



ORION Net Flow and OPNET-2013

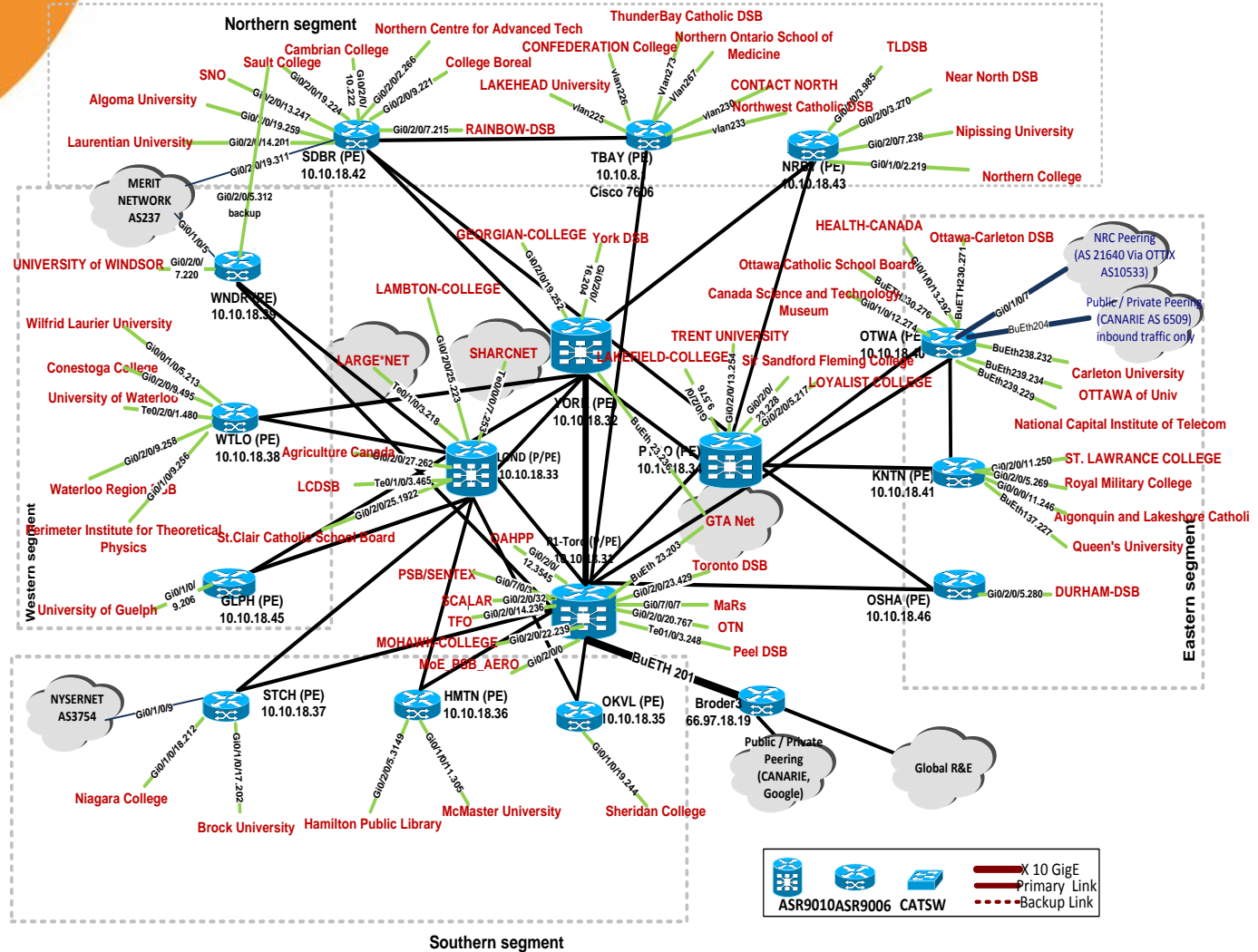
ORION Engineering Team

March 7 2013

Content

- ORION Member Connection Diagram
- NetFlow Introduction and Setup @ ORION Network
- OPNET ARX Deployment
- OPNET Data Analysis
- OPNET Data Report
- OPNET ARX Alert Manager
- OPNET Deployment Advance

ORION Member Connection



ORION Member Connection Cont'd

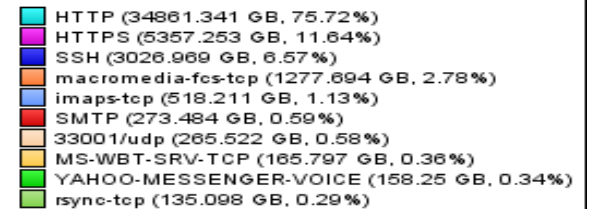
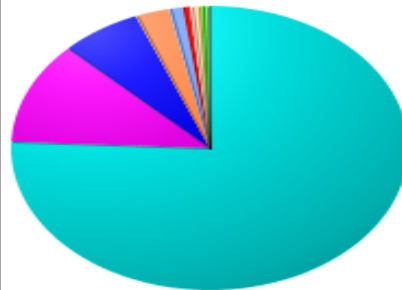
BGP Setup number	Orion advertised BGP entires	AS number @Orion
66	285	Public 56 / Private 23

Daily Summary of Total Traffic Activity

2013-02-19 9:12 EST to 2013-02-20 10:12 EST

Top Applications

Traffic (Inbound and Outbound)



Top Business Groups

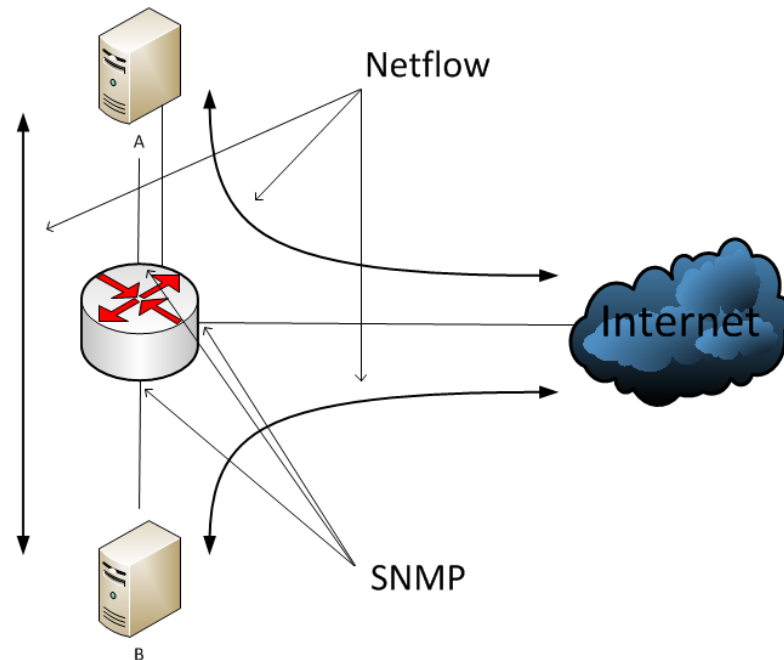
Traffic (Inbound and Outbound)



NetFlow Introduction and Setup @ ORION Network

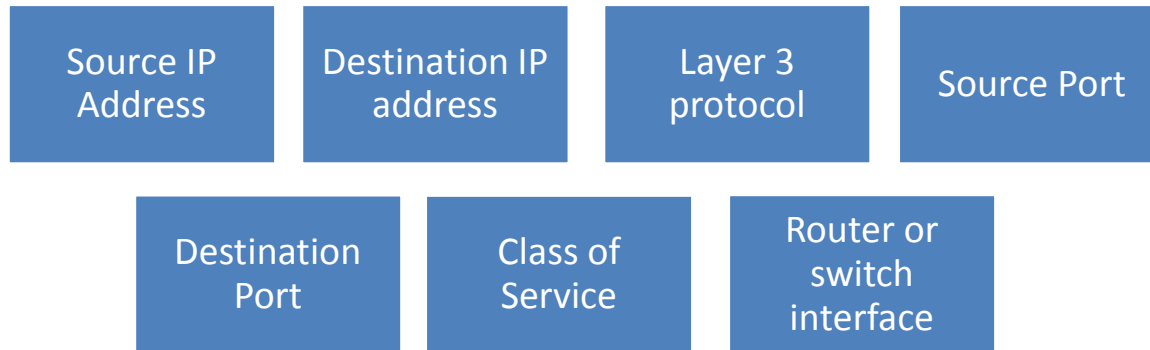
What is Netflow?

