ORACLE®

Oracle® Communications Tekelec HLR Router

Network Interconnect for HP Hardware:

Release 4.1

Oracle ® Communication Network Interconnect for HP Hardware: Tekelec HLR Router 4.1

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1.0   INTRODUCTION

1.1   PURPOSE

The purpose of this document is to specify point to point interconnection of HP DL360 (Gen6) and DL380(Gen9) rack mount server based HLR Router system.

This document is intended for the use of Oracle internal departments.

The only servers supported in this TR are HP DL360 (Gen6) and DL380(Gen9).

1.2   REFERENCES

[1] Platform Networking Standard Topologies WP006587, Tekelec, Current Revision.

[2] Platform Generic Hardware Specification, Platform Hardware, TR 007055, Current Version

[3] HP G6 Application Cabinet, FE005927, Tekelec, Revision 9.0.

[4] Networking Topology 8, TR007118, Tekelec, Revision 1.0

1.3   ACRONYMS

Item	DESCRIPTION
NIC	Network Interface Card
10GE	10 Gigabit Ethernet
1GE	1 Gigabit Ethernet
OA	OnBoard Administrator
iLO	Integrated Lights-Out

2.0   INTERCONNECTION NAMING CONVENTIONS

The following is the naming convention:

ag(x)

where ag(x) = aggregate_switch(number) ie, ag1 (aka switch1A)

rms(x)

where rms(x)=rackmount server(number) ie, rms1, rms2

Nic(Number) = onboard nic number

ie, NIC1 = onboard nic number 1

NIC0(number)

where x= is the slot number corresponding to the 4 port adapter card location

where (number)=the port number

ie, NIC01 = would be first nic port on the 4 port pci expansion card in slot 0

2.1 REAR VIEWS OF HP DL-360 (GEN6) AND DL-380 (GEN9)
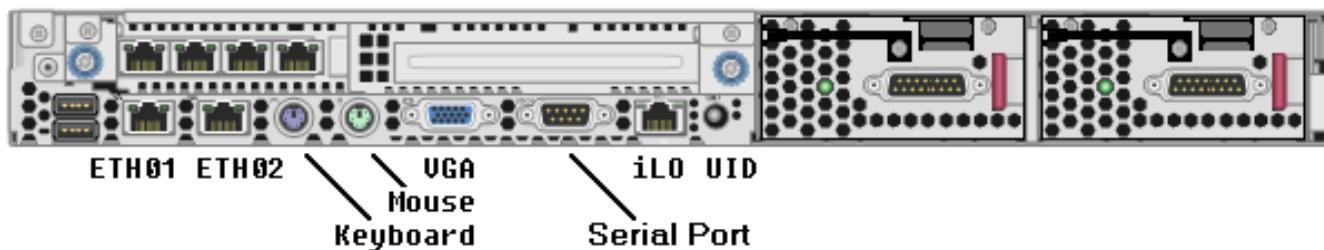
Figure 1: DL360 (Gen6), DC (Rear Panel)

Figure 2: DL380 (Gen9), DC (Rear Panel)

Internal 4-Port NIC Ethernet Ports Eth01-Eth04

4-Port NIC Expansion Slot 0 Ethernet Ports Eth05-Eth08

1. PCI Slots (Slots 1-3 top to bottom, riser shipped standard)
2. PCI Slots (Slots 4-6 top to bottom, requires second riser card, and second processor)
3. Optional serial port
4. Optional rear 2 SFF HDD (supported in 24 SFF or 12 LFF front end)
5. HP Flexible Slot Power Supply bay 1 (800w shown)
6. Power supply Power LED
7. Power supply Power connection
8. HP Flexible Slot Power Supply bay 2 (800w shown)
9. Power supply Power LED
10. Power supply Power connection
11. VGA connector
12. Embedded 4 x 1GbE Network Adapter
13. Dedicated iLO connector
14. USB 3.0 connectors (2)
15. Unit ID LED
16. Optional FlexibleLOM ports (Shown: 4 x 1GbE)

3.0 HLR ROUTER SPECIFIC NETWORK DIAGRAM FOR DL360 (GEN6)

3.1 AGGREGATION SWITCHES, NOAM, SOAM, AND MP NETWORK
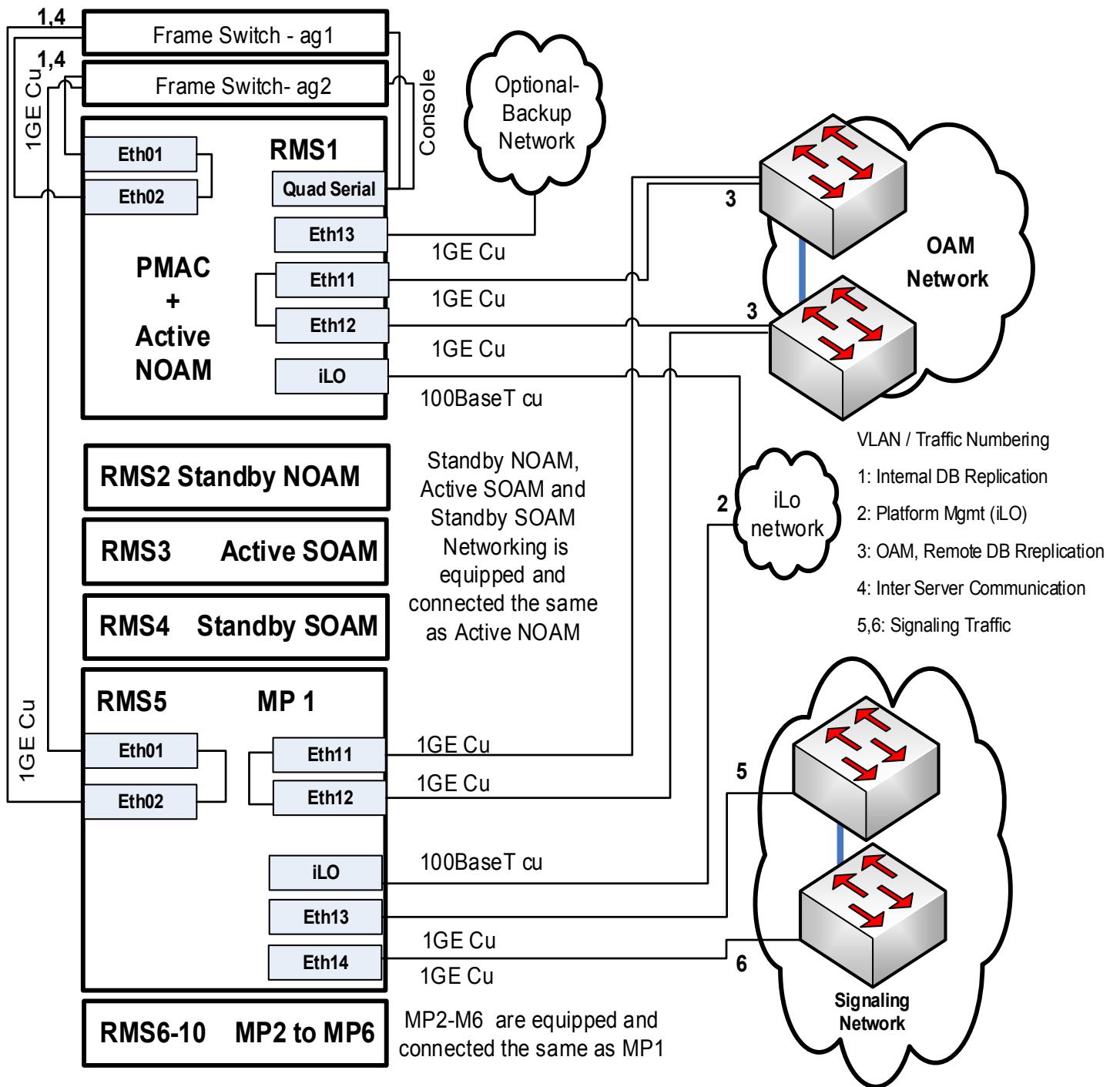
Figure 3: DL 360 NOAM, SOAM, and MP Logical Diagram

