D8C7	SW15R	TBC	SEGMENT 15 (Sol/AIX/Win)	1
DMX9R	FA8Cb	5006048C4A36D8E7	spare	spare	SEGMENT 30 (Sol/AIX/Win)	1
DMX9R	FA8Da	5006048C4A36D8D7	RDFS93R	5	SEGMENT 16 (SRDF pair 2)	0
DMX9R	FA8Db	5006048C4A36D8F7	not used	not used	not usable	0
DMX9R	FA9Aa	500604844A36D8C8	SW16R	TBC	SEGMENT 14 (Sol/AIX/Win)	1
DMX9R	FA9Ab	500604844A36D8E8	spare	spare	SEGMENT 29 (Sol/AIX/Win)	1
DMX9R	FA9Ba	500604844A36D8D8	SW16R	62	SEGMENT 13 (Sol/AIX/Win)	53
DMX9R	FA9Bb	500604844A36D8F8	spare	spare	SEGMENT 28 (Sol/AIX/Win)	1
DMX9R	FA9Ca	5006048C4A36D8C8	SW16R	TBC	SEGMENT 15 (Sol/AIX/Win)	1
DMX9R	FA9Cb	5006048C4A36D8E8	spare	spare	SEGMENT 30 (Sol/AIX/Win)	1
DMX9R	FA9Da	5006048C4A36D8D8	RDFS94R	1	SEGMENT 16 (SRDF pair 2)	0
DMX9R	FA9Db	5006048C4A36D8F8	not used	not used	not usable	0
DMX9R	FA10Aa	500604844A36D8C9	SW16R	54	SEGMENT 10 (Sol/AIX/Win)	53
DMX9R	FA10Ab	500604844A36D8E9	spare	spare	SEGMENT 26 (Sol/AIX/Win)	1
DMX9R	FA10Ba	500604844A36D8D9	SW16R	50	SEGMENT 9 (Sol/AIX/Win)	53
DMX9R	FA10Bb	500604844A36D8F9	spare	spare	SEGMENT 25 (Sol/AIX/Win)	1
DMX9R	FA10Ca	5006048C4A36D8C9	SW16R	58	SEGMENT 11 (Sol/AIX/Win)	53
DMX9R	FA10Cb	5006048C4A36D8E9	spare	spare	SEGMENT 27 (Sol/AIX/Win)	1
DMX9R	FA10Da	5006048C4A36D8D9	RDFS94R	5	SEGMENT 12 (SRDF pair 1)	0
DMX9R	FA10Db	5006048C4A36D8F9	not used	not used	not usable	0
DMX9R	FA13Aa	500604844A36D8CC	SW16R	38	SEGMENT 6 (Sol/AIX/Win)	53
DMX9R	FA13Ab	500604844A36D8EC	spare	spare	SEGMENT 22 (Sol/AIX/Win)	1
DMX9R	FA13Ba	500604844A36D8DC	SW16R	33	SEGMENT 5 (Sol/AIX/Win)	53
DMX9R	FA13Bb	500604844A36D8FC	spare	spare	SEGMENT 21 (Sol/AIX/Win)	1
DMX9R	FA13Ca	5006048C4A36D8CC	SW16R	46	SEGMENT 8 (Sol/AIX/Win)	53
DMX9R	FA13Cb	5006048C4A36D8EC	spare	spare	SEGMENT 24 (Sol/AIX/Win)	1
DMX9R	FA13Da	5006048C4A36D8DC	SW16R	42	SEGMENT 7 (Sol/AIX/Win)	53
DMX9R	FA13Db	5006048C4A36D8FC	spare	spare	SEGMENT 23 (Sol/AIX/Win)	1
DMX9R	FA14Aa	500604844A36D8CD	SW16R	22	SEGMENT 2 (Sol/AIX/Win)	53
DMX9R	FA14Ab	500604844A36D8ED	spare	spare	SEGMENT 18 (Sol/AIX/Win)	1
DMX9R	FA14Ba	500604844A36D8DD	SW16R	17	SEGMENT 1 (Sol/AIX/Win)	52
DMX9R	FA14Bb	500604844A36D8FD	spare	spare	SEGMENT 17 (Sol/AIX/Win)	1
DMX9R	FA14Ca	5006048C4A36D8CD	SW16R	30	SEGMENT 4 (Sol/AIX/Win)	53
DMX9R	FA14Cb	5006048C4A36D8ED	spare	spare	SEGMENT 20 (Sol/AIX/Win)	1
DMX9R	FA14Da	5006048C4A36D8DD	SW16R	26	SEGMENT 3 (Sol/AIX/Win)	53
DMX9R	FA14Db	5006048C4A36D8FD	spare	spare	SEGMENT 19 (Sol/AIX/Win)	1

Table 47: DMX9R FA Configuration

CITIGROUP - CGC2 - DMX10C FA Connections						
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Type	LUN count
DMX10C	FA3Aa	500604844A36DD82	SW13C	TBC	SEGMENT 1 (Sol/AIX/Win)	59
DMX10C	FA3Ab	500604844A36DDA2	spare	spare	SEGMENT 17 (Sol/AIX/Win)	1
DMX10C	FA3Ba	500604844A36DD92	SW13C	TBC	SEGMENT 2 (Sol/AIX/Win)	61
DMX10C	FA3Bb	500604844A36DDB2	spare	spare	SEGMENT 18 (Sol/AIX/Win)	1
DMX10C	FA3Ca	5006048C4A36DD82	SW13C	TBC	SEGMENT 3 (Sol/AIX/Win)	61
DMX10C	FA3Cb	5006048C4A36DDA2	spare	spare	SEGMENT 19 (Sol/AIX/Win)	1
DMX10C	FA3Da	5006048C4A36DD92	SW13C	TBC	SEGMENT 4 (Sol/AIX/Win)	61
DMX10C	FA3Db	5006048C4A36DDB2	spare	spare	SEGMENT 20 (Sol/AIX/Win)	1
DMX10C	FA4Aa	500604844A36DD83	SW13C	TBC	SEGMENT 5 (Sol/AIX/Win)	45
DMX10C	FA4Ab	500604844A36DDA3	spare	spare	SEGMENT 21 (Sol/AIX/Win)	1
DMX10C	FA4Ba	500604844A36DD93	SW13C	TBC	SEGMENT 6 (Sol/AIX/Win)	1
DMX10C	FA4Bb	500604844A36DDB3	spare	spare	SEGMENT 22 (Sol/AIX/Win)	1
DMX10C	FA4Ca	5006048C4A36DD83	SW13C	TBC	SEGMENT 7 (Sol/AIX/Win)	1
DMX10C	FA4Cb	5006048C4A36DDA3	spare	spare	SEGMENT 23 (Sol/AIX/Win)	1
DMX10C	FA4Da	5006048C4A36DD93	SW13C	TBC	SEGMENT 8 (Sol/AIX/Win)	1
DMX10C	FA4Db	5006048C4A36DDB3	spare	spare	SEGMENT 24 (Sol/AIX/Win)	1
DMX10C	FA7Aa	500604844A36DD86	SW13C	TBC	SEGMENT 9 (Sol/AIX/Win)	1
DMX10C	FA7Ab	500604844A36DDA6	spare	spare	SEGMENT 25 (Sol/AIX/Win)	1
DMX10C	FA7Ba	500604844A36DD96	SW13C	TBC	SEGMENT 10 (Sol/AIX/Win)	1
DMX10C	FA7Bb	500604844A36DDB6	spare	spare	SEGMENT 26 (Sol/AIX/Win)	1
DMX10C	FA7Ca	5006048C4A36DD86	SW13C	TBC	SEGMENT 11 (Sol/AIX/Win)	1
DMX10C	FA7Cb	5006048C4A36DDA6	spare	spare	SEGMENT 27 (Sol/AIX/Win)	1
DMX10C	FA7Da	5006048C4A36DD96	RDFS93C	TBC	SEGMENT 12 (SRDF pair 1)	0
DMX10C	FA7Db	5006048C4A36DDB6	not used	not used	not usable	0
DMX10C	FA8Aa	500604844A36DD87	SW13C	TBC	SEGMENT 13 (Sol/AIX/Win)	1
DMX10C	FA8Ab	500604844A36DDA7	spare	spare	SEGMENT 28 (Sol/AIX/Win)	1
DMX10C	FA8Ba	500604844A36DD97	SW13C	TBC	SEGMENT 14 (Sol/AIX/Win)	1
DMX10C	FA8Bb	500604844A36DDB7	spare	spare	SEGMENT 29 (Sol/AIX/Win)	1
DMX10C	FA8Ca	5006048C4A36DD87	SW13C	TBC	SEGMENT 15 (Sol/AIX/Win)	1
DMX10C	FA8Cb	5006048C4A36DDA7	spare	spare	SEGMENT 30 (Sol/AIX/Win)	1
DMX10C	FA8Da	5006048C4A36DD97	RDFS93C	6	SEGMENT 16 (SRDF pair 2)	0
DMX10C	FA8Db	5006048C4A36DDB7	not used	not used	not usable	0
DMX10C	FA9Aa	500604844A36DD88	SW14C	2	SEGMENT 14 (Sol/AIX/Win)	1
DMX10C	FA9Ab	500604844A36DDA8	spare	spare	SEGMENT 29 (Sol/AIX/Win)	1
DMX10C	FA9Ba	500604844A36DD98	SW14C	TBC	SEGMENT 13 (Sol/AIX/Win)	1
DMX10C	FA9Bb	500604844A36DDB8	spare	spare	SEGMENT 28 (Sol/AIX/Win)	1
DMX10C	FA9Ca	5006048C4A36DD88	SW14C	TBC	SEGMENT 15 (Sol/AIX/Win)	1
DMX10C	FA9Cb	5006048C4A36DDA8	spare	spare	SEGMENT 30 (Sol/AIX/Win)	1
DMX10C	FA9Da	5006048C4A36DD98	RDFS94C	10	SEGMENT 16 (SRDF pair 2)	0
DMX10C	FA9Db	5006048C4A36DDB8	not used	not used	not usable	0
DMX10C	FA10Aa	500604844A36DD89	SW14C	TBC	SEGMENT 10 (Sol/AIX/Win)	1
DMX10C	FA10Ab	500604844A36DDA9	spare	spare	SEGMENT 26 (Sol/AIX/Win)	1
DMX10C	FA10Ba	500604844A36DD99	SW14C	TBC	SEGMENT 9 (Sol/AIX/Win)	1
DMX10C	FA10Bb	500604844A36DDB9	spare	spare	SEGMENT 25 (Sol/AIX/Win)	1
DMX10C	FA10Ca	5006048C4A36DD89	SW14C	TBC	SEGMENT 11 (Sol/AIX/Win)	1
DMX10C	FA10Cb	5006048C4A36DDA9	spare	spare	SEGMENT 27 (Sol/AIX/Win)	1
DMX10C	FA10Da	5006048C4A36DD99	RDFS94C	14	SEGMENT 12 (SRDF pair 1)	0
DMX10C	FA10Db	5006048C4A36DDB9	not used	not used	not usable	0
DMX10C	FA13Aa	500604844A36DD8C	SW14C	TBC	SEGMENT 6 (Sol/AIX/Win)	1
DMX10C	FA13Ab	500604844A36DDAC	spare	spare	SEGMENT 22 (Sol/AIX/Win)	1
DMX10C	FA13Ba	500604844A36DD9C	SW14C	90	SEGMENT 5 (Sol/AIX/Win)	45
DMX10C	FA13Bb	500604844A36DDBC	spare	spare	SEGMENT 21 (Sol/AIX/Win)	1
DMX10C	FA13Ca	5006048C4A36DD8C	SW14C	TBC	SEGMENT 8 (Sol/AIX/Win)	1
DMX10C	FA13Cb	5006048C4A36DDAC	spare	spare	SEGMENT 24 (Sol/AIX/Win)	1
DMX10C	FA13Da	5006048C4A36DD9C	SW14C	TBC	SEGMENT 7 (Sol/AIX/Win)	1
DMX10C	FA13Db	5006048C4A36DDBC	spare	spare	SEGMENT 23 (Sol/AIX/Win)	1
DMX10C	FA14Aa	500604844A36DD8D	SW14C	70	SEGMENT 2 (Sol/AIX/Win)	61
DMX10C	FA14Ab	500604844A36DDAD	spare	spare	SEGMENT 18 (Sol/AIX/Win)	1
DMX10C	FA14Ba	500604844A36DD9D	SW14C	74	SEGMENT 1 (Sol/AIX/Win)	59
DMX10C	FA14Bb	500604844A36DDBD	spare	spare	SEGMENT 17 (Sol/AIX/Win)	1
DMX10C	FA14Ca	5006048C4A36DD8D	SW14C	78	SEGMENT 4 (Sol/AIX/Win)	61
DMX10C	FA14Cb	5006048C4A36DDAD	spare	spare	SEGMENT 20 (Sol/AIX/Win)	1
DMX10C	FA14Da	5006048C4A36DD9D	SW14C	TBC	SEGMENT 3 (Sol/AIX/Win)	61
DMX10C	FA14Db	5006048C4A36DDBD	spare	spare	SEGMENT 19 (Sol/AIX/Win)	1

