Information Technology and Facilities Report

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Vice President & CIO

ERCOT Board of Directors

November 16, 2010

Highlights

- **Service Availability:**
  - Retail and Market Operations SLA targets were met for all systems except for business hours retail transaction processing
  - Nodal Grid Operations missed three SLA Targets primarily due to an Austin Data Center power outage

- **Data Center Outage on 10/16:**
  - The Austin Data Center lost all power during scheduled UPS/System control cabinet repairs
    - Power was lost due to unintentional breaker operation; final root cause analysis under investigation
  - Zonal Production, with the exception of two ICCP servers, was running in the Taylor Data Center
  - Data from the ICCP servers in Austin was unavailable to Zonal EMMS from 6:44pm to 8:33pm when the ICCP servers were failed over to Taylor
  - State Estimator was able to solve and regulation was maintained by deployments previously received by QSE's (TSP data was not affected)

- **Data Center Outage on 10/22:**
  - Inadvertent shutdown of all Unix servers due to human error led to a 237 minute outage
  - There were no impacts to Zonal EMMS
  - The outage also affected Retail processing, TML, and numerous corporate systems
  - System management processes have been changed to eliminate future occurrence
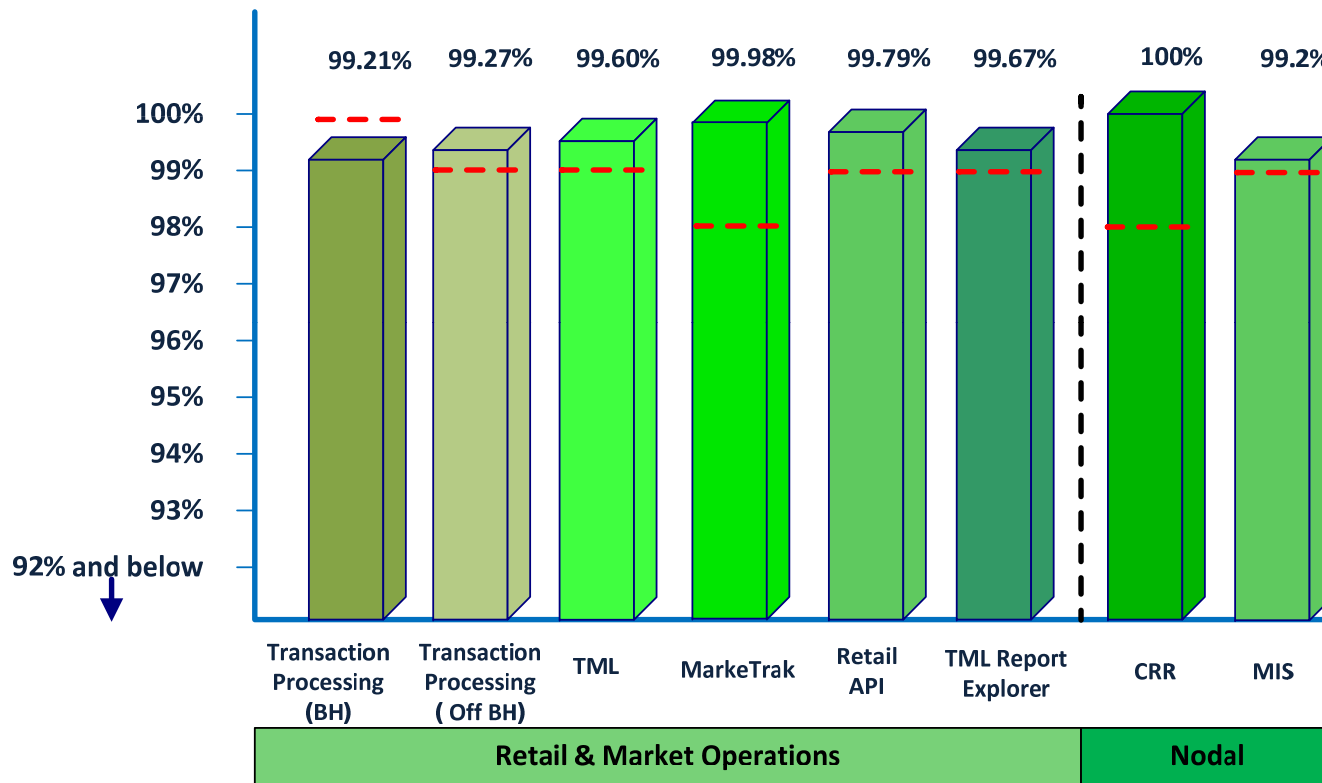
Highlights

- **Late Extract postings due to increase in transaction volume 10/26 – 10/29**
  - The Settlement Input Data Extract and the Market Shadow Price Extracts posted late for business days 10/26 – 10/28 due to replication lag
  - ERCOT experienced a higher than usual increase in transaction volumes caused by both internal processing and market participant data
  - System performance tuning changes were made and replication lag became normal on 10/29

- **Non Opt-in Entity – PTP Option – IBM P7 testing and implementation**
  - Verification testing completed successfully for P7 hardware
  - Significant performance improvements (30-40%) in the runtimes
 - Implemented for Market Trials on 10/29 with no issues

2010 Net Service Availability (Retail and Market Ops)

2010 Net Service Availability
Year to Date

Transaction Processing SLA Target		MarkeTrak SLA Target:	98%
– Business Hours (BH):	99.9%	TML Report Explorer SLA Target:	99%
– Off Business Hours (Off BH):	99%	Retail API SLA Target:	99%
TML SLA Target:	99%	MIS	99%