3.2 FRAME LAYOUT WITH AGGREGATION SWITCHES, NOAM, SOAM, AND MP NETWORK

U13	OPEN				
U12	Frame Switch 1B Cisco 4948E-F				
U11	Frame Switch 1A Cisco 4948E-F				
U10	XSI-2 14	XSI-1 13	XMI 12	XMI 11	RMS-10 MP-6
		IMI 02	IMI 01		iLO
U9	XSI-2 14	XSI-1 13	XMI 12	XMI 11	RMS-9 MP-5
		IMI 02	IMI 01		iLO
U8	XSI-2 14	XSI-1 13	XMI 12	XMI 11	RMS-8 MP-4
		IMI 02	IMI 01		iLO
U7	XSI-2 14	XSI-1 13	XMI 12	XMI 11	RMS-7 MP-3
		IMI 02	IMI 01		iLO
U6	XSI-2 14	XSI-1 13	XMI 12	XMI 11	RMS-6 MP-2
		IMI 02	IMI 01		iLO
U5	XSI-2 14	XSI-1 13	XMI 12	XMI 11	RMS-5 MP-1
		IMI 02	IMI 01		iLO
U4	14	BKUP 13	XMI 12	XMI 11	RMS-4 SOAM-B
		IMI 02	IMI 01		iLO
U3	14	BKUP 13	XMI 12	XMI 11	RMS-3 SOAM-A
		IMI 02	IMI 01		iLO
U2	14	BKUP 13	XMI 12	XMI 11	RMS-2 NOAM-B
		IMI 02	IMI 01		iLO
U1	14	BKUP 13	XMI 12	XMI 11	RMS-1 NOAM-A / PMAC
		IMI 02	IMI 01		iLO

Figure 4: DL 360 NOAM, SOAM, and MP Frame Layout Diagram

Table 1 DL 360 NOAM, SOAM, and MP Interconnection Table

Item #	Port (to)	Port (from)
1	ag1 port 1	ag2 port 1
2	ag1 port 2	ag2 port 2
3	ag1 port 3	ag2 port 3
4	ag1 port 4	ag2 port 4
5	rms1 eth01 (NIC1)	ag1 port 40
6	rms1 eth02 (NIC2)	ag2 port 40
7	rms1 eth11 (NIC01)	Customer Switch 1/OAM Network
8	rms1 eth12 (NIC02)	Customer Switch 2/OAM Network
9	rms1 eth13 (NIC03)	Backup Network (optional)
10	rms1 iLO	iLO Network
11	rms1 Serial 1 (fan-out cable)	ag1 console
12	rms1 Serial 2 (fan-out cable)	ag2 console
13	rms2 eth01 (NIC1)	ag1 port 42
14	rms2 eth02 (NIC2)	ag2 port 42
15	rms2 eth11 (NIC01)	Customer Switch 1/OAM Network
16	rms2 eth12 (NIC02)	Customer Switch 2/OAM Network
17	rms2 eth13 (NIC03)	Backup Network (optional)
18	rms2 iLO	iLO Network
19	rms3 eth01 (NIC1)	ag1 port 32
20	rms3 eth02 (NIC2)	ag2 port 32
21	rms3 eth11 (NIC01)	Customer Switch 1/OAM Network
22	rms3 eth12 (NIC02)	Customer Switch 2/OAM Network
23	rms3 eth13 (NIC03)	Backup Network (optional)
24	rms3 iLO	iLO Network
25	rms4 eth01 (NIC1)	ag1 port 31
26	rms4 eth02 (NIC2)	ag2 port 31
27	rms4 eth11 (NIC01)	Customer Switch 1/OAM Network
28	rms4 eth12 (NIC02)	Customer Switch 2/OAM Network
29	rms4 eth13 (NIC03)	Backup Network (optional)
30	rms4 iLO	iLO Network
31	rms5 eth01 (NIC1)	ag1 port 30
32	rms5 eth02 (NIC2)	ag2 port 30
33	rms5 eth11 (NIC01)	Customer Switch 1/OAM Network
34	rms5 eth12 (NIC02)	Customer Switch 2/OAM Network
35	rms5 eth13 (NIC03)	Customer Switch 1/Signaling Network
36	rms5 eth14 (NIC04)	Customer Switch 2/Signaling Network
37	rms5 iLO	iLO Network
38	rms6 eth01 (NIC1)	ag1 port 29
39	rms6 eth02 (NIC2)	ag2 port 29
40	rms6 eth11 (NIC01)	Customer Switch 1/OAM Network
41	rms6 eth12 (NIC02)	Customer Switch 2/OAM Network
42	rms6 eth13 (NIC03)	Customer Switch 1/Signaling Network
43	rms6 eth14 (NIC04)	Customer Switch 2/Signaling Network
44	rms6 iLO	iLO Network
45	rms7 eth01 (NIC1)	ag1 port 28
46	rms7 eth02 (NIC2)	ag2 port 28
47	rms7 eth11 (NIC01)	Customer Switch 1/OAM Network
48	rms7 eth12 (NIC02)	Customer Switch 2/OAM Network
49	rms7 eth13 (NIC03)	Customer Switch 1/Signaling Network
50	rms7 eth14 (NIC04)	Customer Switch 2/Signaling Network
51	rms7 iLO	iLO Network
52	rms8 eth01 (NIC1)	ag1 port 27
53	rms8 eth02 (NIC2)	ag2 port 27
54	rms8 eth11 (NIC01)	Customer Switch 1/OAM Network
55	rms8 eth12 (NIC02)	Customer Switch 2/OAM Network
56	rms8 eth13 (NIC03)	Customer Switch 1/Signaling Network