Table 48: DMX10C FA Configuration

CITIGROUP - RDC - DMX10R FA Connections						
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Type	LUN count
DMX10R	FA3Aa	500604844A36DF02	SW15R	18	SEGMENT 1 (Sol/AIX/Win)	59
DMX10R	FA3Ab	500604844A36DF22	spare	spare	SEGMENT 17 (Sol/AIX/Win)	1
DMX10R	FA3Ba	500604844A36DF12	SW15R	21	SEGMENT 2 (Sol/AIX/Win)	61
DMX10R	FA3Bb	500604844A36DF32	spare	spare	SEGMENT 18 (Sol/AIX/Win)	1
DMX10R	FA3Ca	5006048C4A36DF02	SW15R	25	SEGMENT 3 (Sol/AIX/Win)	61
DMX10R	FA3Cb	5006048C4A36DF22	spare	spare	SEGMENT 19 (Sol/AIX/Win)	1
DMX10R	FA3Da	5006048C4A36DF12	SW15R	29	SEGMENT 4 (Sol/AIX/Win)	61
DMX10R	FA3Db	5006048C4A36DF32	spare	spare	SEGMENT 20 (Sol/AIX/Win)	1
DMX10R	FA4Aa	500604844A36DF03	SW15R	34	SEGMENT 5 (Sol/AIX/Win)	61
DMX10R	FA4Ab	500604844A36DF23	spare	spare	SEGMENT 21 (Sol/AIX/Win)	1
DMX10R	FA4Ba	500604844A36DF13	SW15R	37	SEGMENT 6 (Sol/AIX/Win)	61
DMX10R	FA4Bb	500604844A36DF33	spare	spare	SEGMENT 22 (Sol/AIX/Win)	1
DMX10R	FA4Ca	5006048C4A36DF03	SW15R	41	SEGMENT 7 (Sol/AIX/Win)	61
DMX10R	FA4Cb	5006048C4A36DF23	spare	spare	SEGMENT 23 (Sol/AIX/Win)	1
DMX10R	FA4Da	5006048C4A36DF13	SW15R	45	SEGMENT 8 (Sol/AIX/Win)	61
DMX10R	FA4Db	5006048C4A36DF33	spare	spare	SEGMENT 24 (Sol/AIX/Win)	1
DMX10R	FA7Aa	500604844A36DF06	SW15R	49	SEGMENT 9 (Sol/AIX/Win)	61
DMX10R	FA7Ab	500604844A36DF26	spare	spare	SEGMENT 25 (Sol/AIX/Win)	1
DMX10R	FA7Ba	500604844A36DF16	SW15R	53	SEGMENT 10 (Sol/AIX/Win)	61
DMX10R	FA7Bb	500604844A36DF36	spare	spare	SEGMENT 26 (Sol/AIX/Win)	1
DMX10R	FA7Ca	5006048C4A36DF06	SW15R	57	SEGMENT 11 (Sol/AIX/Win)	61
DMX10R	FA7Cb	5006048C4A36DF26	spare	spare	SEGMENT 27 (Sol/AIX/Win)	1
DMX10R	FA7Da	5006048C4A36DF16	RDFS93R	9	SEGMENT 12 (SRDF pair 1)	0
DMX10R	FA7Db	5006048C4A36DF36	not used	not used	not usable	0
DMX10R	FA8Aa	500604844A36DF07	SW15R	TBC	SEGMENT 13 (Sol/AIX/Win)	61
DMX10R	FA8Ab	500604844A36DF27	spare	spare	SEGMENT 28 (Sol/AIX/Win)	1
DMX10R	FA8Ba	500604844A36DF17	SW15R	TBC	SEGMENT 14 (Sol/AIX/Win)	45
DMX10R	FA8Bb	500604844A36DF37	spare	spare	SEGMENT 29 (Sol/AIX/Win)	1
DMX10R	FA8Ca	5006048C4A36DF07	SW15R	TBC	SEGMENT 15 (Sol/AIX/Win)	1
DMX10R	FA8Cb	5006048C4A36DF27	spare	spare	SEGMENT 30 (Sol/AIX/Win)	1
DMX10R	FA8Da	5006048C4A36DF17	RDFS93R	13	SEGMENT 16 (SRDF pair 2)	0
DMX10R	FA8Db	5006048C4A36DF37	not used	not used	not usable	0
DMX10R	FA9Aa	500604844A36DF08	SW16R	65	SEGMENT 14 (Sol/AIX/Win)	45
DMX10R	FA9Ab	500604844A36DF28	spare	spare	SEGMENT 29 (Sol/AIX/Win)	1
DMX10R	FA9Ba	500604844A36DF18	SW16R	61	SEGMENT 13 (Sol/AIX/Win)	61
DMX10R	FA9Bb	500604844A36DF38	spare	spare	SEGMENT 28 (Sol/AIX/Win)	1
DMX10R	FA9Ca	5006048C4A36DF08	SW16R	TBC	SEGMENT 15 (Sol/AIX/Win)	1
DMX10R	FA9Cb	5006048C4A36DF28	spare	spare	SEGMENT 30 (Sol/AIX/Win)	1
DMX10R	FA9Da	5006048C4A36DF18	RDFS94R	9	SEGMENT 16 (SRDF pair 2)	0
DMX10R	FA9Db	5006048C4A36DF38	not used	not used	not usable	0
DMX10R	FA10Aa	500604844A36DF09	SW16R	53	SEGMENT 10 (Sol/AIX/Win)	61
DMX10R	FA10Ab	500604844A36DF29	spare	spare	SEGMENT 26 (Sol/AIX/Win)	1
DMX10R	FA10Ba	500604844A36DF19	SW16R	49	SEGMENT 9 (Sol/AIX/Win)	61
DMX10R	FA10Bb	500604844A36DF39	spare	spare	SEGMENT 25 (Sol/AIX/Win)	1
DMX10R	FA10Ca	5006048C4A36DF09	SW16R	57	SEGMENT 11 (Sol/AIX/Win)	61
DMX10R	FA10Cb	5006048C4A36DF29	spare	spare	SEGMENT 27 (Sol/AIX/Win)	1
DMX10R	FA10Da	5006048C4A36DF19	RDFS94R	13	SEGMENT 12 (SRDF pair 1)	0
DMX10R	FA10Db	5006048C4A36DF39	not used	not used	not usable	0
DMX10R	FA13Aa	500604844A36DF0C	SW16R	37	SEGMENT 6 (Sol/AIX/Win)	61
DMX10R	FA13Ab	500604844A36DF2C	spare	spare	SEGMENT 22 (Sol/AIX/Win)	1
DMX10R	FA13Ba	500604844A36DF1C	SW16R	34	SEGMENT 5 (Sol/AIX/Win)	61
DMX10R	FA13Bb	500604844A36DF3C	spare	spare	SEGMENT 21 (Sol/AIX/Win)	1
DMX10R	FA13Ca	5006048C4A36DF0C	SW16R	45	SEGMENT 8 (Sol/AIX/Win)	61
DMX10R	FA13Cb	5006048C4A36DF2C	spare	spare	SEGMENT 24 (Sol/AIX/Win)	1
DMX10R	FA13Da	5006048C4A36DF1C	SW16R	41	SEGMENT 7 (Sol/AIX/Win)	61
DMX10R	FA13Db	5006048C4A36DF3C	spare	spare	SEGMENT 23 (Sol/AIX/Win)	1
DMX10R	FA14Aa	500604844A36DF0D	SW16R	21	SEGMENT 2 (Sol/AIX/Win)	61
DMX10R	FA14Ab	500604844A36DF2D	spare	spare	SEGMENT 18 (Sol/AIX/Win)	1
DMX10R	FA14Ba	500604844A36DF1D	SW16R	18	SEGMENT 1 (Sol/AIX/Win)	59
DMX10R	FA14Bb	500604844A36DF3D	spare	spare	SEGMENT 17 (Sol/AIX/Win)	1
DMX10R	FA14Ca	5006048C4A36DF0D	SW16R	29	SEGMENT 4 (Sol/AIX/Win)	61
DMX10R	FA14Cb	5006048C4A36DF2D	spare	spare	SEGMENT 20 (Sol/AIX/Win)	1
DMX10R	FA14Da	5006048C4A36DF1D	SW16R	25	SEGMENT 3 (Sol/AIX/Win)	61
DMX10R	FA14Db	5006048C4A36DF3D	spare	spare	SEGMENT 19 (Sol/AIX/Win)	1

Table 49: DMX10R FA Configuration

CITIGROUP - CGC2 - DMX11C FA Connections						
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Type	LUN count
DMX11C	FA4Aa	500604844A36DE83	SW13C	TBC	SEGMENT 1 (HP-UX 11i)	45
DMX11C	FA4Ab	500604844A36DEA3	spare	spare	SEGMENT 13 (HP-UX 11i)	1
DMX11C	FA4Ba	500604844A36DE93	SW13C	TBC	SEGMENT 2 (HP-UX 11i)	47
DMX11C	FA4Bb	500604844A36DEB3	spare	spare	SEGMENT 14 (HP-UX 11i)	1
DMX11C	FA4Ca	5006048C4A36DE83	SW13C	TBC	SEGMENT 3 (HP-UX 11i)	47
DMX11C	FA4Cb	5006048C4A36DEA3	spare	spare	SEGMENT 15 (HP-UX 11i)	1
DMX11C	FA4Da	5006048C4A36DE93	SW13C	TBC	SEGMENT 4 (HP-UX 11i)	47
DMX11C	FA4Db	5006048C4A36DEB3	spare	spare	SEGMENT 16 (HP-UX 11i)	1
DMX11C	FA7Aa	500604844A36DE86	SW13C	TBC	SEGMENT 5 (HP-UX 11i)	39
DMX11C	FA7Ab	500604844A36DEA6	spare	spare	SEGMENT 17 (HP-UX 11i)	1
DMX11C	FA7Ba	500604844A36DE96	SW13C	TBC	SEGMENT 6 (Solaris Man.)	7
DMX11C	FA7Bb	500604844A36DEB6	spare	spare	SEGMENT 18 (HP-UX 11i)	1
DMX11C	FA7Ca	5006048C4A36DE86	SW13C	TBC	SEGMENT 7 (HP-UX 11i)	1
DMX11C	FA7Cb	5006048C4A36DEA6	spare	spare	SEGMENT 19 (HP-UX 11i)	1
DMX11C	FA7Da	5006048C4A36DE96	RDFSW93C	10	SEGMENT 8 (SRDF pair 1)	0
DMX11C	FA7Db	5006048C4A36DEB6	not used	not used	not usable	0
DMX11C	FA8Aa	500604844A36DE87	SW13C	TBC	SEGMENT 9 (HP-UX 11i)	1
DMX11C	FA8Ab	500604844A36DEA7	spare	spare	SEGMENT 20 (HP-UX 11i)	1
DMX11C	FA8Ba	500604844A36DE97	SW13C	TBC	SEGMENT 10 (HP-UX 11i)	1
DMX11C	FA8Bb	500604844A36DEB7	spare	spare	SEGMENT 21 (HP-UX 11i)	1
DMX11C	FA8Ca	5006048C4A36DE87	SW13C	TBC	SEGMENT 11 (HP-UX 11i)	1
DMX11C	FA8Cb	5006048C4A36DEA7	spare	spare	SEGMENT 22 (HP-UX 11i)	1
DMX11C	FA8Da	5006048C4A36DE97	RDFSW93C	14	SEGMENT 12 (SRDF pair 2)	0
DMX11C	FA8Db	5006048C4A36DEB7	not used	not used	not usable	0
DMX11C	FA9Aa	500604844A36DE88	SW14C	TBC	SEGMENT 10 (HP-UX 11i)	1
DMX11C	FA9Ab	500604844A36DEA8	spare	spare	SEGMENT 21 (HP-UX 11i)	1
DMX11C	FA9Ba	500604844A36DE98	SW14C	TBC	SEGMENT 9 (HP-UX 11i)	1
DMX11C	FA9Bb	500604844A36DEB8	spare	spare	SEGMENT 20 (HP-UX 11i)	1
DMX11C	FA9Ca	5006048C4A36DE88	SW14C	TBC	SEGMENT 11 (HP-UX 11i)	1
DMX11C	FA9Cb	5006048C4A36DEA8	spare	spare	SEGMENT 22 (HP-UX 11i)	1
DMX11C	FA9Da	5006048C4A36DE98	RDFSW94C	10	SEGMENT 12 (SRDF pair 2)	0
DMX11C	FA9Db	5006048C4A36DEB8	not used	not used	not usable	0
DMX11C	FA10Aa	500604844A36DE89	SW14C	95	SEGMENT 6 (Solaris Man.)	7
DMX11C	FA10Ab	500604844A36DEA9	spare	spare	SEGMENT 18 (HP-UX 11i)	1
DMX11C	FA10Ba	500604844A36DE99	SW14C	91	SEGMENT 5 (HP-UX 11i)	39
DMX11C	FA10Bb	500604844A36DEB9	spare	spare	SEGMENT 17 (HP-UX 11i)	1
DMX11C	FA10Ca	5006048C4A36DE89	SW14C	TBC	SEGMENT 7 (HP-UX 11i)	1
DMX11C	FA10Cb	5006048C4A36DEA9	spare	spare	SEGMENT 19 (HP-UX 11i)	1
DMX11C	FA10Da	5006048C4A36DE99	RDFSW94C	14	SEGMENT 8 (SRDF pair 1)	0
DMX11C	FA10Db	5006048C4A36DEB9	not used	not used	not usable	0
DMX11C	FA13Aa	500604844A36DE8C	SW14C	79	SEGMENT 2 (HP-UX 11i)	47
DMX11C	FA13Ab	500604844A36DEAC	spare	spare	SEGMENT 14 (HP-UX 11i)	1
DMX11C	FA13Ba	500604844A36DE9C	SW14C	75	SEGMENT 1 (HP-UX 11i)	45
DMX11C	FA13Bb	500604844A36DEBC	spare	spare	SEGMENT 13 (HP-UX 11i)	1
DMX11C	FA13Ca	5006048C4A36DE8C	SW14C	87	SEGMENT 4 (HP-UX 11i)	47
DMX11C	FA13Cb	5006048C4A36DEAC	spare	spare	SEGMENT 16 (HP-UX 11i)	1
DMX11C	FA13Da	5006048C4A36DE9C	SW14C	TBC	SEGMENT 3 (HP-UX 11i)	47
DMX11C	FA13Db	5006048C4A36DEBC	spare	spare	SEGMENT 15 (HP-UX 11i)	1