Instead of capturing counters at physical interface like SNMP, it captures the flow of information



NetFlow Introduction and Setup @ ORION Network

Different from SNMP, it samples packets and gathering the following information:



Source address tells who is originating the traffic

Destination address tells where the traffic is going to

Ports characterize the application

Class of service examines the priority of the sampled flow

The device interface tells how traffic is being routed by the networking device

Tallied packets and bytes show the amount of traffic

Timestamps are collected to calculating packets and bytes per second

Next hop IP addresses including BGP routing Autonomous Systems (AS)

Subnet mask for the source and destination addresses to calculate prefixes

TCP flags to examine TCP handshakes

NetFlow Introduction and Setup @ ORION Network

Netflow Exporter-map:

```
flow exporter-map fem1
version v9
options interface-table
options sampler-table
template data timeout 60
!
transport udp 9996
source Loopback0
destination 66.97.19.7
!
```

Netflow Monitor-map:

```
flow monitor-map fmm1
record ipv4
exporter fem1
cache entries 65535
cache timeout active 60
cache timeout inactive 15
```

Netflow Sampler map:

```
sampler-map fsm1
random 1 out-of 100
!
```

Netflow interface setup:

```
flow ipv4 monitor fmm1 sampler fsm1 ingress
flow ipv4 monitor fmm1 sampler fsm1 egress
```

OPNET ARX Deployment

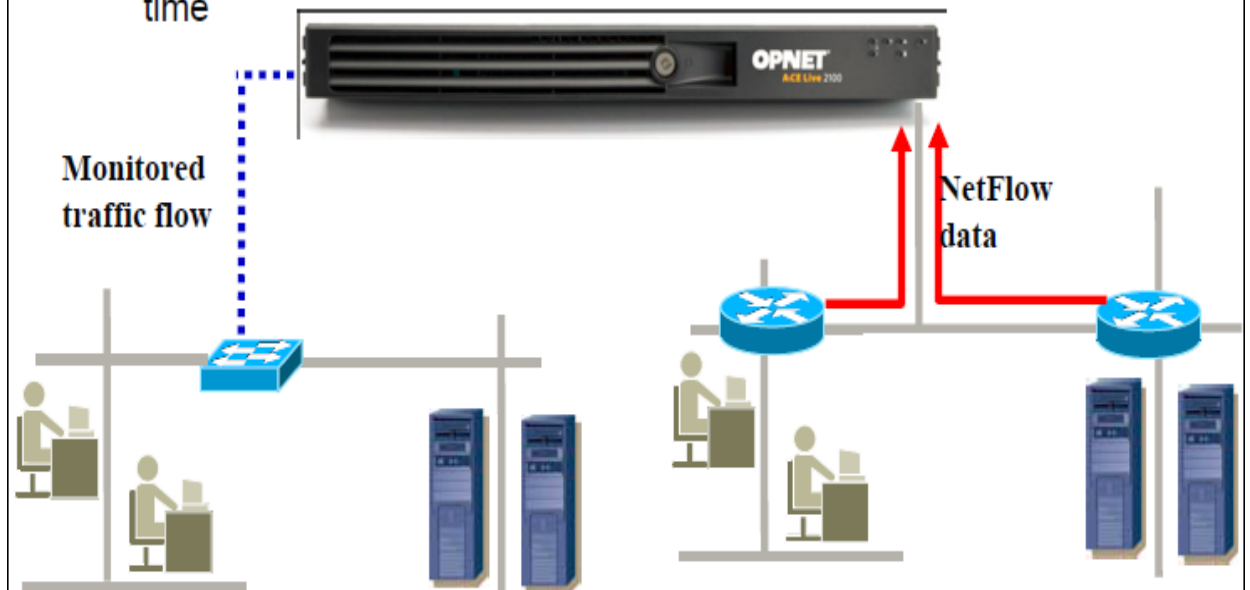
Traffic

- Packet Monitoring

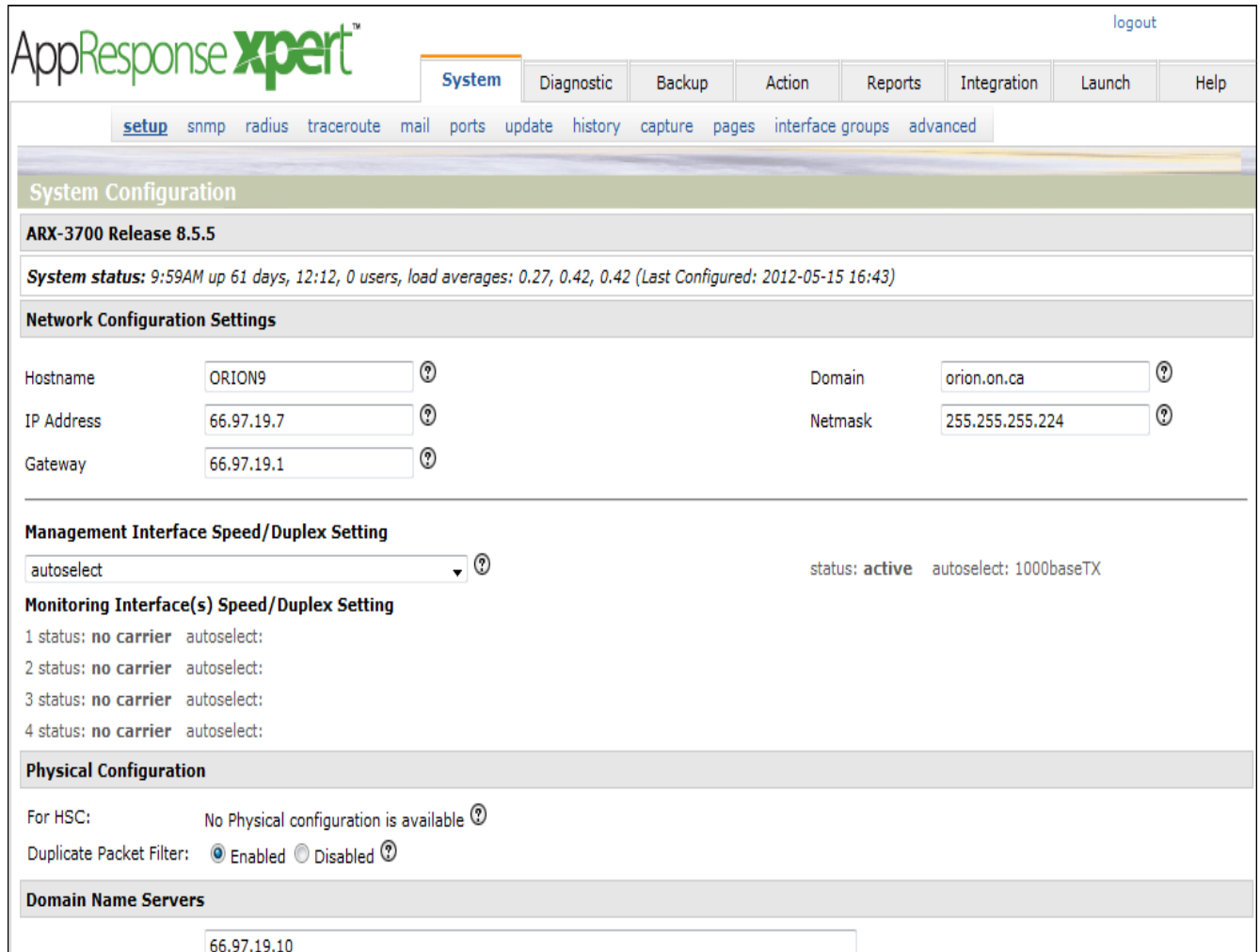
- Passive data collection via SPAN or Network TAP
- Data is extracted from TCP/UDP/IP headers in real-time

- NetFlow Collection

- Sent from NetFlow-enabled devices
- Stand-alone or combined with monitoring



OPNET ARX Deployment Cont'd



The screenshot displays the AppResponse xpert web interface. At the top right, there is a "logout" link. The main navigation bar includes "System", "Diagnostic", "Backup", "Action", "Reports", "Integration", "Launch", and "Help". Below this, a secondary menu shows "setup" (highlighted), "snmp", "radius", "traceroute", "mail", "ports", "update", "history", "capture", "pages", "interface groups", and "advanced".

The "System Configuration" section is active, showing "ARX-3700 Release 8.5.5". Below this, the "System status" is reported as "9:59AM up 61 days, 12:12, 0 users, load averages: 0.27, 0.42, 0.42 (Last Configured: 2012-05-15 16:43)".