2010 Net Service Availability (Grid Ops)
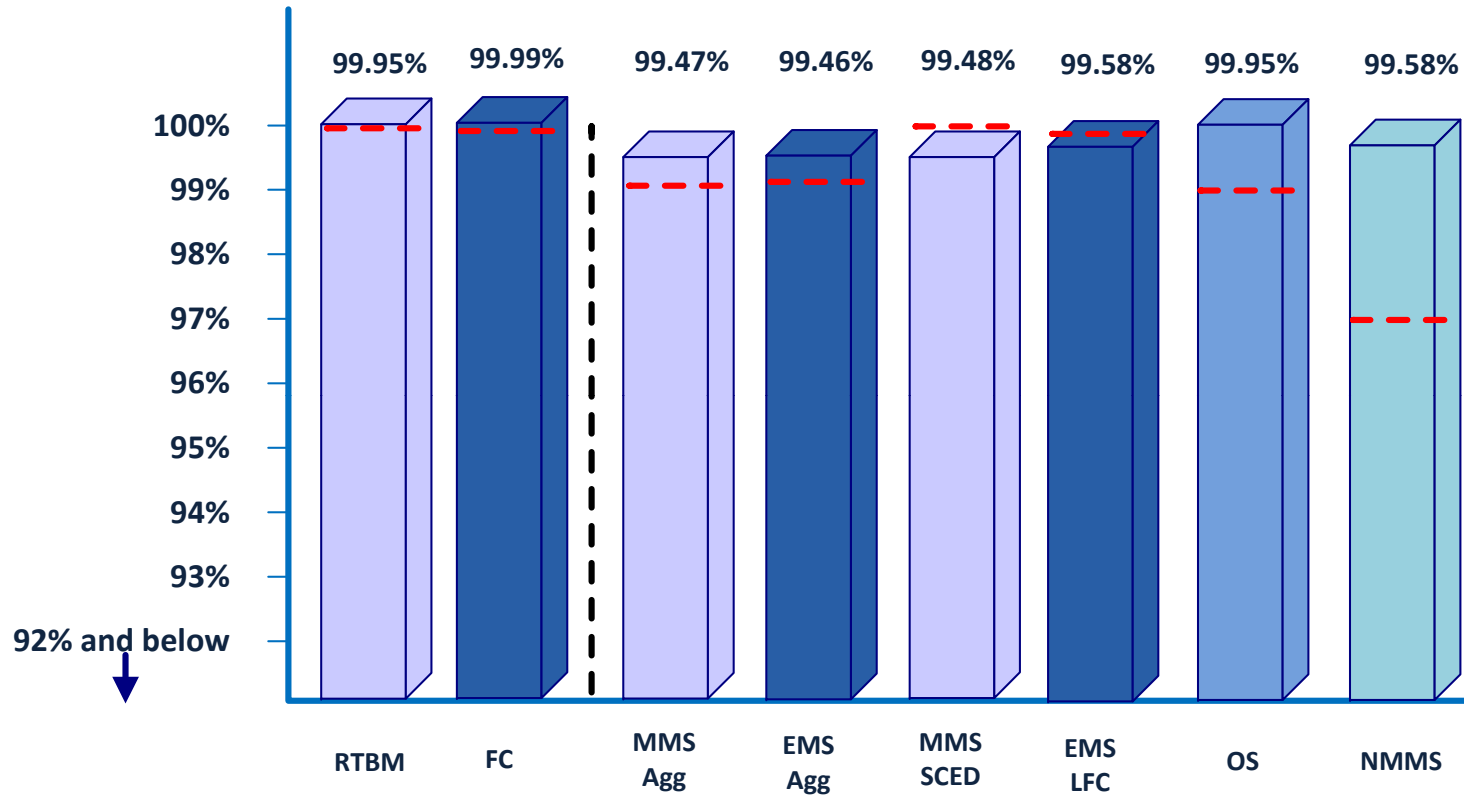
	Zonal		Nodal Grid Operations	

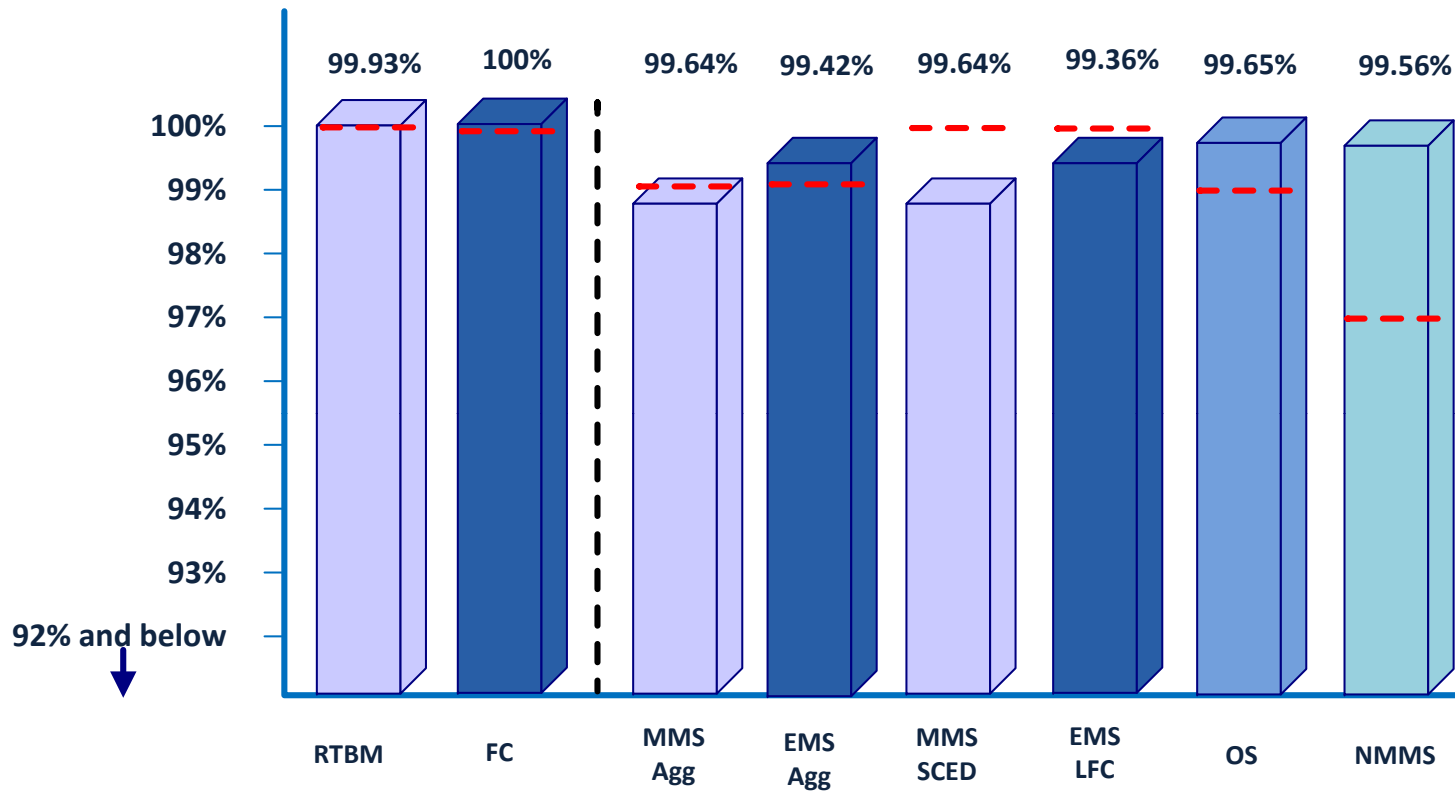|				
RTBM	99.93%		MMS SCED:	99.93%
Freq Control	99.93%		EMS LFC Target:	99.93%
MMS Aggregate:	99%		Outage Scheduler Target:	99%
EMS Aggregate:	99%		NMMS Target:	97%