Table 50: DMX11C FA Configuration

CITIGROUP - RDC - DMX11R FA Connections						
Symmetrix Name	Symmetrix FA Port	FA WWN	Device	Device Port	Type	LUN count
DMX11R	FA4Aa	500604844A36DD43	SW15R	19	SEGMENT 1 (HP-UX 11i)	45
DMX11R	FA4Ab	500604844A36DD63	spare	spare	SEGMENT 13 (HP-UX 11i)	1
DMX11R	FA4Ba	500604844A36DD53	SW15R	23	SEGMENT 2 (HP-UX 11i)	47
DMX11R	FA4Bb	500604844A36DD73	spare	spare	SEGMENT 14 (HP-UX 11i)	1
DMX11R	FA4Ca	5006048C4A36DD43	SW15R	27	SEGMENT 3 (HP-UX 11i)	47
DMX11R	FA4Cb	5006048C4A36DD63	spare	spare	SEGMENT 15 (HP-UX 11i)	1
DMX11R	FA4Da	5006048C4A36DD53	SW15R	31	SEGMENT 4 (HP-UX 11i)	47
DMX11R	FA4Db	5006048C4A36DD73	spare	spare	SEGMENT 16 (HP-UX 11i)	1
DMX11R	FA7Aa	500604844A36DD46	SW15R	35	SEGMENT 5 (HP-UX 11i)	39
DMX11R	FA7Ab	500604844A36DD66	spare	spare	SEGMENT 17 (HP-UX 11i)	1
DMX11R	FA7Ba	500604844A36DD56	SW15R	39	SEGMENT 6 (Solaris Man.)	7
DMX11R	FA7Bb	500604844A36DD76	spare	spare	SEGMENT 18 (HP-UX 11i)	1
DMX11R	FA7Ca	5006048C4A36DD46	SW15R	TBC	SEGMENT 7 (HP-UX 11i)	1
DMX11R	FA7Cb	5006048C4A36DD66	spare	spare	SEGMENT 19 (HP-UX 11i)	1
DMX11R	FA7Da	5006048C4A36DD56	RDFSW93R	17	SEGMENT 8 (SRDF pair 1)	0
DMX11R	FA7Db	5006048C4A36DD76	not used	not used	not usable	0
DMX11R	FA8Aa	500604844A36DD47	SW15R	TBC	SEGMENT 9 (HP-UX 11i)	1
DMX11R	FA8Ab	500604844A36DD67	spare	spare	SEGMENT 20 (HP-UX 11i)	1
DMX11R	FA8Ba	500604844A36DD57	SW15R	TBC	SEGMENT 10 (HP-UX 11i)	1
DMX11R	FA8Bb	500604844A36DD77	spare	spare	SEGMENT 21 (HP-UX 11i)	1
DMX11R	FA8Ca	5006048C4A36DD47	SW15R	TBC	SEGMENT 11 (HP-UX 11i)	1
DMX11R	FA8Cb	5006048C4A36DD67	spare	spare	SEGMENT 22 (HP-UX 11i)	1
DMX11R	FA8Da	5006048C4A36DD57	RDFSW93R	21	SEGMENT 12 (SRDF pair 2)	0
DMX11R	FA8Db	5006048C4A36DD77	not used	not used	not usable	0
DMX11R	FA9Aa	500604844A36DD48	SW16R	TBC	SEGMENT 10 (HP-UX 11i)	1
DMX11R	FA9Ab	500604844A36DD68	spare	spare	SEGMENT 21 (HP-UX 11i)	1
DMX11R	FA9Ba	500604844A36DD58	SW16R	TBC	SEGMENT 9 (HP-UX 11i)	1
DMX11R	FA9Bb	500604844A36DD78	spare	spare	SEGMENT 20 (HP-UX 11i)	1
DMX11R	FA9Ca	5006048C4A36DD48	SW16R	TBC	SEGMENT 11 (HP-UX 11i)	1
DMX11R	FA9Cb	5006048C4A36DD68	spare	spare	SEGMENT 22 (HP-UX 11i)	1
DMX11R	FA9Da	5006048C4A36DD58	RDFSW94R	17	SEGMENT 12 (SRDF pair 2)	0
DMX11R	FA9Db	5006048C4A36DD78	not used	not used	not usable	0
DMX11R	FA10Aa	500604844A36DD49	SW16R	39	SEGMENT 6 (Solaris Man.)	7
DMX11R	FA10Ab	500604844A36DD69	spare	spare	SEGMENT 18 (HP-UX 11i)	1
DMX11R	FA10Ba	500604844A36DD59	SW16R	35	SEGMENT 5 (HP-UX 11i)	39
DMX11R	FA10Bb	500604844A36DD79	spare	spare	SEGMENT 17 (HP-UX 11i)	1
DMX11R	FA10Ca	5006048C4A36DD49	SW16R	TBC	SEGMENT 7 (HP-UX 11i)	1
DMX11R	FA10Cb	5006048C4A36DD69	spare	spare	SEGMENT 19 (HP-UX 11i)	1
DMX11R	FA10Da	5006048C4A36DD59	RDFSW94R	21	SEGMENT 8 (SRDF pair 1)	0
DMX11R	FA10Db	5006048C4A36DD79	not used	not used	not usable	0
DMX11R	FA13Aa	500604844A36DD4C	SW16R	23	SEGMENT 2 (HP-UX 11i)	47
DMX11R	FA13Ab	500604844A36DD6C	spare	spare	SEGMENT 14 (HP-UX 11i)	1
DMX11R	FA13Ba	500604844A36DD5C	SW16R	19	SEGMENT 1 (HP-UX 11i)	45
DMX11R	FA13Bb	500604844A36DD7C	spare	spare	SEGMENT 13 (HP-UX 11i)	1
DMX11R	FA13Ca	5006048C4A36DD4C	SW16R	31	SEGMENT 4 (HP-UX 11i)	47
DMX11R	FA13Cb	5006048C4A36DD6C	spare	spare	SEGMENT 16 (HP-UX 11i)	1
DMX11R	FA13Da	5006048C4A36DD5C	SW16R	27	SEGMENT 3 (HP-UX 11i)	47
DMX11R	FA13Db	5006048C4A36DD7C	spare	spare	SEGMENT 15 (HP-UX 11i)	1

Table 51: DMX11R FA Configuration

6.5 SAN Phase 4.2 – Expansion Connectrix Information

CGC Connectrix Hardware Information Table																		
Director Alias	New/Existing	LOCATION INFORMATION					HARDWARE INFORMATION					CONFIGURATION INFORMATION						
		Site	Floor	Cabinet Location	Cabinet Type	Cabinet Serial #	Director Serial #	Model	1GB/2GB	# of installed Ports	Firmware	Fabric	Connected Device Type	Domain ID	Switch Priority	Insistent D_ID?	Interop. Mode	IP Address
SW01C	Existing	CGC1	TR1/TR2	59AN	EC-1200	MC5CN03485	MC5FJ01158	ED-64	1GB	64	6.01.00 18	Red	Storage	1	Principal	Yes	McData Fab. 1.0	10.1.7.1
SW02C	Existing	CGC1	TR1/TR2	71CF	EC-1200	MC5CN03484	MC5FJ01182	ED-64	1GB	64	6.01.00 18	Blue	Storage	1	Principal	Yes	McData Fab. 1.0	10.1.8.1
SW03C	New	CGC2	3rd Floor	CA95	EC-1500	MC5TN01558	MC5IN02560	ED-140	2GB	68	6.01.00 18	Red	Host	18	Never Principal	Yes	McData Fab. 1.0	TBC
SW04C	New	CGC2	3rd Floor	CB15	EC-1500	MC5TN01561	MC5IN02560	ED-140	2GB	68	6.01.00 18	Blue	Host	18	Never Principal	Yes	McData Fab. 1.0	10.4.8.1
SW05C	Existing	CGC1	TR1/TR2	59AN	EC-1200	MC5CN03485	MC5FJ01267	ED-64	2GB	64	6.01.00 18	Red	Host	30	Never Principal	Yes	McData Fab. 1.0	10.2.7.3
SW06C	Existing	CGC1	TR1/TR2	71CF	EC-1200	MC5CN03484	MC5FJ01308	ED-64	2GB	64	6.01.00 18	Blue	Host	30	Never Principal	Yes	McData Fab. 1.0	10.2.8.3
SW07C	Existing	CGC1	TR1/TR2	59AN	EC-1200	MC5CN03485	MC5FJ01159	ED-64	1GB	64	6.01.00 18	Red	Host	29	Never Principal	Yes	McData Fab. 1.0	10.1.7.2
SW08C	Existing	CGC1	TR1/TR2	71CF	EC-1200	MC5CN03484	MC5FJ01183	ED-64	1GB	64	6.01.00 18	Blue	Host	29	Never Principal	Yes	McData Fab. 1.0	10.1.8.2
SW09C	Existing	CGC2	3rd Floor	BW100	EC-1200	MC5CN04635	MC5FJ07225	ED-64	1GB	64	6.01.00 18	Red	Host	25	Never Principal	Yes	McData Fab. 1.0	10.1.7.5
SW10C	Existing	CGC2	3rd Floor	CB05	EC-1200	MC5CN04634	MC5FJ07208	ED-64	1GB	64	6.01.00 18	Blue	Host	25	Never Principal	Yes	McData Fab. 1.0	10.1.8.5
SW11C	Existing	CGC2	3rd Floor	BW100	EC-1200	MC5CN04635	MC5FJ01673	ED-64	2GB	64	6.01.00 18	Red	Host	24	Never Principal	Yes	McData Fab. 1.0	10.1.7.6
SW12C	Existing	CGC2	3rd Floor	CB05	EC-1200	MC5CN04634	MC5FJ09611	ED-64	2GB	64	6.01.00 18	Blue	Host	24	Never Principal	Yes	McData Fab. 1.0	10.1.8.6
SW13C	Existing	CGC2	3rd Floor	BW100	EC-1200	MC5CN04635	MC5IN01268	ED-140	2GB	108	6.01.00 18	Red	Storage	23	Principal	Yes	McData Fab. 1.0	10.1.7.7
SW14C	Existing	CGC2	3rd Floor	CB05	EC-1200	MC5TN04634	MC5IN01267	ED-140	2GB	108	6.01.00 18	Blue	Storage	23	Principal	Yes	McData Fab. 1.0	10.1.8.7
SW15C	Existing	CGC2	3rd Floor	BW100	EC-1200	MC5CN07127	MC5IN01483	ED-140	2GB	120	6.01.00 18	Red	Host	20	Never Principal	Yes	McData Fab. 1.0	10.1.7.9
SW16C	Existing	CGC2	3rd Floor	CB06	EC-1200	MC5TN06731	MC5IN01484	ED-140	2GB	120	6.01.00 18	Blue	Host	20	Never Principal	Yes	McData Fab. 1.0	10.3.8.1
RDFS91C	New	CGC1	TR1/TR2	60AN	EC-1500	MC5TN01410	MC5FJ21145	ED-64	2GB	32	6.01.00 18	Green	SRDF	1	default	Yes	McData Fab. 1.0	10.101.7.1
RDFS92C	New	CGC1	TR1/TR2	70CF	EC-1500	MC5TN01408	MC5FJ21143	ED-64	2GB	32	6.01.00 18	Black	SRDF	2	default	Yes	McData Fab. 1.0	10.101.7.1
RDFS93C	New	CGC2	3rd Floor	CA96	EC-1500	MC5TN01414	MC5FJ21149	ED-64	2GB	32	6.01.00 18	Green	SRDF	5	default	Yes	McData Fab. 1.0	10.103.7.1
RDFS94C	New	CGC2	3rd Floor	CB14	EC-1500	MC5TN01415	MC5FJ21150	ED-64	2GB	32	6.01.00 18	Black	SRDF	6	default	Yes	McData Fab. 1.0	10.103.7.1