The "Network Configuration Settings" section contains the following fields:

Hostname	<input type="text" value="ORION9"/>	Domain	<input type="text" value="orion.on.ca"/>
IP Address	<input type="text" value="66.97.19.7"/>	Netmask	<input type="text" value="255.255.255.224"/>
Gateway	<input type="text" value="66.97.19.1"/>		

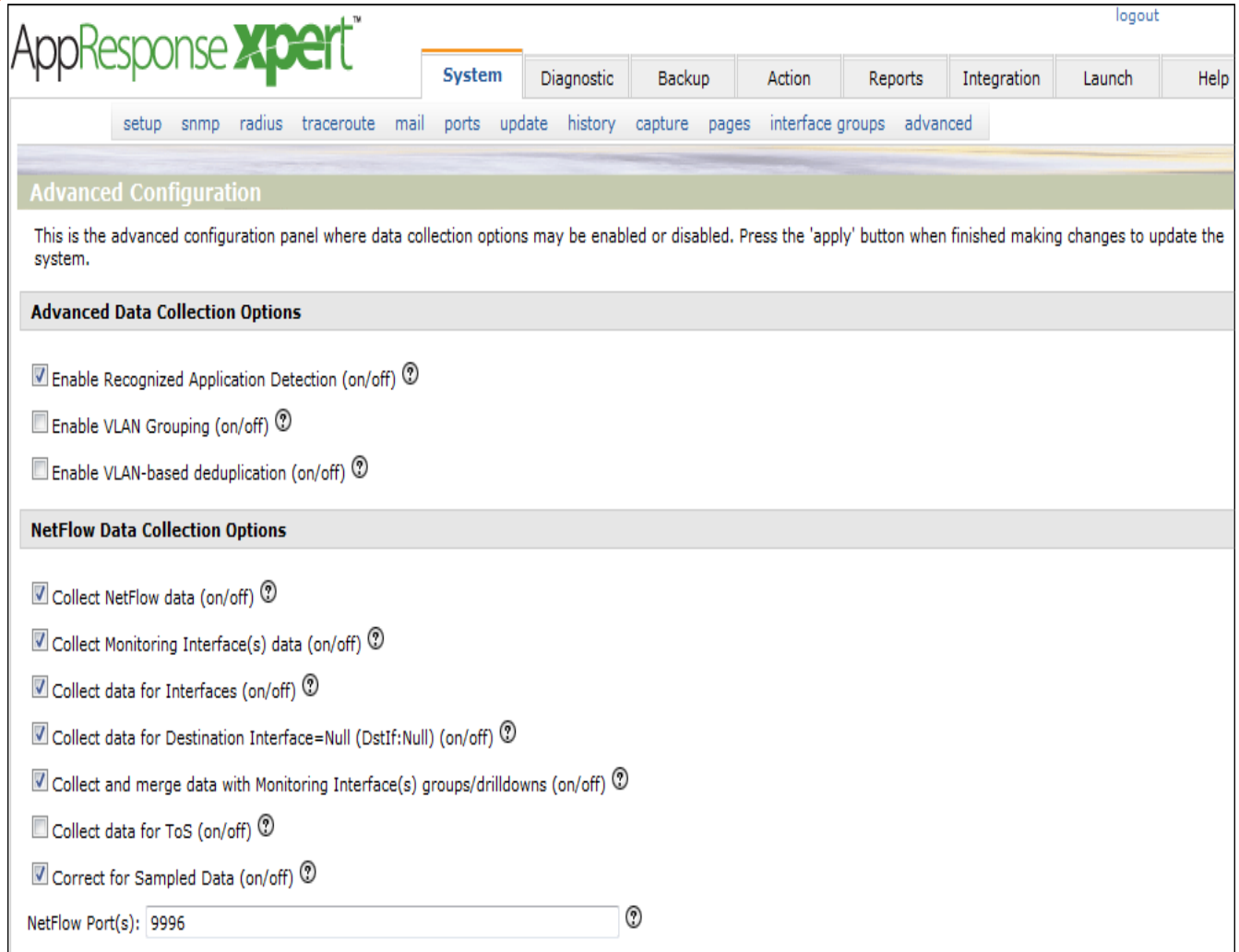
The "Management Interface Speed/Duplex Setting" section shows a dropdown menu set to "autoselect" and a status of "active" with "autoselect: 1000baseTX".

The "Monitoring Interface(s) Speed/Duplex Setting" section lists four interfaces, all with a status of "no carrier" and "autoselect" set.

The "Physical Configuration" section shows "For HSC: No Physical configuration is available" and "Duplicate Packet Filter: Enabled Disabled".

The "Domain Name Servers" section has a text input field containing "66.97.19.10".

OPNET ARX deployment Cont'd



The screenshot displays the AppResponse xpert web interface. At the top right, there is a "logout" link. Below the logo, a navigation menu includes "System", "Diagnostic", "Backup", "Action", "Reports", "Integration", "Launch", and "Help". A secondary menu below it lists "setup", "snmp", "radius", "traceroute", "mail", "ports", "update", "history", "capture", "pages", "interface groups", and "advanced". The main content area is titled "Advanced Configuration" and contains the following text: "This is the advanced configuration panel where data collection options may be enabled or disabled. Press the 'apply' button when finished making changes to update the system."

Advanced Data Collection Options

- Enable Recognized Application Detection (on/off) ?
- Enable VLAN Grouping (on/off) ?
- Enable VLAN-based deduplication (on/off) ?

NetFlow Data Collection Options

- Collect NetFlow data (on/off) ?
- Collect Monitoring Interface(s) data (on/off) ?
- Collect data for Interfaces (on/off) ?
- Collect data for Destination Interface=NULL (DstIf:Null) (on/off) ?
- Collect and merge data with Monitoring Interface(s) groups/drilldowns (on/off) ?
- Collect data for ToS (on/off) ?
- Correct for Sampled Data (on/off) ?

NetFlow Port(s): ?

OPNET ARX Deployment Cont'd

AppResponse Apex Console

File Edit View Tools Insights Window Help

AppResponseexpert

Orion_Initial_2013_March TechTown

Project Time... 2013-02-19 09:12 To 2013-02-20 10:12 Update Now Recent Hour user: admin - appliance: 66.97.19.7

AppResponse Xpert Insights

Business Group Table

Show Business Group Top 100 By Throughput (Inbound and Outbound)

Group	Information	Throughput (Inbound and Outbound) [Mbits/sec]	Throughput (Inbound) [Mbits/sec]	Throughput (Outbound) [Mbits/sec]	Traffic (Inbound and Outbound) [MB]
GTANet Networking -AS 549 ALL	Toronto and York	2393.955	1732.815	661.140	25684355.042
Google - AS 15169	Directly peering	2324.705	206.508	2118.198	24941381.016
University of Toronto -AS 239	Toronto and York via GTANet AS 549	1406.974	1000.730	406.244	15095195.580
CANARIE -AS 6509	Private peering	1237.838	413.691	824.157	13200557.695
External peering via TORIX -ALL	External peering via TORIX -ALL	1111.401	371.905	739.496	11924041.961
Other Group	Other Group	827.068	468.436	358.632	8873475.672
R.I.P.E. Network Coordination Centr...	external peering via TORIX	555.620	27.926	527.694	5961158.116
University of Waterloo-AS 12093	WTLO	349.623	177.045	172.577	3751043.071
York University AS802	Toronto and York via GTANet AS 549	315.817	212.274	103.544	3388351.462
Peel District School Board-AS 3...	Toronto	314.272	293.147	21.125	3371769.185
McMaster University -AS 2337	MTN	254.828	189.473	65.355	2734007.194

Group Information Throughput (Inbound and Outbound) [Mbits/sec] Throughput (Inbound) [Mbits/sec] Throughput (Outbound) [Mbits/sec] Traffic (Inbound and Outbound) [MB]

Top 20 By Throughput (Inbound and Outbound)

Group	Information	Throughput (Inbound and Outbound) [Mbits/sec]	Throughput (Inbound) [Mbits/sec]	Throughput (Outbound) [Mbits/sec]	Traffic (Inbound and Outbound) [MB]
Peel District School Board-AS 3...	Toronto	314.272	293.147	21.125	3371769.185
Local Traffic	Local Traffic	0.000	0.000	0.000	0.000
Google - AS 15169	Directly peering	230.323	221.348	8.974	2471094.918
External peering via TORIX	External peering via ...	54.669	50.613	4.056	586535.169
R.I.P.E. Network Coordination...	external peering via ...	45.526	43.724	1.802	488440.201
Other Group	Other Group	25.769	18.841	6.928	276473.514
Peer 1 Network- AS 13768	external peering via ...	2.115	1.906	0.209	22695.494
Hurricane External peering...	external peering via ...	1.497	0.991	0.506	16066.305
Shaw Communications Inc.-...	external peering via ...	1.490	1.342	0.148	15983.469
Rogers Cable Communicatio...	external peering via ...	1.490	1.342	0.148	15983.469
CANARIE -AS 6509	Private peering	1.124	0.995	0.129	12063.407
Allstream Corp -AS 15290	external peering via ...	1.002	0.753	0.249	10754.676
Cogeco Cable -AS 7992	external peering via ...	0.954	0.365	0.588	10230.668
TekSavvy Solutions-AS 5645	external peering via ...	0.648	0.146	0.502	6993.918
GTANet Networking -AS 54...	Toronto and York	0.476	0.377	0.099	5110.484
Limelight Networks AS 23822	external peering via ...	0.361	0.338	0.023	3873.011
Beanfield Technologe -AS...	external peering via ...	0.303	0.226	0.077	3251.255
Q9 Networks -AS 12188	external peering via ...	0.290	0.230	0.060	3134.391
Primus Telecommunications...	external peering via ...	0.285	0.086	0.198	3054.752
National Research Council...	external peering OTWA	0.202	0.157	0.045	2170.476

