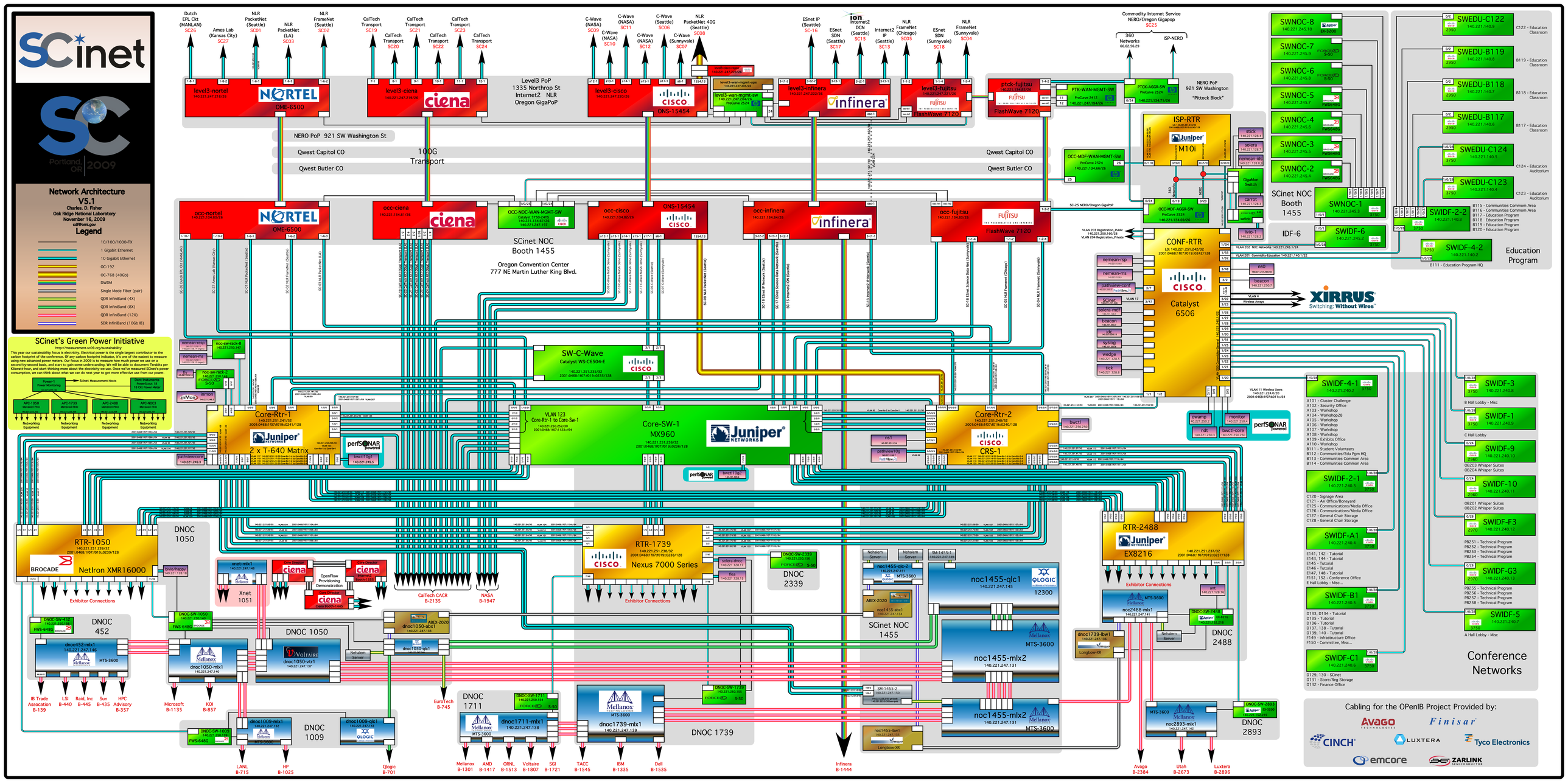
SCinet
SC
Portland, OR 2009
Network Architecture
V5.1
Charles. D. Fisher
Oak Ridge National Laboratory
November 16, 2009
cdf@ornl.gov
Legend
10/100/1000-TX
1 Gigabit Ethernet
10 Gigabit Ethernet
OC-192
OC-768 (40Gb)
DWDM
Single Mode Fiber (pair)
QDR InfiniBand (4X)
QDR InfiniBand (8X)
QDR InfiniBand (12X)
SDR InfiniBand (10Gb IB)
SCinet's Green Power Initiative
http://measurement.sc09.org/sustainability
This year our sustainability focus is electricity. Electrical power is the single largest contributor to the carbon footprint of the conference. Of any carbon footprint indicator, it's one of the easiest to measure using new advanced power meters. Our focus in 2009 is to measure how much power we use on a second-by-second basis, and start to gain some understanding. We will be able to document Terabits per Kilowatt-hour, and start thinking more about the electricity we use. Once we've measured SCinet's power consumption, we can think about what we can do next year to get more effective use from our power.
