



**Partner:**  
Sample Partner  
123 Elm Street  
Nowhere, OH  
US

## TS Sample Customer TrafficSim Report

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**Customer:**

TS Sample Customer  
Street: 123 Elm Street  
City: Nowhere  
State/Prov: OH  
Country: United States

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# About TrafficSim Analytics

MyITassessment's TrafficSim Analytics allow you to validate that your network will provide the appropriate service level for the applications that you plan to run on the network. MyIT utilizes both physical and virtual RN50 appliances to simulate specific traffic profiles that match major application benchmarks. For example, Voice over IP (VoIP) media traffic is simulated using constant packet rates and packet sizes that mimic specific VoIP Codecs such as G.711 or G.729. Video conferencing and data applications can also be simulated effectively, by introducing traffic load variances that give accurate packet rate and size distributions based on the application being tested.

In addition to separate profiles, myIT also applies separate quality measurements to each type of flow. Data applications such as Citrix or VMware VDI, require a different service level than VoIP or Video Conferencing. The details of myIT TrafficSim tests and the quality metrics for each simulation group are outlined in the 'Simulation Details' section of this report.

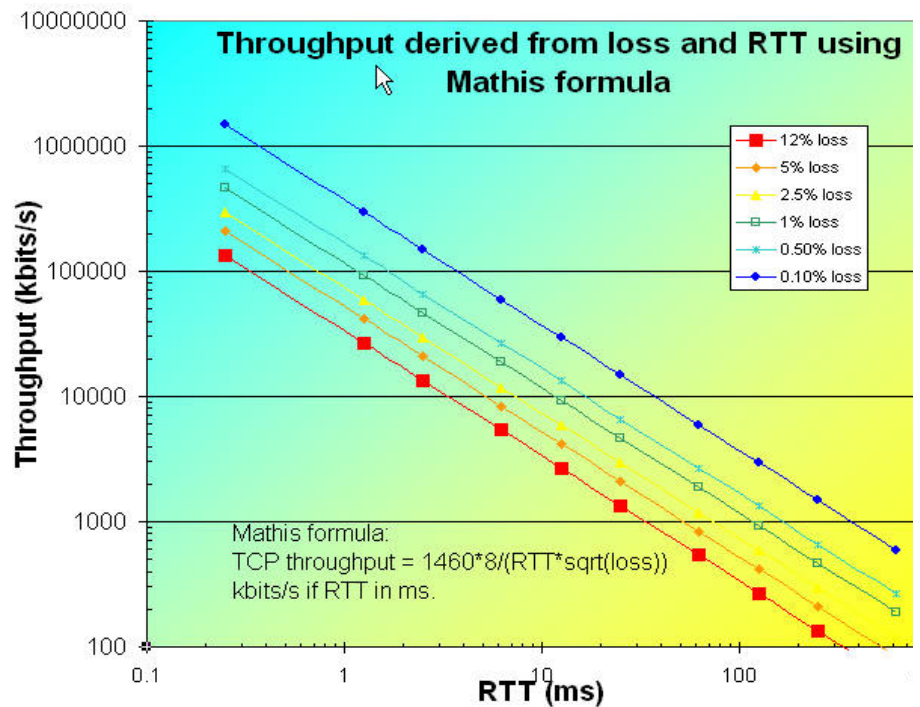
## UDP Applications:

UDP applications such as Voice Over IP (VoIP), interactive Video as well as others are often affected by 3 key metrics –Jitter, Loss and Latency. TrafficSim provides detailed insight into these key metrics on each of the simulations performed. Thresholds for these metrics are typically very well defined and allow for easy evaluation of the simulation's performance.

## TCP Applications:

Most TCP applications exhibit similar network performance behavior characteristics. Their network performance is degraded by two primary metrics: Delay and Packet Loss. According to the Mathis algorithm, [\(click here for details\)](#), Delay and Packet Loss work in tandem to limit upper level throughput for TCP applications. In addition, near-real time applications such as Citrix are subject to performance limitations based solely on Delay. The Mathis algorithm has variants that account for congestion and there are steps that you can take in order to limit the impact of each performance metric on your network.

MyITassessment's TrafficSim feature is designed to highlight the existence of these metrics within your environment so that you can take appropriate action to lower Delay, lower Packet Loss, or apply additional application level solutions to overcome the out of phase metrics, such as WAN Acceleration.



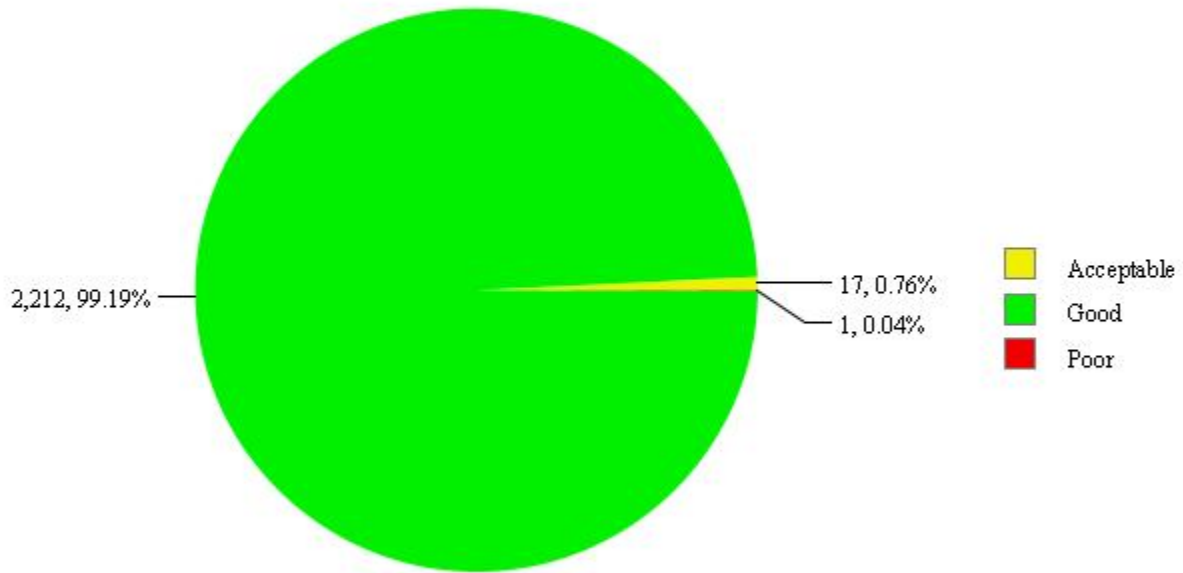
## What is NTP Offset Variance?

myITassessment uses NTP (Network Time Protocol) to synchronize the system clocks of RN50s participating in a simulation. This synchronization allows the system to track one way delay in each direction of a simulation. NTP, once running, can take some time to synchronize, and therefore there may be some offset between each node. This offset impacts the one way delay measurement only. **It does NOT impact Jitter or Packet Loss metrics.** There is a chart included in the delay section of each simulation group that shows the NTP offset variance between the two nodes. The simplest way to read this chart is to consider it the "margin of error" for the delay reading. Over time, it should decrease.

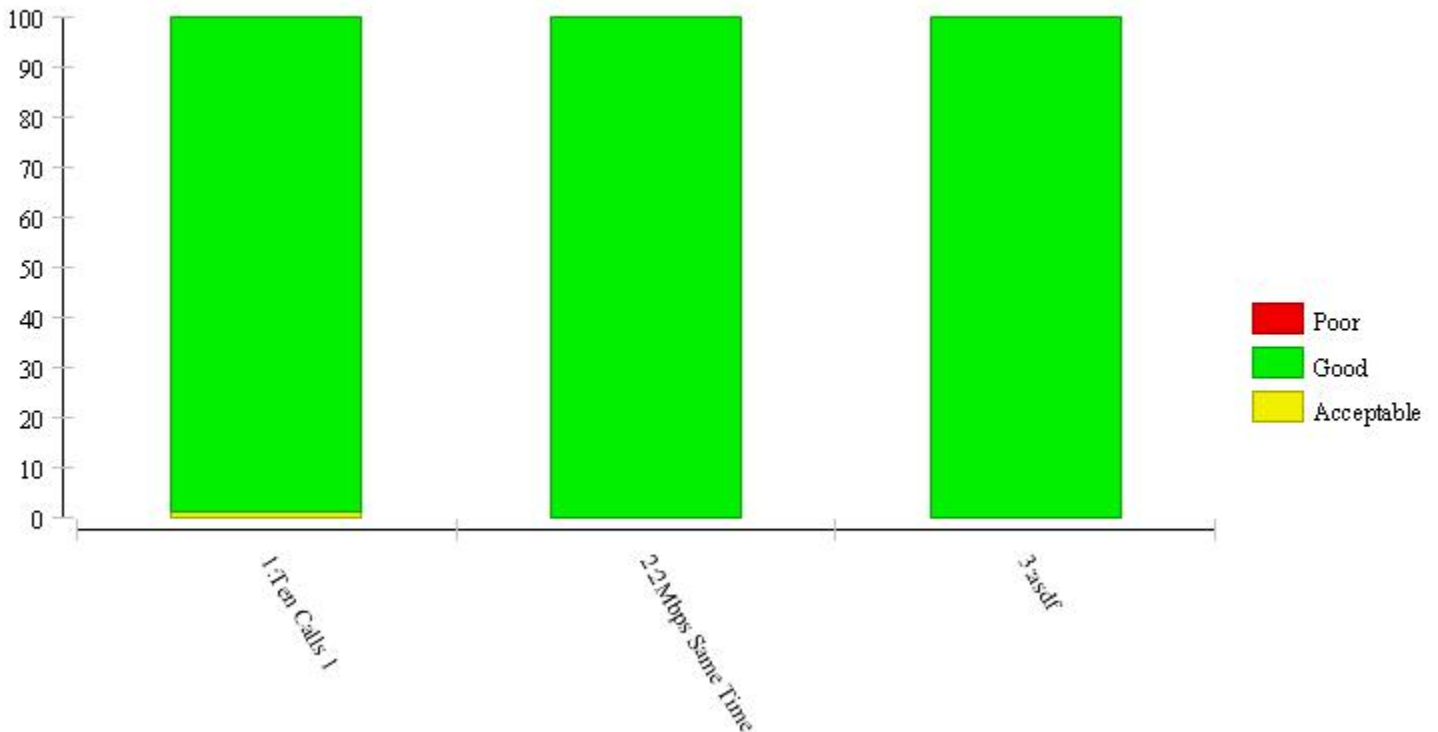
As an example, consider that the Src->Dst direction of a simulation shows +28 ms of delay and the Dst->Src shows -25 ms of delay, and the NTP offset variance is 24 ms, you can reasonably assume that Src->Dst  $\approx$  3ms of delay while Dst->Src delay  $\approx$  1 ms. If the offset variance chart has neared 0ms, and delay is still high on the simulation in either direction, this indicates true delay on the network.