Time Selection: 2013-02-19 09:12 EST to 2013-02-20 10:12 EST
Data Source: ORION

Edit Report Content

Name Daily Summary of Total Traffic Activity (IP version) wc 596 lc 749

Daily Summary of Total Traffic Activity
2013-02-19 9:12 EST to 2013-02-20 10:12 EST

Top Applications
Traffic (Inbound and Outbound)

- HTTP (34881341 GB, 75.72%)
- HTTPS (5387263 GB, 11.64%)
- SSH (3026369 GB, 6.57%)
- macromedia/flash (1277.694 GB, 2.78%)
- imap3tcp (518.211 GB, 1.13%)
- SMTP (273.484 GB, 0.59%)
- 3000/udp (205.522 GB, 0.58%)
- MS-WBT-SRV-TCP (165.797 GB, 0.36%)
- YAHOO-MESSENGER-VOICE (188.25 GB, 0.34%)
- lyno-top (135.088 GB, 0.29%)

Top Talkers
Traffic (Inbound and Outbound)

- log-peel1.sinet.utoronto.ca (2000.838 GB, 20.5%)
- 88.97.28.142 (1265.12 GB, 12.86%)
- log-peel3.sinet.utoronto.ca (1153.01 GB, 11.51%)
- log-peel4.sinet.utoronto.ca (1011.758 GB, 10.37%)
- saw.sharpcn.ca (904.859 GB, 9.27%)
- 137.207.13.190 (801.606 GB, 8.21%)
- 130.14.250.10 (708.838 GB, 7.26%)
- minor.csclub.uwaterloo.ca (670.265 GB, 6.87%)
- cdn-208-111-181-253.lync.llnwd.net (648.56 GB, 6.65%)
- cdn-208-111-181-254.lync.llnwd.net (504.629 GB, 6.04%)

Top Conversations
Traffic (Inbound and Outbound)

- 137.207.13.190 - 199.241.163.107 (801.605 GB, 26.43%)
- 130.15.26.237 - 130.163.8.54 (640.016 GB, 13.24%)
- 130.14.250.10 - 199.241.163.210 (254.625 GB, 11.7%)
- 142.51.71.180 - 208.12.25.24 (912.129 GB, 10.28%)
- 130.14.250.10 - 199.241.163.211 (307.176 GB, 10.13%)
- 128.100.3.00 - 193.82.193.8 (263.307 GB, 8.86%)
- 147.210.131.41 - 208.108.121.120 (180.645 GB, 5.96%)
- 152.81.133.5 - 199.241.163.215 (194.776 GB, 5.43%)
- 129.91.45.28 - 130.15.58.6 (151.426 GB, 4.23%)
- 137.198.225.25 - 142.150.18.16 (113.12 GB, 3.73%)

AppRespo... Total Traff... Favorites... Report Ma... Business... Edit Repor...

Total time 0.45 sec, query time 0.0 sec, values 8 (13 values/sec)

OPNET ARX Data Analysis

AppResponse Xpert Console

File Edit View Tools Insights Window Help

AppResponsexpert™

Project-1

Project Time... 2013-02-19 09:12 To 2013-02-20 10:12 Update Now Recent Hour user: admin - appliance: 66.97.19.7

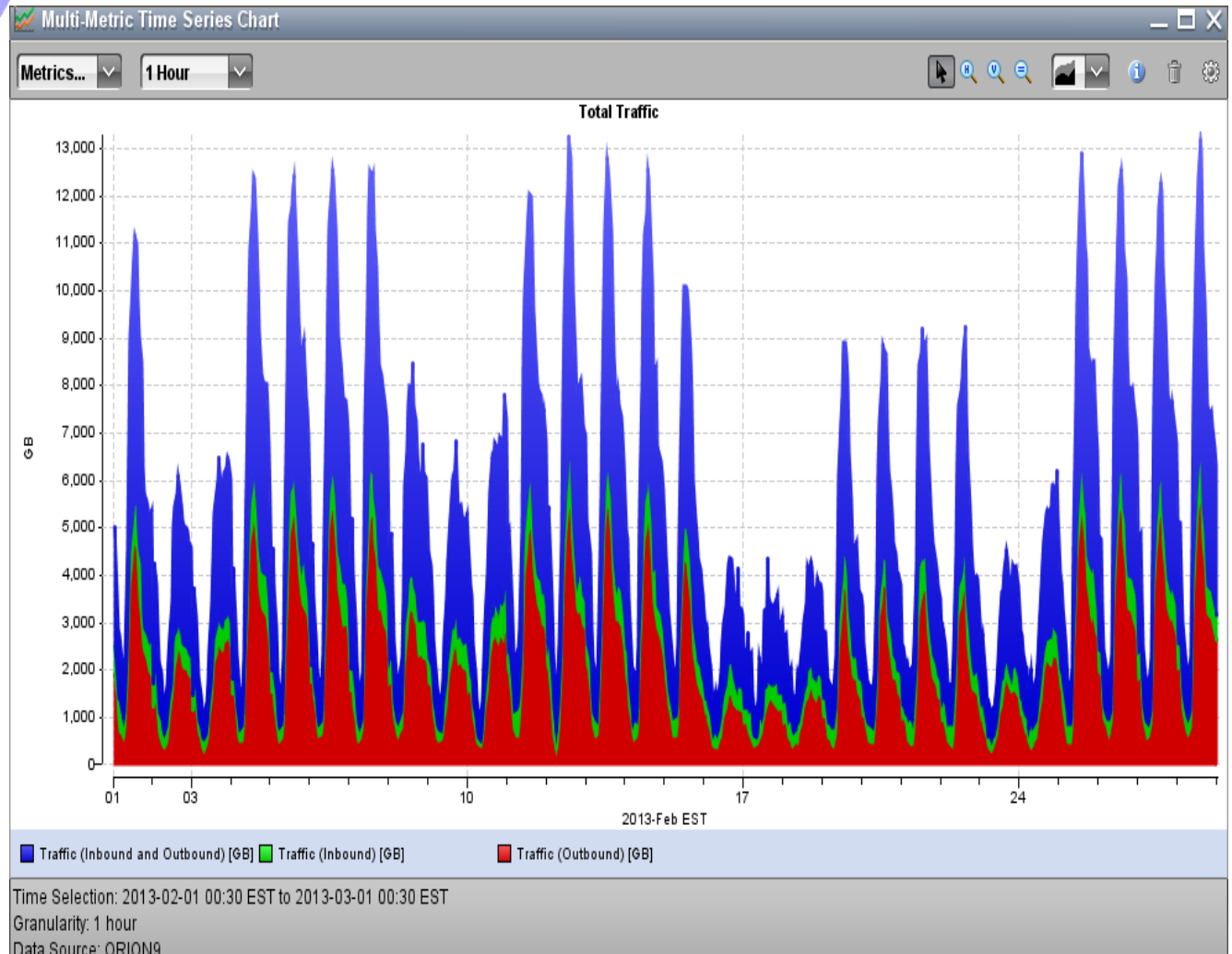
Show Total Traffic Top 20 By Throughput (Inbound and Outbound)

