Information Technology Service Availability Metrics

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Agenda and Commentary

February 2010 Successes

- The network infrastructure upgrade project entered the execution phase. The phases in execution deliver required network connectivity and infrastructure to the two data centers at the Taylor facility, and upgrades equipment necessary to support current zonal and retail operations.   When completed, this project will enable the commissioning of the new data centers and enhance ERCOT's capabilities in meeting the growing infrastructure demands of the Nodal Market systems.

- Successful completion and installation of an application that validates Nodal market Locational Marginal Prices (LMP). The integrated Nodal market systems generate LMP's and this application can be used to check the LMP's for reasonableness. The Nodal protocols require that the application be in place and running successfully for six months prior to the 168 hour test. Further enhancements of the application, including architecting it for enhanced redundancy and recoverability, are being evaluated.

- The new Nodal EMS (Energy Management System) is a critical application for Grid operations and requires inter-site failover capabilities to maintain high-availability and reliability. A failover of this application between ERCOT data centers was tested successfully as part of Nodal Operational Readiness Testing.
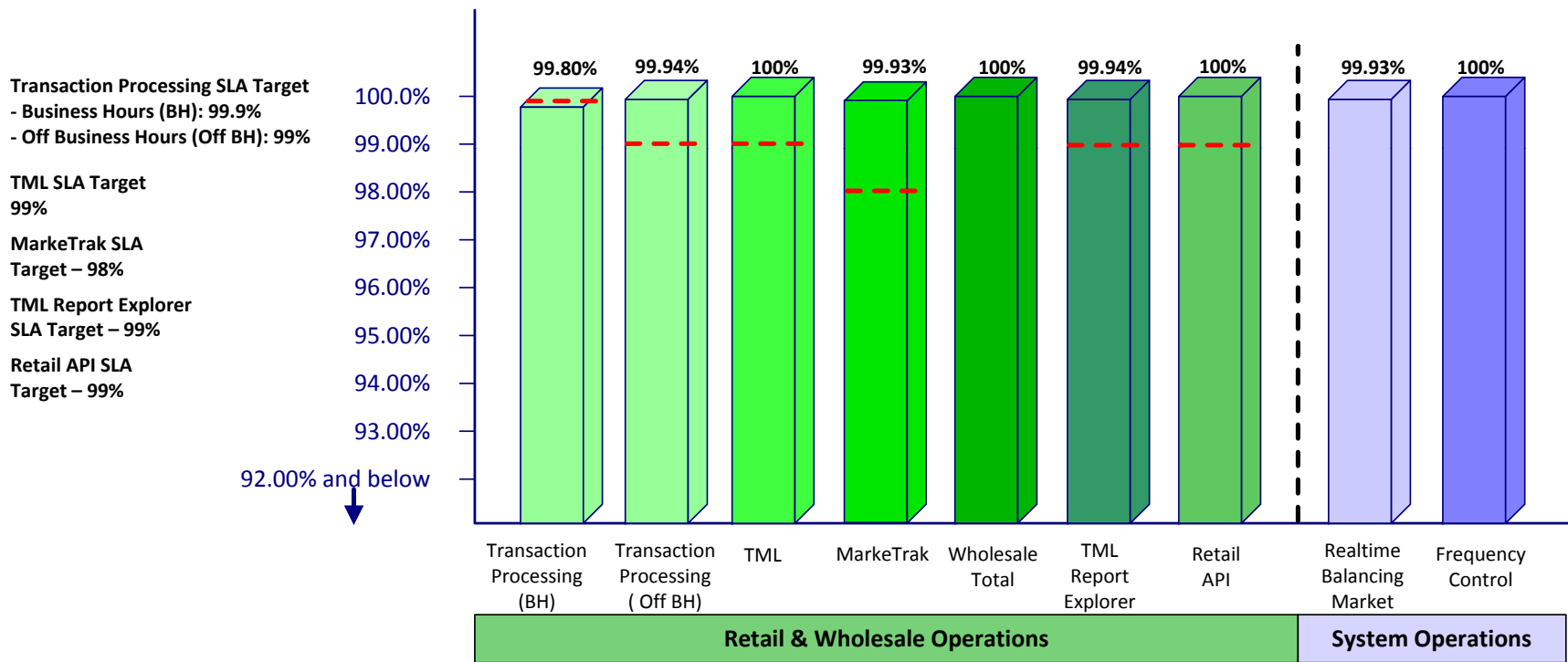
Agenda and Commentary (continued)

February 2010 Disappointments

- A firmware bug in the servers that run the Zonal Market caused the servers to crash, resulting in Real Time Balancing Market outage of 60 Minutes on February 25th. Emergency site failover was performed to restore the application. A solution provided by the vendor is currently in testing.

- File space constraint caused an outage of a server, resulting in a Retail Transaction Processing failure on February 4th during off Business-Hours of 34 minutes. The Retail Market Service Level Agreement was not impacted as the outage took place during off Business-Hours. Additional file space was allocated to resolve the issue. Also, database monitoring has been enhanced to enable early detection of any repeat incidents.

