

Rack Layout

In new POP builds we will be using 45RU 600x1000 Hallam racks (RC4510060) with mesh front and rear doors. In general we are using four consecutive racks in each site. The general functions of these racks are:

Rack A	Switching Rack
Rack B	Routing Rack
Rack C	Services Rack
Rack D	Patching Rack

All inter rack cabling is routed via Rack D (RD). Internal patching will be via Tyco RTCG3 fibre optic panels (96 core with LC connectors) and Krone Highband Category 6 UTP panels (24 ports). The fibre patch panel in Rack C (and its corresponding panel in Rack D) only have 48 cores due to the expected low demand for fibre in Rack C.

U	RA	RB	RC	RD
45	Tyco RTCG3 96 RD U43-45	Tyco RTCG3 96 RD U37-35	Tyco RTCG3 48 RD U27-29	Tyco RTCG3 96 RA U43-45
44				
43				
42	cable minder	cable minder	cable minder	cable minder
41	<i>Reserved for Tyco RTCG3 RD U39-41</i>	<i>Reserved for Tyco RTCG3 RD U31-33</i>	Krone RD U9	<i>Reserved for Tyco RTCG3 RA U39-41</i>
40			cable minder	
39			Krone RD U7	
38			cable minder	
37	Krone RD U21	Krone RD U11	<i>Krone RD U5</i>	Tyco RTCG3 96 RB U43-45
36	cable minder	cable minder		
35	Krone RD U19	Cisco 7304-G100 #2	Cyclades AlterPath	
34	cable minder		cable minder	cable minder
33	Krone RD U17		Acer R700	<i>Reserved for Tyco RTCG3 RB U39-41</i>
32	cable minder			
31	<i>Krone RD U15</i>	Cisco 7304-G100 #3		
30			Acer R300 #1	
29	<i>Krone RD U13</i>			
28			Acer R300 #2	Tyco RTCG3 48 RC U43-45
27	Cisco 7304-G100 #1	Tyco NP2500 Procket Rectifiers		
26			A S5300	cable minder

25				Tyco RTCG3 96
24				external fibre
23			NTP Server	optics
22	Cisco 6509-NEB-A	Procket 8812		cable minder
21				Krone RA U37
20				cable minder
19				Krone RA U35
18				cable minder
17				Krone RA U33
16				cable minder
15				<i>Krone RA U31</i>
14				
13				<i>Krone RA U29</i>
12				
11			Krone RB U37	
10			cable minder	
9			Krone RC U41	
8			cable minder	
7			Krone RC U39	
6			cable minder	
5			<i>Krone RC U37</i>	
4				
3				
2				
1				Reserved for external UTP

In racks "A", "B" and "D" the patch panels are mounted at the front of the rack but due to the fact that all of the significant ports on equipment in rack "C" face the rear of the rack the patch panels in rack "C" are mounted on the rear rails. Also the Cyclades should be mounted (using the rear mount points) on the rear rail with the ethernet ports facing the rear and the modem facing front. See the photograph of the front of rack "C" below taken before the fibre optic cable installation in the Pulteney Street Data Centre.



The Cisco 7304-G100 routers could be "legacy" (providing connectivity to clients with non Ethernet links), "peering" or "office" routers.

Not all sites will necessarily have the same equipment. All sites will have a Procket 8812, Cisco 6509-NEB-A and Cyclades ACS.

Non Standard Configurations

Six Rack Layout

In some Nextgen locations there needs to be racks to support the regional network. The minimum number of racks in this case is six.

The general functions of these racks are:

Rack A	Switching Rack
Rack B	Routing Rack
Rack C	Services Rack
Rack D	Fibre Patching Rack
Rack E	UTP Patching Rack
Rack F	Regional equipment Rack #1

Due to the equipment already having been installed in racks "A", "B" and "C" the physical layout of the racks is

U	RA	RB	RC	RD	RE	RF
45	Tyco RTCG3 96	Tyco RTCG3 96	Tyco RTCG3 48	Tyco RTCG3 96	Krone RA U37	