Group	Information	Throughput (Inbound and Outbound) [Mbits/sec]	Throughput (Inbound) [Mbits/sec]	Throughput (Outbound) [Mbits/sec]	Traffic (Inbound and Outbound) [MB]
Total Traffic	Total Traffic	5738.126	1198.103	4540.023	61563416.262
TCP	TRANSMISSION CONTROL P...	5240.646	989.525	4251.121	56226035.874
Defined Apps	Applications				
HTTP	TCP Ports: 80	3327.296	150.597	3176.699	35698013.272
HTTPS	TCP Ports: 443	511.316	104.764	406.552	5485827.056
SSH	TCP Ports: 22	288.905	113.057	175.848	3099615.840
SMTP	TCP Ports: 25	26.102	25.002	1.100	280047.772
MS-WBT-SRV-TCP	Windows Terminal Serve...	15.824	0.231	15.593	169776.309
YAHOO-MESSENGER...	TCP Ports: 5000-5001	15.104	5.766	9.338	162047.916
IMAP	TCP Ports: 143	4.120	0.247	3.873	44200.993
POP3	TCP Ports: 110	1.945	0.058	1.888	20872.455
VERITAS-BACKUP-...	TCP Ports: 9284,13701-...	1.674	1.148	0.526	17959.086
VERITAS-BACKUP	TCP Ports: 6106,8099,10000	0.722	0.544	0.177	7745.121
MSSQL-TCP	Microsoft SQL Server (...)	0.378	0.040	0.338	4057.453
VMWARE-SRV-TCP	VMware Server (TCP Por...	0.205	0.006	0.199	2196.109
ORACLE-NET8-CMA...	TCP Ports: 1630	0.128	0.127	0.001	1374.243
ORACLE-GIOP-TCP	TCP Ports: 2481	0.112	0.110	0.002	1205.924
MICROSOFT-DS	TCP Ports: 445	0.096	0.040	0.056	1026.037
ORACLE-NAMES	TCP Ports: 1575	0.079	0.038	0.040	844.147
TELNET	TCP Ports: 23	0.064	0.018	0.046	691.052
SAP-HOSTCTRL-TCP	TCP Ports: 1128	0.053	0.053	0.000	572.025
SQL*NET-2	TCP Ports: 1521	0.049	0.014	0.035	529.973
ORACLE-REMOTE-DB	TCP Ports: 1571	0.048	0.008	0.040	519.919
Other Apps	Other Apps				
UDP	USER DATAGRAM PROTOCOL	474.950	208.578	266.372	5095658.258
Other IP Protocols	Other IP Protocols	22.013	0.000	22.013	236172.321
ICMP	Protocol 1	0.517	0.000	0.517	5549.809

AppRespo... Total Traff...

total time 0.39 sec, query time 0.0 sec, values 1227 (3146 values/sec)

OPNET ARX Data Analysis



OPNET ARX Data Analysis Cont'd

AppResponse Xpert Console

File Edit View Tools Insights Window Help

AppResponsexpert

Orion_Initial_2013_March TechTown

Project Time... 2013-02-19 09:12 To 2013-02-20 10:12 Update Now Recent Hour admin - 66.97.19.7

Total Traffic Table

Business Group Table

Show Business Group Top 100 By Throughput (Inbound and Outbound)

Group	Information	Throughput (Inbound and Outbound) [Mbits/sec]	Throughput (Inbound) [Mbits/sec]	Throughput (Outbound) [Mbits/sec]	Traffic (Inbound and Outbound) [MB]
GTANet Networking -AS -549 ALL	Toronto and York	2393.955	1732.815	661.140	25684355.042
Google - AS 15169	Directly peering	2324.705	206.508	2118.198	24941381.016
University of Toronto -AS 239	Toronto and York via GTANet AS 549	1406.974	1000.730	406.244	15095195.580
CANARIE -AS 6509	Private peering	1237.838	413.681	824.157	13280557.685
External peering via TORIX -ALL	External peering via TORIX -ALL	1111.401	371.905	739.496	11924041.361
Other Group	Other Group	827.068	468.436	358.632	8873475.672
RIPE Network Coordination Centr...	external peering via TORIX	555.620	27.926	527.694	5961158.116
University of Waterloo-AS 12093	WTLO	349.623	177.045	172.577	3751043.071
York University AS802	Toronto and York via GTANet AS 549	315.817	212.274	103.544	3388351.462
Peel District School Board-AS 3...	Toronto	314.272	293.147	21.125	3371769.185
McMaster University -AS 23237	HMTN	254.828	189.473	65.355	2734007.194
Carleton University-AS 29773	OTWA	219.937	168.783	51.154	2359670.465
Queen University -AS 31983	KNTN	212.949	103.428	109.520	2284689.628
SHARCNET -AS 46757	LOND	210.842	110.361	100.481	2262088.559
OTTAWA University -AS 25826	OTWA	199.852	158.329	41.523	2144179.317
LARGE'NET -AS 819 ALL	LOND	197.939	113.227	84.712	2123656.312
LARGE'NET -AS 819 ONLY	LOND	177.271	102.238	75.033	1901914.899
Seneca College Arts and Techno...	Toronto and York via GTANet AS 549	166.799	146.078	22.722	1811019.487
Hurricane External peering -AS ...	external peering via TORIX	165.157	120.341	44.816	1771937.247
RYERSON UNIVERSITY -AS 26996	Toronto and York via GTANet AS 549	147.279	97.932	49.347	1580127.614
University of Guelph -AS 31886	GLPH	126.044	86.960	39.085	1352308.424
Cogeco Cable -AS 7992	external peering via TORIX	125.270	75.727	49.542	1343996.401
Shaw Communications Inc.-AS 6327	external peering via TORIX	103.344	72.804	30.540	1108757.100
Rogers Cable Communications -AS...	external peering via TORIX	103.344	72.804	30.540	1108757.100
Allstream Corp -AS 15290	external peering via TORIX	94.164	43.269	50.896	1010274.118
Ottawa-Carleton District School...	OTWA	89.027	77.390	11.636	955153.958
George Brown College Arts and ...	Toronto and York via GTANet AS 549	85.366	82.509	2.857	915875.982
MTO Telecom -AS 21548	external peering via TORIX	79.877	66.891	12.985	856983.293
UNIVERSITY-OF-WINDSOR- AS 11700	LOND	78.782	76.947	1.835	845236.397
Niagara College-AS 32250	STCH	77.984	70.383	7.600	836674.620
GEORGIAN-COLLEGE -AS 19764	York	73.501	68.311	5.190	788577.519
ST. LAWRENCE COLLEGE -AS 65196	KNTN -AS 26677	70.263	51.664	18.600	753844.987
St. Sandford Fleming College-AS...	PTBO	69.512	60.290	9.222	745783.716
TekSavvy Solutions -AS 5645	external peering via TORIX	69.488	59.922	9.566	745525.028
Waterloo Region District School...	WTLO -AS26677	64.738	59.105	5.633	694561.498
Cambrian College -AS 32756	SDBR	61.801	51.695	10.106	663052.132
CENTENNIAL COLLEGE- ARTS AND TE...	Toronto and York via GTANet AS 549	61.799	53.454	8.344	663028.164
Humber College -AS 32156	Toronto and York via GTANet AS 549	55.054	54.511	0.543	590666.983
ORION-RNE-MOHAWK-COLLEGE -AS 65279	Toronto -AS 26677	54.514	47.533	6.981	584873.467

Time Selection: 2013-02-19 09:12 EST to 2013-02-20 10:12 EST
Data Source: ORION9

AppRespo... Total Traff... Favorites ... Report Ma... Business ...

total time 0.686 sec, query time 0.0 sec, values 6104 (8897 values/sec)

OPNET ARX Data Analysis Cont'd

AppResponse Xpert Console

Project-1

Project Time... 2013-02-19 09:12 To 2013-02-20 10:12 Update Now Recent Hour admin - 66.97.19.7

Favorites Table

Top 20 By Throughput (Inbound and Outbound)