October 2010 Net Service Availability

October 2010 Net Service Availability
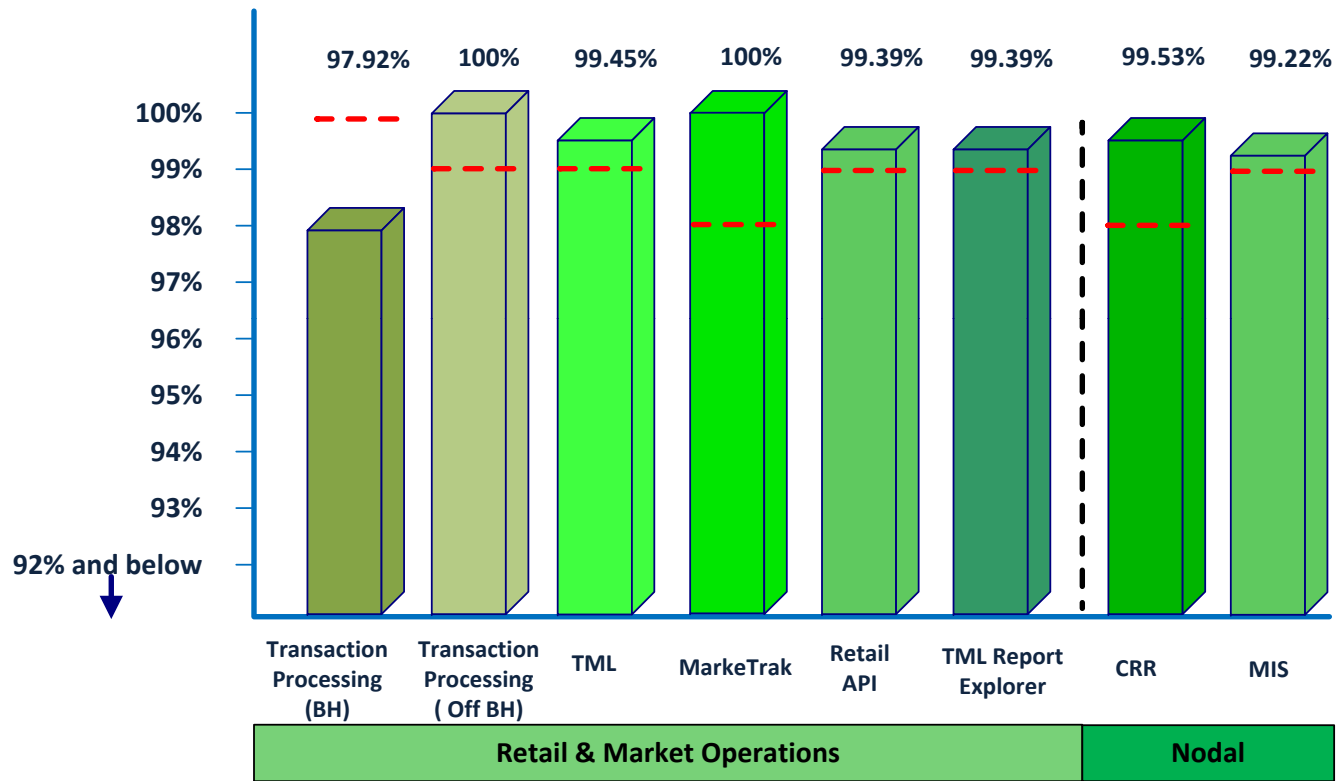
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TML SLA Target:	99%	MIS	99%

October 2010 Net Service Availability

	Zonal	Nodal Grid Operations		

RTBM	99.93%	MMS SCED:	99.93%
Freq Control	99.93%	EMS LFC Target:	99.93%
MMS Aggregate:	99%	Outage Scheduler Target:	99%
EMS Aggregate:	99%	NMMS Target:	97%

Retail Transaction Processing Availability Summary

October 2010 Retail Transaction Processing Availability Summary (Business Hours)

10/18 and 10/25 (74 minutes) – Two separate outages caused by EDI application failures.

10/22 (237 minutes) – A multiple server outage caused by human error caused TML and Retail applications to be shutdown inadvertently.