44	RD U43-45	RD U37-35	RD U27-29	RA U43-45	cable minder	
43					Krone RA U35	
42	cable minder	cable minder	cable minder	cable minder	cable minder	
41	<i>Reserved for Tyco RTCG3 RD U39-41</i>	<i>Reserved for Tyco RTCG3 RD U31-33</i>	Krone RF U9	<i>Reserved for Tyco RTCG3 RA U39-41</i>	Krone RA U33	
40			cable minder		cable minder	
39			Krone RF U7		Krone RA U31	
38			cable minder		cable minder	
37	Krone RF U21	Krone RF U11	Krone RD U5	Tyco RTCG3 96 RB U43-45	Krone RA U29	
36	cable minder	cable minder			cable minder	
35	Krone RF U19	Cisco 7304-G100 #2	Cyclades AlterPath		Krone RB U37	
34	cable minder		cable minder	cable minder	cable minder	
33	Krone RF U17		Acer R700	<i>Reserved for Tyco RTCG3 RB U39-41</i>	Krone RC U41	
32	cable minder		cable minder			
31	Krone RD U15	Cisco 7304-G100 #3			Krone RC U39	
30			Acer R300 #1		cable minder	
29	Krone RD U13				Tyco RTCG3 48 RC U43-45	Krone RC U37
28			Acer R300 #2		cable minder	
27	Cisco 7304-G100 #1	Tyco NP2500 Procket Rectifiers				
26				AS5300	cable minder	
25					Tyco RTCG3 96 external fibre optics	
24						
23			NTP Server			
22	Cisco 6509-NEB-A	Procket 8812			cable minder	
21						
20					Tyco RTCG3 96 external fibre optics	
19						
18					cable minder	

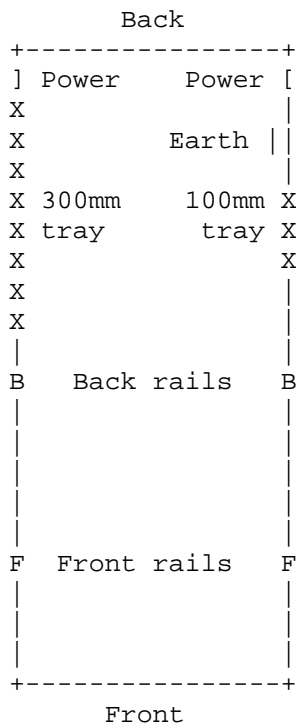
17				Tyco		
16				RTCG3 96		
15				RE U43-45		
14				cable minder		
13						
12						
11						
10						
9						
8						
7						
6						
5						
4						
3						
2						cable minder
1						

Parts and positions

Hallam are positioning rails in position when they build racks. If you get non-customised racks then you will need to follow these instructions too.

See [General information for assembling racks](#) for some background, including the reference points for measurements.

Rack A



Not to scale

Figure 1. Rack A mud map

The front rail is located at 218mm.

The back rail is located at 627mm.

The left side contains a 300mm tray located flush with the rear power rail. As shown in the photo in Figure 2.

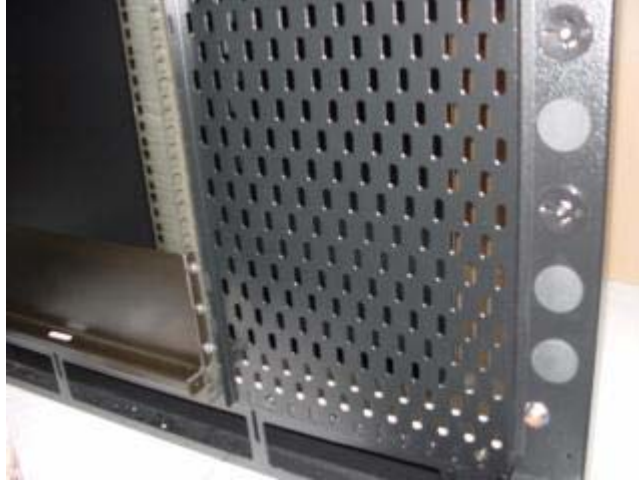


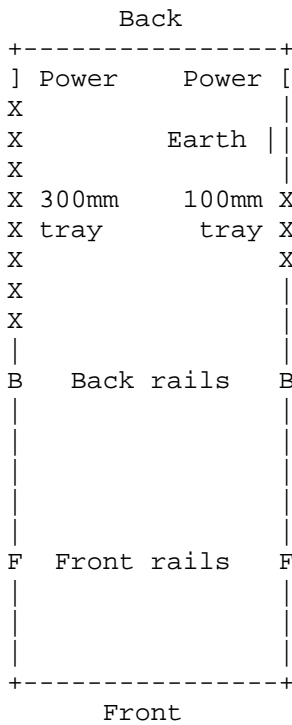
Figure 2. Detail for rear left of Rack A
[More detail](#)

The right side contains an earth rail and a 100mm tray. They are mounted with two empty holes from the back of the rack to the earth bar and then one empty hole to from the earth bar to the tray. As shown in the photo in Figure 3.



Figure 3. Detail for rear right of Rack A
[More detail](#)

Rack B



Not to scale

Figure 4. Rack B mud map

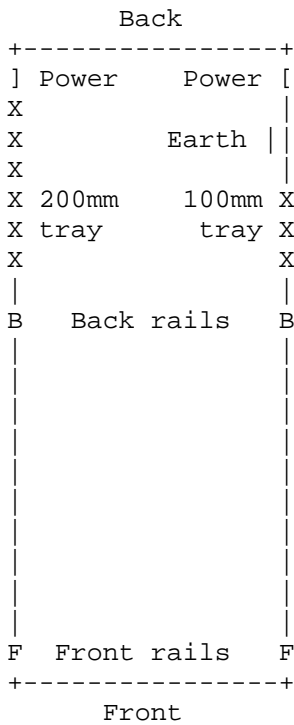
The front rail is located at 188mm.