Table 52: SAN Phase 4.2 – CGC Connectrix Information

RDC Connectrix Hardware Information Table																		
Director Alias	New/Existing	LOCATION INFORMATION					HARDWARE INFORMATION					CONFIGURATION INFORMATION						
		Site	Floor	Cabinet Location	Cabinet Type	Cabinet Serial #	Director Serial #	Model	1GB/2GB	# of installed Ports	Firmware	Fabric	Connected Device Type	Domain ID	Switch Priority	Insistent D_ID?	Interop. Mode	IP Address
SW01R	Existing	RDC	1st Floor	BX04	EC-1200	MC5CN04024	MC5FJ01954	ED-64	1GB	64	6.01.00 18	Red	Storage	2	Principal	Yes	McData Fab. 1.0	10.1.8.1
SW02R	Existing	RDC	1st Floor	BX40	EC-1200	MC5CN04016	MC5FJ02061	ED-64	1GB	64	6.01.00 18	Blue	Storage	2	Principal	Yes	McData Fab. 1.0	10.1.8.1
SW03R	Existing	RDC	1st Floor	BX04	EC-1200	MC5CN04024	MC5FJ01953	ED-64	1GB	64	6.01.00 18	Red	Host	28	Never Principal	Yes	McData Fab. 1.0	10.1.8.2
SW04R	Existing	RDC	1st Floor	BX40	EC-1200	MC5CN04016	MC5FJ02060	ED-64	1GB	64	6.01.00 18	Blue	Host	28	Never Principal	Yes	McData Fab. 1.0	10.1.8.2
SW05R	Existing	RDC	1st Floor	BX04	EC-1200	MC5CN04024	MC5FJ07237	ED-64	1GB	64	6.01.00 18	Red	Host	27	Never Principal	Yes	McData Fab. 1.0	10.1.8.3
SW06R	Existing	RDC	1st Floor	BX40	EC-1200	MC5CN04016	MC5FJ07236	ED-64	1GB	64	6.01.00 18	Blue	Host	27	Never Principal	Yes	McData Fab. 1.0	10.1.8.3
SW07R	New	RDC	4th Floor	BU18	EC-1500	TBC	TBC	ED-140	2GB	112	6.01.00 18	Red	Host	26	Never Principal	Yes	McData Fab. 1.0	10.2.8.1
SW08R	New	RDC	4th Floor	BU26	EC-1500	TBC	TBC	ED-140	2GB	112	6.01.00 18	Blue	Host	26	Never Principal	Yes	McData Fab. 1.0	10.2.8.1
SW09R	Existing	RDC	1st Floor	BX04	EC-1200	MC5CN04024	MC5FJ01292	ED-64	1GB	64	6.01.00 18	Red	Host	22	Never Principal	Yes	McData Fab. 1.0	10.1.8.4
SW10R	Existing	RDC	1st Floor	BX40	EC-1200	MC5CN04016	MC5FJ01297	ED-64	1GB	64	6.01.00 18	Blue	Host	22	Never Principal	Yes	McData Fab. 1.0	10.1.8.4
SW11R	Existing	RDC	1st Floor	BX11	EC-1200	MC5CN07128	MC5IN01485	ED-140	2GB	140	6.01.00 18	Red	Storage	3	Principal	Yes	McData Fab. 1.0	10.3.8.1
SW12R	Existing	RDC	1st Floor	BX34	EC-1200	MC5CN06898	MC5IN01482	ED-140	2GB	140	6.01.00 18	Blue	Storage	3	Principal	Yes	McData Fab. 1.0	10.3.8.1
SW13R	Existing	RDC	1st Floor	BX11	EC-1200	MC5CN07128	MC5IN01584	ED-140	2GB	140	6.01.00 18	Red	Host	21	Never Principal	Yes	McData Fab. 1.0	10.3.8.2
SW14R	Existing	RDC	1st Floor	BX34	EC-1200	MC5CN06898	MC5IN01585	ED-140	2GB	140	6.01.00 18	Blue	Host	21	Never Principal	Yes	McData Fab. 1.0	10.3.8.2
SW15R	New	RDC	4th Floor	M01	EC-1500	MC5TN01559	MC5IN02561	ED-140	2GB	72	6.01.00 18	Red	Storage	4	Principal	Yes	McData Fab. 1.0	10.4.8.1
SW16R	New	RDC	4th Floor	M46	EC-1500	MC5TN01563	MC5IN02566	ED-140	2GB	72	6.01.00 18	Blue	Storage	4	Principal	Yes	McData Fab. 1.0	10.4.8.1
SW17R	Existing	RDC	3th Floor	Z02	EC-1200	MC5CN04014	MC5FJ01848	ED-64	1GB	60	6.01.00 18	Red	Host	20	Never Principal	Yes	McData Fab. 1.0	10.5.8.1
SW18R	Existing	RDC	3th Floor	Z44	EC-1200	MC5CN04015	MC5FJ02020	ED-64	1GB	60	6.01.00 18	Blue	Host	20	Never Principal	Yes	McData Fab. 1.0	10.5.8.1
SW19R	New	RDC	1st Floor	BX11	EC-1200	MC5CN07128	TBC	ED-140	2GB	56	6.01.00 18	Red	Host	19	Never Principal	Yes	McData Fab. 1.0	10.3.8.3
SW20R	New	RDC	1st Floor	BX34	EC-1200	MC5CN06898	MC5IN02562	ED-140	2GB	56	6.01.00 18	Blue	Host	19	Never Principal	Yes	McData Fab. 1.0	10.3.8.3
RDFSW91R	New	RDC	1st Floor	BX17	EC-1500	MC5TN01413	MC5FJ21148	ED-64	2GB	32	6.01.00 18	Green	SRDF	3	default	Yes	McData Fab. 1.0	10.201.7.1
RDFSW92R	New	RDC	1st Floor	BX33	EC-1500	MC5TN01409	MC5FJ21144	ED-64	2GB	32	6.01.00 18	Black	SRDF	4	default	Yes	McData Fab. 1.0	10.201.7.1
RDFSW93R	New	RDC	4th Floor	M02	EC-1500	MC5TN01412	MC5FJ21147	ED-64	2GB	32	6.01.00 18	Green	SRDF	7	default	Yes	McData Fab. 1.0	10.204.7.1
RDFSW94R	New	RDC	4th Floor	M45	EC-1500	MC5TN01411	MC5FJ21146	ED-64	2GB	32	6.01.00 18	Black	SRDF	8	default	Yes	McData Fab. 1.0	10.204.7.1

Table 53: SAN Phase 4.2- RDC Connectrix Information

6.6 SAN Phase 4.2 – SAN Expansion Logical Fabric Topology

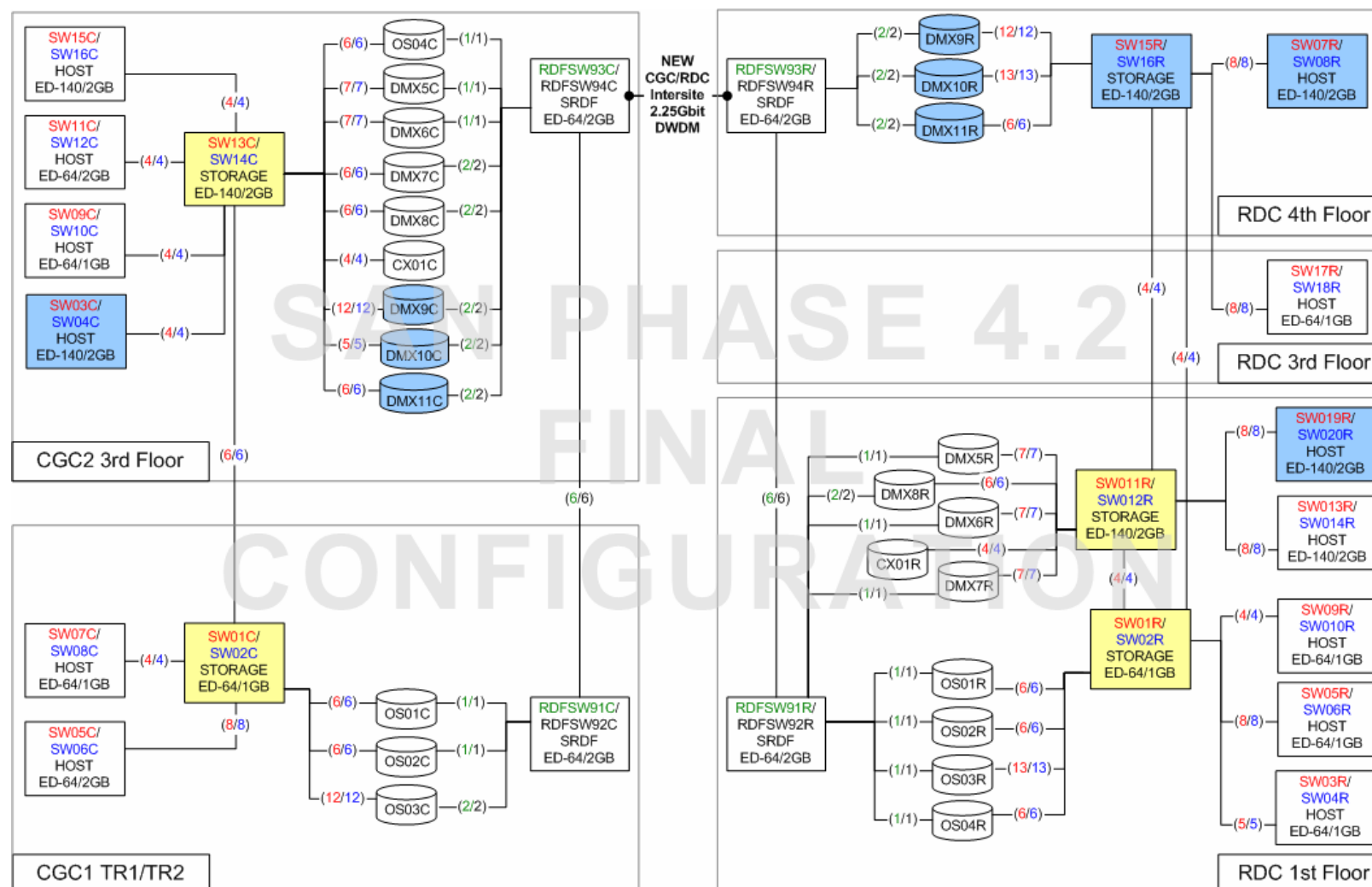


Figure 6: SAN Phase 4.2- Logical SAN Topology

7 Fabric Management

During the SAN Phase 4.2, the secure IP network for SAN IP management is implemented. Based on this configuration, all the Connectrix Service Processors has been configured to connect to a CEP (Citigroup Entry Point), which acts as Firewall and Router/Switch at the same time. The SAN workstations are configured in Citigroup Management LAN of the data centres.

Four new SAN Management workstations are deployed to accommodate the required new SAN environment. All of them are used active and they are redundant for resilience.