Target – 99.9%

October 2010 Retail Transaction Processing Availability (BH) – 97.92%
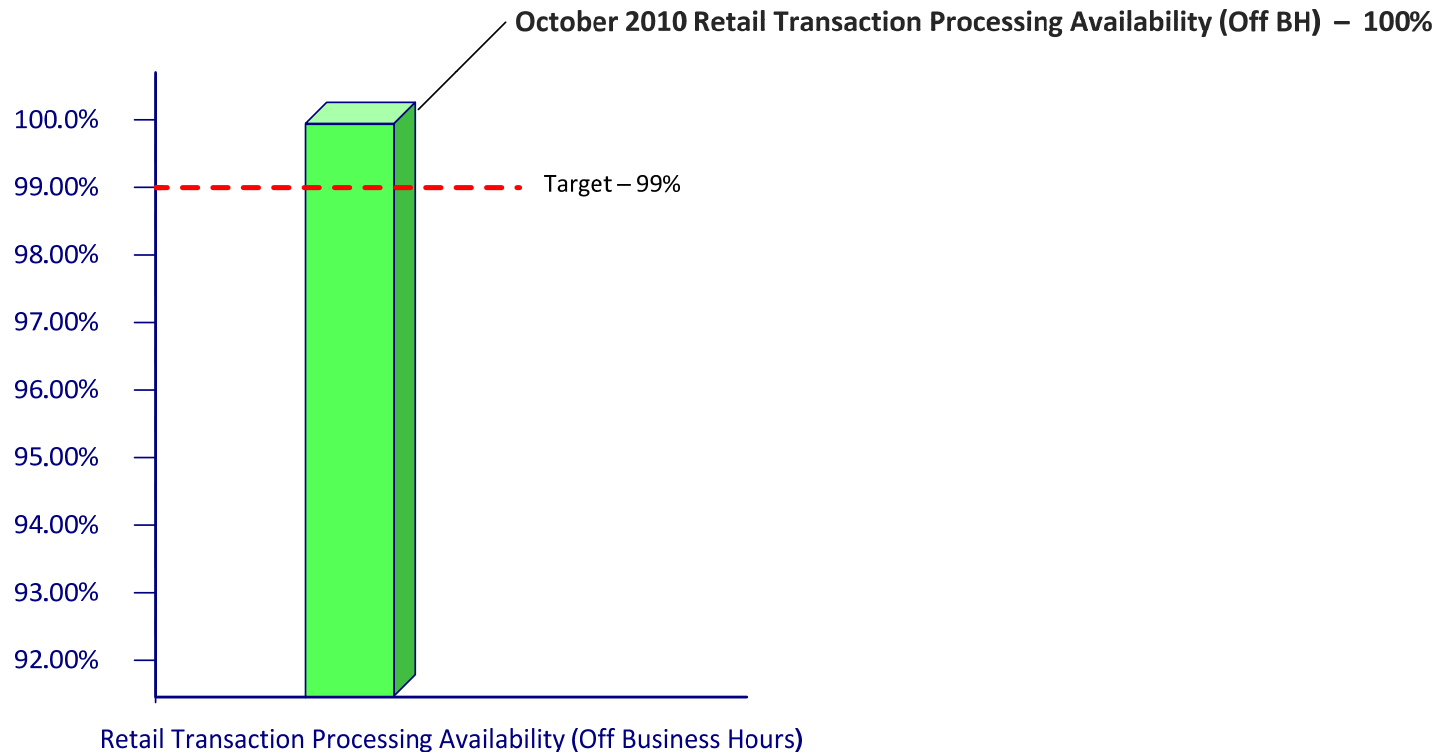
Retail Transaction Processing Availability (Business Hours)
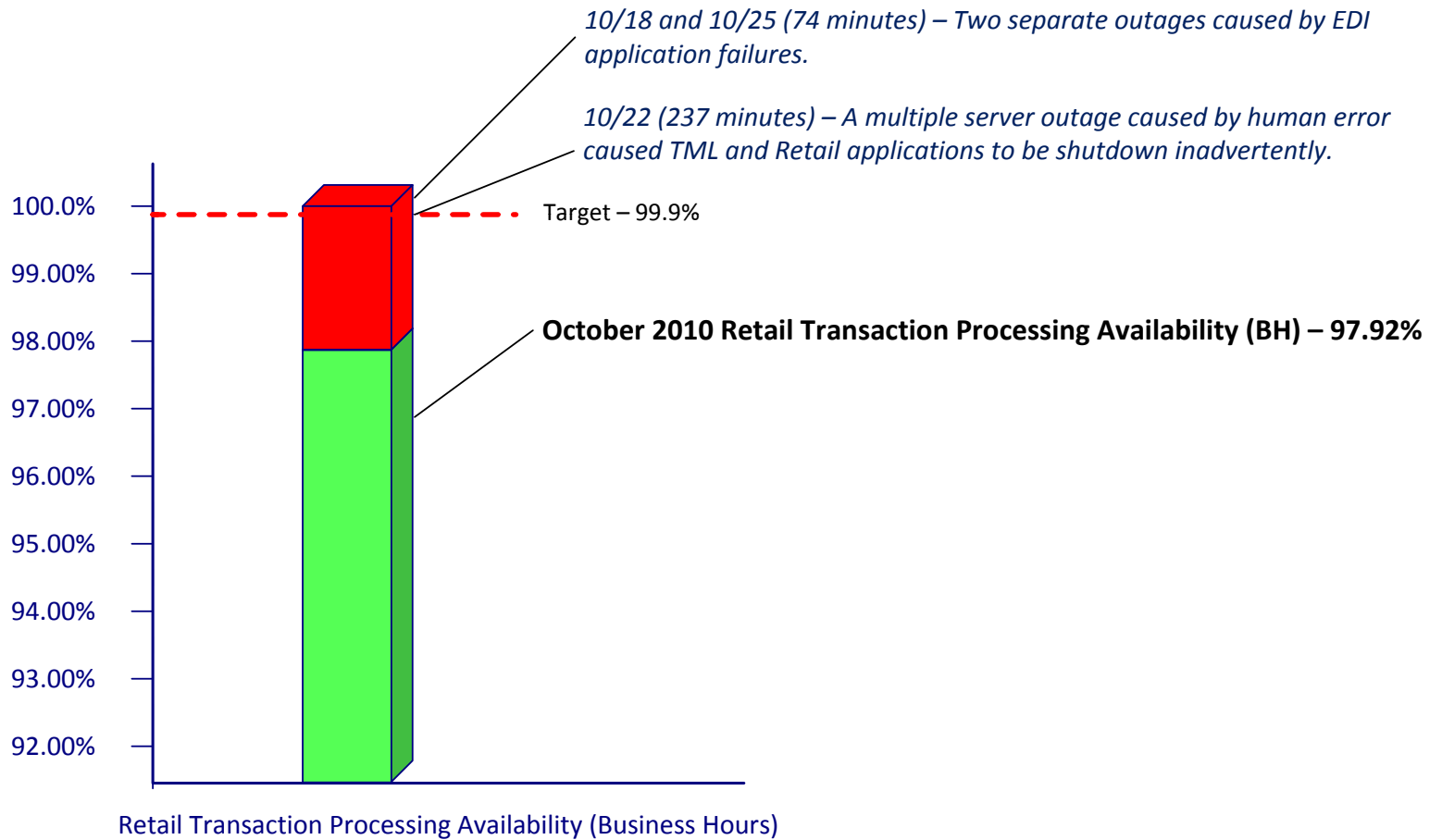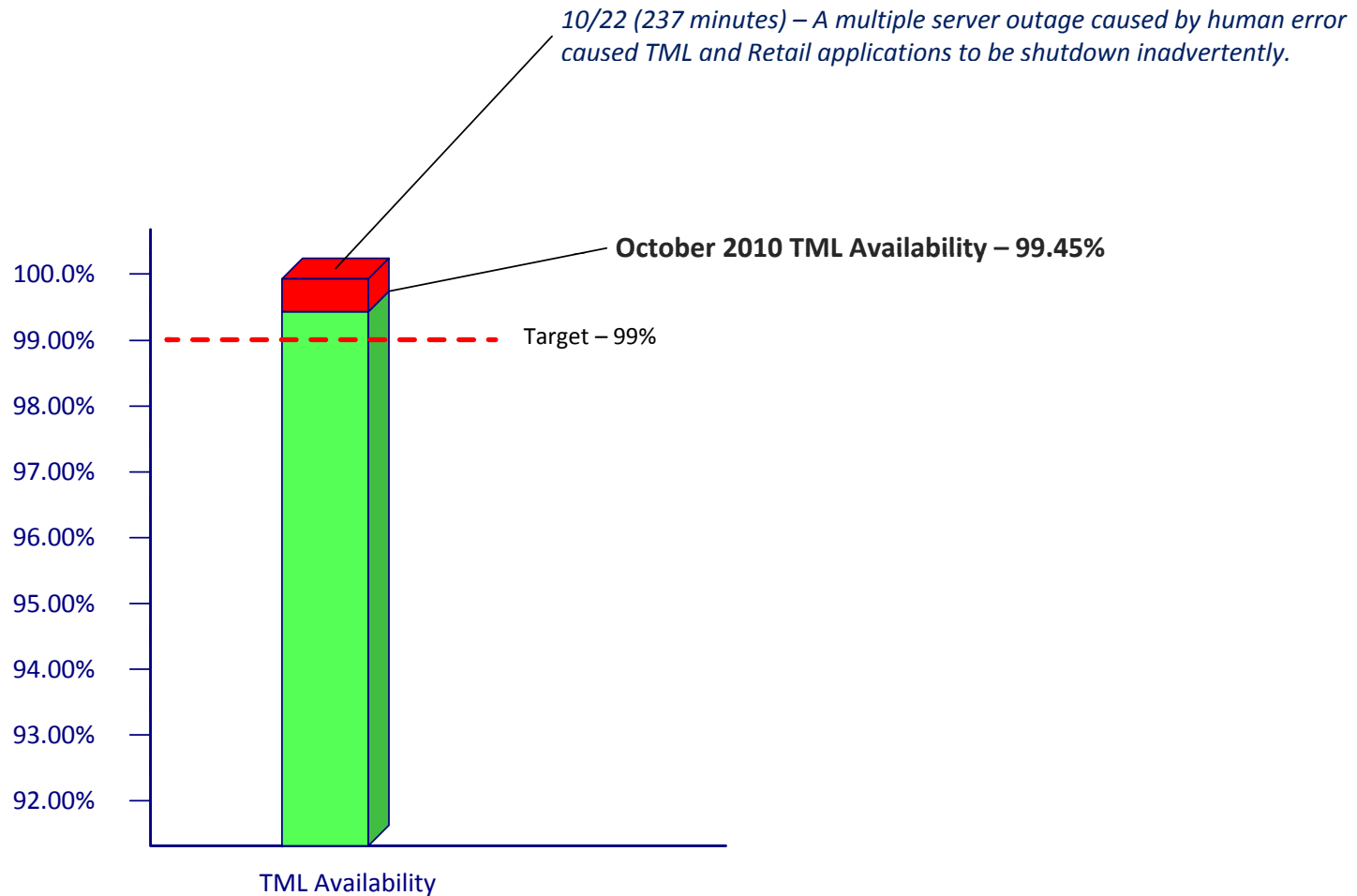
Retail Transaction Processing Availability Summary (cont'd.)