Item #	Port (to)	Port (from)
57	rms8 eth14 (NIC04)	Customer Switch 2/Signaling Network
58	rms8 iLO	iLO Network
59	rms9 eth01 (NIC1)	ag1 port 26
60	rms9 eth02 (NIC2)	ag2 port 26
61	rms9 eth11 (NIC01)	Customer Switch 1/OAM Network
62	rms9 eth12 (NIC02)	Customer Switch 2/OAM Network
63	rms9 eth13 (NIC03)	Customer Switch 1/Signaling Network
64	rms9 eth14 (NIC04)	Customer Switch 2/Signaling Network
65	rms9 iLO	iLO Network
66	rms10 eth01 (NIC1)	ag1 port 25
67	rms10 eth02 (NIC2)	ag2 port 25
68	rms10 eth11 (NIC01)	Customer Switch 1/OAM Network
69	rms10 eth12 (NIC02)	Customer Switch 2/OAM Network
70	rms10 eth13 (NIC03)	Customer Switch 1/Signaling Network
71	rms10 eth14 (NIC04)	Customer Switch 2/Signaling Network
72	rms10 iLO	iLO Network
73	Laptop Access	ag1 port 44
74	Laptop Access	ag2 port 44

4.0 HLR ROUTER SPECIFIC NETWORK DIAGRAM FOR DL380 (GEN9)

### 4.1 AGGREGATION SWITCHES, NOAM, SOAM, AND MP NETWORK
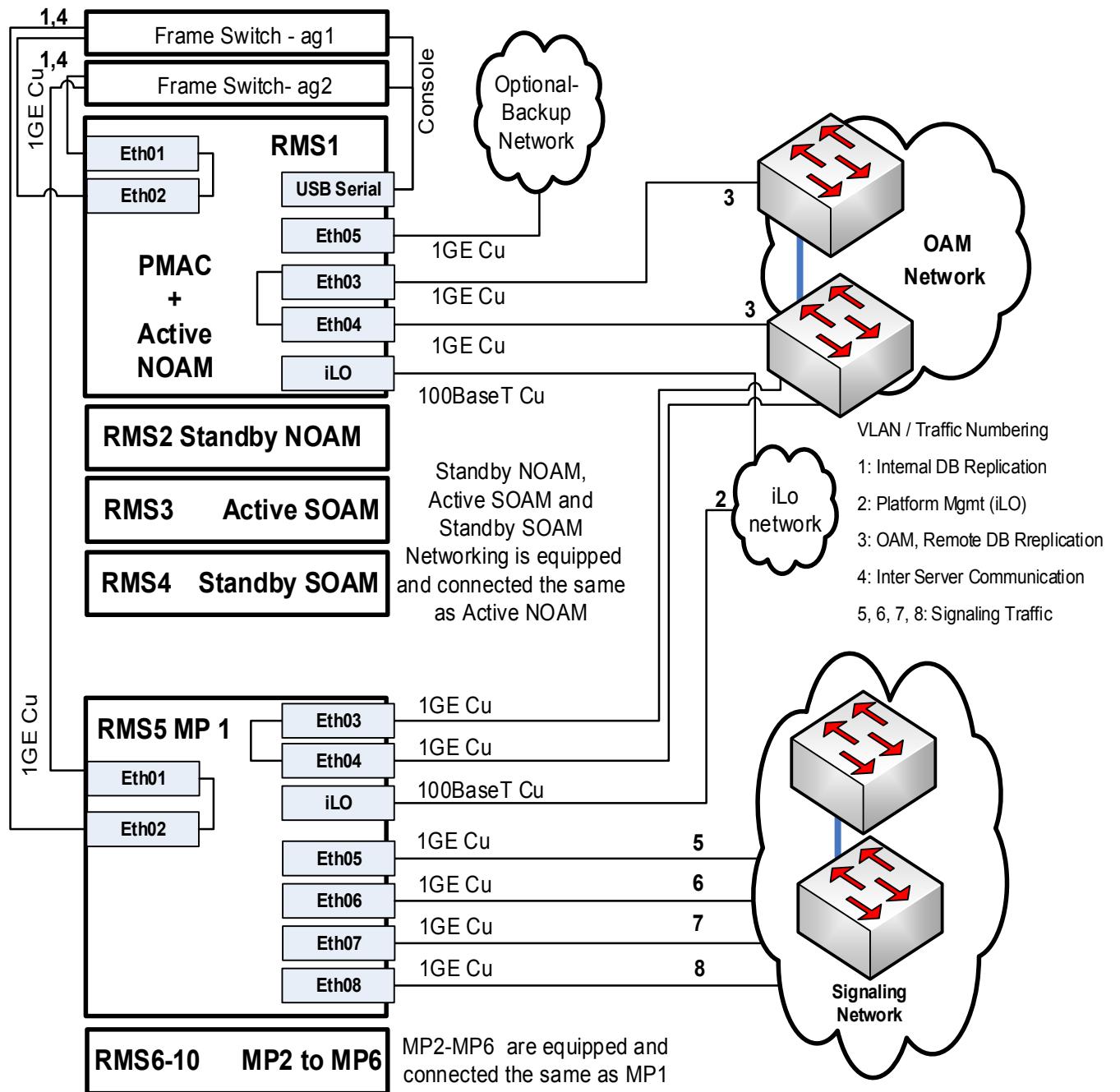
Figure 5: DL 380 NOAM, SOAM, and MP Logical Diagram

4.2 FRAME LAYOUT WITH AGGREGATION SWITCHES, NOAM, SOAM, AND MP NETWORK

U24	OPEN								
U23	CISCO 4948E-F FRAME SWITCH-1B								
U22	CISCO 4948E-F FRAME SWITCH-1A								
U21	OPEN								
U20	RMS-10 MP-6								
U19	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04
U18	RMS-9 MP-5								
U17	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04
U16	RMS-8 MP-4								
U15	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04
U14	RMS-7 MP-3								
U13	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04
U12	RMS-6 MP-2								
U11	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04
U10	RMS-5 MP-1								
U9	XSI-4 08	XSI-3 07	XS1-2 06	XSI-1 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04
U8	RMS-4 SOAM-B								
U7	08	07	06	BKUP 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04
U6	RMS-3 SOAM-A								
U5	08	07	06	BKUP 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04
U4	RMS-2 NOAM-B								
U3	08	07	06	BKUP 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04
U2	RMS-1 NOAM-A / PMAC								
U1	08	07	06	BKUP 05		iLO	IMI 01	IMI 02	XMI 03	XMI 04