In general, SAN Management team is using following EMC software for Symmetrix arrays:

- Zoning : Connectrix Manager 7.02
- LUN masking for Symmetrix : Solutions Enabler 5.3.1
- SRDF/BCV control : Solutions Enabler 5.3.1
- X-windows access

The CLARiiON Management is performed from dedicated Windows workstations and is handled separately from Symmetrix management for LUN masking, monitoring and Snap control.

In general, SAN Management team is using following EMC software for CLARiiON arrays:

- Monitoring of Symmetrix : Navisphere Manager
- Zoning : Connectrix Manager 6.3.1/7.02
- LUN masking for CLARiiON: Navisphere Client
- Snap control : SnapView

Following tables and figures on the next pages give an overview of the new IP configuration of the Connectrix Service Processors and new SAN Management Workstations.

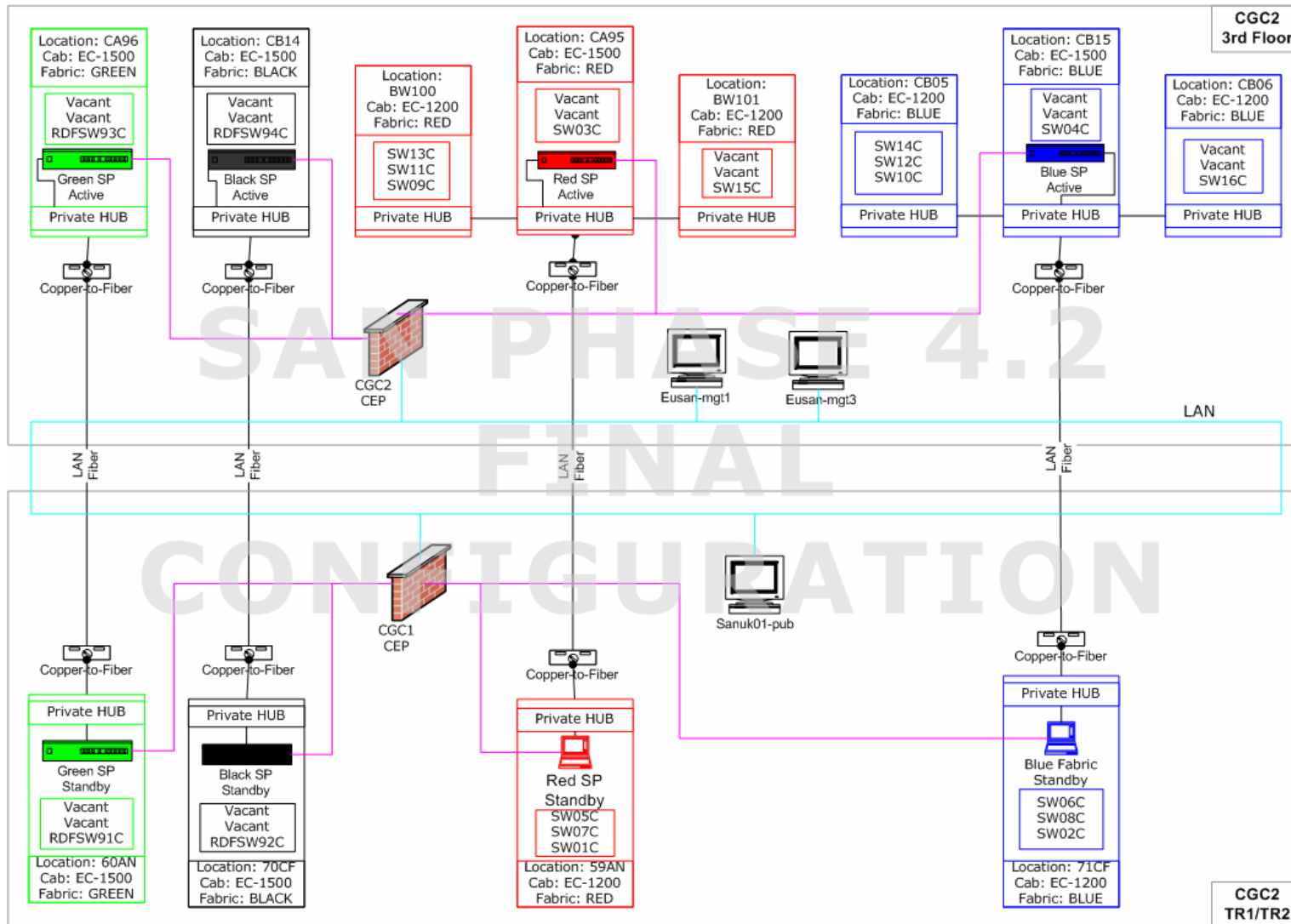
SP Alias	Active / Standby	Site	Cabinet Location	Cabinet Type	SP Type	Cx. Mngr. Version	Dial Home Number	Serial #	LAN IP Address	VLAN#	CEP Location	Cisco Device	Card / Port
rdcblackfabric	active	RDC/L4	M45	EC-1500	1U Svr	7.02	02075080834	1409	169.186.192.196	43	L4 - AX42	srdfwe14	3/6
rdcgreenfabric	active	RDC/L4	M02	EC-1500	1U Svr	7.02	02075080879	1413	169.186.192.132	53	L4 - AX2	srdfwe13	3/2
rdcbluefabric	active	RDC/L4	M46	EC-1500	1U Svr	7.02	02083180680	4016	169.186.192.197	43	L4 - AX2	srdfwe13	3/7
rdcredfabric	active	RDC/L4	M01	EC-1500	1U Svr	7.02	02083180509	4024	169.186.192.133	53	L4 - AX42	srdfwe14	3/3
rdcblackfabric	standby	RDC/L1	BX33	EC-1500	1U Svr	7.02	n/a	n/a	169.186.192.68	10	L1 - BL02	srdfwe09	3/37
rdcgreenfabric	standby	RDC/L1	BX17	EC-1500	1U Svr	7.02	n/a	n/a	169.186.192.4	8	L1 - BL32	srdfwe10	3/29
rdcbluefabric	standby	RDC/L1	BX40	EC-1200	Laptop	7.01	n/a	n/a	169.186.192.69	10	L1 - BL32	srdfwe10	3/38
rdcredfabric	standby	RDC/L1	BX04	EC-1200	Laptop	7.01	n/a	n/a	169.186.192.5	8	L1 - BL02	srdfwe09	3/30
cgcbblackfabric	active	CGC2/L3	CB14	EC-1500	1U Svr	7.02	02075080825	1415	169.186.141.196	54	CGC2 - AB68	sol2fwe02	4/9
cgcgreenfabric	active	CGC2/L3	CA96	EC-1500	1U Svr	7.02	02075080826	1414	169.186.141.132	42	CGC2 - AB51	sol2fwe01	4/2
cgcbbluefabric	active	CGC2/L3	CB15	EC-1500	1U Svr	7.02	02079862685	3484	169.186.141.197	54	CGC2 - AB51	sol2fwe01	4/10
cgcredfabric	active	CGC2/L3	CA95	EC-1500	1U Svr	7.02	2079862685	3485	169.186.141.133	42	CGC2 - AB68	sol2fwe02	4/3
cgcbblackfabric	standby	CGC1/TRx	70CF	EC-1500	1U Svr	7.02	n/a	n/a	169.186.141.68	9	CGC1 - TR3 40DB	sol1fwe15	4/8
cgcgreenfabric	standby	CGC1/TRx	60AN	EC-1500	1U Svr	7.02	n/a	n/a	169.186.141.4	9	CGC1 - TR4 81CW	sol1fwe16	4/1
cgcbbluefabric	standby	CGC1/TRx	71CF	EC-1200	Laptop	7.01	n/a	n/a	169.186.141.69	9	CGC1 - TR4 81CW	sol1fwe16	4/9
cgcredfabric	standby	CGC1/TRx	59AN	EC-1200	Laptop	7.01	n/a	n/a	169.186.141.5	9	CGC1 - TR3 40DB	sol1fwe15	4/2

Table 54: Connectrix Service Processor IP Configuration after Secure SAN Implementation

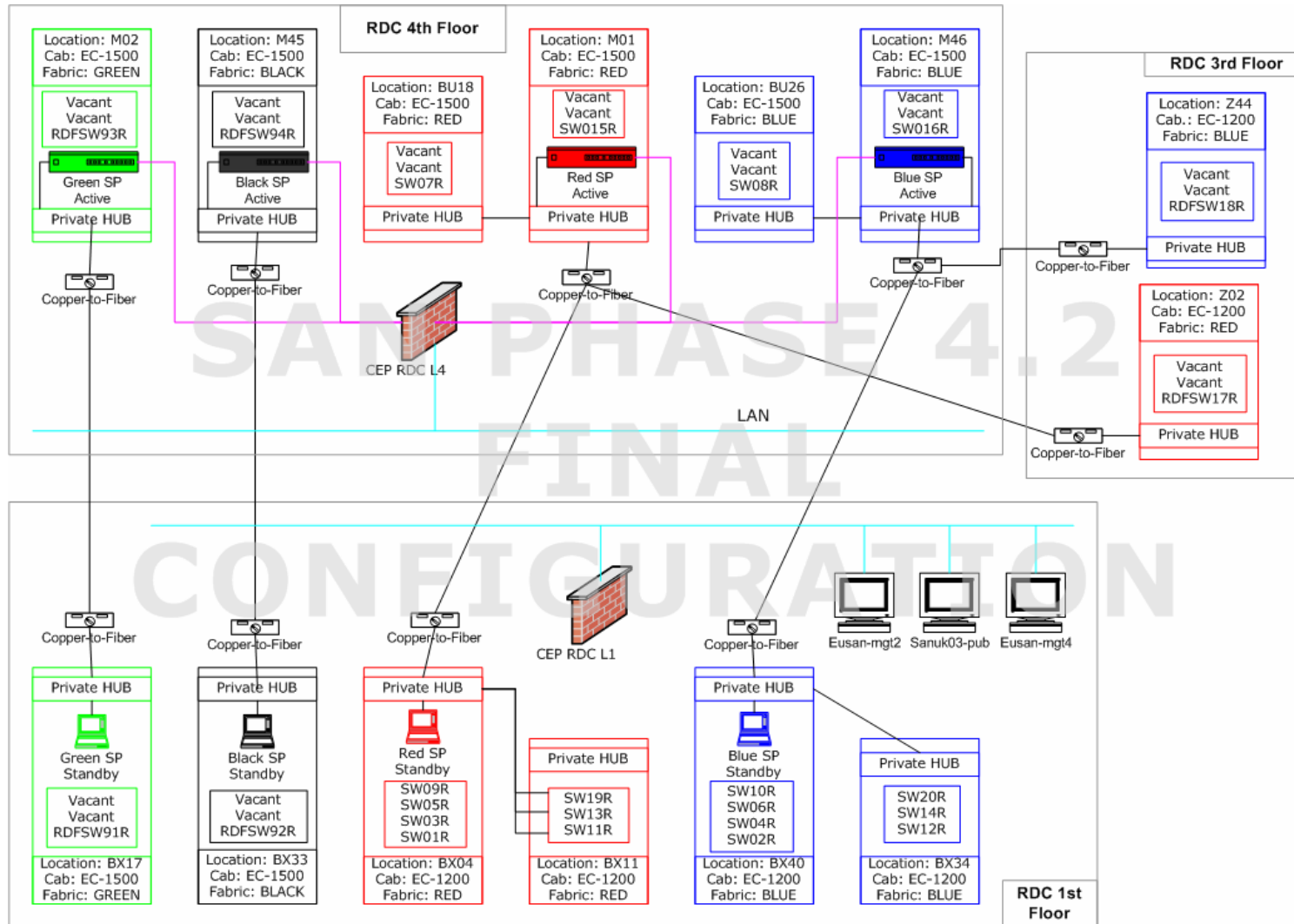
SAN Management Workstation	Active / Standby	Old / New	Site	LAN IP Address
sanuk01-pub	to be retired	old	CGC1/TRx	169.186.146.103
eusan-mgt1	active	new	CGC2/L3	169.183.26.108
eusan-mgt3	active	new	CGC2/L3	169.183.27.90
sanuk03-pub	to be retired	old	RDC /L1	169.186.201.26
eusan-mgt2	active	new	RDC /L1	169.186.223.81
eusan-mgt4	active	new	RDC /L1	169.186.223.170

Table 55: SAN Management Workstation IP Configurations after Secure SAN Implementation