October 2010 Retail Transaction Processing Availability Summary
(Off Business Hours)

October 2010 Retail Transaction Processing Availability (Off BH) – 100%

Target – 99%

Retail Transaction Processing Availability (Off Business Hours)

TML Availability Summary

October 2010 TML Availability Summary

10/22 (237 minutes) – A multiple server outage caused by human error caused TML and Retail applications to be shutdown inadvertently.

October 2010 TML Availability – 99.45%

Target – 99%

- 100.0%
- 99.00%
- 98.00%
- 97.00%
- 96.00%
- 95.00%
- 94.00%
- 93.00%
- 92.00%

TML Availability

MarkeTrak Availability Summary

October 2010 MarkeTrak Availability Summary

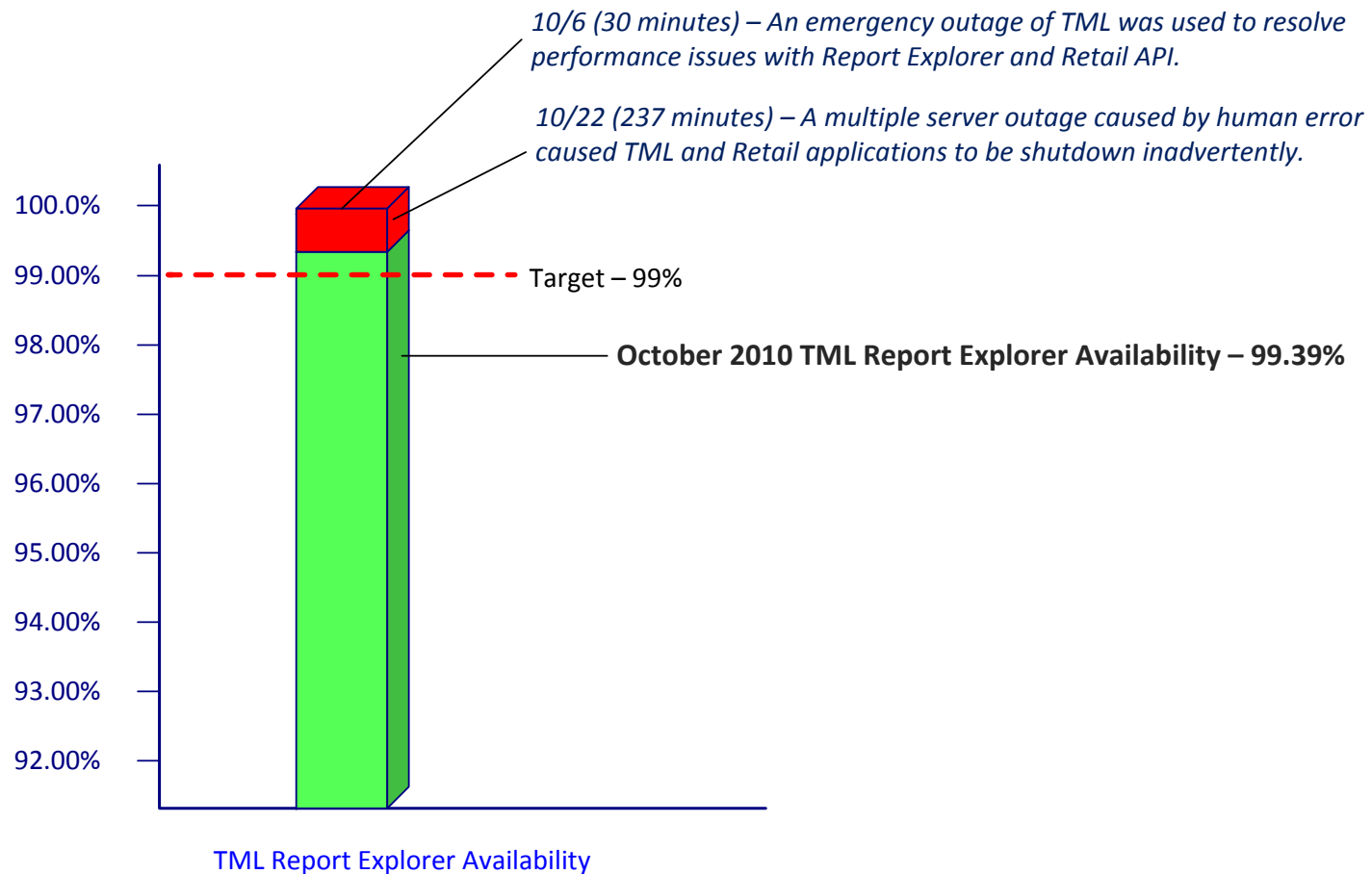October 2010 MarkeTrak Availability – 100%

Target – 98%

MarkeTrak Availability

TML Report Explorer Availability Summary

October 2010 TML Report Explorer Availability Summary

10/6 (30 minutes) – An emergency outage of TML was used to resolve performance issues with Report Explorer and Retail API.