Figure 6: DL 380 NOAM, SOAM, and MP Frame Layout Diagram

Table 2 DL 380 NOAM, SOAM, and MP Interconnection Table

Item #	Port (to)	Port (from)
1	ag1 port 1	ag2 port 1
2	ag1 port 2	ag2 port 2
3	ag1 port 3	ag2 port 3
4	ag1 port 4	ag2 port 4
5	rms1eth01 (NIC1)	ag1 port 40
6	rms1eth02 (NIC2)	ag2 port 40
7	rms1eth03 (NIC3)	Customer Switch 1/OAM Network
8	rms1eth04 (NIC4)	Customer Switch 2/OAM Network
9	rms1eth05 (NIC01)	Backup Network (optional)
10	rms1 iLO	iLO Network
11	rms1 USB 1 (Serial)	ag1 console
12	rms1 USB 2 (Serial)	ag2 console
13	rms2 eth01 (NIC1)	ag1 port 42
14	rms2 eth02 (NIC2)	ag2 port 42
15	rms2 eth03 (NIC3)	Customer Switch 1/OAM Network
16	rms2 eth04 (NIC4)	Customer Switch 2/OAM Network
17	rms2 eth05 (NIC01)	Backup Network (optional)
18	rms2 iLO	iLO Network
19	rms3 eth01 (NIC1)	ag1 port 32
20	rms3 eth02 (NIC2)	ag2 port 32
21	rms3 eth03 (NIC3)	Customer Switch 1/OAM Network
22	rms3 eth04 (NIC4)	Customer Switch 2/OAM Network
23	rms3 eth05 (NIC01)	Backup Network (optional)
24	rms3 iLO	iLO Network
25	rms4 eth01 (NIC1)	ag1 port 31
26	rms4 eth02 (NIC2)	ag2 port 31
27	rms4 eth03 (NIC3)	Customer Switch 1/OAM Network
28	rms4 eth04 (NIC4)	Customer Switch 2/OAM Network
29	rms4 eth05 (NIC01)	Backup Network (optional)
30	rms4 iLO	iLO Network
31	rms5 eth01 (NIC1)	ag1 port 30
32	rms5 eth02 (NIC2)	ag2 port 30
33	rms5 eth03 (NIC3)	Customer Switch 1/OAM Network
34	rms5 eth04 (NIC4)	Customer Switch 2/OAM Network
35	rms5 eth05 (NIC01)	Customer Switch 1/Signaling Network
36	rms5 eth06 (NIC02)	Customer Switch 2/Signaling Network
37	rms5 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
38	rms5 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
39	rms5 iLO	iLO Network
40	rms6 eth01 (NIC1)	ag1 port 29
41	rms6 eth02 (NIC2)	ag2 port 29
42	rms6 eth03 (NIC3)	Customer Switch 1/OAM Network
43	rms6 eth04 (NIC4)	Customer Switch 2/OAM Network
44	rms6 eth05 (NIC01)	Customer Switch 1/Signaling Network
45	rms6 eth06 (NIC02)	Customer Switch 2/Signaling Network
46	rms6 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
47	rms6 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
48	rms6 iLO	iLO Network
49	rms7 eth01 (NIC1)	ag1 port 28
50	rms7 eth02 (NIC2)	ag2 port 28
51	rms7 eth03 (NIC3)	Customer Switch 1/OAM Network
52	rms7 eth04 (NIC4)	Customer Switch 2/OAM Network
53	rms7 eth05 (NIC01)	Customer Switch 1/Signaling Network
54	rms7 eth06 (NIC02)	Customer Switch 2/Signaling Network
55	rms7 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
56	rms7 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)

Item #	Port (to)	Port (from)
57	rms7 iLO	iLO Network
58	rms8 eth01 (NIC1)	ag1 port 27
59	rms8 eth02 (NIC2)	ag2 port 27
60	rms8 eth03 (NIC3)	Customer Switch 1/OAM Network
61	rms8 eth04 (NIC4)	Customer Switch 2/OAM Network
62	rms8 eth05 (NIC01)	Customer Switch 1/Signaling Network
63	rms8 eth06 (NIC02)	Customer Switch 2/Signaling Network
64	rms8 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
65	rms8 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
66	rms8 iLO	iLO Network
67	rms9 eth01 (NIC1)	ag1 port 26
68	rms9 eth02 (NIC2)	ag2 port 26
69	rms9 eth03 (NIC3)	Customer Switch 1/OAM Network
70	rms9 eth04 (NIC4)	Customer Switch 2/OAM Network
71	rms9 eth05 (NIC01)	Customer Switch 1/Signaling Network
72	rms9 eth06 (NIC02)	Customer Switch 2/Signaling Network
73	rms9 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
74	rms9 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
75	rms9 iLO	iLO Network
76	rms10 eth01 (NIC1)	ag1 port 25
77	rms10 eth02 (NIC2)	ag2 port 25
78	rms10 eth03 (NIC3)	Customer Switch 1/OAM Network
79	rms10 eth04 (NIC4)	Customer Switch 2/OAM Network
80	rms10 eth05 (NIC01)	Customer Switch 1/Signaling Network
81	rms10 eth06 (NIC02)	Customer Switch 2/Signaling Network
82	rms10 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
83	rms10 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
84	rms10 iLO	iLO Network
85	Laptop Access	ag1 port 44
86	Laptop Access	ag2 port 44