# TrafficSim Summary Results

## Overall TrafficSim Quality



## Simulation Quality % by TrafficSim Group



# TrafficSim Details

## TrafficSim Group and Description:

1 - Ten Calls 1

## TrafficSim Configuration:

Codec/Profile	G.711.2	Codec/Profile Description	G.711ulaw is PCM and runs at approximately 80kbps
Simulation Source	172.31.30.177	Simulation Target	172.31.30.180
# of Concurrent Profiles	10	Duration	30
Type of Service (ToS):	184		

## TrafficSim Profile Settings:

	Lost Packets	Jitter	Delay
Good Flows	0.005	30	150
Acceptable Flows	0.01	70	200
Poor Flows	> 0.01	> 70	> 200

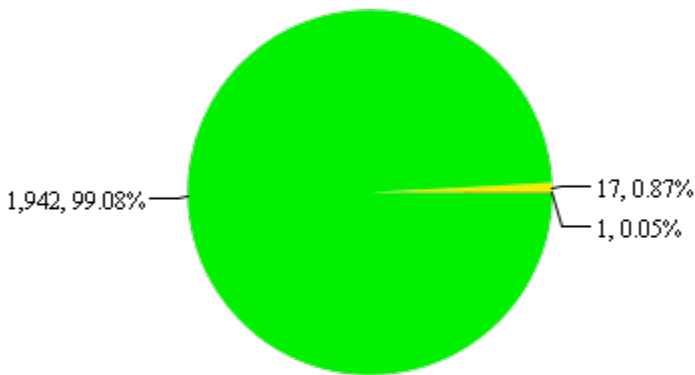
## TrafficSim Schedule:

Start Time:	May 20, 2013 4:34 PM	End Time:	May 23, 2013 5:19 AM
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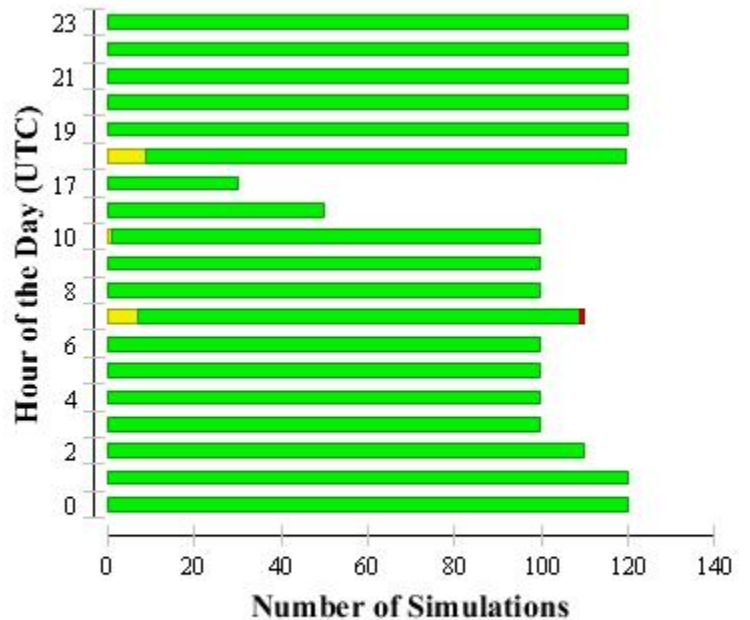
## Type of Service End-to-End:

ToS Source to Dest (min/max/average):	184/184/184	ToS Dest to Source (min/max/average):	184/184/184
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### TrafficSim Group Quality



### TrafficSim Quality by Hour of Day

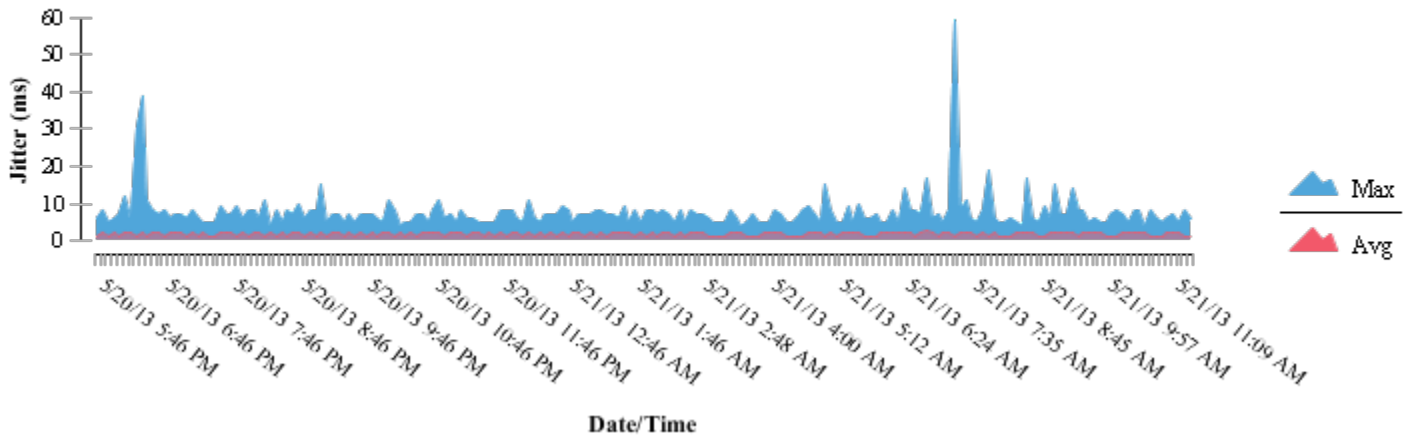


**TrafficSim Event Log:**

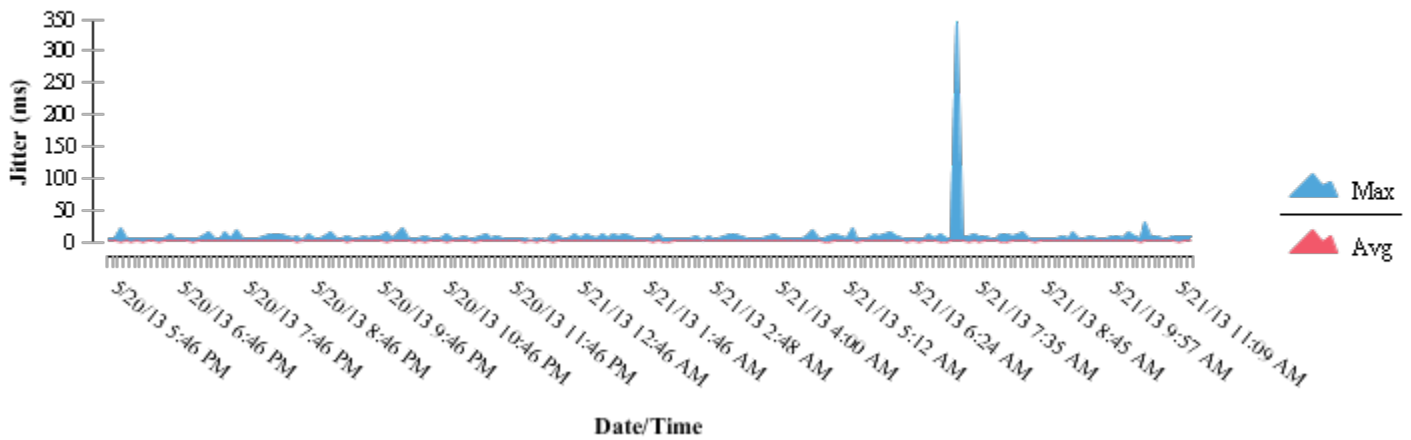
Timestamp (UTC)	New State	Event
May 20, 2013 4:36 PM	Deployed No Issues	Test call(s) successful! All ports verified open and tos markings were maintained
May 20, 2013 4:41 PM	Deployed Failed - Running	µ-
May 21, 2013 11:28 AM	Deployed No Issues - Running	Call(s) successful! All ports verified open and tos markings were maintained
May 21, 2013 11:58 AM	Deployed Failed - Running	Unable to initiate the simulation. Destination RN50 node at 172.31.30.180 was not reachable from the RN150. Please ensure IP connectivity between simulation nodes and the RN150 via TCP port 2500. We will continue to attempt the simulation ever