Power-1 Power Monitoring
SCinet Measurement Hosts
Dent Instruments PowerScout 18 18 Ckt Power Meter
APC-1050 Metered PDU
APC-1735 Metered PDU
APC-2488 Metered PDU
APC-NOC3 Metered PDU
Networking Equipment
Networking Equipment
Networking Equipment
Networking Equipment
Dutch EPL Ckt (MANLAN) SC26
Ames Lab (Kansas City) SC27
NLR PacketNet (Seattle) SC01
NLR PacketNet (LA) SC03
NLR FrameNet (Seattle) SC02
CalTech Transport SC19
CalTech Transport SC20
CalTech Transport SC21
CalTech Transport SC22
CalTech Transport SC23
CalTech Transport SC24
C-Wave (NASA) SC09
C-Wave (NASA) SC11
C-Wave (NASA) SC10
C-Wave (NASA) SC12
C-Wave (Seattle) SC06
C-Wave (Sunnyvale) SC07
NLR PacketNet 40G (Seattle) SC08
ESnet IP (Seattle) SC-16
ESnet SDN (Seattle) SC17
Internet2 DCN (Seattle) SC15
Internet2 IP (Seattle) SC13
NLR FrameNet (Chicago) SC05
ESnet SDN (Sunnyvale) SC18
NLR FrameNet (Sunnyvale) SC04
Commodity Internet Service NERO/Oregon Gigapop SC25
360 Networks 66.62.56.29
ISP-NERO
level3-nortel 140.221.247.218/26
level3-ciena 140.221.247.219/26
level3-cisco 140.221.247.220/26
level3-infinera 140.221.247.222/26
level3-fujitsu 140.221.247.221/26
level3-wan-mgmt-sw 140.221.247.205/28
level3-wan-mgmt-sw 140.221.247.204/28
level3-wan-mgmt-sw 140.221.247.206/28
ptck-fujitsu 140.221.134.85/26
PTK-WAN-MGMT-SW 140.221.247.194/26
PTCK-AGGR-SW 140.221.134.71/26
Level3 PoP 1335 Northrop St Internet2 NLR Oregon GigaPoP
NERO PoP 921 SW Washington "Pittock Block"
NERO PoP 921 SW Washington St
Qwest Capitol CO
Qwest Butler CO
100G Transport
occ-nortel 140.221.134.90/26
occ-ciena 140.221.134.81/26
occ-cisco 140.221.134.82/26
occ-infinera 140.221.134.84/26
occ-fujitsu 140.221.134.83/26
OCC-NOC-WAN-MGMT-SW 140.221.134.67/26 140.221.247.197
OCC-MDF-WAN-MGMT-SW 140.221.134.68/26
OCC-MDF-AGGR-SW 140.221.134.69/26
SCinet NOC Booth 1455
Oregon Convention Center 777 NE Martin Luther King Blvd.