5.0 HLR ROUTER SPECIFIC NETWORK DIAGRAM FOR DL380 (GEN9)

5.1 AGGREGATION SWITCHES, NOAM, SOAM, MP, AND QUERY SERVER NETWORK
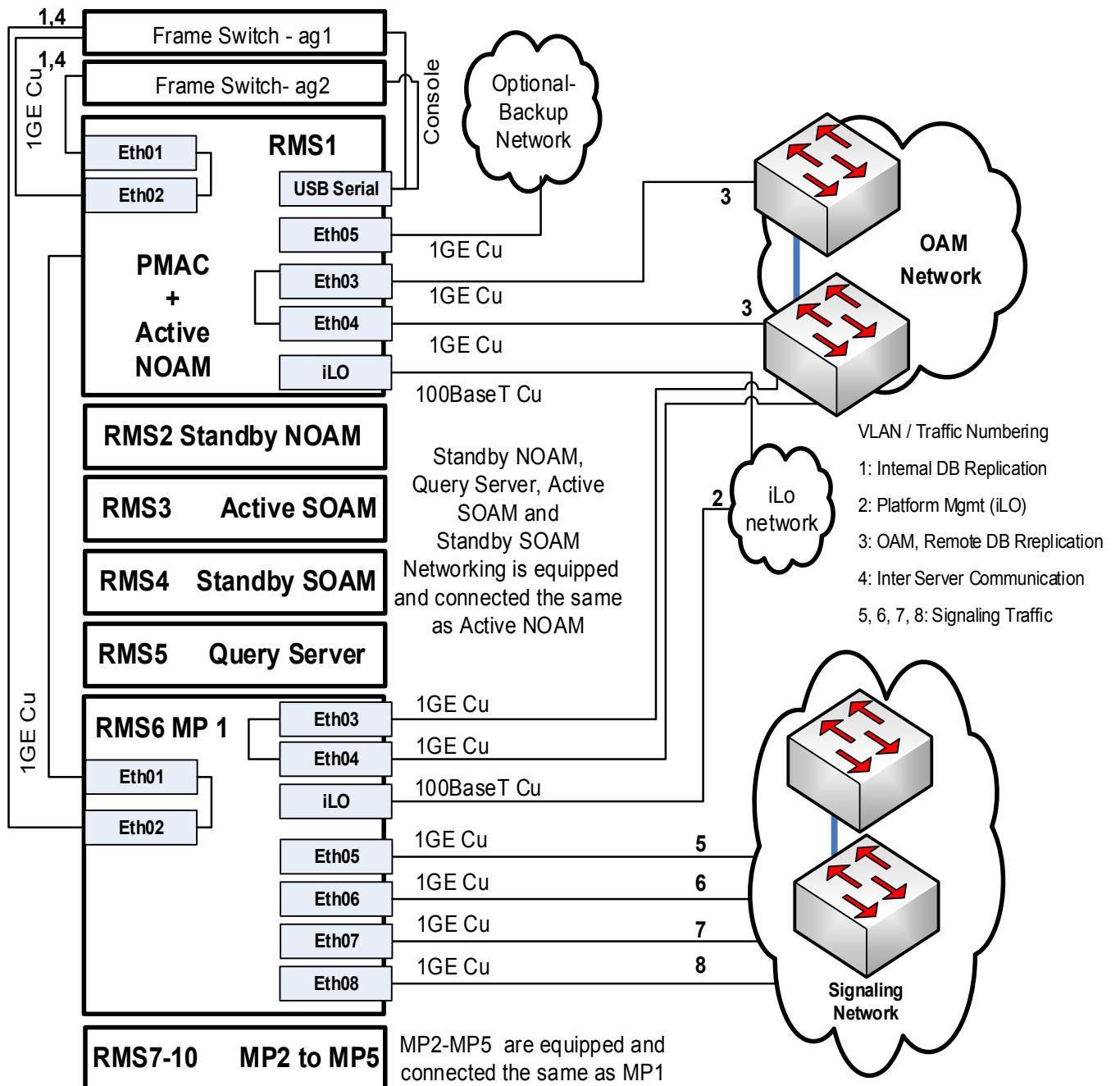
Figure 7: DL 380 NOAM, SOAM, MP, and Query Server Logical Diagram

5.2 FRAME LAYOUT WITH AGGREGATION SWITCHES, NOAM, SOAM, MP, AND QUERY SERVER NETWORK

U24	OPEN								
U23	CISCO 4948E-F FRAME SWITCH-1B								
U22	CISCO 4948E-F FRAME SWITCH-1A								
U21	OPEN								
U20	RMS-10 MP-5								
U19	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U18	RMS-9 MP-4								
U17	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U16	RMS-8 MP-3								
U15	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U14	RMS-7 MP-2								
U13	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U12	RMS-6 MP-1								
U11	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U10	RMS-5 Query Server-1								
U9	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U8	RMS-4 SOAM-B								
U7	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U6	RMS-3 SOAM-A								
U5	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U4	RMS-2 NOAM-B								
U3	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U2	RMS-1 NOAM-A / PMAC								
U1	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04

Figure 8: DL 380 NOAM, SOAM, MP, and Query Server Frame Layout Diagram

Table 3 DL 380 NOAM, SOAM, MP and Query Server Interconnection Table

Item #	Port (to)	Port (from)
1	ag1 port 1	ag2 port 1
2	ag1 port 2	ag2 port 2
3	ag1 port 3	ag2 port 3
4	ag1 port 4	ag2 port 4
5	rms1 eth01 (NIC1)	ag1 port 40
6	rms1 eth02 (NIC2)	ag2 port 40
7	rms1 eth03 (NIC3)	Customer Switch 1/OAM Network
8	rms1 eth04 (NIC4)	Customer Switch 2/OAM Network
9	rms1 eth05 (NIC01)	Backup Network (optional)
10	rms1 iLO	iLO Network
11	rms1 USB 1 (Serial)	ag1 console
12	rms1 USB 2 (Serial)	ag2 console
13	rms2 eth01 (NIC1)	ag1 port 42
14	rms2 eth02 (NIC2)	ag2 port 42
15	rms2 eth03 (NIC3)	Customer Switch 1/OAM Network
16	rms2 eth04 (NIC4)	Customer Switch 2/OAM Network
17	rms2 eth05 (NIC01)	Backup Network (optional)
18	rms2 iLO	iLO Network
19	rms3 eth01 (NIC1)	ag1 port 32
20	rms3 eth02 (NIC2)	ag2 port 32
21	rms3 eth03 (NIC3)	Customer Switch 1/OAM Network
22	rms3 eth04 (NIC4)	Customer Switch 2/OAM Network
23	rms3 eth05 (NIC01)	Backup Network (optional)
24	rms3 iLO	iLO Network
25	rms4 eth01 (NIC1)	ag1 port 31
26	rms4 eth02 (NIC2)	ag2 port 31
27	rms4 eth03 (NIC3)	Customer Switch 1/OAM Network
28	rms4 eth04 (NIC4)	Customer Switch 2/OAM Network
29	rms4 eth05 (NIC01)	Backup Network (optional)
30	rms4 iLO	iLO Network
31	rms5 eth01 (NIC1)	ag1 port 30
32	rms5 eth02 (NIC2)	ag2 port 30
33	rms5 eth03 (NIC3)	Customer Switch 1/OAM Network
34	rms5 eth04 (NIC4)	Customer Switch 2/OAM Network
35	rms5 iLO	iLO Network
36	rms6 eth01 (NIC1)	ag1 port 29
37	rms6 eth02 (NIC2)	ag2 port 29
38	rms6 eth03 (NIC3)	Customer Switch 1/OAM Network
39	rms6 eth04 (NIC4)	Customer Switch 2/OAM Network
40	rms6 eth05 (NIC01)	Customer Switch 1/Signaling Network
41	rms6 eth06 (NIC02)	Customer Switch 2/Signaling Network
42	rms6 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
43	rms6 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
44	rms6 iLO	iLO Network
45	rms7 eth01 (NIC1)	ag1 port 28
46	rms7 eth02 (NIC2)	ag2 port 28
47	rms7 eth03 (NIC3)	Customer Switch 1/OAM Network
48	rms7 eth04 (NIC4)	Customer Switch 2/OAM Network
49	rms7 eth05 (NIC01)	Customer Switch 1/Signaling Network
50	rms7 eth06 (NIC02)	Customer Switch 2/Signaling Network
51	rms7 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
52	rms7 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
53	rms7 iLO	iLO Network
54	rms8 eth01 (NIC1)	ag1 port 27
55	rms8 eth02 (NIC2)	ag2 port 27
56	rms8 eth03 (NIC3)	Customer Switch 1/OAM Network

