

BCNET

OPEN SOURCE NMS

NANOG 55

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BCNET 

Advanced networks for higher education & research in British Columbia

BCNET NMS

- **Home-grown suite of software to capture network info**
- **~3 years of development**
- **Ingredients:**
 - Apache MySQL Nagios plugins
 - Perl PHP TL1 toolkit
 - SNMP RRDtool
- **Comes with:**
 - PHP object oriented API
 - Perl libraries
 - Plugin Framework

Available as open source by end of this month.

HOME

IP calculator

Network: / Length:

2001:db8:42::1/48

Network: 2001:db8:42:0:0:0:0:0

Subnet mask: ffff:ffff:ffff:0:0:0:0:0

Broadcast: 2001:db8:42:ffff:ffff:ffff:ffff:ffff

Wildcard: 0:0:0:ffff:ffff:ffff:ffff:ffff

Hostmin: 2001:db8:42:0:0:0:0:1

Hostmax: 2001:db8:42:ffff:ffff:ffff:ffff:ffff

Host Per Net: 1,208,925,819,614,629,174,706,176

IP Per Net: 1,208,925,819,614,629,174,706,176

Updates

- 2011-08-19 14:34:17 by Andree Toonk - Added New Contact: Mr Know All to
- 2011-08-19 14:33:21 by Andree Toonk - Removed from Representative Contact: Marilyn Hay
- 2011-07-22 12:06:41 by Administrator / BOFH - Added Contact: Aaron Seelye to Billing Contact.
- 2011-04-01 13:39:27 by Andree Toonk - Added Contact: Damir probic to Billing Contact.
- 2011-04-01 13:38:25 by Andree Toonk - Updated Group: CANARIE
- 2011-01-21 14:36:42 by Administrator - Updated private data for: cr1.kelbx1.bc.net
- 2011-01-21 14:36:00 by Administrator - Updated private data for: desc
- 2011-01-07 10:38:49 by Andree Toonk - Updated private data for: desc
- 2011-01-07 10:38:37 by Andree Toonk - Updated private data for: desc

Show archived updates

Recent BGPmon Alerts

| Alert Type | Prefix | Date | Cleared |
|--------------|----------------------------|------------------|---------|
| New Upstream | 2607:f8f0:690::/48 (AS271) | 2011-08-19 10:12 | Yes |
| New Upstream | 2607:f8f0:610::/48 (AS271) | 2011-08-19 10:12 | Yes |
| New Upstream | 2607:f8f0:670::/48 (AS271) | 2011-08-19 10:12 | Yes |
| Withdraws | 206.12.16.0/24 (AS11105) | 2011-08-18 17:45 | Yes |
| Withdraws | 209.87.60.0/24 (AS11105) | 2011-08-18 17:45 | Yes |

CMDB Status

- 104 clients
- 33 devices
- 35 customer logical router (CU_ALL) Service
- 39 Internet IP Transit (commodity) Service
- 97 layer 2 vlan service (l2_vlan) Service
- 47 oran IP service (oran) Service
- 64 transit Exchange Peering (ix) Service

Recent Events

| Status | Host | Service | Date | Duration |
|---------|------------------|---------------------|--------------|----------------|
| Ok | CR1.VNCV1.BC.NET | RE health cr1.vncv1 | 31 Hours Ago | 1d 6h 53m |
| Warning | CR1.VNCV1.BC.NET | RE health cr1.vncv1 | 31 Hours Ago | 7m |
| Ok | CR1.VNCV1.BC.NET | RE health cr1.vncv1 | 31 Hours Ago | 13m 59s |
| Warning | CR1.VNCV1.BC.NET | RE health cr1.vncv1 | 31 Hours Ago | 2m 1s |
| Ok | CR1.VNCV1.BC.NET | RE health cr1.vncv1 | 31 Hours Ago | 15m |
| Warning | CR1.VNCV1.BC.NET | RE health cr1.vncv1 | 31 Hours Ago | 1m |
| Ok | CR2.VNCV1.BC.NET | RE health cr2.vncv1 | 2 Days Ago | 1d 20h 36m 59s |