## Service Level Operation - Detailed Jitter Analysis

**Jitter (Destination to Source)**



**Jitter (Source to Destination)**

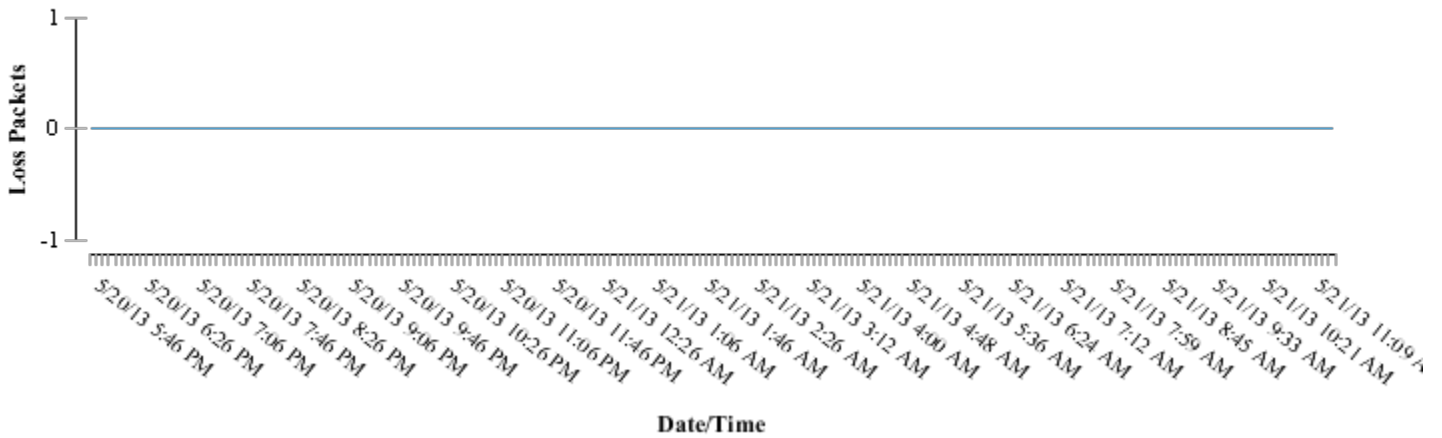


**Worst 10 Flows Due to Jitter**

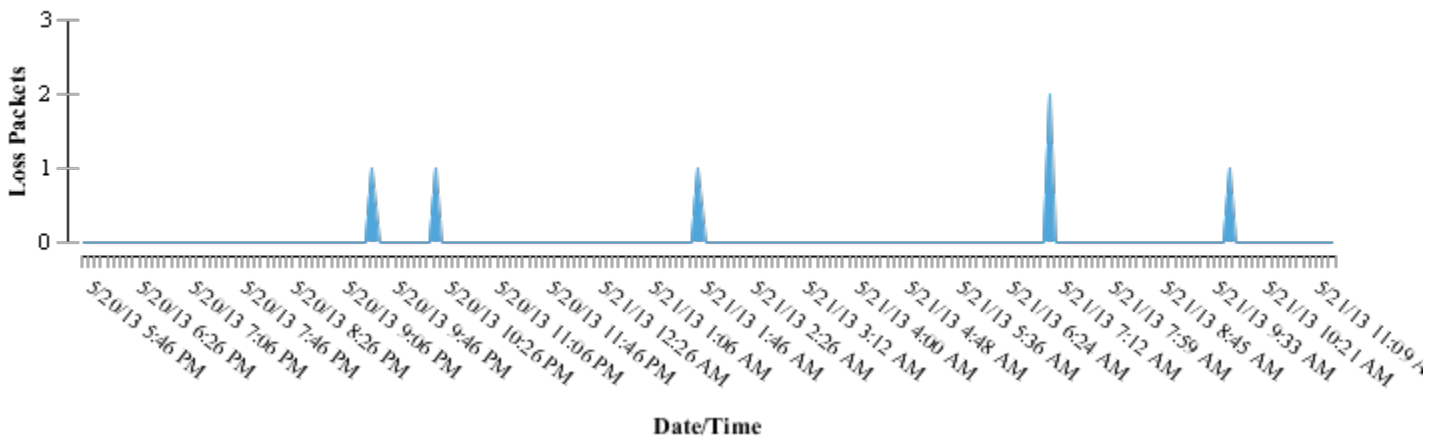
Operation Time	Max Jitter Event (ms)	Source to Destination Jitter (ms)	Destination to Source Jitter (ms)
May 21, 2013 6:18 AM	344	344	4
May 21, 2013 6:18 AM	59	30	59
May 21, 2013 6:18 AM	40	40	15
May 21, 2013 6:18 AM	40	40	6
May 21, 2013 6:18 AM	40	40	5
May 21, 2013 6:18 AM	40	40	5
May 20, 2013 5:26 PM	39	5	39
May 20, 2013 5:26 PM	36	8	36
May 20, 2013 5:26 PM	33	6	33
May 20, 2013 5:26 PM	33	6	33

## Service Level Operation - Detailed Packet Loss Analysis

**Packet Loss (Source to Destination)**



**Packet Loss (Destination to Source)**



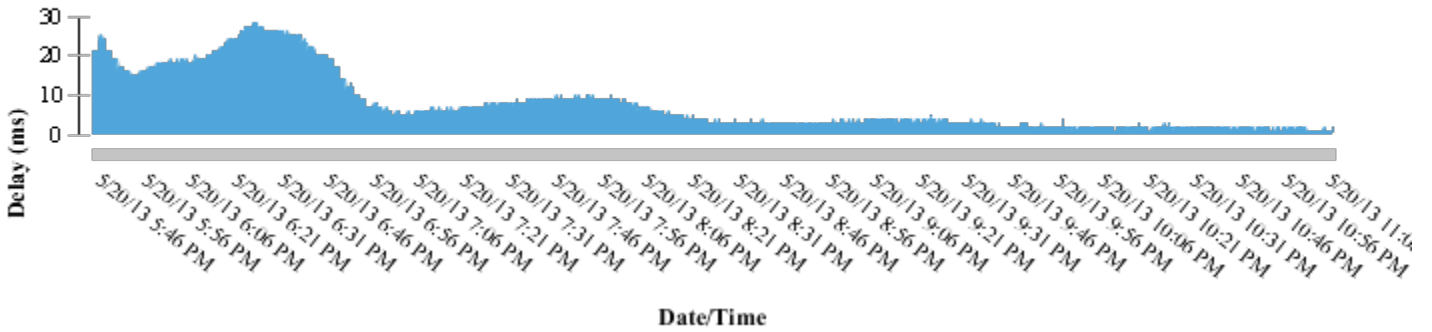
**Worst 10 Flows Due to Loss**

Operation Time	Total Packets Lost	Loss Percent	Source to Destination Loss	Destination to Source Loss
May 20, 2013 9:21 PM	1	0.03%	0	1
May 21, 2013 8:51 AM	1	0.03%	0	1
May 21, 2013 6:06 AM	1	0.03%	0	1
May 21, 2013 12:46 AM	1	0.03%	0	1
May 20, 2013 8:31 PM	1	0.03%	0	1
May 21, 2013 6:06 AM	1	0.03%	0	1
May 20, 2013 4:46 PM	0	0.00%	0	0
May 20, 2013 4:51 PM	0	0.00%	0	0
May 20, 2013 4:56 PM	0	0.00%	0	0
May 20, 2013 5:01 PM	0	0.00%	0	0

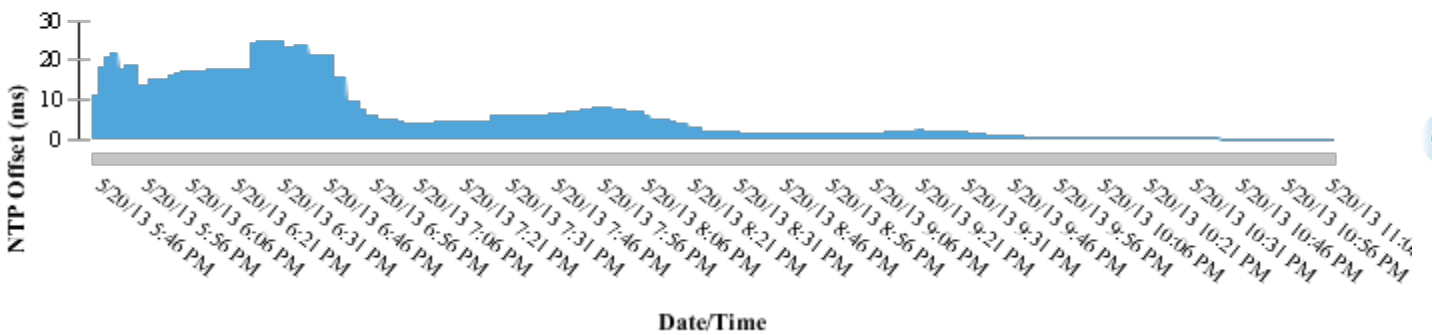


## Service Level Operation - Detailed Delay Analysis

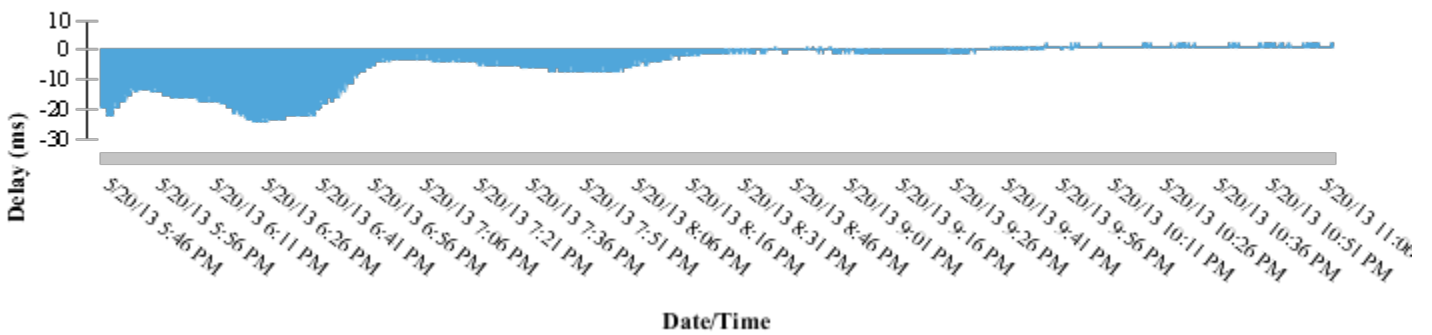
**Average Delay (Source to Destination)**