ISP-RTR 140.221.251.241/32 2001:0468:1807:f019::0241/128 M10i
CONF-RTR 140.221.251.242/32 2001:0468:1807:f019:0242/128
Catalyst 6506
SW-C-Wave Catalyst WS-C6504-E 140.221.251.235/32 2001:0468:1807:f019:0235/128
Core-Rtr-1 140.221.251.241/32 2001:0468:1807:f019:0241/128 2 x T-640 Matrix
Core-SW-1 MX960 140.221.251.236/32 2001:0468:1807:f019:0236/128
VLAN 123 Core-Rtr-1 to Core-SW-1 140.221.251.250/30 2001:0468:1807:1123::/64
Core-Rtr-2 140.221.251.240/32 2001:0468:1807:f019:0240/128 CRS-1
RTR-1050 140.221.251.239/32 2001:0468:1807:f019:0239/128 BROCADE NetIron XMR16000
RTR-1739 140.221.251.238/32 2001:0468:1807:f019:0238/128 Nexus 7000 Series
RTR-2488 EX8216 140.221.251.237/32 2001:0468:1807:f019:0237/128
DNOC 1050
DNOC 452
DNOC 1050
DNOC 2339
DNOC 1711
DNOC 1739
DNOC 1009
DNOC 2488
DNOC 2893
SCinet NOC 1455
Exhibitor Connections
Xnet 1051
OpenFlow Provisioning Demonstration
CalTech CACR B-2135
NASA B-1947
EuroTech B-745
Microsoft B-1135
KOI B-857
IB Trade Association B-139
LSI B-440
Raid, Inc B-445
Sun B-435
HPC Advisory B-357
LANL B-715
HP B-1025
Qlogic B-701
Mellanox B-1301
AMD B-1417
ORNL B-1513
Voltaire B-1807
SGI B-1721
TACC B-1545
IBM B-1335
Dell B-1535
Infinera B-1444
Avago B-2384
Utah B-2673
Luxtera B-2896
SCinet NOC Booth 1455
IDF-6
SWNOC-8 140.221.245.10
SWNOC-7 140.221.245.9
SWNOC-6 140.221.245.8
SWNOC-5 140.221.245.7
SWNOC-4 140.221.245.6
SWNOC-3 140.221.245.5
SWNOC-2 140.221.245.4
SWNOC-1 140.221.245.3
SWIDF-6 140.221.245.2
SWEDU-C122 140.221.140.9
SWEDU-B119 140.221.140.8
SWEDU-B118 140.221.140.7
SWEDU-B117 140.221.140.6
SWEDU-C124 140.221.140.5
SWEDU-C123 140.221.140.4
SWIDF-4-2 140.221.140.2
B111 - Education Program HQ
C122 - Education Classroom
B119 - Education Classroom
B118 - Education Classroom
B117 - Education Classroom
C124 - Education Auditorium
C123 - Education Auditorium
B115 - Communities Common Area
B116 - Communities Common Area
B117 - Education Program
B118 - Education Program
B119 - Education Program
B120 - Education Program
Education Program
XIRRUS Switching: Without Wires
SWIDF-4-1 140.221.240.2
A101 - Cluster Challenge
A102 - Security Office
A103 - Workshop
A104 - Workshop28
A105 - Workshop
A106 - Workshop
A107 - Workshop
A108 - Workshop
A109 - Exhibits Office
A110 - Workshop
B111 - Student Volunteers
B112 - Communities/Edu Pgm HQ
B113 - Communities Common Area
B114 - Communities Common Area
SWIDF-2-1 140.221.240.3
C120 - Signage Area
C121 - AV Office/Boneyard
C125 - Communications/Media Office
C126 - Communications/Media Office
C127 - General Chair Storage
C128 - General Chair Storage
SWIDF-A1 140.221.240.4
E141, 142 - Tutorial
E143, 144 - Tutorial
E145 - Tutorial
E146 - Tutorial
E147, 148 - Tutorial
F151, 152 - Conference Office
E Hall Lobby - Misc...
SWIDF-B1 140.221.240.5
D133, D134 - Tutorial
D135 - Tutorial
D136 - Tutorial
D137, 138 - Tutorial
D139, 140 - Tutorial
F149 - Infrastructure Office
F150 - Committee, Misc...
SWIDF-C1 140.221.240.6
D129, 130 - SCinet
D131 - Store/Reg/Storage
D132 - Finance Office
SWIDF-3 140.221.240.8
B Hall Lobby - Misc
SWIDF-1 140.221.240.9
C Hall Lobby
SWIDF-9 140.221.240.10
OB203 Whisper Suites
OB204 Whisper Suites
SWIDF-10 140.221.240.11
OB201 Whisper Suites
OB202 Whisper Suites
SWIDF-F3 140.221.240.12
PB251 - Technical Program
PB252 - Technical Program
PB253 - Technical Program
PB254 - Technical Program
SWIDF-G3 140.221.240.13
PB255 - Technical Program
PB256 - Technical Program
PB257 - Technical Program
PB258 - Technical Program
SWIDF-5 140.221.240.7
A Hall Lobby - Misc
Conference Networks
Cabling for the OPenIB Project Provided by:
Avago Technologies
Finisar
CINCH
LUXTERA
Tyco Electronics
emcore
ZARLINK SEMICONDUCTOR