BCNET NMS FEATURES

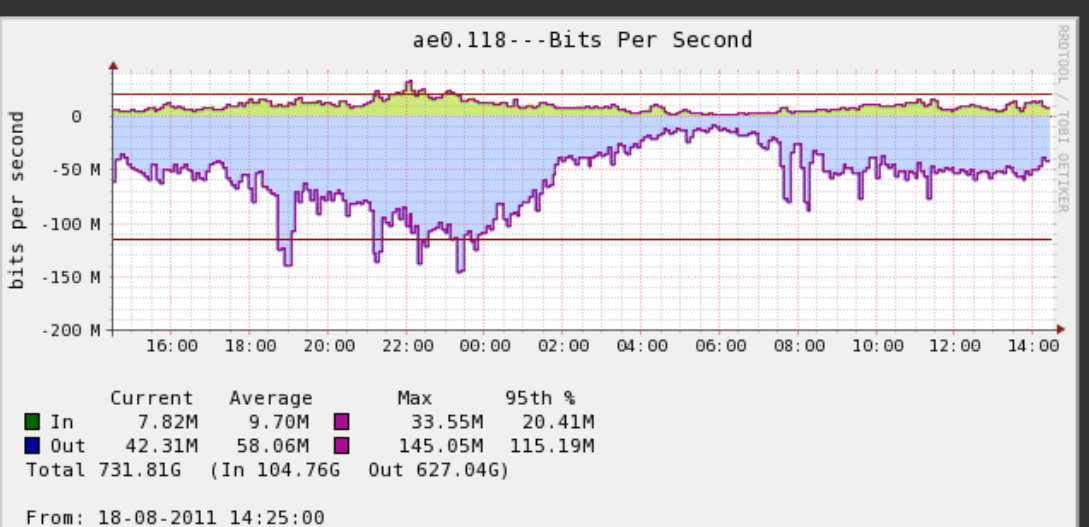
- **Device management**
 - Documents all devices in the Network
 - Detects Interface info (IPv4, IPv6, status, speed, usage, etc)
 - Automatic statistics collection
 - Secure password management
 - Automatic threshold warnings

BCNET NMS FEATURES

DEVICES

● cr1.vncv1
 ● Interface
 ● Device Control

| Interface name | Interface alias | Interface description | Status | Discovered interface speed(bps) | [switch to percent] Current throughput in bps | Interface MTU | IPv4/IPv6 address | Interface duplex | Interface type | Discover interface index |
|----------------|---------------------------------------|-----------------------|--------|---------------------------------|---|---------------|---|------------------|----------------|--------------------------|
| ae0 | to-cr1.vantx2 | ae0 | up | 20Gbps | 1.376Gbps | 9192 | | | ieee8023adLag | 786 |
| ae0.113 | CU 274 WTS L2 to UBC for Biodiversity | ae0.113 | up | 20Gbps | 175.72Kbps | 9192 | | | propVirtual | 989 |
| ae0.114 | CU 253 Trail Networks | ae0.114 | up | 20Gbps | 23.368Kbps | 9170 | 134.87.0.26/30 2607:f8f0:0680:2002:0000:0000:0000:0001/64 | | ieee8023adLag | 965 |
| ae0.117 | CU-ALL VANTX2 | ae0.117 | up | 20Gbps | 603.528Mbps | 9170 | 134.87.0.6/30 2607:f8f0:0680:1002:0000:0000:0000:0001/64 | | ieee8023adLag | 967 |
| ae0.118 | CU 303 UBC ResNet local peering | ae0.118 | up | 20Gbps | 42.307Mbps | 9170 | 134.87.0.34/30 | | ieee8023adLag | 969 |
| ae0.119 | | | | | | | 134.87.0.222/27 2607:0670:0010:0000:0000:0000:0000:0001/64 | | ieee8023adLag | 959 |
| ae0.120 | | | | | | | | | propVirtual | 995 |
| ae0.121 | | | | | | | 134.87.0.56/30 | | ieee8023adLag | 971 |
| ae0.122 | | | | | | | | | propVirtual | 998 |
| ae0.123 | | | | | | | | | propVirtual | 1001 |
| ae0.124 | | | | | | | | | propVirtual | 1004 |
| ae0.125 | | | | | | | 134.87.0.52/30 | | ieee8023adLag | 973 |
| ae0.126 | | | | | | | 2607:f8f0:1004:0000:0000:0000:0000:0001/64 | | ieee8023adLag | 975 |
| ae0.127 | | | | | | | 134.87.0.53/30 2607:0680:2003:0000:0000:0000:0000:0001/64 | | ieee8023adLag | 977 |
| ae0.128 | | | | | | | | | propVirtual | 1010 |
| ae0.129 | | | | | | | | | propVirtual | 1014 |
| ae0.130 | | | | | | | | | propVirtual | 1018 |