7.1 CGC SAN Management IP Infrastructure - After SAN Split and Expansion (Excluding CLARiiON)



7.2 RDC SAN Management IP Infrastructure - After SAN Split and Expansion (Excluding CLARiiON)



Appendices

A. SAN Design Issues and Concerns

Issues, Consequences, and Mitigating Factors of Installation			
Issue	Consequences	Mitigating Factors	Status
This is not a fully detailed SAN Configuration guide. Host information, zoning, port assignment worksheets and volume masking are not included for all components.	This is not a fully detailed SAN Configuration guide.	Citigroup team are managing a very large fabric and follow their documentation. It is not required to duplicate this information in this guide.	CLOSED
There is still some information missing which is marked with TBC in the tables. This information will be completed as they become available.	The design is incomplete	The document will be updated as the project continues.	CLOSED
The zone names in SRDF fabric are proposed zone names. Based on the field and Citigroup practices, the zone names used can vary from what is in this guide. However, the zone members are as given in this guide.	Documentation difference from the field.	An automated way of gathering field data out of SAN is planned to be implemented in Q1 2005. once this is in place, the documentation will reflect the field information.	CLOSED.
The CLARiiON management IP infrastructure is not included in the SAN Management section.	The design is incomplete.	Citigroup Engineering team has completed their internal documentation for all CLARiiON related configuration. This information is not included here at this time. For detailed information, Citigroup documentation should be used.	CLOSED
New DWDM connections are not available yet.	The bandwidth for the SRDF fabric is only 1.2 Gbit in the Initial infrastructure. This might not be enough based on the new added storage.	The connection is in progress and followed up by the project team.	CLOSED
There are still some X-site zoning in use between CGC and RDC.	The SAN split cannot proceed if there are X-site zoning.	Citigroup team is following up.	CLOSED during the SAN Split Phase 4.2
Infrastructure cabling for refurbishment of the RDC 3 rd floor and the new cabinets on 4 th floor are prerequisites for SAN Split.	If cabling does not happen, SAN Split must be postponed.	Citigroup decided to go ahead with temporary cabling at this stage. Cable remediation will be required at a later stage.	CLOSED
There are still 1GB switches in the fabric, especially in the core.(SW01/SW02 and SW01R/SW02R).	This limits the available bandwidth in the core of the fabrics.	This will be addressed in the later stages of the fabric expansion.	CLOSED

Issues, Consequences, and Mitigating Factors of Installation			
Issue	Consequences	Mitigating Factors	Status
An RPQ is required to manage the new cabinet infrastructure in RDC as the number of EC-1500 cabinets managed from one SP is exceeding the limitation of 4.	EMC Support issue.	There is always 1 hop between a switch and the SP cabinet and this is a valid configuration. The EMC account team and EMC CS decided that there is no need for an RPQ at this stage.	CLOSED
The Standby SP implementation will be finalized Q1 2005.	none	none	PENDING

Table 56: SAN Design Issues and Concerns

B. SAN Health Check Issues

The field documentation and Citigroup internal documentation is used for this guide. Due to the nature of any documentation, EMC strongly recommends checking the following items in an automated manner using the available tools for the switch and storage management to avoid discrepancies between the documentation and the runtime environment.

- All Symmetrix storage FA connections to the switches need to be reviewed and confirmed.
- The DWDM connections in the new environment should be reviewed and the configuration needs to be validated based on Citigroup and EMC best practices.
- New ISLs from SW15R/SW16R to SW01R/SW02R need to be connected to reduce the number of hops to 3 in RDC Blue/Red fabric.
(13/12/2004 : This work is completed as of 12/12/2004).
- The SRDF switch port assignments should be checked and verified.
- The ISLs should be checked and verified. Based on EMC standards, only 50% of the populated ports can be used as ISLs on any switch.
- Currently, the Fan-in/Fan-out ratios of the FA ports (how many HBAs are sharing one FA port?) is not known and monitored. This should be reviewed and monitored as soon as possible to avoid any unnecessary performance issues on the storage ports. There are several spare ports on each storage system that could be used to resolve if any problems exist.
- The cabling of the SAN management IP infrastructure should be surveyed to make sure that a real star topology is in place. In other words, every cabinet should be connected to the CSP with only 1 hop away.
If that is not the case, the number of manageable cabinets will be 5, which requires an RPQ.
- All FA port pairs or segments should be checked for balanced connections, e.g. each port pair should have one connection to RED fabric and one connection to BLUE fabric.
- All the FA ports from one storage system should be connected to different UPM cards on the switches.
- All the ISLs from a switch to another one should be connected to different UPM cards on both switches.
- All primary FA ports should be connected to the switches even though they are not currently in use.

C. Connectrix Labelling

Citigroup has its own labelling and naming conventions in the data centres and these are followed up and documented by responsible data centre teams.

Connectrix ED-140M Port Labelling

The port mapping for an ED-140M is shown in Figure 7.

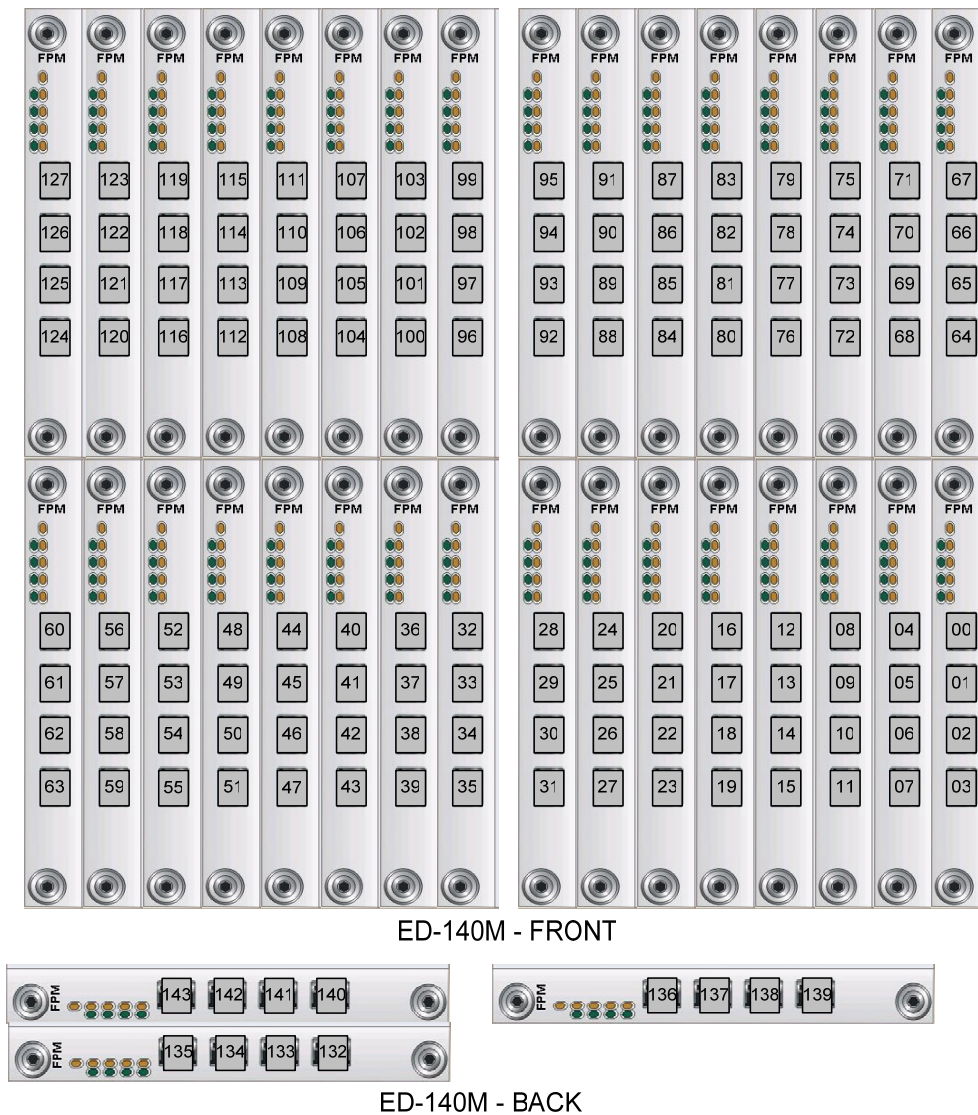


Figure 7: Connectrix ED-140M Port Labelling

Connectrix ED-64M Port Labelling

The port mapping for an ED-64M is shown in Figure 8. The FC card in slot 0, (right hand slot of the ED-64M) is labelled as Port 00 through Port 03. Ports 04 through Ports 07 are located on the FC card in slot 1 (second card from the right) and so forth.

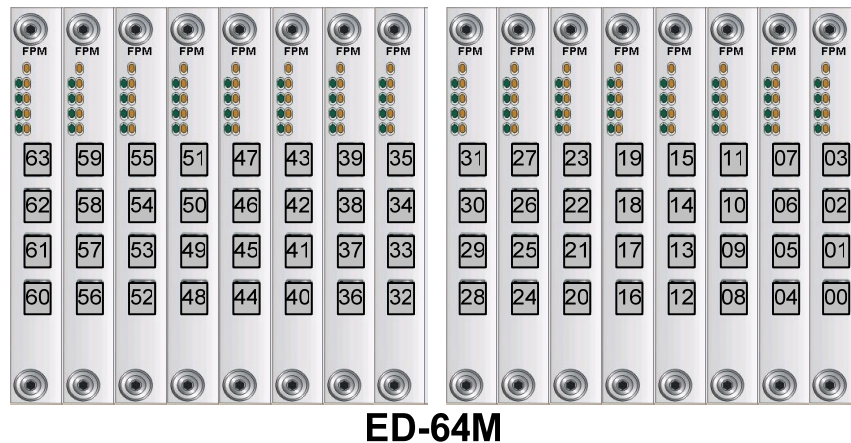


Figure 8: Connectrix ED-64M Port Labelling

Cable Labelling

Citigroup has its own cable labelling and data centre naming conventions which might or might not be different from the naming conventions used in this guide.

Citigroup Storage Integration team is supervising the bridge between the logical designs and the actual physical implementation of the environments in terms of physical placement, cabling, and naming conventions used on the floor.

D. ISL Information

The inter-switch links (ISLs) provide additional connectivity for the nodes in the fabric. Based on EMC and Citigroup best practices following limitations apply for the ISL planning:

- The maximum number of hops is 3 from end to end in the fabric
- Maximum 50% of the installed ports should be used for ISLs.

The BAU field documentation is used to present the ISL information.

Following tables show the general ISL count and status in the host fabrics.

CGC ISL Count and Status (Based on Field Documentation)					
Switch Alias	# of Installed Ports	# of ISL Ports	Percent	STATUS	FABRIC
SW01C	64	18	28%	OK	Red
SW02C	64	18	28%	OK	Blue
SW03C	68	1	1%	OK	Red
SW04C	68	1	1%	OK	Blue
SW05C	64	9	14%	OK	Red
SW06C	64	9	14%	OK	Blue
SW07C	64	5	8%	OK	Red
SW08C	64	5	8%	OK	Blue
SW09C	64	8	13%	OK	Red
SW10C	64	8	13%	OK	Blue
SW11C	64	5	8%	OK	Red
SW12C	64	5	8%	OK	Blue
SW13C	108	22	20%	OK	Red
SW14C	108	18	17%	OK	Blue
SW15C	120	4	3%	OK	Red
SW16C	120	4	3%	OK	Blue

Table 57: CGC ISL Count and Status – Based on Field Documentation

RDC ISL Count and Status Information (Based on Field Documentation)					
Switch Alias	# of Installed Ports	# of ISL Ports	Percent	STATUS	FABRIC
SW01R	64	23	36%	OK	Red
SW02R	64	21	33%	OK	Blue
SW03R	64	4	6%	OK	Red
SW04R	64	5	8%	OK	Blue
SW05R	64	5	8%	OK	Red
SW06R	64	6	9%	OK	Blue
SW07R	112	6	5%	OK	Red
SW08R	112	6	5%	OK	Blue
SW09R	64	4	6%	OK	Red
SW10R	64	4	6%	OK	Blue
SW11R	140	16	11%	OK	Red
SW12R	140	16	11%	OK	Blue
SW13R	140	8	6%	OK	Red
SW14R	140	8	6%	OK	Blue
SW15R	72	12	17%	OK	Red
SW16R	72	12	17%	OK	Blue
SW17R	60	1	2%	OK	Red
SW18R	60	1	2%	OK	Blue

Table 58: CGC ISL Count and Status – Based on Field Documentation

Below tables show the ISL information and problems based on the Citigroup field documentation.