10/22 (237 minutes) – A multiple server outage caused by human error caused TML and Retail applications to be shutdown inadvertently.
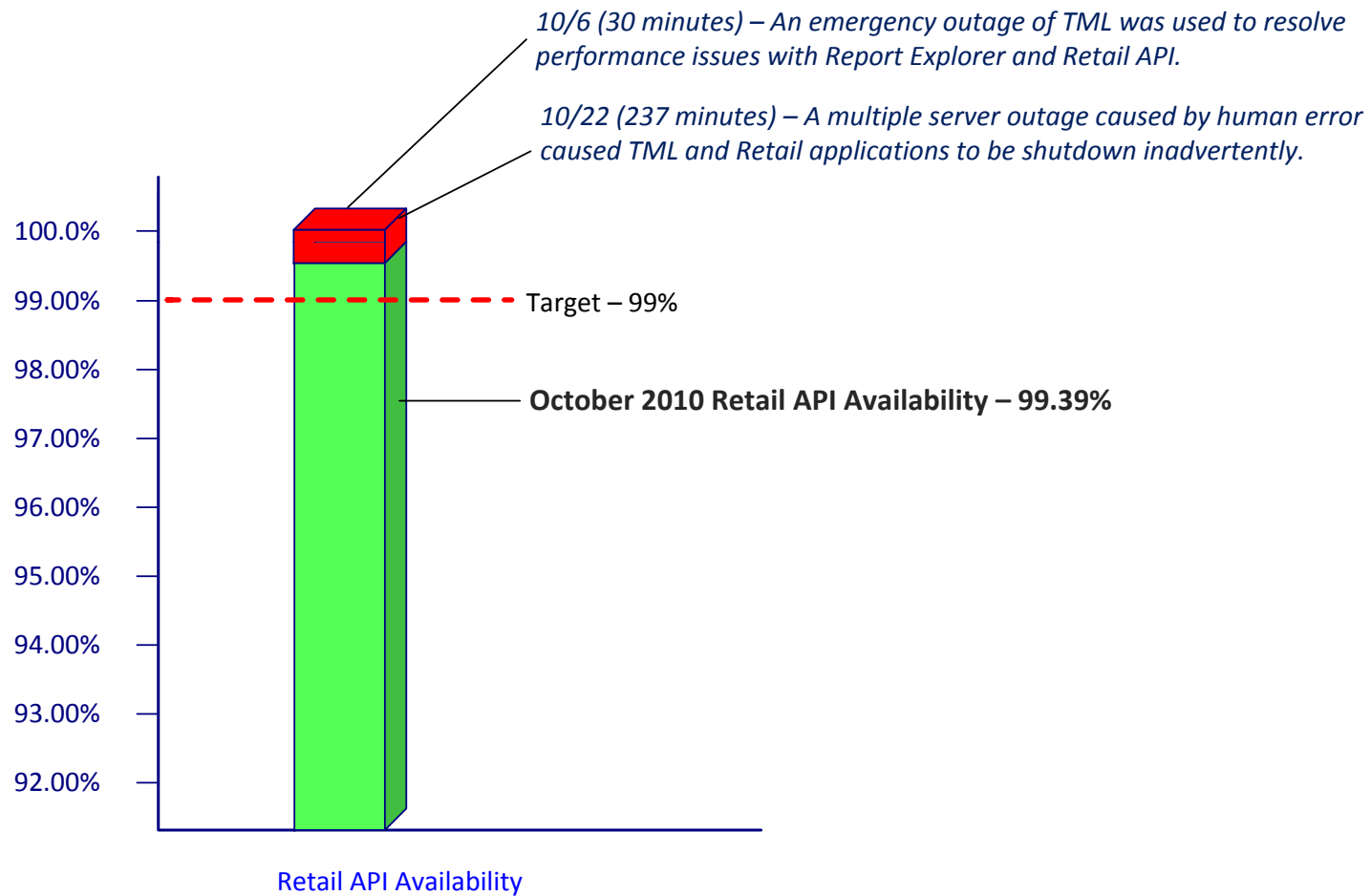
Target – 99%

October 2010 TML Report Explorer Availability – 99.39%

TML Report Explorer Availability

Retail API Availability Summary

October 2010 Retail API Availability Summary

10/6 (30 minutes) – An emergency outage of TML was used to resolve performance issues with Report Explorer and Retail API.

10/22 (237 minutes) – A multiple server outage caused by human error caused TML and Retail applications to be shutdown inadvertently.

Target – 99%

October 2010 Retail API Availability – 99.39%

100.0%
99.00%
98.00%
97.00%
96.00%
95.00%
94.00%
93.00%
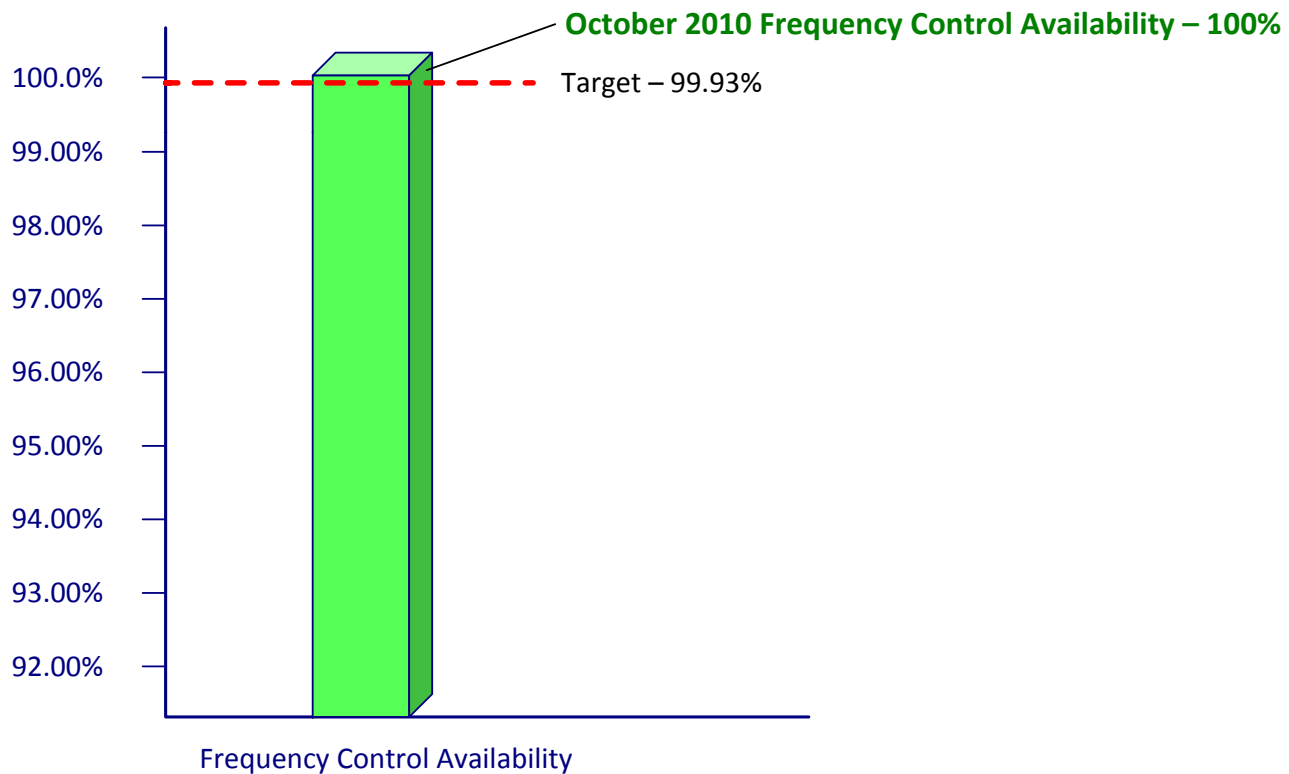92.00%

