

**VNOC: Key Network Infrastructure Elements Report**  
**CIO Quarterly Report – CSU Monterey Bay**  
**10/1/11 – 12/31/11**

*This quarterly report provides a health analysis of the key network infrastructure elements in the campus LAN. Potential or actual areas of concern that should be addressed by the campus and or the VNOC are identified.*

**Overall Network Status: Overall the network performed very well this quarter with very few items to report or that require action.**

Network Uptime		4 <sup>th</sup> Qtr. CY 2011	1 <sup>st</sup> Qtr. CY 2012	2 <sup>nd</sup> Qtr. CY 2012	3 <sup>rd</sup> Qtr. CY 2012
(Includes both scheduled and unscheduled downtime)	Border Router Devices	99.998%			
	Core Router Devices	100%			
	Server Farm Devices	100%			

Routing/Switching Status		4 <sup>th</sup> Qtr. CY 2011	1 <sup>st</sup> Qtr. CY 2012	2 <sup>nd</sup> Qtr. CY 2012	3 <sup>rd</sup> Qtr. CY 2012
Border Routers	Health Indications	Avg. CPU Utilization	1.83%		
		Max CPU Utilization <sup>①</sup>	28%		
		Actions	None		
mty-011-0100-edge01 mty-41a-0100-edge01	Interface Utilization	Avg. Interface Utilization	2.8%		
		Max Interface Utilization <sup>②</sup>	96%		
		Actions	96% peak occurred on 10/11/11 for mty-011-0100-edge01 Gi0/0/2		
Core Routers	Health Indications	Avg. CPU Utilization	5.5%		
		Max CPU Utilization <sup>③</sup>	19%		
		Actions	None		
mty-011-0100-core01 mty-41a-0100-core01	Uplink Utilization	Avg. Uplink Utilization	0.21%		
		Max Uplink Utilization <sup>④</sup>	98%		
		Actions	One time events for: mty-053-e132-dist01 Gi1/0/2 and Gi1/0/9 on 10/15/11, mty-41a-0100-dist02 Gi2/1 occurred on 10/24/11, and mty-011-0100-edge01 Gi0/0/2 on 10/11/11.		

- ① Border Routers Health Indications: The Max CPU/Interface Utilization Alert Threshold is 50% for 15 minutes
- ② Border Routers Interface Utilization: The Max CPU/Interface Utilization Alert Threshold is 90% for 15 minutes
- ③ Core Routers Health Indications: The Max CPU/Interface Utilization Alert Threshold is 70% for 15 minutes
- ④ Core Routers Uplink Utilization: The Max CPU/Interface Utilization Alert Threshold is 90% for 15 minutes

**Note:** Vendor threshold recommendations were “it depends on your network”. Therefore, we used historical data the VNOC collected to determine thresholds.

Wireless Status			4 <sup>th</sup> Qtr. CY 2011	1 <sup>st</sup> Qtr. CY 2012	2 <sup>nd</sup> Qtr. CY 2012	3 <sup>rd</sup> Qtr. CY 2012
Wireless Access Points	Health Indications	Access Point Interface Health	84% interfaces (679) with no errors, 16% interfaces (131) with errors			
		Actions	Monterey Bay VNOc Analyst to investigate interfaces (93) that have 50K+ errors			
	Utilization Indications	Avg. Access Point Interface Utilization	0.002%			
		Max Access Point Interface Utilization <sup>⑤</sup>	89%			
		Actions	89% peak one time event for wap-mty-045-001-105-01			
Wireless Controller Devices	Health Indications	Avg. CPU Utilization	mty-aruba-41A-1-0-lc 0.18% mty-aruba-41A-1-1-lc 0.19% mty-aruba-41a-2-1-mc 0.04%			
		Max CPU Utilization	Working with vendor to provide data			
	Actions	None				

⑤ Wireless Access Points Utilization Indications: The Max CPU/Interface Utilization Alert Threshold is 90% for 15 minutes

Firewall Status			4 <sup>th</sup> Qtr. CY 2011	1 <sup>st</sup> Qtr. CY 2012	2 <sup>nd</sup> Qtr. CY 2012	3 <sup>rd</sup> Qtr. CY 2012
Border & Server Farm Firewall Interfaces	Health Indications	Firewall Interface Health	100% with no errors			
		Actions	None			
	Utilization Indications	Avg. Interface Utilization	0.09%			
		Max Interface Utilization <sup>⑥</sup>	73%			
Actions	73% peak was a one-time event occurring on 12/20/11 for mty-41a-0100-intfw01 ethernet1/2					
Border & Server Farm Firewall Devices  mty-011-0100-edgefw01 mty-011-0100-intfw01 mty-041a-0100-isg2000 mty-41a-0100-intfw01	Health Indications	Avg. CPU Utilization	2.75%			
		Max CPU Utilization <sup>⑦</sup>	7%			
		Actions	None			

⑥ Border & Server Farm Firewall Interfaces Utilization Indications: The Max CPU/Interface Utilization Alert Threshold is 90% for 15 minutes

⑦ Border & Server Farm Firewall Devices Health Indication: The Max CPU/Interface Utilization Alert Threshold is 50% for 15 minutes

*End of Software Support Equipment (18 month horizon)	CNI Funded			Non-CNI Funded		
	Part	Quantity	End of Support Date	Part	Quantity	End of Support Date
Routing/Switching						
Wireless						
Firewalls						

\* Will incorporate this data in next report. Working to leverage Campus Inventory data from Alterpoint to provide this data.

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