CGC ISL INFORMATION (Based on Field Documentation)			
FROM		TO	
Switch Alias	Port #	Switch Alias	Port #
SW01C	0	SW07C	0
SW01C	1	SW05C	1
SW01C	2	SW05C	2
SW01C	4	SW05C	4
SW01C	6	SW07C	6
SW01C	10	SW05C	10
SW01C	18	SW07C	18
SW01C	22	SW07C	22
SW01C	26	SW05C	26
SW01C	28	SW05C	28
SW01C	30	SW05C	30
SW01C	42	SW13C	2
SW01C	45	SW05C	24
SW01C	46	SW13C	6
SW01C	50	SW13C	10
SW01C	54	SW13C	14
SW01C	58	SW13C	18
SW01C	62	SW13C	24
SW02C	0	SW08C	0
SW02C	1	SW06C	1
SW02C	2	SW06C	2
SW02C	4	SW06C	4
SW02C	6	SW08C	6
SW02C	10	SW06C	10
SW02C	18	SW08C	18
SW02C	22	SW08C	22
SW02C	24	SW06C	24
SW02C	26	SW06C	26
SW02C	28	SW06C	28
SW02C	30	SW06C	30
SW02C	42	SW14C	2
SW02C	46	SW14C	6
SW02C	50	SW14C	10
SW02C	54	SW14C	14
SW02C	58	SW14C	18
SW02C	62	SW14C	24
SW03C	TBC	TBC	TBC
SW04C	TBC	TBC	TBC
SW05C	2	SW01C	2
SW05C	4	SW01C	4
SW05C	19	SW07C	34

CGC ISL INFORMATION (Based on Field Documentation)			
FROM		TO	
Switch Alias	Port #	Switch Alias	Port #
SW05C	24	SW01C	24
SW05C	28	SW01C	28
SW05C	33	SW01C	1
SW05C	42	SW01C	1
SW05C	58	SW01C	26
SW05C	62	SW01C	30
SW06C	2	SW02C	2
SW06C	4	SW02C	4
SW06C	19	SW08C	34
SW06C	24	SW02C	24
SW06C	28	SW02C	28
SW06C	33	SW02C	1
SW06C	42	SW02C	10
SW06C	58	SW02C	26
SW06C	62	SW02C	30
SW07C	0	SW01C	0
SW07C	6	SW01C	6
SW07C	18	SW01C	18
SW07C	22	SW01C	22
SW07C	34	SW05C	19
SW08C	0	SW02C	0
SW08C	6	SW02C	6
SW08C	18	SW02C	18
SW08C	22	SW02C	22
SW08C	34	SW06C	19
SW09C	0	SW11C	42
SW09C	4	SW01C	45
SW09C	8	SW01C	49
SW09C	12	SW01C	53
SW09C	19	SW13C	0
SW09C	23	SW13C	4
SW09C	27	SW13C	8
SW09C	31	SW13C	12
SW10C	0	SW12C	42
SW10C	4	SW02C	45
SW10C	8	SW02C	49
SW10C	12	SW02C	53
SW10C	19	SW14C	0
SW10C	23	SW14C	4
SW10C	27	SW14C	8
SW10C	31	SW14C	12
SW11C	1	SW13C	1
SW11C	5	SW13C	5
SW11C	9	SW13C	9

CGC ISL INFORMATION (Based on Field Documentation)			
FROM		TO	
Switch Alias	Port #	Switch Alias	Port #
SW11C	13	SW13C	13
SW11C	42	SW09C	0
SW12C	1	SW14C	1
SW12C	5	SW14C	5
SW12C	9	SW14C	9
SW12C	13	SW14C	13
SW12C	42	SW10C	0
SW13C	0	SW09C	19
SW13C	1	SW11C	1
SW13C	2	SW01C	42
SW13C	4	SW09C	23
SW13C	5	SW11C	5
SW13C	6	SW01C	46
SW13C	8	SW09C	27
SW13C	9	SW11C	9
SW13C	10	SW01C	50
SW13C	12	SW09C	31
SW13C	13	SW11C	13
SW13C	14	SW01C	TBC
SW13C	18	SW01C	58
SW13C	21	SW15C	21
SW13C	24	SW01C	TBC
SW13C	37	SW15C	37
SW13C	TBC	TBC	TBC
SW13C	TBC	TBC	TBC
SW13C	TBC	TBC	TBC
SW13C	TBC	TBC	TBC
SW13C	TBC	TBC	TBC
SW13C	TBC	TBC	TBC
SW14C	0	SW10C	19
SW14C	1	SW12C	1
SW14C	2	SW02C	42
SW14C	4	SW10C	23
SW14C	5	SW12C	5
SW14C	6	SW02C	46
SW14C	8	SW10C	27
SW14C	9	SW12C	9
SW14C	10	SW02C	50
SW14C	12	SW10C	31
SW14C	13	SW12C	13
SW14C	14	SW02C	54
SW14C	18	SW02C	58
SW14C	21	SW16C	21
SW14C	24	SW02C	TBC

CGC ISL INFORMATION (Based on Field Documentation)			
FROM		TO	
Switch Alias	Port #	Switch Alias	Port #
SW14C	37	SW16C	37
SW14C	62	SW16C	62
SW14C	63	SW16C	63
SW15C	21	SW13C	21
SW15C	37	SW13C	37
SW15C	62	SW13C	62
SW15C	63	SW13C	63
SW16C	21	SW14C	21
SW16C	37	SW14C	37
SW16C	62	SW14C	62
SW16C	63	SW14C	63

Table 59: CGC ISL Information based on Field Documentation

CGC ISL Problems (Based on Field Documentation)		
DEPART_ISL (Switch_Port)	DEST_ISL (Switch_Port)	STATUS
SW01C_0	SW07C_0	OK
SW01C_1	SW05C_1	#N/A
SW01C_10	SW05C_10	#N/A
SW01C_18	SW07C_18	OK
SW01C_2	SW05C_2	OK
SW01C_22	SW07C_22	OK
SW01C_26	SW05C_26	#N/A
SW01C_28	SW05C_28	OK
SW01C_30	SW05C_30	#N/A
SW01C_4	SW05C_4	OK
SW01C_42	SW13C_2	OK
SW01C_45	SW05C_24	ERROR
SW01C_46	SW13C_6	OK
SW01C_50	SW13C_10	OK
SW01C_54	SW13C_14	ERROR
SW01C_58	SW13C_18	OK
SW01C_6	SW07C_6	OK
SW01C_62	SW13C_24	ERROR
SW02C_0	SW08C_0	OK
SW02C_1	SW06C_1	#N/A
SW02C_10	SW06C_10	#N/A
SW02C_18	SW08C_18	OK
SW02C_2	SW06C_2	OK
SW02C_22	SW08C_22	OK
SW02C_24	SW06C_24	OK
SW02C_26	SW06C_26	#N/A
SW02C_28	SW06C_28	OK
SW02C_30	SW06C_30	#N/A
SW02C_4	SW06C_4	OK
SW02C_42	SW14C_2	OK
SW02C_46	SW14C_6	OK
SW02C_50	SW14C_10	OK
SW02C_54	SW14C_14	OK
SW02C_58	SW14C_18	OK
SW02C_6	SW08C_6	OK
SW02C_62	SW14C_24	ERROR
SW03C_TBC	TBC_TBC	#N/A
SW04C_TBC	TBC_TBC	#N/A
SW05C_19	SW07C_34	OK
SW05C_2	SW01C_2	OK
SW05C_24	SW01C_24	#N/A
SW05C_28	SW01C_28	OK
SW05C_33	SW01C_1	ERROR
SW05C_4	SW01C_4	OK

CGC ISL Problems (Based on Field Documentation)		
DEPART_ISL (Switch_Port)	DEST_ISL (Switch_Port)	STATUS
SW05C_42	SW01C_1	ERROR
SW05C_58	SW01C_26	ERROR
SW05C_62	SW01C_30	ERROR
SW06C_19	SW08C_34	OK
SW06C_2	SW02C_2	OK
SW06C_24	SW02C_24	OK
SW06C_28	SW02C_28	OK
SW06C_33	SW02C_1	ERROR
SW06C_4	SW02C_4	OK
SW06C_42	SW02C_10	ERROR
SW06C_58	SW02C_26	ERROR
SW06C_62	SW02C_30	ERROR
SW07C_0	SW01C_0	OK
SW07C_18	SW01C_18	OK
SW07C_22	SW01C_22	OK
SW07C_34	SW05C_19	OK
SW07C_6	SW01C_6	OK
SW08C_0	SW02C_0	OK
SW08C_18	SW02C_18	OK
SW08C_22	SW02C_22	OK
SW08C_34	SW06C_19	OK
SW08C_6	SW02C_6	OK
SW09C_0	SW11C_42	OK
SW09C_12	SW01C_53	#N/A
SW09C_19	SW13C_0	OK
SW09C_23	SW13C_4	OK
SW09C_27	SW13C_8	OK
SW09C_31	SW13C_12	OK
SW09C_4	SW01C_45	ERROR
SW09C_8	SW01C_49	#N/A
SW10C_0	SW12C_42	OK
SW10C_12	SW02C_53	#N/A
SW10C_19	SW14C_0	OK
SW10C_23	SW14C_4	OK
SW10C_27	SW14C_8	OK
SW10C_31	SW14C_12	OK
SW10C_4	SW02C_45	#N/A
SW10C_8	SW02C_49	#N/A
SW11C_1	SW13C_1	OK
SW11C_13	SW13C_13	OK
SW11C_42	SW09C_0	OK
SW11C_5	SW13C_5	OK
SW11C_9	SW13C_9	OK
SW12C_1	SW14C_1	OK
SW12C_13	SW14C_13	OK

CGC ISL Problems (Based on Field Documentation)		
DEPART_ISL (Switch_Port)	DEST_ISL (Switch_Port)	STATUS
SW12C_42	SW10C_0	OK
SW12C_5	SW14C_5	OK
SW12C_9	SW14C_9	OK
SW13C_0	SW09C_19	OK
SW13C_1	SW11C_1	OK
SW13C_10	SW01C_50	OK
SW13C_12	SW09C_31	OK
SW13C_13	SW11C_13	OK
SW13C_14	SW01C_TBC	#N/A
SW13C_18	SW01C_58	OK
SW13C_2	SW01C_42	OK
SW13C_21	SW15C_21	OK
SW13C_24	SW01C_TBC	#N/A
SW13C_37	SW15C_37	OK
SW13C_4	SW09C_23	OK
SW13C_5	SW11C_5	OK
SW13C_6	SW01C_46	OK
SW13C_8	SW09C_27	OK
SW13C_9	SW11C_9	OK
SW13C_TBC	TBC_TBC	#N/A
SW13C_TBC	TBC_TBC	#N/A
SW13C_TBC	TBC_TBC	#N/A
SW13C_TBC	TBC_TBC	#N/A
SW13C_TBC	TBC_TBC	#N/A
SW13C_TBC	TBC_TBC	#N/A
SW14C_0	SW10C_19	OK
SW14C_1	SW12C_1	OK
SW14C_10	SW02C_50	OK
SW14C_12	SW10C_31	OK
SW14C_13	SW12C_13	OK
SW14C_14	SW02C_54	OK
SW14C_18	SW02C_58	OK
SW14C_2	SW02C_42	OK
SW14C_21	SW16C_21	OK
SW14C_24	SW02C_TBC	#N/A
SW14C_37	SW16C_37	OK
SW14C_4	SW10C_23	OK
SW14C_5	SW12C_5	OK
SW14C_6	SW02C_46	OK
SW14C_62	SW16C_62	OK
SW14C_63	SW16C_63	OK
SW14C_8	SW10C_27	OK
SW14C_9	SW12C_9	OK
SW15C_21	SW13C_21	OK
SW15C_37	SW13C_37	OK

CGC ISL Problems (Based on Field Documentation)		
DEPART_ISL (Switch_Port)	DEST_ISL (Switch_Port)	STATUS
SW15C_62	SW13C_62	#N/A
SW15C_63	SW13C_63	#N/A
SW16C_21	SW14C_21	OK
SW16C_37	SW14C_37	OK
SW16C_62	SW14C_62	OK
SW16C_63	SW14C_63	OK

Table 60: CGC ISL Problems based on Field Documentation

RDC ISL INFORMATION (Based on Field Documentation)			
FROM		TO	
Switch Alias	Port #	Switch Alias	Port #
SW01R	0	SW03R	0
SW01R	3	SW07R	3
SW01R	4	SW03R	4
SW01R	7	SW07R	7
SW01R	8	SW03R	8
SW01R	11	SW07R	11
SW01R	12	SW03R	12
SW01R	14	SW09R	0
SW01R	15	SW07R	15
SW01R	19	SW07R	31
SW01R	23	SW07R	35
SW01R	24	SW11R	24
SW01R	27	SW07R	39
SW01R	28	SW11R	28
SW01R	32	SW05R	0
SW01R	36	SW05R	4
SW01R	40	SW05R	8
SW01R	44	SW05R	12
SW01R	54	SW09R	4
SW01R	58	SW09R	8
SW01R	61	SW11R	61
SW01R	62	SW09R	12
SW01R	63	SW11R	63
SW02R	0	SW04R	0
SW02R	3	SW08R	3
SW02R	4	SW04R	4
SW02R	7	SW08R	7
SW02R	8	SW04R	8
SW02R	11	SW08R	11
SW02R	12	SW04R	12
SW02R	14	SW10R	0
SW02R	15	SW08R	15
SW02R	24	SW12R	24
SW02R	26	SW04R	24
SW02R	28	SW12R	28
SW02R	32	SW06R	0
SW02R	36	SW06R	4
SW02R	40	SW06R	8
SW02R	44	SW06R	12
SW02R	54	SW10R	4
SW02R	58	SW10R	8
SW02R	61	SW12R	61