Retail API Availability

Real Time Balancing Market Availability Summary

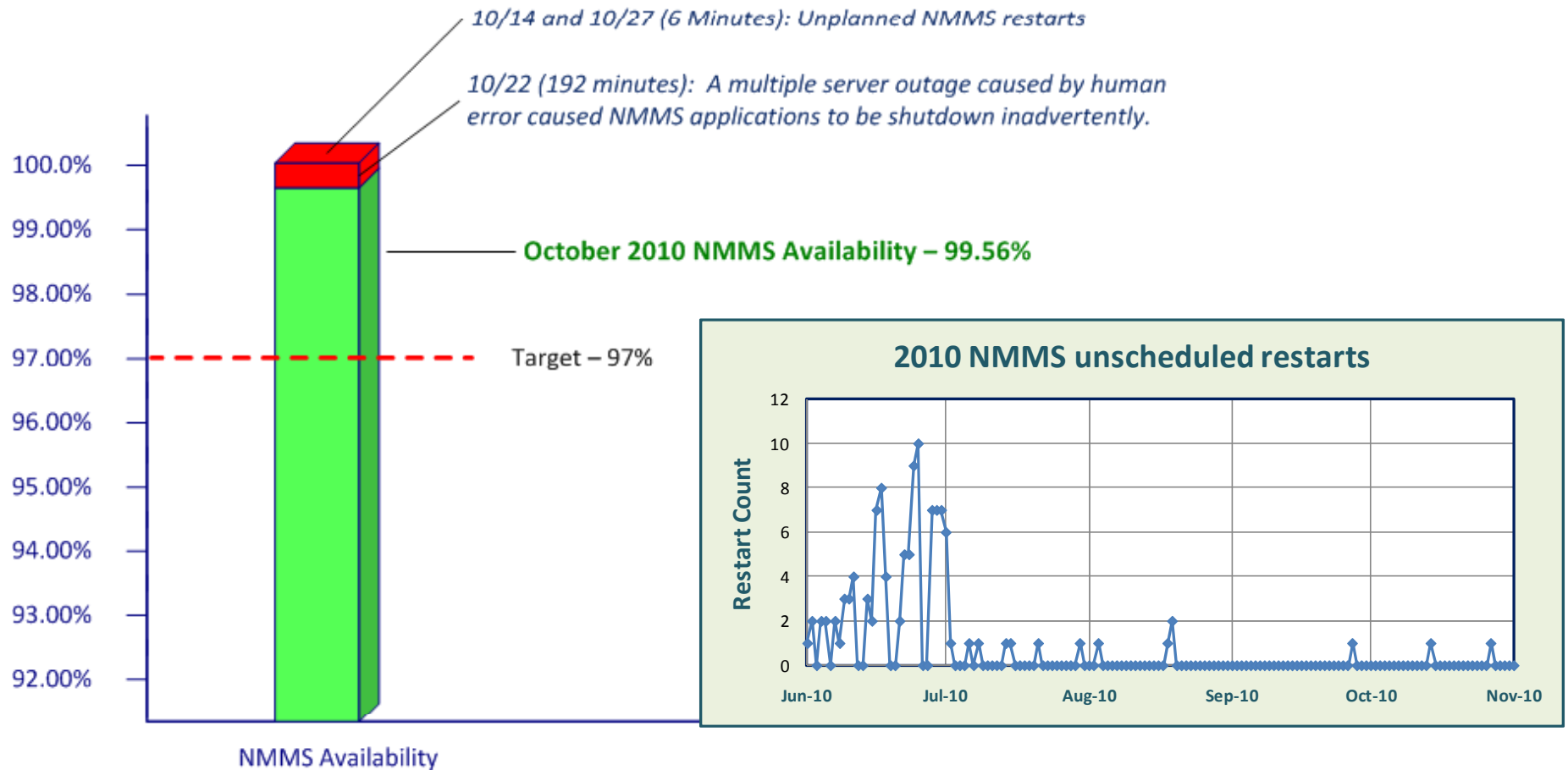## October 2010 Real Time Balancing Market Availability Summary

10/27 (30 Minutes): CPU failure caused the application to lose connectivity during the 9:00 interval. The 9:15 interval also failed.

Target – 99.93%

October 2010 Real Time Balancing Market Availability – 99.93%

Real Time Balancing Market Availability

Frequency Control Availability Summary
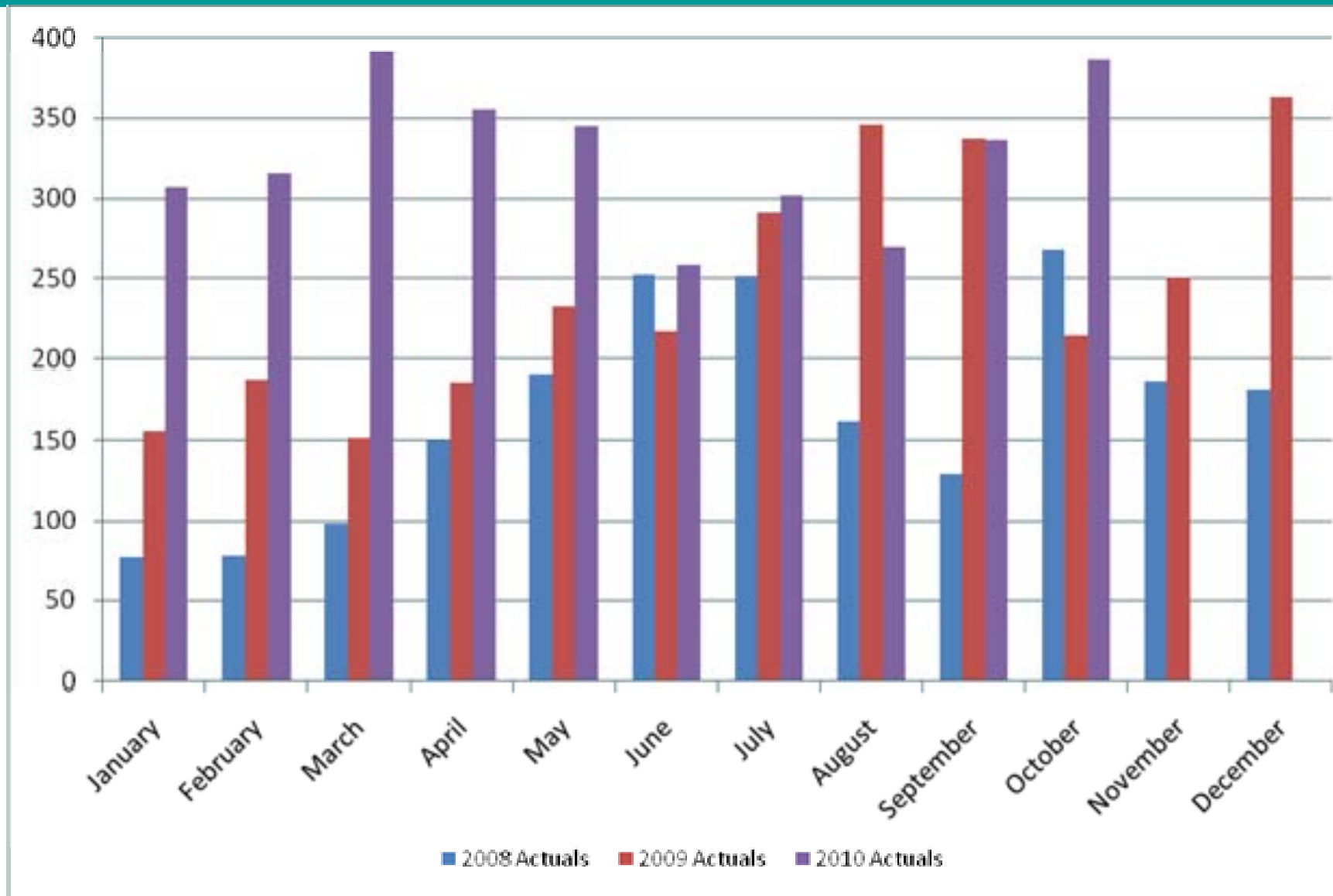
October 2010 Frequency Control Availability Summary