Item #	Port (to)	Port (from)
57	rms8 eth04 (NIC4)	Customer Switch 2/OAM Network
58	rms8 eth05 (NIC01)	Customer Switch 1/Signaling Network
59	rms8 eth06 (NIC02)	Customer Switch 2/Signaling Network
60	rms8 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
61	rms8 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
62	rms8 iLO	iLO Network
63	rms9 eth01 (NIC1)	ag1 port 26
64	rms9 eth02 (NIC2)	ag2 port 26
65	rms9 eth03 (NIC3)	Customer Switch 1/OAM Network
66	rms9 eth04 (NIC4)	Customer Switch 2/OAM Network
67	rms9 eth05 (NIC01)	Customer Switch 1/Signaling Network
68	rms9 eth06 (NIC02)	Customer Switch 2/Signaling Network
69	rms9 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
70	rms9 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
71	rms9 iLO	iLO Network
72	rms10 eth01 (NIC1)	ag1 port 25
73	rms10 eth02 (NIC2)	ag2 port 25
74	rms10 eth03 (NIC3)	Customer Switch 1/OAM Network
75	rms10 eth04 (NIC4)	Customer Switch 2/OAM Network
76	rms10 eth05 (NIC01)	Customer Switch 1/Signaling Network
77	rms10 eth06 (NIC02)	Customer Switch 2/Signaling Network
78	rms10 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
79	rms10 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
80	rms10 iLO	iLO Network
81	Laptop Access	ag1 port 44
82	Laptop Access	ag2 port 44

6.0   HLR ROUTER SPECIFIC NETWORK DIAGRAM FOR DL380 (GEN9)

6.1   AGGREGATION SWITCHES, NOAM AND QUERY SERVER NETWORK
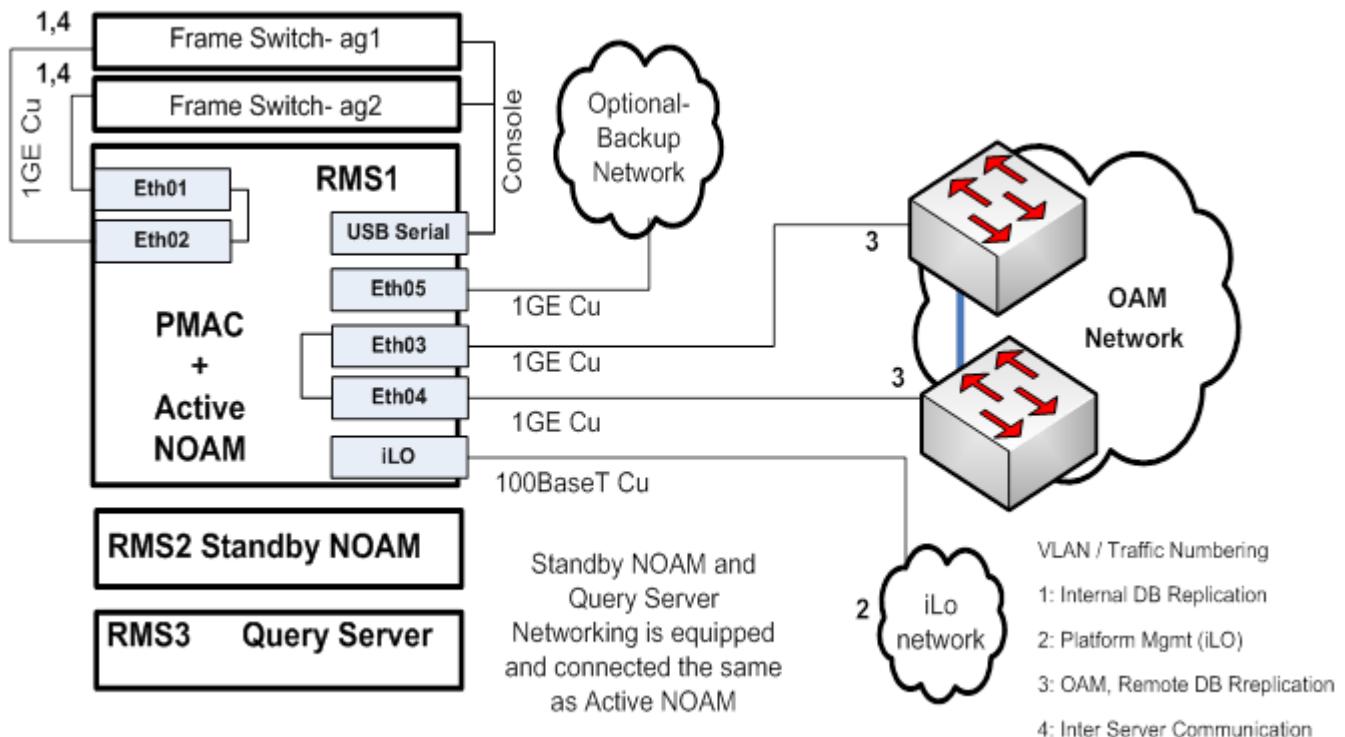
Figure 9: DL 380 NOAM and Query Server Logical Diagram