BCNET NMS FEATURES

- **Location management**
 - Documents all locations
 - Rooms in a location
 - Contact info per location
- **Contact management**
 - Contact management
 - Documents clients, vendors, suppliers, peers
 - Updated via Client portal
- **IP address management**
 - IPv4
 - IPv6
 - Vlans

BCNET NMS FEATURES

IP manager



Welcome **Andree Toonk** | [logout](#) | [FAQs](#) | [Hel](#)

[Home](#) | [Services](#) | [Devices](#) | [Locations](#) | [Contacts](#) | [Statistics](#) | [Events](#) | [Plugins](#) |

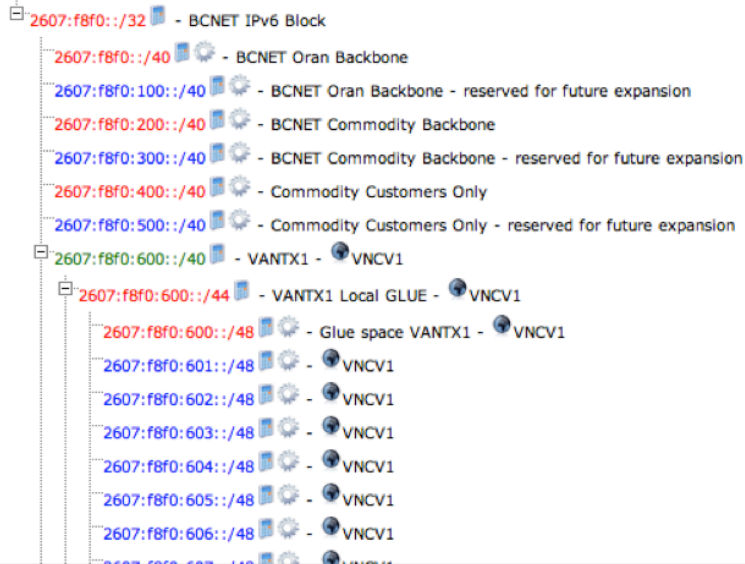
DEVICES

[IP Tool](#) | [Report IPv4](#) | [Report IPv6](#) | [IPv4](#) | [IPv6](#) | [vlan](#)

Collapse All Network | Expand All Network |

[Show Entire Network Tree](#)

2607:f8f0::/32



2607:f8f0:600::/40 - VANTX1

- VNCV1
- BCNET CORE
- NO ASSIGNED TO

Description: There is a /40 reserved for each POP location. This /40 will be used to further sub allocate /48's. In all cases the first /48 will be assigned for POP backbone addressing. All assignments will be done in } blocks of /44, so that we have space reserved between each allocation for possible future expansion.

BCNET NMS FEATURES

- **Services**
 - To documents all network services for all clients
 - To collect per service traffic statistics
 - Per service (SLA) monitoring
 - Feeds customer portal
 - Service trend reports

BCNET NMS FEATURES

- **Event management**
 - Used for monitoring and **reporting**
 - Heavily inspired by Nagios framework
 - Custom availability reporting capabilities
 - Charts for performance data
- **Plugins and dashboard widgets**
 - Traffic weathermap
 - Traffic Accounting
 - Nortel TL1 / ROADM
 - AJAX / HTML ssh clients
 - Change manager