October 2010 Frequency Control Availability – 100%

Target – 99.93%

Frequency Control Availability

Network Model Management System

October 2010 Network Model Management System (NMMS)
Availability Summary

10/14 and 10/27 (6 Minutes): Unplanned NMMS restarts

10/22 (192 minutes): A multiple server outage caused by human error caused NMMS applications to be shutdown inadvertently.

October 2010 NMMS Availability – 99.56%

Target – 97%

NMMS Availability

2010 NMMS unscheduled restarts

Restart Count
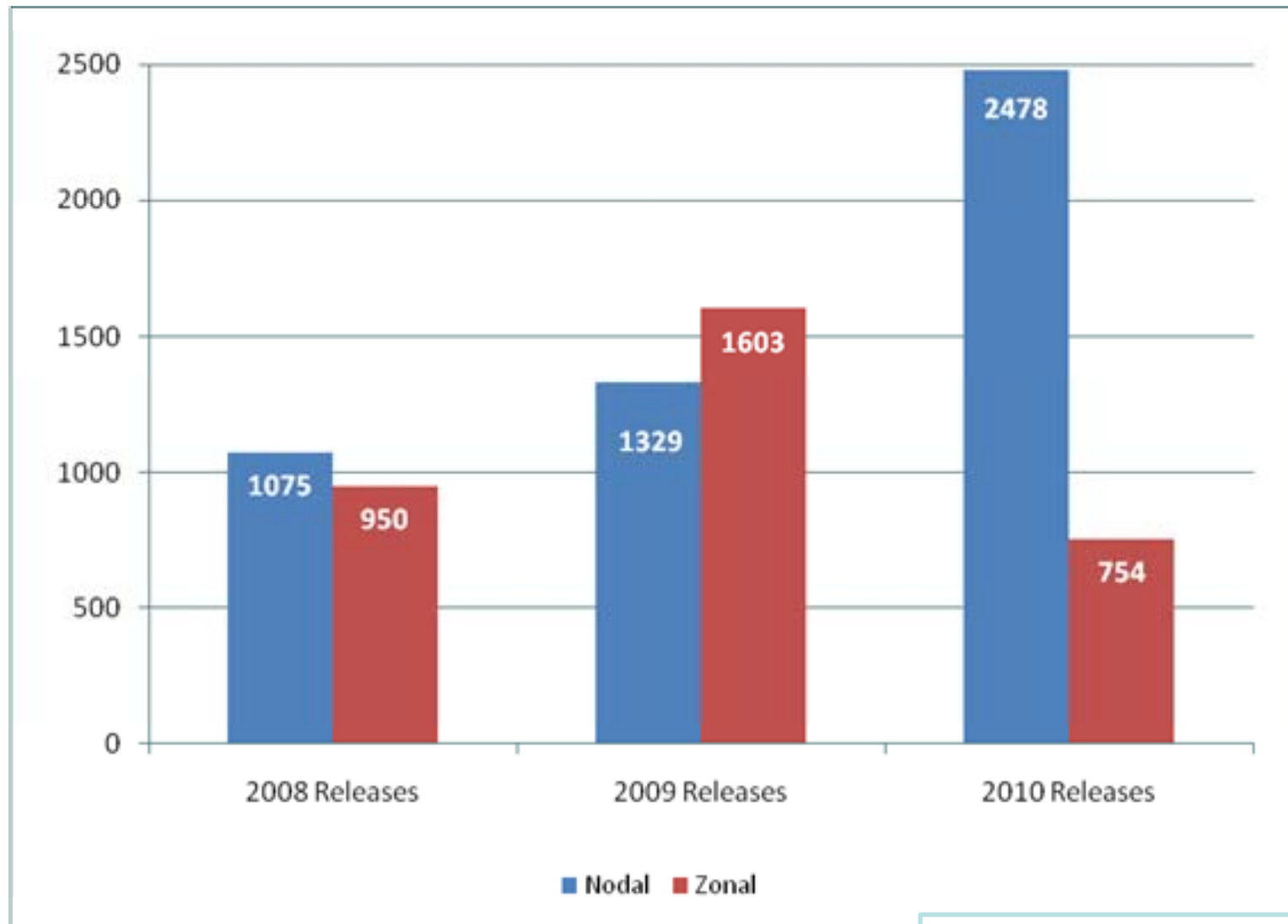
Release Management Metrics (3-Year Releases by Month)

Release Management Metrics (Nodal vs. Zonal Releases)

Note: 2010 metrics are YTD

ERCOT Public Website Metrics (October 2010)

Name↑	Reports	Status	Visits	Avg. Time on Site	Bounce Rate	Completed Goals	Visits % Change	Actions
http://faq.ercot.com UA-460876-6								
☆ faq.ercot.com	View report	✓	1,482	00:02:07	46.96%	0	⬆ 12.96%	
http://nodal.ercot.com UA-460876-5								
☆ nodal.ercot.com	View report	✓	13.791	00:03:20	38.41%	0	⬆ 16.09%	
http://planning.ercot.com UA-460876-7								
☆ planning.ercot.com	View report	✓	2,348	00:04:52	20.87%	0	⬆ 21.22%	
http://search.ercot.com UA-460876-8								
☆ search.ercot.com	View report	✓	6,041	00:03:09	49.91%	0	⬆ 20.53%	
http://www.ercot.com UA-460876-2								
☆ www.ercot.com	View report	✓	101,746	00:02:27	58.41%	2	⬆ 11.14%	

Legend
Bounce Rate: % of single page visits; **Completed Goals:** Measure of specific predefined actions completed by visitors; **% Change:** % change in visits relative to previous month