**NTP Offset Variance**



**Average Delay (Destination to Source)**

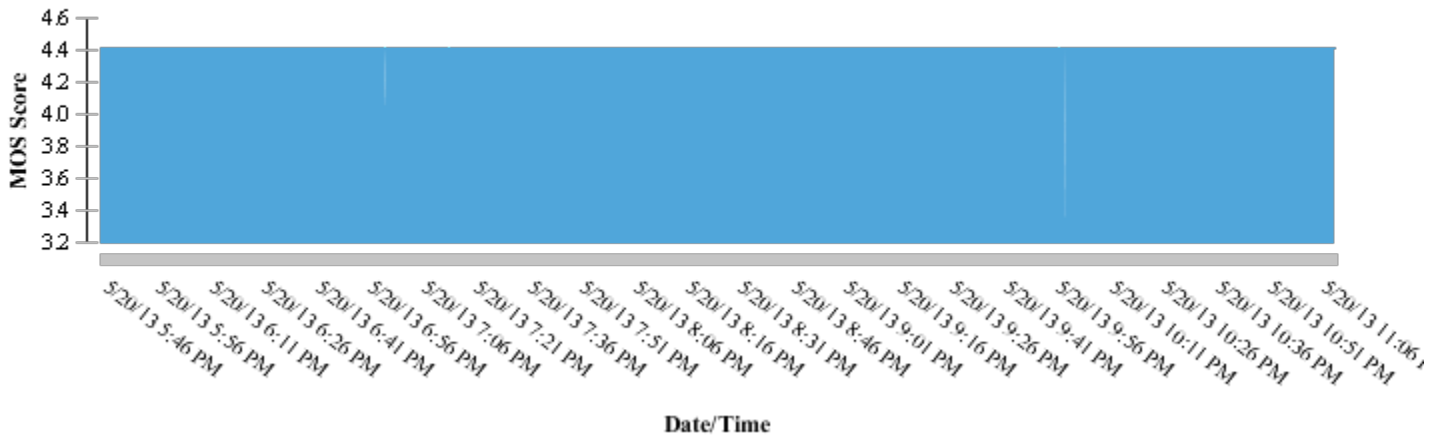


**Worst 10 Flows Due to Delay**

Operation Time	Top Avg Delay (ms)	NTP Offset Variance	Src -> Dst Delay (ms)	Dst -> Src Delay (ms)
May 20, 2013 6:51 PM	28	24.341	28	-24
May 20, 2013 6:51 PM	28	24.341	28	-24
May 20, 2013 6:51 PM	28	24.341	28	-24
May 20, 2013 6:46 PM	27	17.78	27	-24
May 20, 2013 6:51 PM	27	24.341	27	-24
May 20, 2013 6:46 PM	27	17.78	27	-24
May 20, 2013 6:51 PM	27	24.341	27	-24
May 20, 2013 6:56 PM	27	24.933	27	-24
May 20, 2013 6:46 PM	27	17.78	27	-24
May 20, 2013 6:51 PM	27	24.341	27	-24

## Service Level Operation - Detailed MOS/ICPIF Scores

**Operation MOS Score**



**Worst 10 Flows With MOS Score**

Operation Time	MOS Score
May 20, 2013 4:51 PM	4.41
May 20, 2013 4:46 PM	4.41
May 20, 2013 4:56 PM	4.41
May 20, 2013 8:31 PM	4.02
May 20, 2013 9:21 PM	4.02
May 21, 2013 6:18 AM	3.25
May 21, 2013 12:46 AM	4.02
May 21, 2013 6:06 AM	4.02
May 21, 2013 6:06 AM	4.02
May 21, 2013 8:51 AM	4.02

## TrafficSim Group and Description:

### 2 - 2Mbps Same Time

## TrafficSim Configuration:

Codec/Profile	Data-2Mbps	Codec/Profile Description	2Mbps Data Stream
Simulation Source	172.31.30.177	Simulation Target	172.31.30.180
# of Concurrent Profiles	1	Duration	30
Type of Service (ToS):	0		

## TrafficSim Profile Settings:

	Lost Packets	Jitter	Delay
Good Flows	0.75	50	150
Acceptable Flows	1.25	150	250
Poor Flows	> 1.25	> 150	> 250

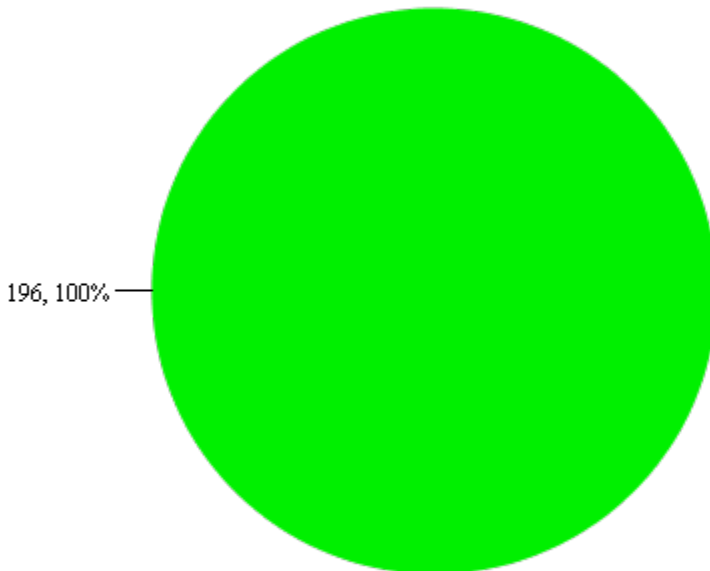
## TrafficSim Schedule:

Start Time:	May 20, 2013 4:38 PM	End Time:	May 23, 2013 8:23 PM
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## Type of Service End-to-End:

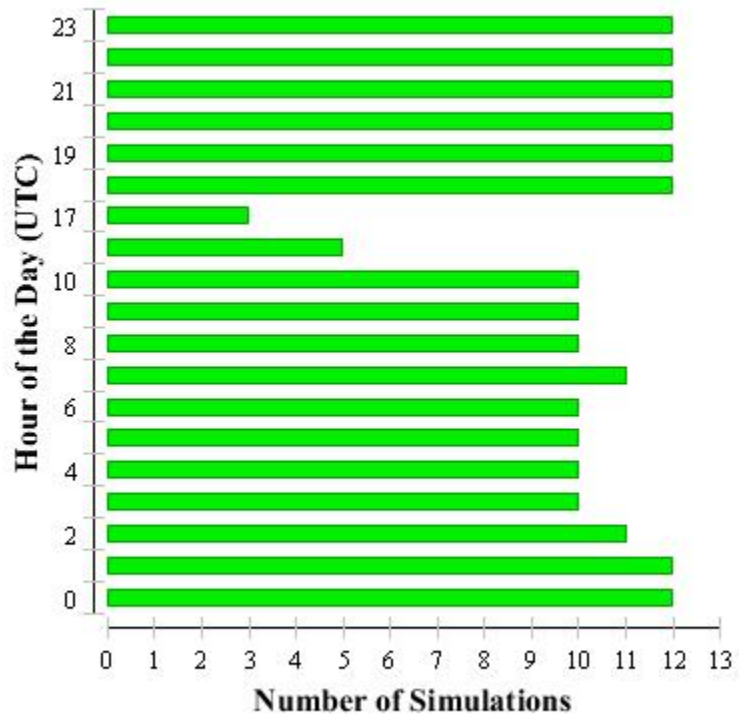
ToS Source to Dest (min/max/average):	0/0/0	ToS Dest to Source (min/max/average):	0/0/0
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### TrafficSim Group Quality