Event Management



Check Detail

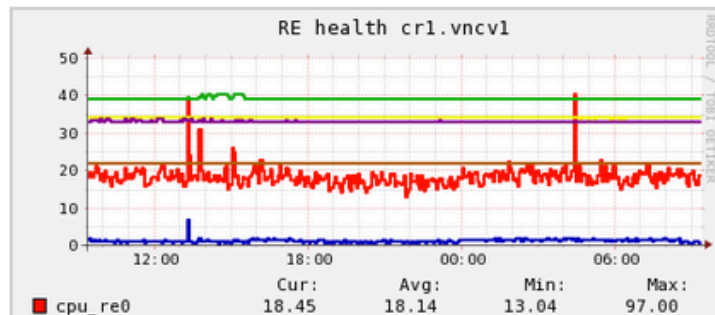
| Check Details | |
|--------------------|----------------------------|
| Name | RE health cr1.vncv1 |
| Hostname | CR1.VNCV1.BC.NET |
| Description | Routing engine check |
| Interval | 1 Minutes |
| Template | Juniper MX routing engines |
| Arguments | |
| Key1 | |
| Key2 | |
| Notes | |

Recent Events

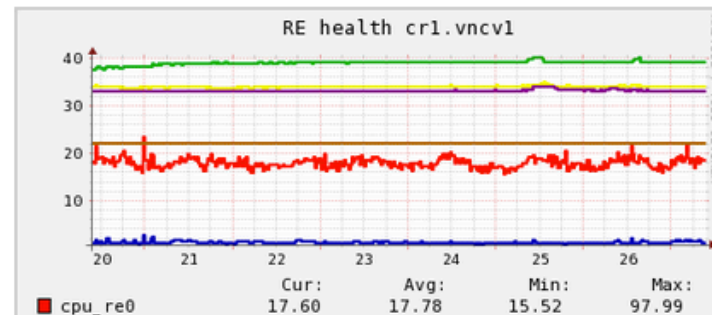
| Status | Host | Insert Time | Last Check | Duration | Service Information |
|---------|------------------|---------------------|---------------------|-----------------|---|
| Ok | CR1.VNCV1.BC.NET | 2012-04-15 06:51:02 | 2012-04-27 09:21:01 | 12d 2h 29m 59s | Ok: CPU usage RE0:18% RE1:2% Memory usage RE0:39% RE1:22% temperature RE0:34c RE1:33c |
| Warning | CR1.VNCV1.BC.NET | 2012-04-15 06:32:03 | 2012-04-15 06:51:02 | 18m 59s | Argument "noSuchObject" isn't numeric in numeric ne (!=) at check-scripts/check_mx480.pl line 293. Warning: CPU usage RE0:50% RE0 is not the Master RE RE1:100% Memory usage RE0:26% RE1:20% temperature RE0:33c RE1:34c |
| Ok | CR1.VNCV1.BC.NET | 2011-08-18 07:50:02 | 2012-04-15 06:32:03 | 240d 22h 42m 1s | Ok: CPU usage RE0:6% RE1:4% Memory usage RE0:64% RE1:17% temperature RE0:33c RE1:33c |
| Warning | CR1.VNCV1.BC.NET | 2011-08-18 07:43:02 | 2011-08-18 07:50:02 | 7m | Warning: CPU usage RE0:15% RE1:0% Could not determine cpu usage for re1, 1.3.6.1.4.1.2636.3.1.13.1.8.9.2.0.0 Memory usage RE0:58% RE1:0% Could not determine memory usage for re1, 1.3.6.1.4.1.2636.3.1.13.1.11.9.2.0.0 temperature RE0:32c RE1:0c Could not determine temperature for re1, 1.3.6.1.4.1.2636.3.1.13.1.7.9.2.0.0 |
| Ok | CR1.VNCV1.BC.NET | 2011-08-18 07:29:03 | 2011-08-18 07:43:02 | 13m 59s | Ok: CPU usage RE0:15% RE1:1% Memory usage RE0:57% RE1:20% temperature RE0:33c RE1:32c |

- cpu_re0
- cpu_re1
- memory_re0
- memory_re1
- temperature_re0
- temperature_re1

Performance data last day



Performance data last week



MORE INFORMATION

- For list of all other features, information, screenshots and video's see:

<https://wiki.bc.net/atl-conf/display/BCNETCMDB/>

Software in use & evaluated by numerous other Canadian (R&E) networks

Planning to open source it by end of June 2012

We are looking to collaborate with others

Let us know if you're interested!

contact me at:

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