The back rail is located at 633mm.

The left side contains a 300mm tray located flush with the rear power rail. As shown in the photo in Figure 2.

The right side contains an earth rail and a 100mm tray. They are mounted with two empty holes from the back of the rack to the earth bar and then one empty hole to from the earth bar to the tray. As shown in the photo in Figure 3.

Rack C



Not to scale

Figure 5. Rack C mud map

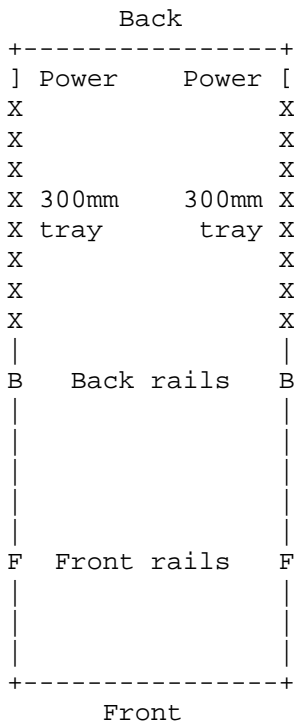
The front rail is located at 66mm; that is, flush with the front post.

The back rail is located at 718mm; that is, with about 10mm to spare to the edge of the 200 mm tray.

The left side contains a 200mm tray located flush with the rear power rail.

The right side contains an earth rail and a 100mm tray. They are mounted with two empty holes from the back of the rack to the earth bar and then one empty hole to from the earth bar to the tray. As shown in the photo in Figure 3.

Rack D



Not to scale

Figure 6. Rack D mud map

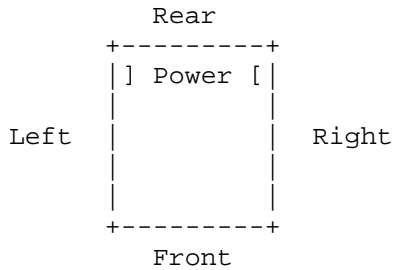
The front rail is located at 165mm.

The back rail is located at 610mm.

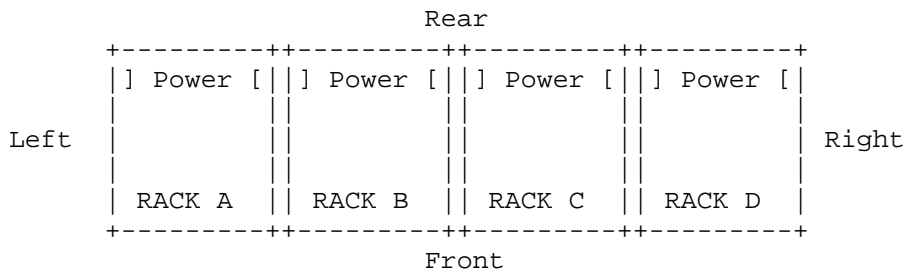
General information for assembling racks

You can click on the photos for the larger original photo which shows more detail.

"Left" and "right" refer to standing in front of the rack, facing it.



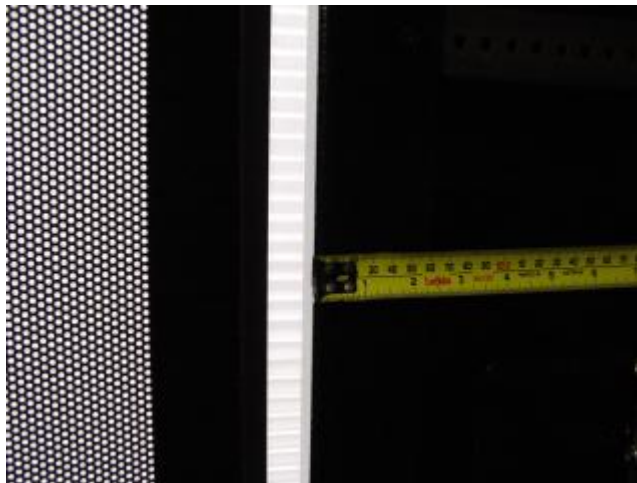
The Racks are numbered A, B, C, D.



Dimensions are in millimeters unless otherwise stated.

RU is a Rack Unit.

Measurements are made from the front of the rack to the back of the projecting part of the rack rail.



Rack rails and other horizontal measurements are made from the front pole of the rack



Measurements for rack rails are made to the projecting part of the rack rail