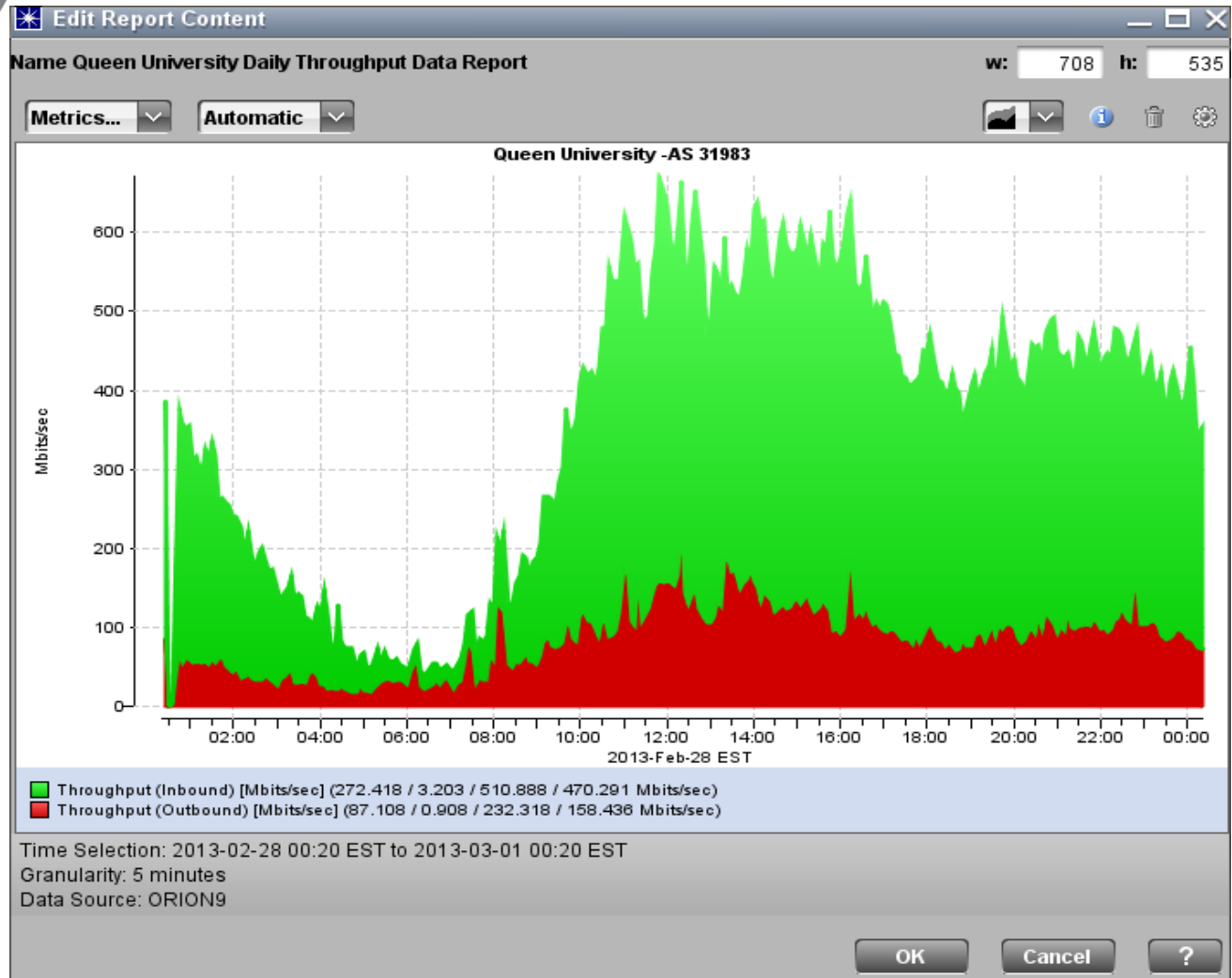
Group	Information	Throughput (Inbound and Outbound) [Mbits/sec]	Throughput (Inbound) [Mbits/sec]	Throughput (Outbound) [Mbits/sec]	Traffic (In/Outbound)
Peel District School Board-AS 35998	Toronto	314.272	293.147	21.125	
Local Traffic	Local Traffic	0.000	0.000	0.000	
Applications	Applications				
IP Protocols	IP Protocols				
Member IPs	Member IPs				
Connected IPs	Connected IPs				
IP Conversations	IP Conversations				
Connected Groups	Connected Groups				
Google - AS 15169	Directly peering	230.323	221.348	8.974	
External peering via TORIX -ALL	External peering via TOR...	54.669	50.613	4.056	
RIPE Network Coordination Ce...	external peering via TORIX	45.526	43.724	1.802	
Other Group	Other Group	25.769	18.841	6.928	
Peer 1 Network- AS 13768	external peering via TORIX	2.115	1.906	0.209	
Hurricane External peering -...	external peering via TORIX	1.497	0.991	0.506	
Shaw Communications Inc.-AS ...	external peering via TORIX	1.490	1.342	0.148	
Rogers Cable Communications ...	external peering via TORIX	1.490	1.342	0.148	
CANARIE -AS 6509	Private peering	1.124	0.995	0.129	
Allstream Corp -AS 15290	external peering via TORIX	1.002	0.753	0.249	
Cogeco Cable -AS 7992	external peering via TORIX	0.954	0.365	0.588	
Teksavvy Solutions -AS 5645	external peering via TORIX	0.648	0.146	0.502	
GTANet Networking -AS -549 ALL	Toronto and York	0.476	0.377	0.099	
Limelight Networks AS 22822	external peering via TORIX	0.361	0.338	0.023	
Beanfield Technologie -AS 21949	external peering via TORIX	0.303	0.226	0.077	
Q3 Networks -AS 12188	external peering via TORIX	0.290	0.230	0.060	
Primus Telecommunications Ca...	external peering via TORIX	0.285	0.086	0.198	
National Research Council of...	external peering OTWA	0.202	0.157	0.045	
Nexicom Inc.-AS 11666	external peering via TORIX	0.196	0.163	0.034	
University of Toronto -AS 239	Toronto and York via GTA...	0.183	0.147	0.036	
p01-toro:TengigE0/1/0/3.248	PEEL DSB RNE	314.095	21.071	293.024	
ToS	ToS				
ToS Groups	ToS Groups				
Applications	Applications				
Observed IPs	Observed IPs				
Affiliated IPs	Affiliated IPs				
IP Conversations	IP Conversations				
38.116.202.18 - 96.7.201.193	38.116.202.18 - a96-7-20...	0.727	0.011	0.716	
38.116.202.18 - 208.111.181.143	38.116.202.18 - cds228.y...	0.686	0.010	0.675	
38.116.202.50 - 72.246.43.41	38.116.202.50 - a72-246-...	0.618	0.009	0.609	
38.116.202.247 - 208.111.181...	38.116.202.247 - cds238...	0.501	0.010	0.491	
38.116.203.253 - 216.239.32.20	38.116.203.253 - any-1n-...	0.499	0.030	0.488	
38.116.202.89 - 74.125.174.10	38.116.202.89 - 74.125.1...	0.466	0.007	0.459	
38.116.202.247 - 74.125.174.78	38.116.202.247 - 74.125...	0.429	0.003	0.426	
38.116.202.247 - 72.246.43.57	38.116.202.247 - a72-246...	0.394	0.003	0.391	
38.116.202.247 - 74.125.174.10	38.116.202.247 - 74.125...	0.381	0.005	0.376	
38.116.202.247 - 74.125.174.42	38.116.202.247 - 74.125...	0.351	0.005	0.346	
38.116.203.253 - 74.125.174.38	38.116.203.253 - 74.125...	0.349	0.006	0.343	

Time Selection: 2013-02-19 09:12 EST to 2013-02-20 10:12 EST
Data Source: ORION9

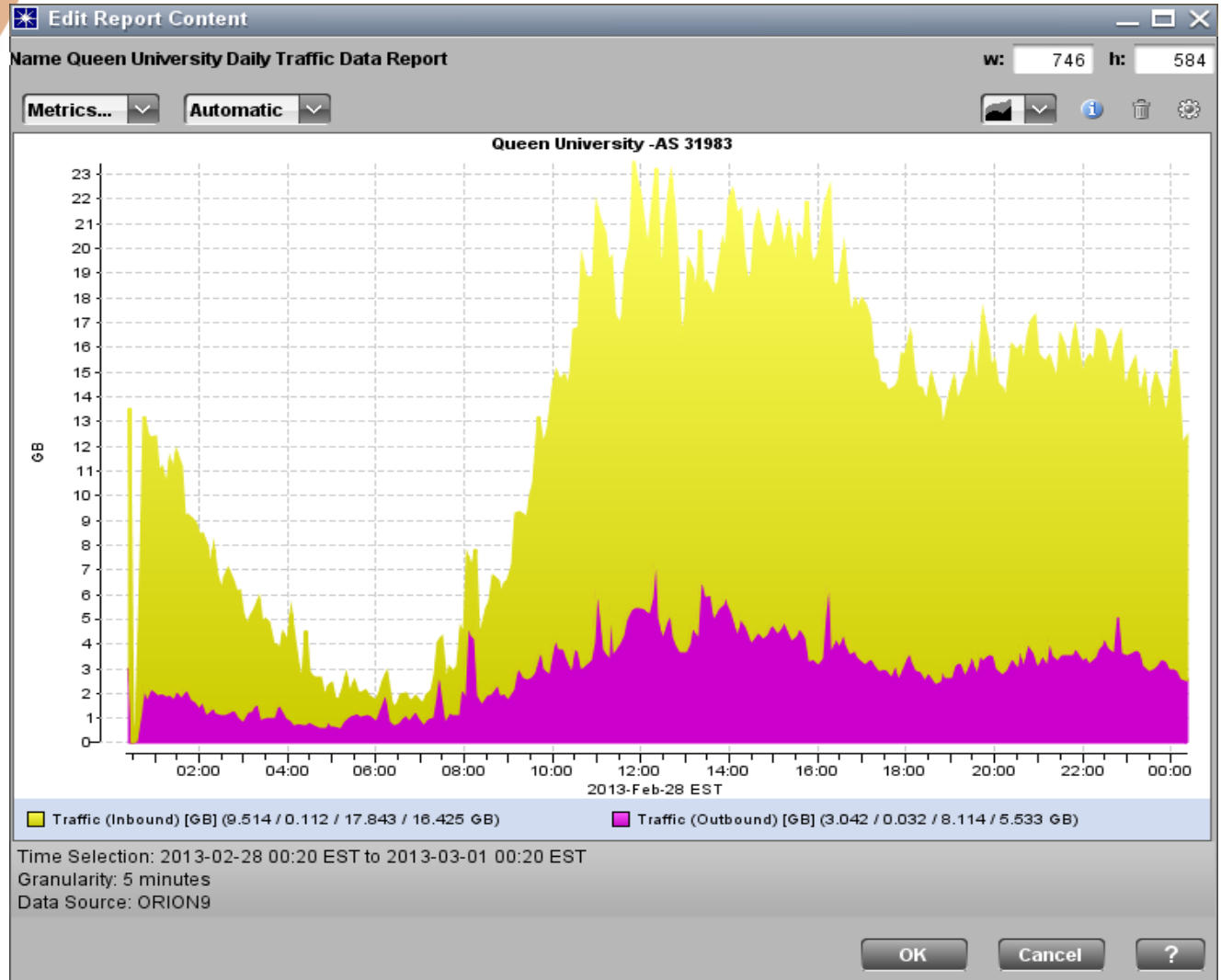
AppRespo... Total Traff... Favorites ...