Good

### TrafficSim Quality by Hour of Day



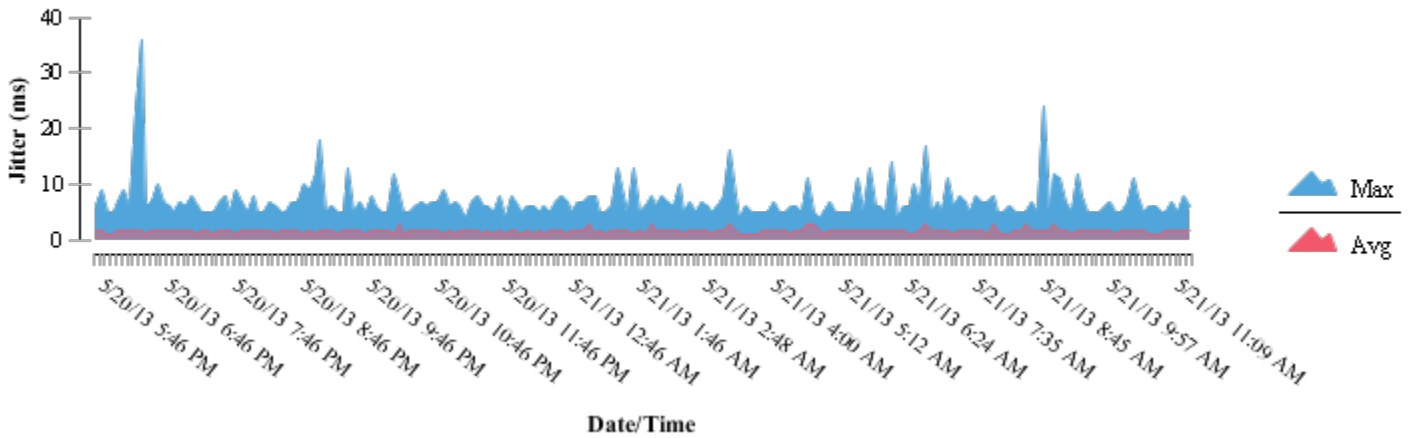
Good

**TrafficSim Event Log:**

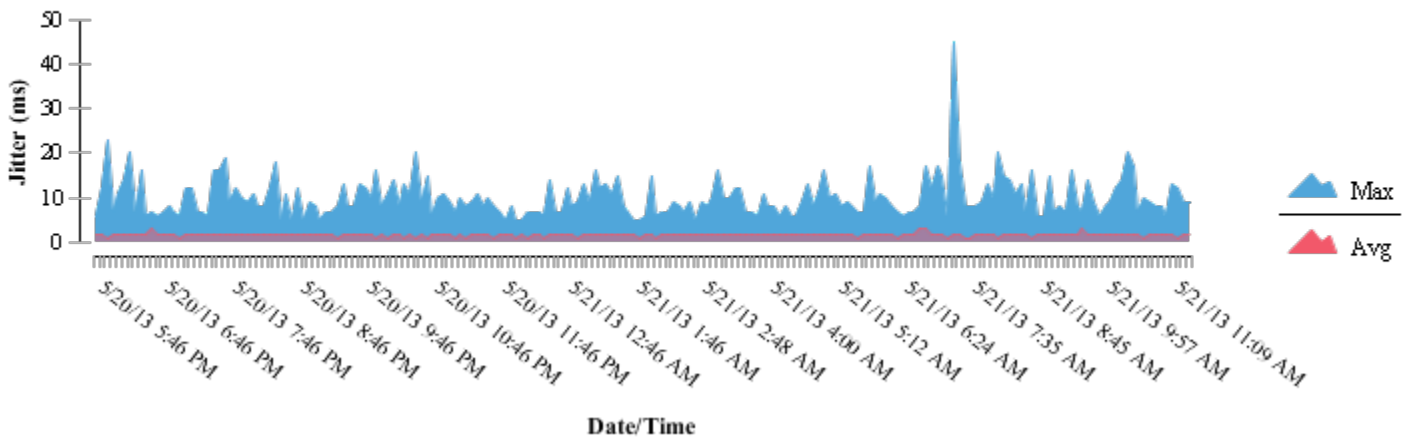
<b>Timestamp (UTC)</b>	<b>New State</b>	<b>Event</b>
May 20, 2013 4:39 PM	Deployed No Issues	Test call(s) successful! All ports verified open and tos markings were maintained
May 20, 2013 4:41 PM	Deployed Failed - Running	µ-
May 21, 2013 11:28 AM	Deployed No Issues - Running	Call(s) successful! All ports verified open and tos markings were maintained
May 21, 2013 11:58 AM	Deployed Failed - Running	Unable to initiate the simulation. Destination RN50 node at 172.31.30.180 was not reachable from the RN150. Please ensure IP connectivity between simulation nodes and the RN150 via TCP port 2500. We will continue to attempt the simulation ever

## Service Level Operation - Detailed Jitter Analysis

**Jitter (Destination to Source)**



**Jitter (Source to Destination)**

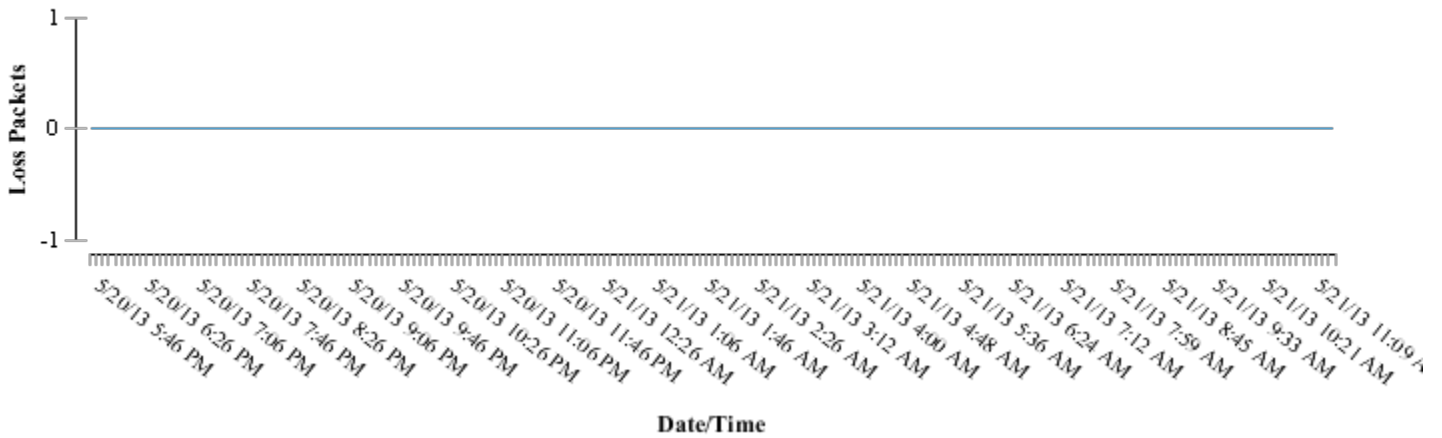


**Worst 10 Flows Due to Jitter**

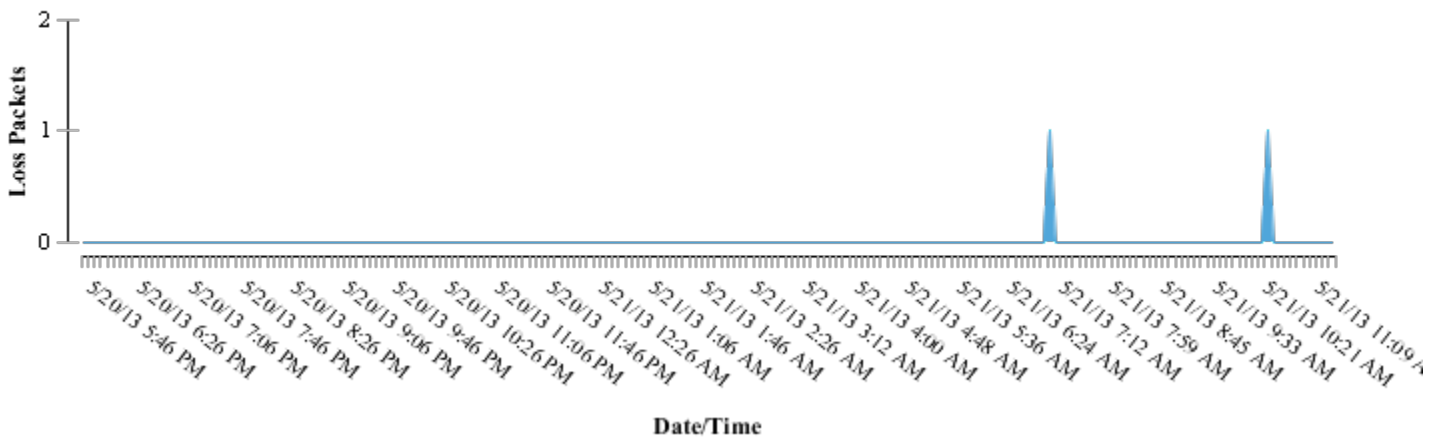
Operation Time	Max Jitter Event (ms)	Source to Destination Jitter (ms)	Destination to Source Jitter (ms)
May 21, 2013 6:18 AM	45	45	6
May 20, 2013 5:26 PM	36	16	36
May 21, 2013 7:51 AM	24	6	24
May 20, 2013 4:56 PM	23	23	5
May 20, 2013 5:21 PM	23	7	23
May 20, 2013 5:16 PM	20	20	6
May 20, 2013 9:31 PM	20	20	6
May 21, 2013 7:04 AM	20	20	5
May 21, 2013 9:21 AM	20	20	7
May 20, 2013 6:41 PM	19	19	8