6.2 FRAME LAYOUT WITH AGGREGATION SWITCHES, NOAM AND QUERY SERVER NETWORK

U24	OPEN								
U23	CISCO 4948E-F FRAME SWITCH-1B								
U22	CISCO 4948E-F FRAME SWITCH-1A								
U21	OPEN								
U20	OPEN								
U19	OPEN								
U18	OPEN								
U17	OPEN								
U16	OPEN								
U15	OPEN								
U14	OPEN								
U13	OPEN								
U12	OPEN								
U11	OPEN								
U10	OPEN								
U9	OPEN								
U8	OPEN								
U7	OPEN								
U6	RMS-3 Query Server-1								
U5	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U4	RMS-2 NOAM-B								
U3	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U2	RMS-1 NOAM-A / PMAC								
U1	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04

Figure 10: DL 380 NOAM and Query Server Frame Layout Diagram

Table 4 DL 380 NOAMs and Query Server Interconnection Table

Item #	Port (to)	Port (from)
1	ag1 port 1	ag2 port 1
2	ag1 port 2	ag2 port 2
3	ag1 port 3	ag2 port 3
4	ag1 port 4	ag2 port 4
5	rms1 eth01 (NIC1)	ag1 port 40
6	rms1 eth02 (NIC2)	ag2 port 40
7	rms1 eth03 (NIC3)	Customer Switch 1/OAM Network
8	rms1 eth04 (NIC4)	Customer Switch 2/OAM Network
9	rms1 eth05 (NIC01)	Backup Network (optional)
10	rms1 iLO	iLO Network
11	rms1 USB 1 (Serial)	ag1 console
12	rms1 USB 2 (Serial)	ag2 console
13	rms2 eth01 (NIC1)	ag1 port 42
14	rms2 eth02 (NIC2)	ag2 port 42
15	rms2 eth03 (NIC3)	Customer Switch 1/OAM Network
16	rms2 eth04 (NIC4)	Customer Switch 2/OAM Network
17	rms2 eth05 (NIC01)	Backup Network (optional)
18	rms2 iLO	iLO Network
19	rms3 eth01 (NIC1)	ag1 port 32
20	rms3 eth02 (NIC2)	ag2 port 32
21	rms3 eth03 (NIC3)	Customer Switch 1/OAM Network
22	rms3 eth04 (NIC4)	Customer Switch 2/OAM Network
23	rms3 iLO	iLO Network
24	Laptop Access	ag1 port 44
25	Laptop Access	ag2 port 44

7.0   HLR ROUTER SPECIFIC NETWORK DIAGRAM FOR DL380 (GEN9)

7.1   AGGREGATION SWITCHES, SOAM, AND MP NETWORK
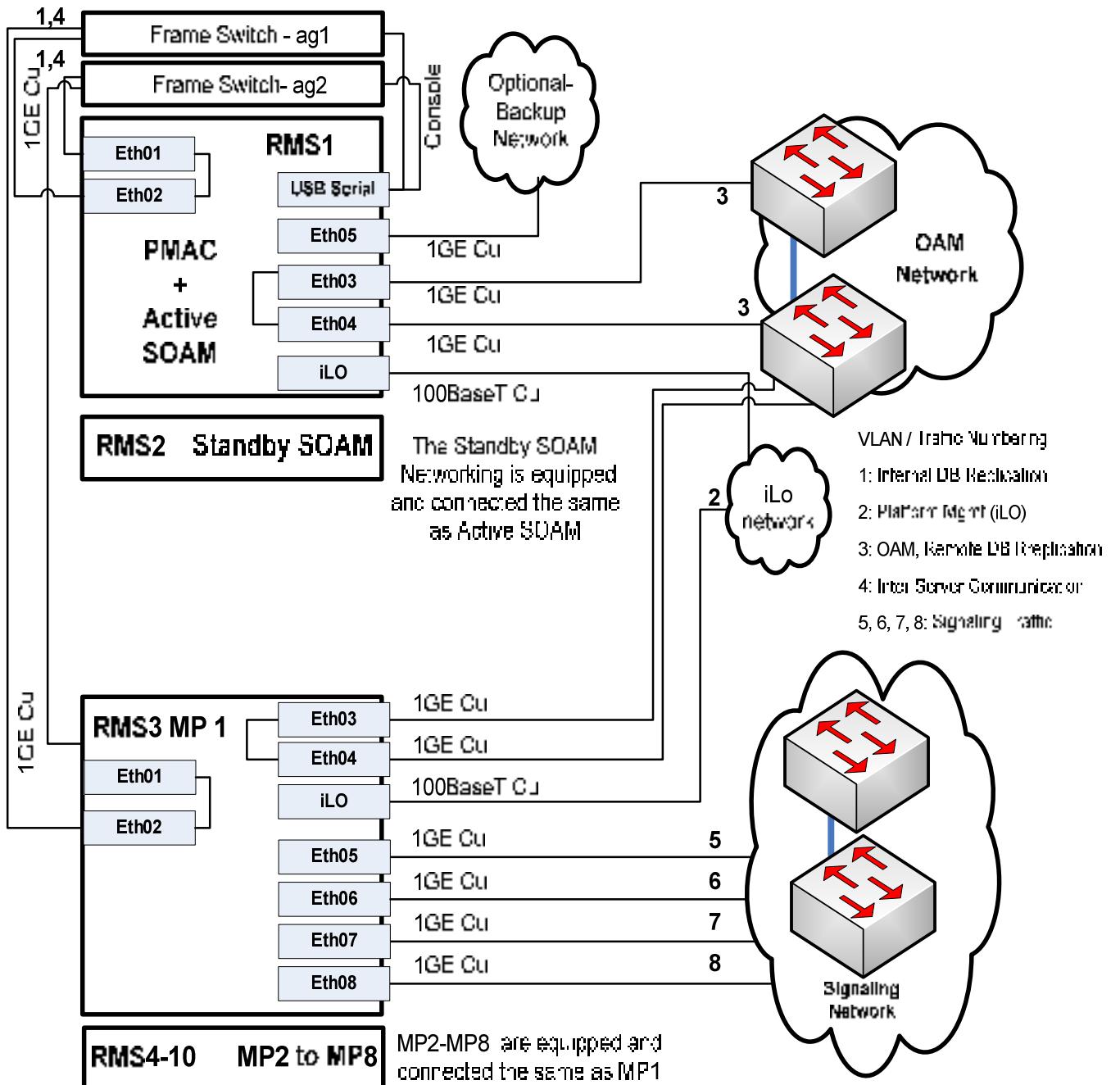
Figure 11: DL 380 SOAM and MP Logical Diagram