Favorites Table captured to Clipboard.

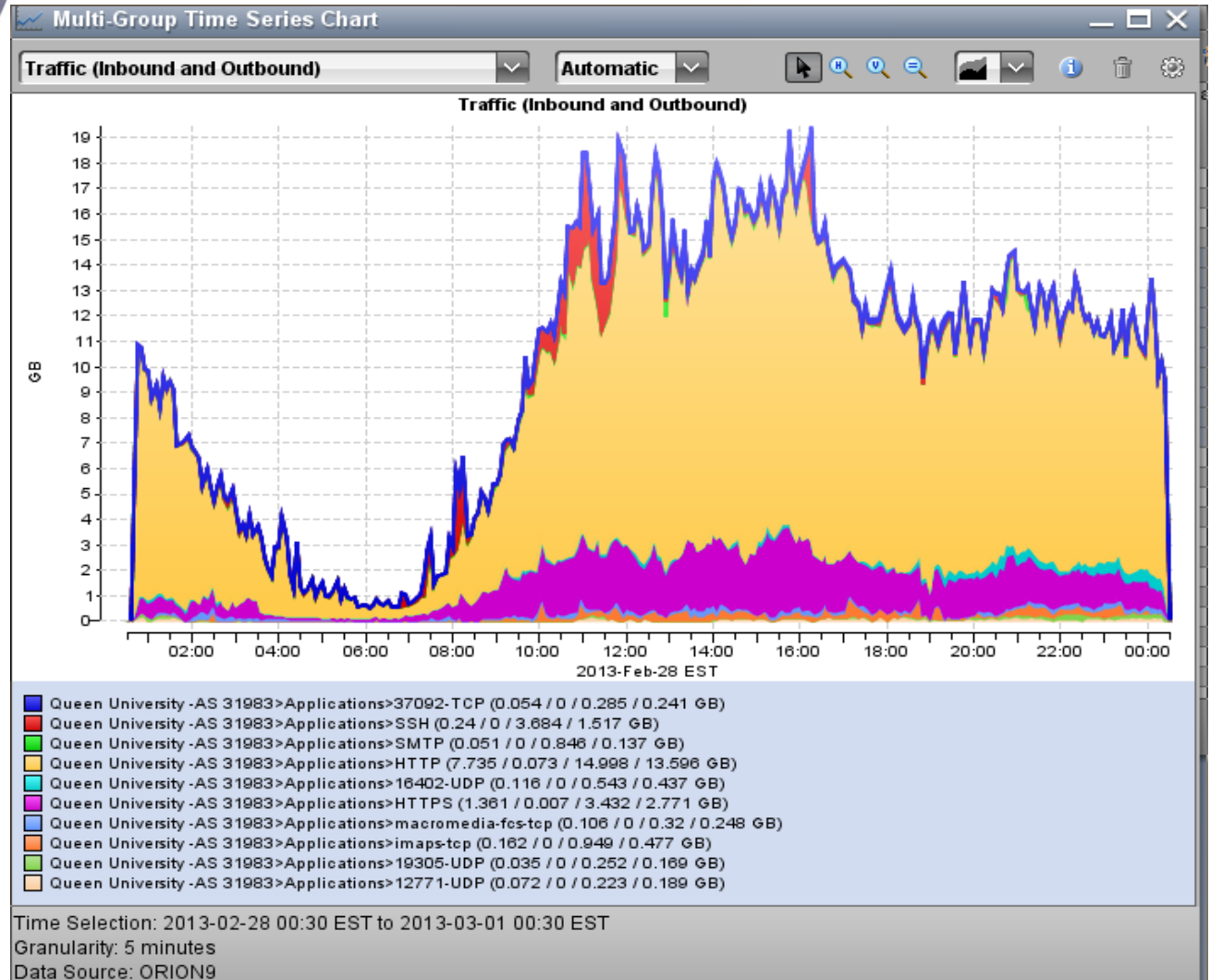
OPNET ARX Data Report



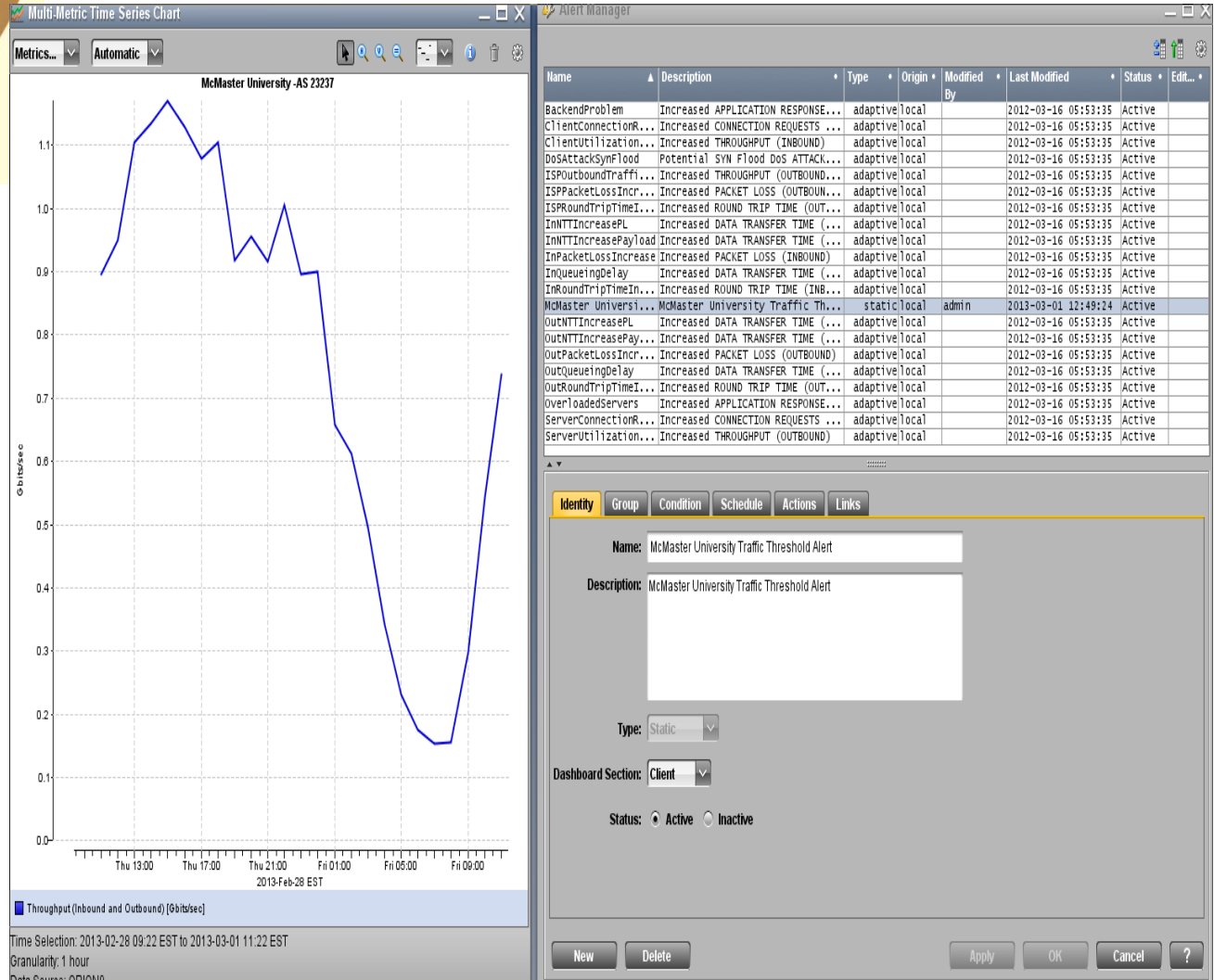
OPNET ARX Data Report cont'd



OPNET ARX Data Report Cont'd



OPNET ARX Alert Manager



OPNET ARX Alert Manager Cont'd

Identity | Group | Condition | Schedule | Actions | Links

Name: McMaster University Traffic Threshold Alert

Description:

Type: Static

Dashboard Section: Client

Status: Active Inactive

New Delete Apply OK Cancel ?