## Service Level Operation - Detailed Packet Loss Analysis

**Packet Loss (Source to Destination)**



**Packet Loss (Destination to Source)**

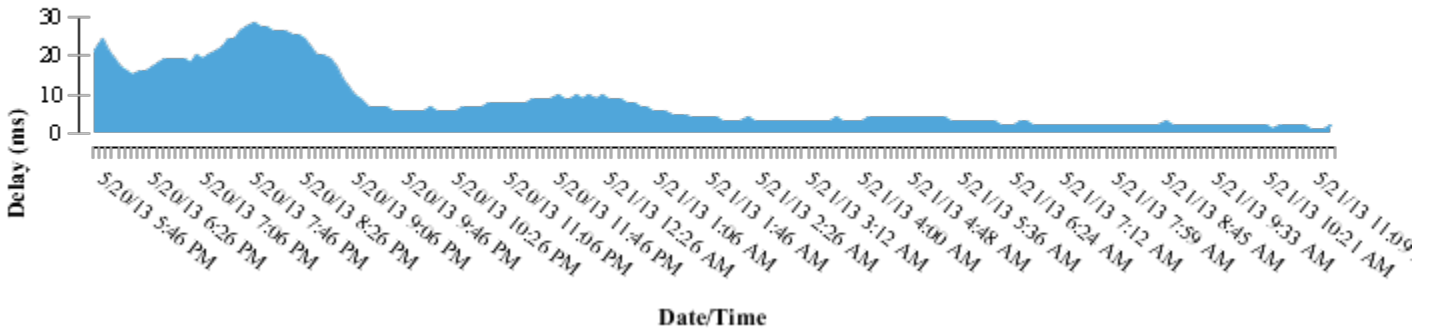


**Worst 10 Flows Due to Loss**

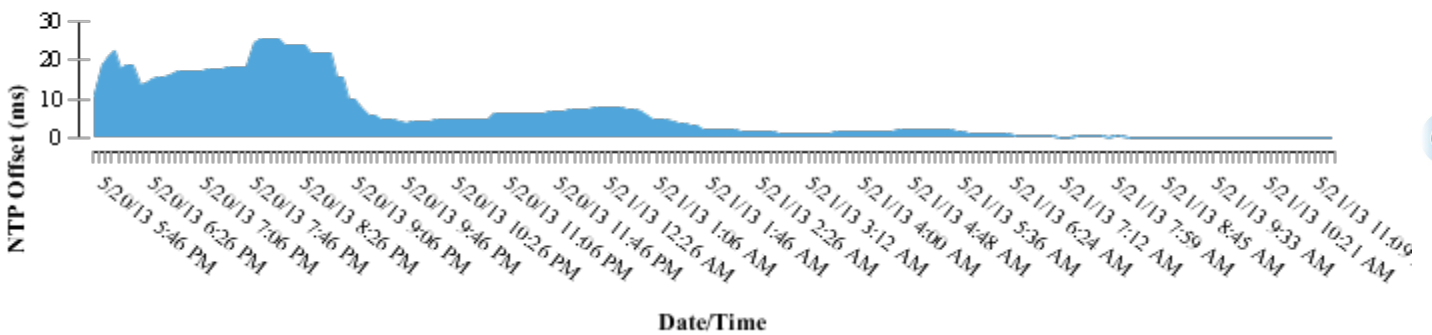
Operation Time	Total Packets Lost	Loss Percent	Source to Destination Loss	Destination to Source Loss
May 21, 2013 6:06 AM	1	0.01%	0	1
May 21, 2013 9:27 AM	1	0.01%	0	1
May 20, 2013 4:46 PM	0	0.00%	0	0
May 20, 2013 4:51 PM	0	0.00%	0	0
May 20, 2013 4:56 PM	0	0.00%	0	0
May 20, 2013 5:01 PM	0	0.00%	0	0
May 20, 2013 5:06 PM	0	0.00%	0	0
May 20, 2013 5:11 PM	0	0.00%	0	0
May 20, 2013 5:16 PM	0	0.00%	0	0
May 20, 2013 5:21 PM	0	0.00%	0	0

## Service Level Operation - Detailed Delay Analysis

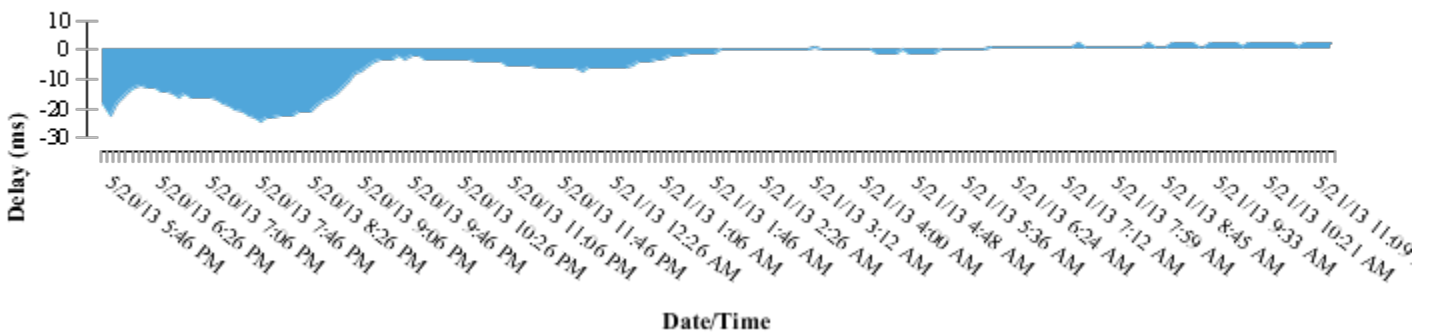
**Average Delay (Source to Destination)**



**NTP Offset Variance**



**Average Delay (Destination to Source)**

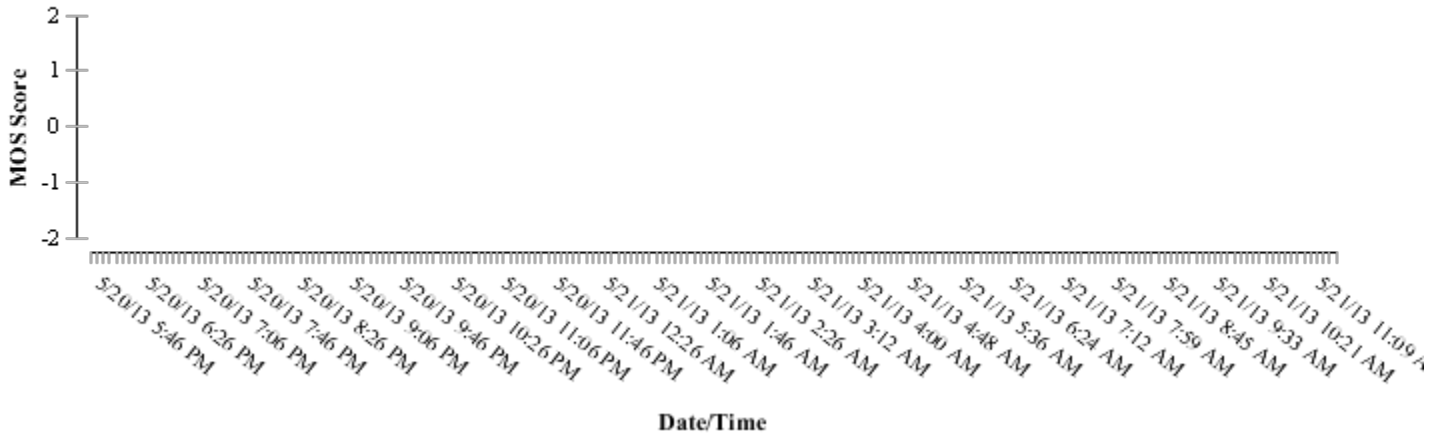


**Worst 10 Flows Due to Delay**

Operation Time	Top Avg Delay (ms)	NTP Offset Variance	Src -> Dst Delay (ms)	Dst -> Src Delay (ms)
May 20, 2013 6:51 PM	28	24.341	28	-24
May 20, 2013 6:46 PM	27	17.78	27	-23
May 20, 2013 6:56 PM	27	24.933	27	-23
May 20, 2013 7:01 PM	27	24.933	27	-23
May 20, 2013 6:41 PM	26	17.78	26	-22
May 20, 2013 7:06 PM	26	24.933	26	-22
May 20, 2013 7:11 PM	26	24.933	26	-22
May 20, 2013 7:16 PM	26	23.422	26	-22
May 20, 2013 7:21 PM	25	23.422	25	-21
May 20, 2013 7:26 PM	25	23.555	25	-21

Service Level Operation - Detailed MOS/ICPIF Scores

Operation MOS Score



Worst 10 Flows With MOS Score

Operation Time	MOS Score
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## TrafficSim Group and Description:

### 3 - asdf

## TrafficSim Configuration:

Codec/Profile	G.711.2	Codec/Profile Description	G.711ulaw is PCM and runs at approximately 80kbps
Simulation Source	172.31.30.177	Simulation Target	172.31.30.180
# of Concurrent Profiles	1	Duration	30
Type of Service (ToS):	184		

## TrafficSim Profile Settings:

	Lost Packets	Jitter	Delay
Good Flows	0.005	30	150
Acceptable Flows	0.01	70	200
Poor Flows	> 0.01	> 70	> 200

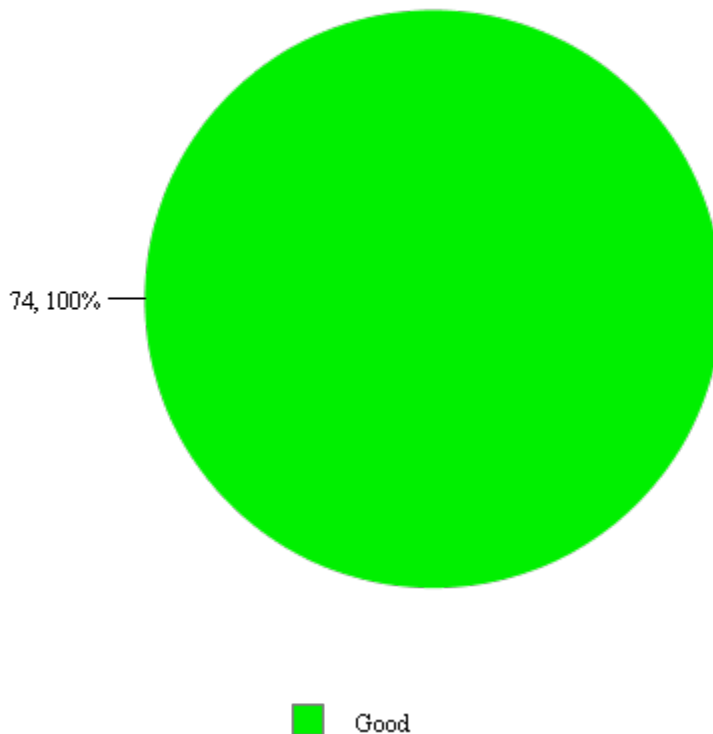
## TrafficSim Schedule:

Start Time:	May 21, 2013 3:10 AM	End Time:	May 23, 2013 9:10 AM
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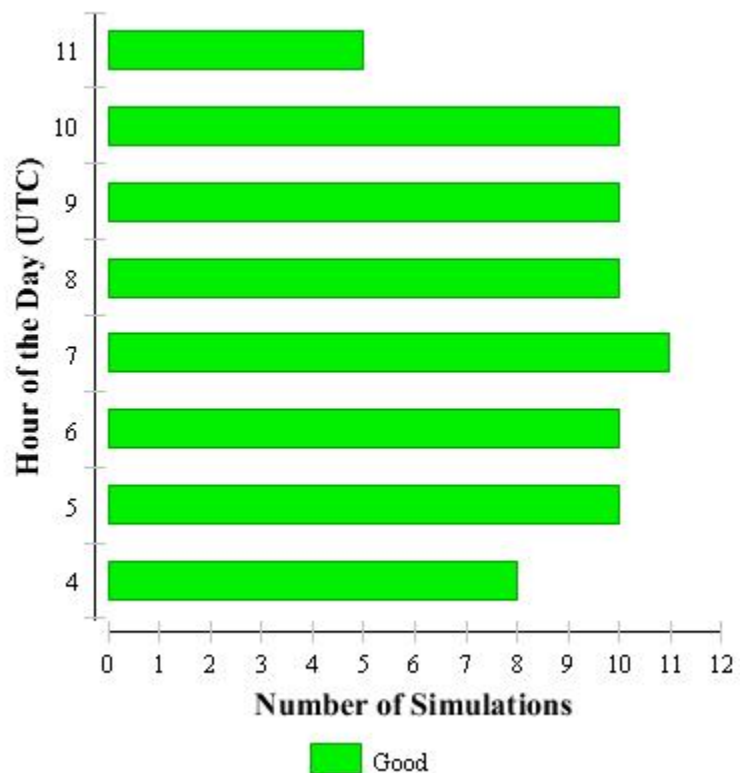
## Type of Service End-to-End:

ToS Source to Dest (min/max/average):	184/184/184	ToS Dest to Source (min/max/average):	184/184/184
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### TrafficSim Group Quality



### TrafficSim Quality by Hour of Day

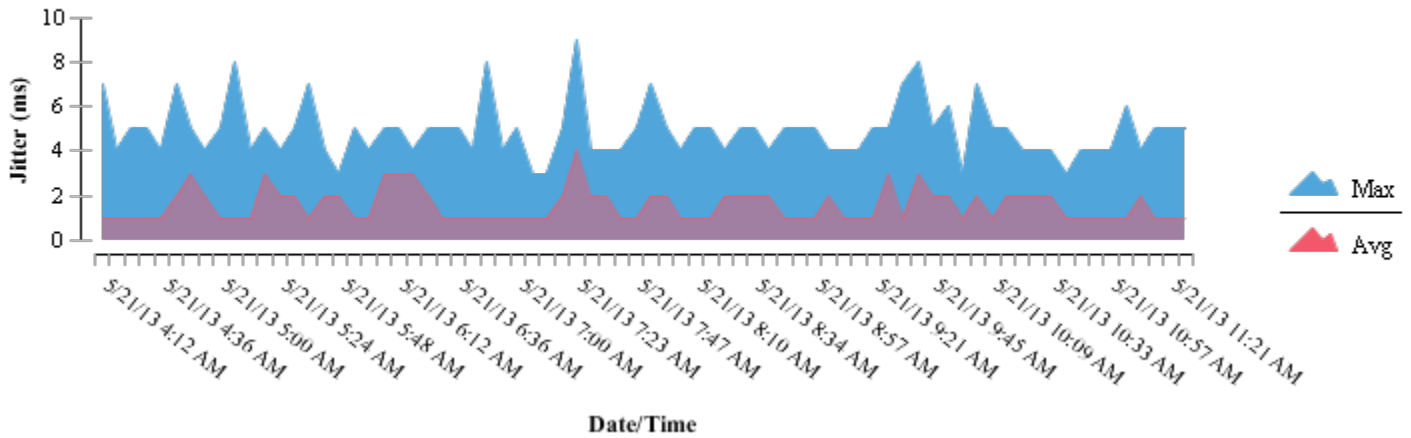


**TrafficSim Event Log:**

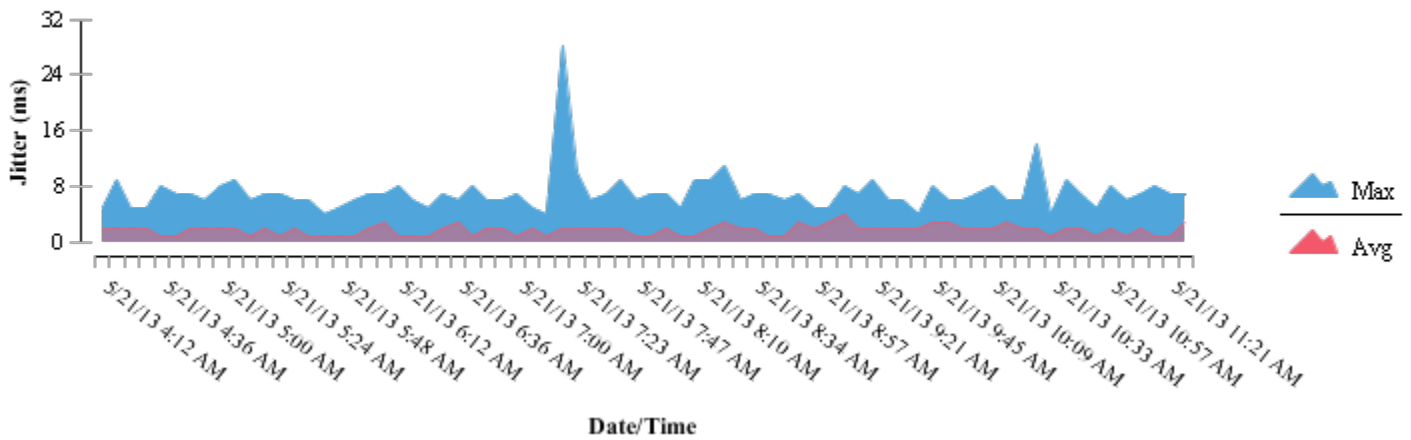
Timestamp (UTC)	New State	Event
May 20, 2013 4:55 PM	Deployed No Issues	Test call(s) successful! All ports verified open and tos markings were maintained
May 21, 2013 11:28 AM	Deployed No Issues - Running	Call(s) successful! All ports verified open and tos markings were maintained
May 21, 2013 11:58 AM	Deployed Failed - Running	Unable to initiate the simulation. Destination RN50 node at 172.31.30.180 was not reachable from the RN150. Please ensure IP connectivity between simulation nodes and the RN150 via TCP port 2500. We will continue to attempt the simulation ever

## Service Level Operation - Detailed Jitter Analysis

**Jitter (Destination to Source)**



**Jitter (Source to Destination)**

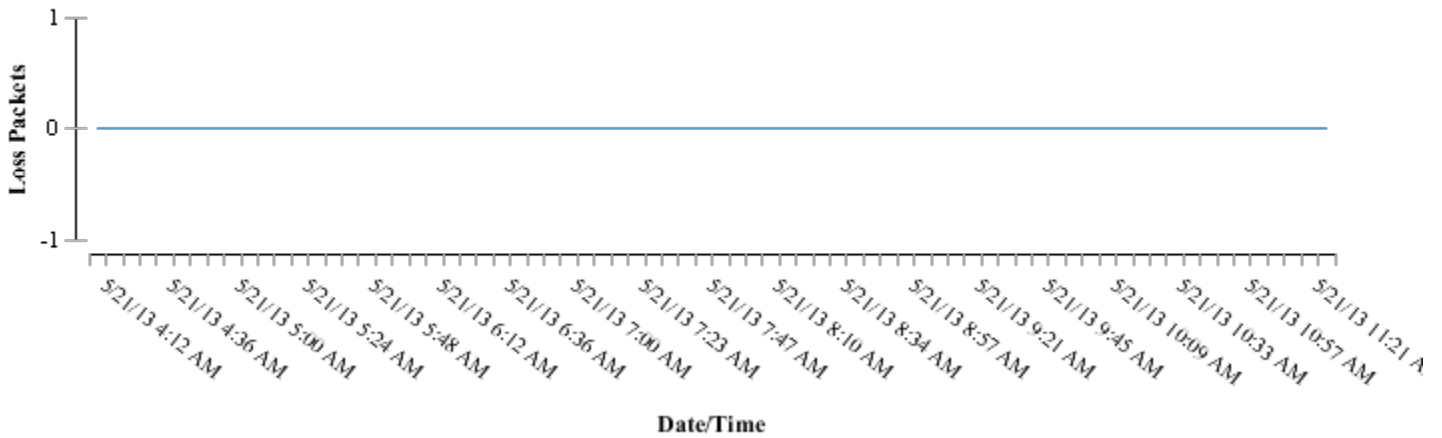


**Worst 10 Flows Due to Jitter**

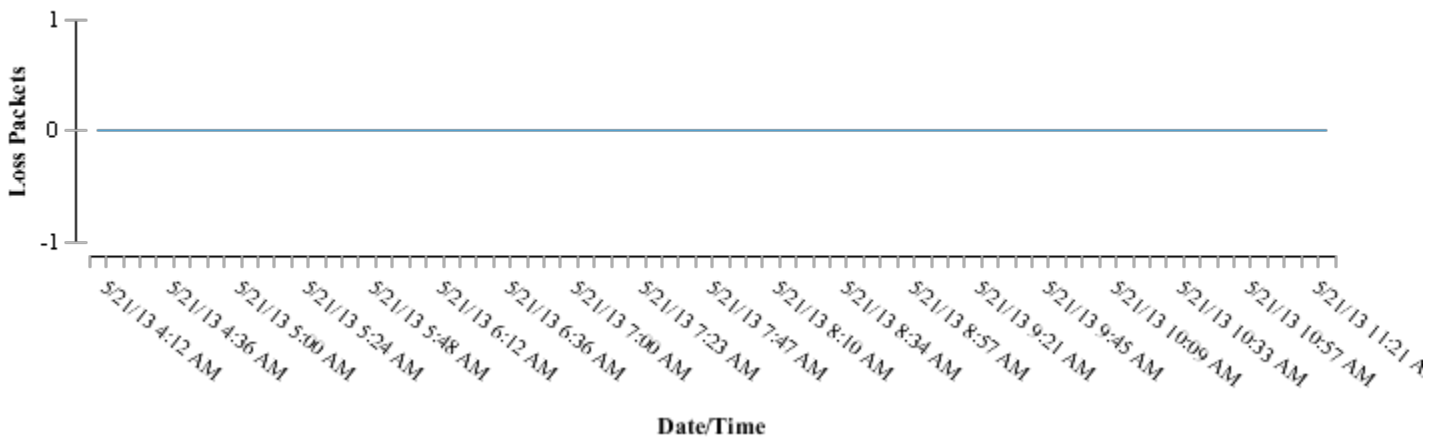
Operation Time	Max Jitter Event (ms)	Source to Destination Jitter (ms)	Destination to Source Jitter (ms)
May 21, 2013 6:18 AM	28	28	5
May 21, 2013 9:27 AM	14	14	4
May 21, 2013 7:22 AM	11	11	4
May 21, 2013 6:23 AM	10	10	9
May 21, 2013 3:18 AM	9	9	4
May 21, 2013 4:06 AM	9	9	8
May 21, 2013 6:41 AM	9	9	4
May 21, 2013 7:10 AM	9	9	5
May 21, 2013 7:16 AM	9	9	5
May 21, 2013 8:21 AM	9	9	5