7.2 FRAME LAYOUT WITH AGGREGATION SWITCHES, SOAM, AND MP NETWORK

U24	OPEN								
U23	CISCO 4948E-F FRAME SWITCH-1B								
U22	CISCO 4948E-F FRAME SWITCH-1A								
U21	OPEN								
U20	RMS-10 MP-8								
U19	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U18	RMS-9 MP-7								
U17	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U16	RMS-8 MP-6								
U15	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U14	RMS-7 MP-5								
U13	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U12	RMS-6 MP-4								
U11	XSI-4 08	XSI-3 07	XSI-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U10	RMS-5 MP-3								
U9	XSI-4 08	XSI-3 07	XS1-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U8	RMS-4 MP-2								
U7	XSI-4 08	XSI-3 07	XS1-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U6	RMS-3 MP-1								
U5	XSI-4 08	XSI-3 07	XS1-2 06	XSI-1 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U4	RMS-2 SOAM-B								
U3	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04
U2	RMS-1 SOAM-A / PMAC								
U1	08	07	06	BKUP 05	iLO	IMI 01	IMI 02	XMI 03	XMI 04

Figure 12: DL 380 SOAM and MP Frame Layout Diagram

Table 5 DL 380 SOAM and MP Interconnection Table

Item #	Port (to)	Port (from)
1	ag1 port 1	ag2 port 1
2	ag1 port 2	ag2 port 2
3	ag1 port 3	ag2 port 3
4	ag1 port 4	ag2 port 4
5	rms1 eth01 (NIC1)	ag1 port 40
6	rms1 eth02 (NIC2)	ag2 port 40
7	rms1 eth03 (NIC3)	Customer Switch 1/OAM Network
8	rms1 eth04 (NIC4)	Customer Switch 2/OAM Network
9	rms1 eth05 (NIC01)	Backup Network (optional)
10	rms1 iLO	iLO Network
11	rms1 USB 1 (Serial)	ag1 console
12	rms1 USB 2 (Serial)	ag2 console
13	rms2 eth01 (NIC1)	ag1 port 42
14	rms2 eth02 (NIC2)	ag2 port 42
15	rms2 eth03 (NIC3)	Customer Switch 1/OAM Network
16	rms2 eth04 (NIC4)	Customer Switch 2/OAM Network
17	rms2 eth05 (NIC01)	Backup Network (optional)
18	rms2 iLO	iLO Network
19	rms3 eth01 (NIC1)	ag1 port 32
20	rms3 eth02 (NIC2)	ag2 port 32
21	rms3 eth03 (NIC3)	Customer Switch 1/OAM Network
22	rms3 eth04 (NIC4)	Customer Switch 2/OAM Network
23	rms3 eth05 (NIC01)	Customer Switch 1/Signaling Network
24	rms3 eth06 (NIC02)	Customer Switch 2/Signaling Network
25	rms3 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
26	rms3 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
27	rms3 iLO	iLO Network
28	rms4 eth01 (NIC1)	ag1 port 31
29	rms4 eth02 (NIC2)	ag2 port 31
30	rms4 eth03 (NIC3)	Customer Switch 1/OAM Network
31	rms4 eth04 (NIC4)	Customer Switch 2/OAM Network
32	rms4 eth05 (NIC01)	Customer Switch 1/Signaling Network
33	rms4 eth06 (NIC02)	Customer Switch 2/Signaling Network
34	rms4 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
35	rms4 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
36	rms4 iLO	iLO Network
37	rms5 eth01 (NIC1)	ag1 port 30
38	rms5 eth02 (NIC2)	ag2 port 30
39	rms5 eth03 (NIC3)	Customer Switch 1/OAM Network
40	rms5 eth04 (NIC4)	Customer Switch 2/OAM Network
41	rms5 eth05 (NIC01)	Customer Switch 1/Signaling Network
42	rms5 eth06 (NIC02)	Customer Switch 2/Signaling Network
43	rms5 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
44	rms5 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
45	rms5 iLO	iLO Network
46	rms6 eth01 (NIC1)	ag1 port 29
47	rms6 eth02 (NIC2)	ag2 port 29
48	rms6 eth03 (NIC3)	Customer Switch 1/OAM Network
49	rms6 eth04 (NIC4)	Customer Switch 2/OAM Network
50	rms6 eth05 (NIC01)	Customer Switch 1/Signaling Network
51	rms6 eth06 (NIC02)	Customer Switch 2/Signaling Network
52	rms6 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
53	rms6 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
54	rms6 iLO	iLO Network
55	rms7 eth01 (NIC1)	ag1 port 28
56	rms7 eth02 (NIC2)	ag2 port 28

Item #	Port (to)	Port (from)
57	rms7 eth03 (NIC3)	Customer Switch 1/OAM Network
58	rms7 eth04 (NIC4)	Customer Switch 2/OAM Network
59	rms7 eth05 (NIC01)	Customer Switch 1/Signaling Network
60	rms7 eth06 (NIC02)	Customer Switch 2/Signaling Network
61	rms7 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
62	rms7 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
63	rms7 iLO	iLO Network
64	rms8 eth01 (NIC1)	ag1 port 27
65	rms8 eth02 (NIC2)	ag2 port 27
66	rms8 eth03 (NIC3)	Customer Switch 1/OAM Network
67	rms8 eth04 (NIC4)	Customer Switch 2/OAM Network
68	rms8 eth05 (NIC01)	Customer Switch 1/Signaling Network
69	rms8 eth06 (NIC02)	Customer Switch 2/Signaling Network
70	rms8 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
71	rms8 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
72	rms8 iLO	iLO Network
73	rms9 eth01 (NIC1)	ag1 port 26
74	rms9 eth02 (NIC2)	ag2 port 26
75	rms9 eth03 (NIC3)	Customer Switch 1/OAM Network
76	rms9 eth04 (NIC4)	Customer Switch 2/OAM Network
77	rms9 eth05 (NIC01)	Customer Switch 1/Signaling Network
78	rms9 eth06 (NIC02)	Customer Switch 2/Signaling Network
79	rms9 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
80	rms9 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
81	rms9 iLO	iLO Network
82	rms10 eth01 (NIC1)	ag1 port 25
83	rms10 eth02 (NIC2)	ag2 port 25
84	rms10 eth03 (NIC3)	Customer Switch 1/OAM Network
85	rms10 eth04 (NIC4)	Customer Switch 2/OAM Network
86	rms10 eth05 (NIC01)	Customer Switch 1/Signaling Network
87	rms10 eth06 (NIC02)	Customer Switch 2/Signaling Network
88	rms10 eth07 (NIC03)	Customer Switch 3/Signaling Network (opt)
89	rms10 eth08 (NIC04)	Customer Switch 4/Signaling Network (opt)
90	rms10 iLO	iLO Network
91	Laptop Access	ag1 port 44
92	Laptop Access	ag2 port 44