Identity | Group | **Condition** | Schedule | Actions | Links

Condition:

Critical:
Throughput (Inbound and Outbound) > 1500

Major:
Throughput (Inbound and Outbound) > 1000

Minor:
Throughput (Inbound and Outbound) > 800

		Minor	Major	Critical	
Throughput (Inbound and Outbound)	>	800	1000	1500	Mbits/sec
None	>				msec
None	>				%

Advanced

New Delete Apply OK Cancel ?

OPNET ARX Alert Manager Cont'd

Identity Group Condition **Schedule** Actions Links

Days: Sun Mon Tue Wed Thu Fri Sat

Time: 12 : 00 am - 11 : 59 pm

Interval: 1 Minute 5 Minutes 1 Hour 1 Day

New Delete Apply OK Cancel ?

Identity Group Condition Schedule **Actions** Links

Email Email: eric.guo@orion.on.ca Add

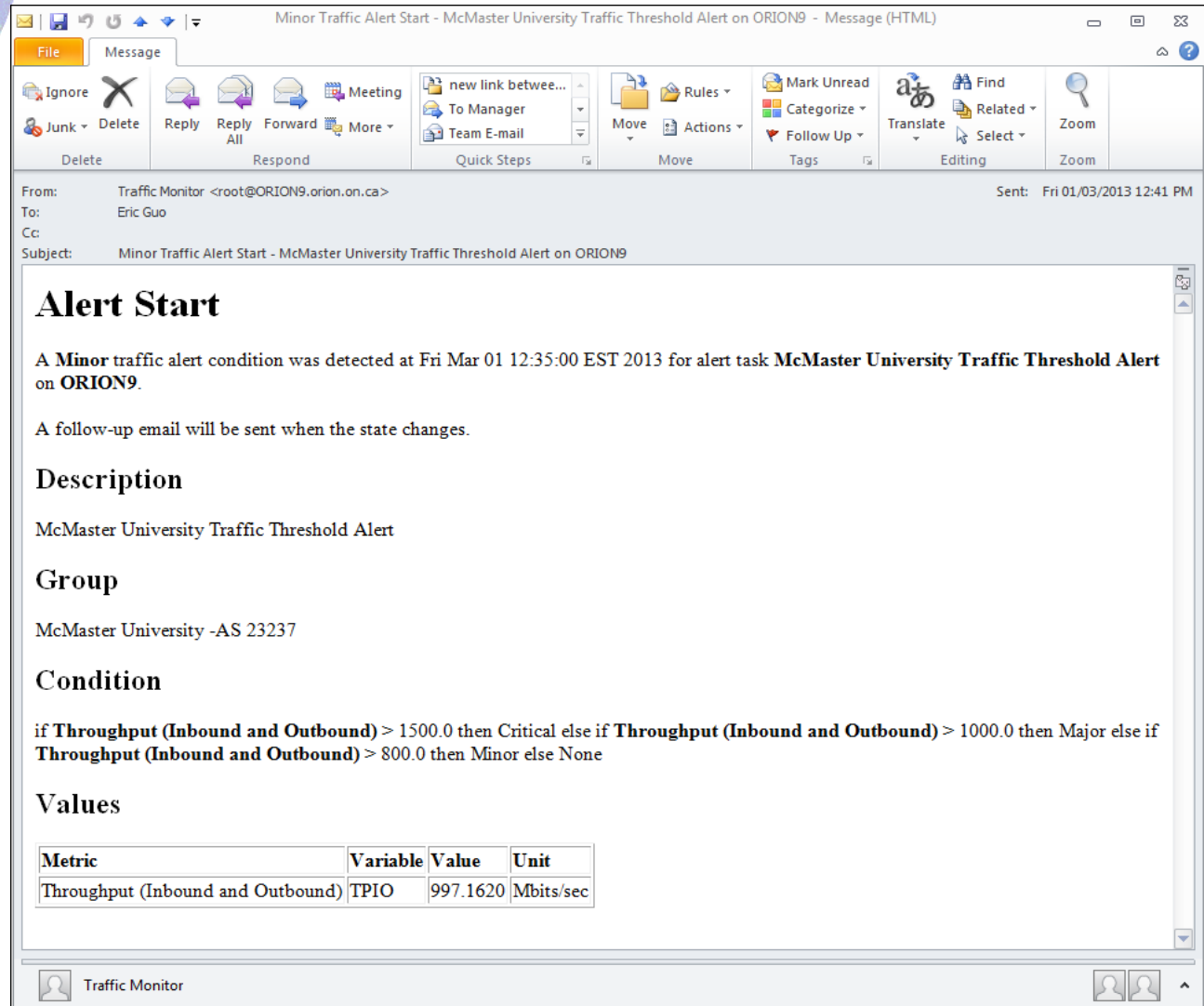
SNMP SysLog Trace Snapshot ?

on crossing continuous

verbose

New Delete Apply OK Cancel ?

OPNET ARX Alert Manager Cont'd



Minor Traffic Alert Start - McMaster University Traffic Threshold Alert on ORION9 - Message (HTML)

File Message

Ignore Delete Reply Reply All Forward More Meeting new link between... To Manager Team E-mail Move Actions Move Rules Mark Unread Categorize Follow Up Translate Find Related Select Zoom

From: Traffic Monitor <root@ORION9.orion.on.ca> Sent: Fri 01/03/2013 12:41 PM
To: Eric Guo
Cc:
Subject: Minor Traffic Alert Start - McMaster University Traffic Threshold Alert on ORION9

Alert Start

A **Minor** traffic alert condition was detected at Fri Mar 01 12:35:00 EST 2013 for alert task **McMaster University Traffic Threshold Alert** on **ORION9**.

A follow-up email will be sent when the state changes.

Description

McMaster University Traffic Threshold Alert

Group

McMaster University -AS 23237

Condition

if **Throughput (Inbound and Outbound)** > 1500.0 then Critical else if **Throughput (Inbound and Outbound)** > 1000.0 then Major else if **Throughput (Inbound and Outbound)** > 800.0 then Minor else None

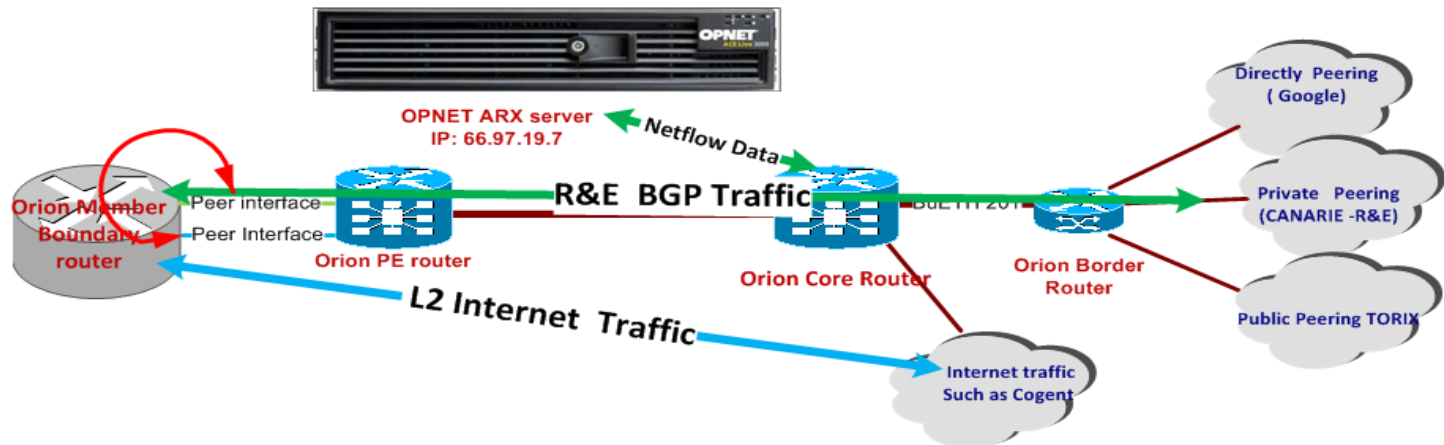
Values

Metric	Variable	Value	Unit
Throughput (Inbound and Outbound)	TPIO	997.1620	Mbits/sec

Traffic Monitor

OPNET Deployment Advance

L2 Internet Traffic Net Flow Data Collecting by ORION Appliance



Network Requirement from Member side:

- Support Net Flow Version 9
- IP Reachable with Orion OPNET Server 66.97.19.7

Thank You ! 😊