## Service Level Operation - Detailed Packet Loss Analysis

**Packet Loss (Source to Destination)**



**Packet Loss (Destination to Source)**

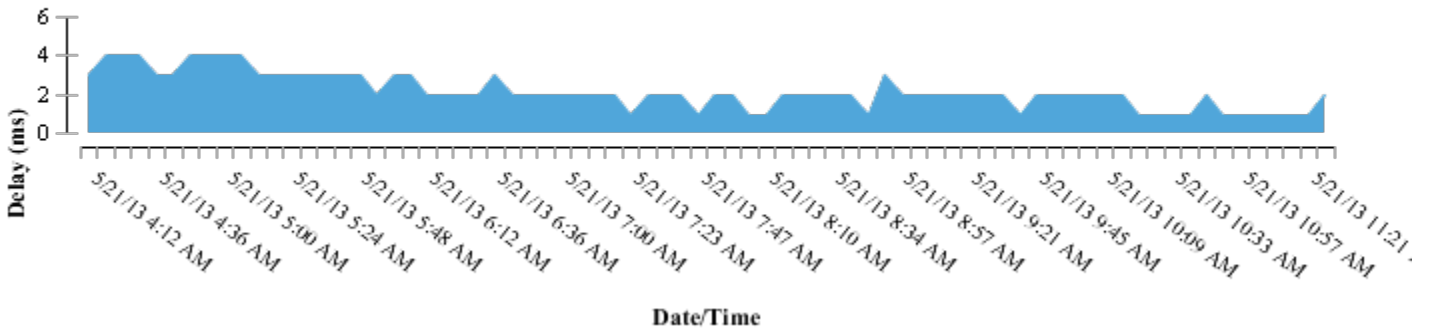


**Worst 10 Flows Due to Loss**

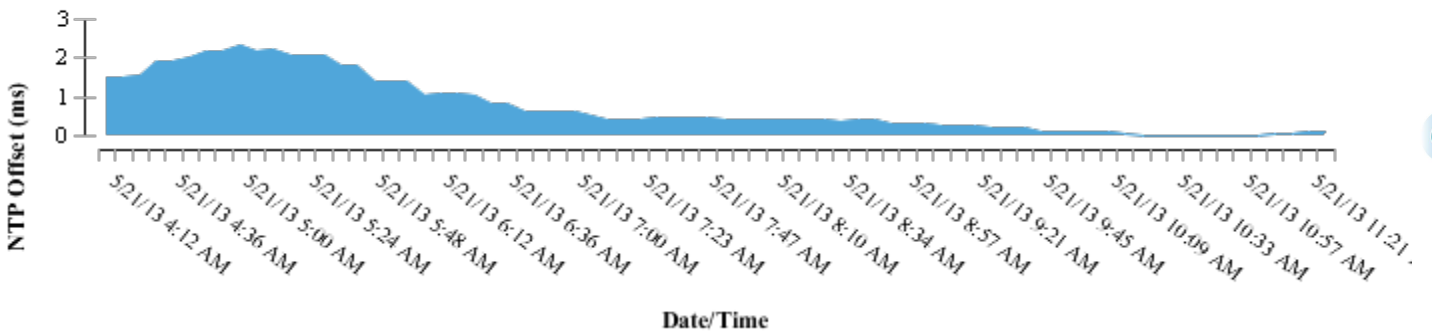
Operation Time	Total Packets Lost	Loss Percent	Source to Destination Loss	Destination to Source Loss
May 21, 2013 3:12 AM	0	0.00%	0	0
May 21, 2013 3:18 AM	0	0.00%	0	0
May 21, 2013 3:24 AM	0	0.00%	0	0
May 21, 2013 3:30 AM	0	0.00%	0	0
May 21, 2013 3:36 AM	0	0.00%	0	0
May 21, 2013 3:42 AM	0	0.00%	0	0
May 21, 2013 3:48 AM	0	0.00%	0	0
May 21, 2013 3:54 AM	0	0.00%	0	0
May 21, 2013 4:00 AM	0	0.00%	0	0
May 21, 2013 4:06 AM	0	0.00%	0	0

## Service Level Operation - Detailed Delay Analysis

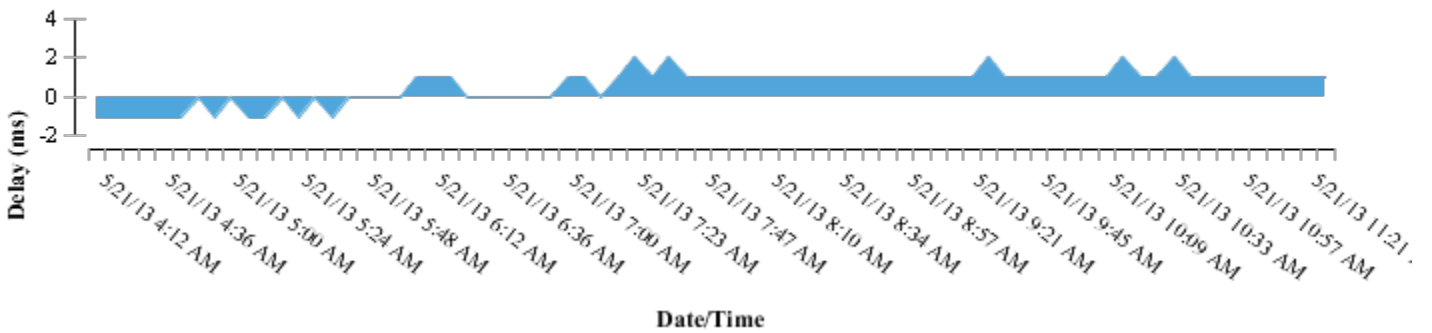
**Average Delay (Source to Destination)**



**NTP Offset Variance**



**Average Delay (Destination to Source)**

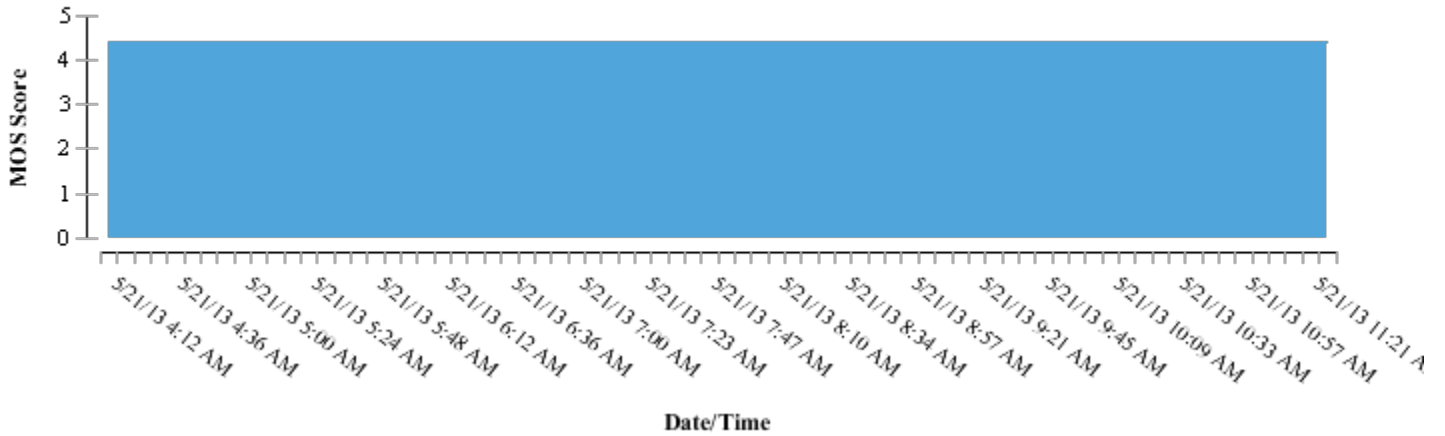


**Worst 10 Flows Due to Delay**

Operation Time	Top Avg Delay (ms)	NTP Offset Variance	Src -> Dst Delay (ms)	Dst -> Src Delay (ms)
May 21, 2013 3:18 AM	4	1.498	4	-1
May 21, 2013 3:24 AM	4	1.542	4	-1
May 21, 2013 3:30 AM	4	1.891	4	-1
May 21, 2013 3:48 AM	4	2.177	4	0
May 21, 2013 3:54 AM	4	2.177	4	-1
May 21, 2013 4:00 AM	4	2.334	4	0
May 21, 2013 4:06 AM	4	2.18	4	-1
May 21, 2013 3:12 AM	3	1.498	3	-1
May 21, 2013 3:36 AM	3	1.891	3	-1
May 21, 2013 3:42 AM	3	2.008	3	-1

## Service Level Operation - Detailed MOS/ICPIF Scores

**Operation MOS Score**



**Worst 10 Flows With MOS Score**

Operation Time	MOS Score
May 21, 2013 3:18 AM	4.41
May 21, 2013 3:24 AM	4.41
May 21, 2013 3:30 AM	4.41
May 21, 2013 3:48 AM	4.41
May 21, 2013 3:54 AM	4.41
May 21, 2013 4:00 AM	4.41
May 21, 2013 4:06 AM	4.41
May 21, 2013 3:12 AM	4.41
May 21, 2013 3:36 AM	4.41
May 21, 2013 3:42 AM	4.41