RDC ISL INFORMATION (Based on Field Documentation)			
FROM		TO	
Switch Alias	Port #	Switch Alias	Port #
SW02R	62	SW10R	12
SW02R	62	SW12R	63
SW03R	0	SW01R	0
SW03R	4	SW01R	4
SW03R	8	SW01R	8
SW03R	12	SW01R	12
SW04R	0	SW02R	0
SW04R	4	SW02R	4
SW04R	8	SW02R	8
SW04R	12	SW02R	12
SW04R	24	SW02R	26
SW05R	0	SW01R	0
SW05R	4	SW01R	4
SW05R	8	SW01R	8
SW05R	12	SW01R	12
SW05R	41	SW07R	37
SW06R	0	SW02R	0
SW06R	4	SW02R	4
SW06R	8	SW02R	8
SW06R	12	SW02R	12
SW06R	29	SW04R	10
SW06R	41	SW08R	37
SW07R	19	SW15R	0
SW07R	27	SW15R	4
SW07R	44	SW15R	8
SW07R	49	SW15R	12
SW07R	60	TBC	TBC
SW07R	64	TBC	TBC
SW08R	19	SW16R	0
SW08R	44	SW16R	8
SW08R	49	SW16R	12
SW08R	56	SW16R	20
SW08R	60	SW16R	24
SW08R	64	SW16R	28
SW09R	0	SW01R	14
SW09R	4	SW01R	54
SW09R	8	SW01R	58
SW09R	12	SW01R	62
SW10R	0	SW02R	14
SW10R	4	SW02R	54
SW10R	8	SW02R	58
SW10R	12	SW02R	62
SW11R	10	SW15R	40

RDC ISL INFORMATION (Based on Field Documentation)			
FROM		TO	
Switch Alias	Port #	Switch Alias	Port #
SW11R	15	SW15R	14
SW11R	19	SW15R	32
SW11R	22	SW15R	36
SW11R	24	SW01R	24
SW11R	26	SW13R	26
SW11R	28	SW01R	28
SW11R	29	SW13R	29
SW11R	59	SW13R	59
SW11R	61	SW01R	61
SW11R	62	SW13R	62
SW11R	63	SW01R	63
SW11R	91	SW13R	91
SW11R	92	SW13R	92
SW11R	119	SW13R	119
SW11R	120	SW13R	120
SW12R	10	SW16R	40
SW12R	15	SW16R	44
SW12R	19	SW16R	32
SW12R	22	SW16R	36
SW12R	24	SW02R	24
SW12R	26	SW14R	26
SW12R	28	SW02R	28
SW12R	29	SW14R	29
SW12R	59	SW14R	59
SW12R	61	SW02R	61
SW12R	62	SW14R	62
SW12R	63	SW02R	63
SW12R	91	SW14R	91
SW12R	92	SW14R	92
SW12R	119	SW14R	119
SW12R	120	SW14R	120
SW13R	26	SW11R	26
SW13R	29	SW11R	29
SW13R	59	SW11R	59
SW13R	62	SW11R	62
SW13R	91	SW11R	91
SW13R	92	SW11R	92
SW13R	119	SW11R	119
SW13R	120	SW11R	120
SW14R	26	SW12R	26
SW14R	29	SW12R	29
SW14R	59	SW12R	59
SW14R	62	SW12R	62

RDC ISL INFORMATION (Based on Field Documentation)			
FROM		TO	
Switch Alias	Port #	Switch Alias	Port #
SW14R	91	SW12R	91
SW14R	92	SW12R	92
SW14R	119	SW12R	119
SW14R	120	SW12R	120
SW15R	0	SW07R	19
SW15R	4	SW07R	27
SW15R	8	SW07R	44
SW15R	12	SW07R	49
SW15R	16	SW07R	53
SW15R	20	SW07R	56
SW15R	24	SW07R	60
SW15R	28	SW07R	64
SW15R	32	SW11R	19
SW15R	36	SW11R	22
SW15R	40	SW11R	10
SW15R	44	SW11R	15
SW16R	0	SW08R	19
SW16R	4	SW08R	27
SW16R	8	SW08R	44
SW16R	12	SW08R	49
SW16R	16	SW08R	53
SW16R	20	SW08R	56
SW16R	24	SW08R	60
SW16R	28	SW08R	64
SW16R	32	SW12R	19
SW16R	36	SW12R	22
SW16R	40	SW12R	10
SW16R	44	SW12R	15
SW17R	TBC	SW15R	TBC
SW18R	TBC	SW16R	TBC

Table 61: RDC ISL Information based on Field Documentation

RDC ISL Problems (Based on Field Documentation)		
DEPART_ISL (Switch_Port)	DEST_ISL (Switch_Port)	STATUS
SW01R_0	SW03R_0	OK
SW01R_3	SW07R_3	#N/A
SW01R_4	SW03R_4	OK
SW01R_7	SW07R_7	#N/A
SW01R_8	SW03R_8	OK
SW01R_11	SW07R_11	#N/A
SW01R_12	SW03R_12	OK
SW01R_14	SW09R_0	OK
SW01R_15	SW07R_15	#N/A
SW01R_19	SW07R_31	#N/A
SW01R_23	SW07R_35	#N/A
SW01R_24	SW11R_24	OK
SW01R_27	SW07R_39	#N/A
SW01R_28	SW11R_28	OK
SW01R_32	SW05R_0	ERROR
SW01R_36	SW05R_4	ERROR
SW01R_40	SW05R_8	ERROR
SW01R_44	SW05R_12	ERROR
SW01R_54	SW09R_4	OK
SW01R_58	SW09R_8	OK
SW01R_61	SW11R_61	OK
SW01R_62	SW09R_12	OK
SW01R_63	SW11R_63	OK
SW02R_0	SW04R_0	OK
SW02R_3	SW08R_3	#N/A
SW02R_4	SW04R_4	OK
SW02R_7	SW08R_7	#N/A
SW02R_8	SW04R_8	OK
SW02R_11	SW08R_11	#N/A
SW02R_12	SW04R_12	OK
SW02R_14	SW10R_0	OK
SW02R_15	SW08R_15	#N/A
SW02R_24	SW12R_24	OK
SW02R_26	SW04R_24	OK
SW02R_28	SW12R_28	OK
SW02R_32	SW06R_0	ERROR
SW02R_36	SW06R_4	ERROR
SW02R_40	SW06R_8	ERROR
SW02R_44	SW06R_12	ERROR
SW02R_54	SW10R_4	OK
SW02R_58	SW10R_8	OK
SW02R_61	SW12R_61	OK
SW02R_62	SW10R_12	OK
SW02R_62	SW12R_63	ERROR
SW03R_0	SW01R_0	OK

RDC ISL Problems (Based on Field Documentation)		
DEPART_ISL (Switch_Port)	DEST_ISL (Switch_Port)	STATUS
SW03R_4	SW01R_4	OK
SW03R_8	SW01R_8	OK
SW03R_12	SW01R_12	OK
SW04R_0	SW02R_0	OK
SW04R_4	SW02R_4	OK
SW04R_8	SW02R_8	OK
SW04R_12	SW02R_12	OK
SW04R_24	SW02R_26	OK
SW05R_0	SW01R_0	ERROR
SW05R_4	SW01R_4	ERROR
SW05R_8	SW01R_8	ERROR
SW05R_12	SW01R_12	ERROR
SW05R_41	SW07R_37	#N/A
SW06R_0	SW02R_0	ERROR
SW06R_4	SW02R_4	ERROR
SW06R_8	SW02R_8	ERROR
SW06R_12	SW02R_12	ERROR
SW06R_29	SW04R_10	#N/A
SW06R_41	SW08R_37	#N/A
SW07R_19	SW15R_0	OK
SW07R_27	SW15R_4	OK
SW07R_44	SW15R_8	OK
SW07R_49	SW15R_12	OK
SW07R_60	TBC_TBC	#N/A
SW07R_64	TBC_TBC	#N/A
SW08R_19	SW16R_0	OK
SW08R_44	SW16R_8	OK
SW08R_49	SW16R_12	OK
SW08R_56	SW16R_20	OK
SW08R_60	SW16R_24	OK
SW08R_64	SW16R_28	OK
SW09R_0	SW01R_14	OK
SW09R_4	SW01R_54	OK
SW09R_8	SW01R_58	OK
SW09R_12	SW01R_62	OK
SW10R_0	SW02R_14	OK
SW10R_4	SW02R_54	OK
SW10R_8	SW02R_58	OK
SW10R_12	SW02R_62	OK
SW11R_10	SW15R_40	OK
SW11R_15	SW15R_14	#N/A
SW11R_19	SW15R_32	OK
SW11R_22	SW15R_36	OK
SW11R_24	SW01R_24	OK
SW11R_26	SW13R_26	OK
SW11R_28	SW01R_28	OK

RDC ISL Problems (Based on Field Documentation)		
DEPART_ISL (Switch_Port)	DEST_ISL (Switch_Port)	STATUS
SW11R_29	SW13R_29	OK
SW11R_59	SW13R_59	OK
SW11R_61	SW01R_61	OK
SW11R_62	SW13R_62	OK
SW11R_63	SW01R_63	OK
SW11R_91	SW13R_91	OK
SW11R_92	SW13R_92	OK
SW11R_119	SW13R_119	OK
SW11R_120	SW13R_120	OK
SW12R_10	SW16R_40	OK
SW12R_15	SW16R_44	OK
SW12R_19	SW16R_32	OK
SW12R_22	SW16R_36	OK
SW12R_24	SW02R_24	OK
SW12R_26	SW14R_26	OK
SW12R_28	SW02R_28	OK
SW12R_29	SW14R_29	OK
SW12R_59	SW14R_59	OK
SW12R_61	SW02R_61	OK
SW12R_62	SW14R_62	OK
SW12R_63	SW02R_63	#N/A
SW12R_91	SW14R_91	OK
SW12R_92	SW14R_92	OK
SW12R_119	SW14R_119	OK
SW12R_120	SW14R_120	OK
SW13R_26	SW11R_26	OK
SW13R_29	SW11R_29	OK
SW13R_59	SW11R_59	OK
SW13R_62	SW11R_62	OK
SW13R_91	SW11R_91	OK
SW13R_92	SW11R_92	OK
SW13R_119	SW11R_119	OK
SW13R_120	SW11R_120	OK
SW14R_26	SW12R_26	OK
SW14R_29	SW12R_29	OK
SW14R_59	SW12R_59	OK
SW14R_62	SW12R_62	OK
SW14R_91	SW12R_91	OK
SW14R_92	SW12R_92	OK
SW14R_119	SW12R_119	OK
SW14R_120	SW12R_120	OK
SW15R_0	SW07R_19	OK
SW15R_4	SW07R_27	OK
SW15R_8	SW07R_44	OK
SW15R_12	SW07R_49	OK
SW15R_16	SW07R_53	#N/A

RDC ISL Problems (Based on Field Documentation)		
DEPART_ISL (Switch_Port)	DEST_ISL (Switch_Port)	STATUS
SW15R_20	SW07R_56	#N/A
SW15R_24	SW07R_60	ERROR
SW15R_28	SW07R_64	ERROR
SW15R_32	SW11R_19	OK
SW15R_36	SW11R_22	OK
SW15R_40	SW11R_10	OK
SW15R_44	SW11R_15	ERROR
SW16R_0	SW08R_19	OK
SW16R_4	SW08R_27	#N/A
SW16R_8	SW08R_44	OK
SW16R_12	SW08R_49	OK
SW16R_16	SW08R_53	#N/A
SW16R_20	SW08R_56	OK
SW16R_24	SW08R_60	OK
SW16R_28	SW08R_64	OK
SW16R_32	SW12R_19	OK
SW16R_36	SW12R_22	OK
SW16R_40	SW12R_10	OK
SW16R_44	SW12R_15	OK
SW17R_TBC	SW15R_TBC	#N/A
SW18R_TBC	SW16R_TBC	#N/A

Table 62: RDC ISL Problems based on Field Documentation