- A server memory constraint caused the failure of a database system resulting in an outage of the Lawson E-Recruiting application on February 12th. The database was restarted to restore the application functionality. Additional memory was installed in the server as a permanent resolution.

2010 Net Service Availability

2010 Net Service Availability
Through February 28th, 2010
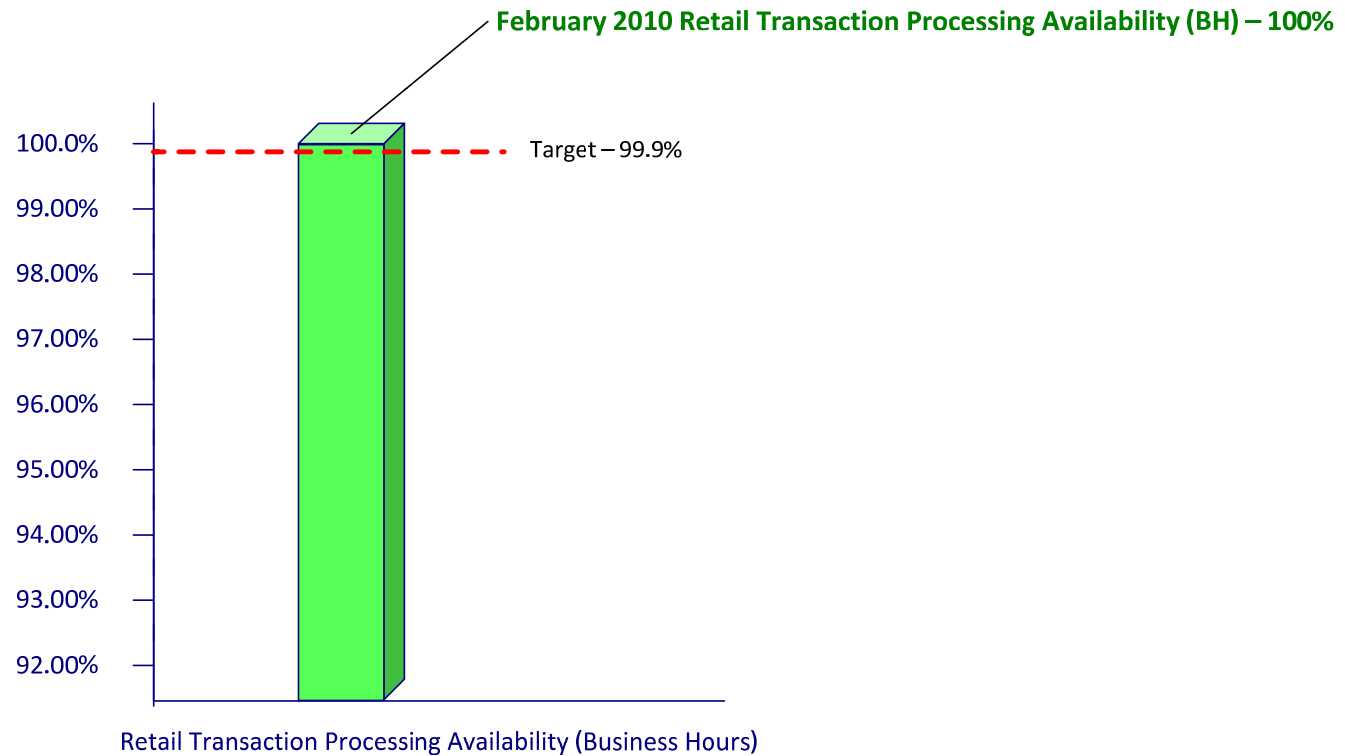

Transaction Processing SLA Target
- **Business Hours (BH): 99.9%**
- **Off Business Hours (Off BH): 99%**

**TML SLA Target
99%**

**MarkeTrak SLA
Target – 98%**

**TML Report Explorer
SLA Target – 99%**

**Retail API SLA
Target – 99%**

February 2010 Net Service Availability

February 2010 Net Service Availability

Transaction Processing SLA Target
- Business Hours (BH): 99.9%
- Off Business Hours (Off BH): 99%

TML SLA Target
99%

MarkeTrak SLA
Target – 98%

TML Report Explorer
SLA Target – 99%

Retail API SLA
Target – 99%

	Transaction Processing (BH)	Transaction Processing (Off BH)	TML	MarkeTrak	Wholesale Total	TML Report Explorer	Retail API	Realtime Balancing Market	Frequency Control
	100%	99.86%	100%	100%	100%	100%	100%	99.85%	100%

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

Retail & Wholesale Operations | **System Operations**

ERCOT

Retail Transaction Processing Availability Summary

February 2010 Retail Transaction Processing Availability Summary
(Business Hours)

February 2010 Retail Transaction Processing Availability (BH) – 100%

Target – 99.9%

Retail Transaction Processing Availability (Business Hours)
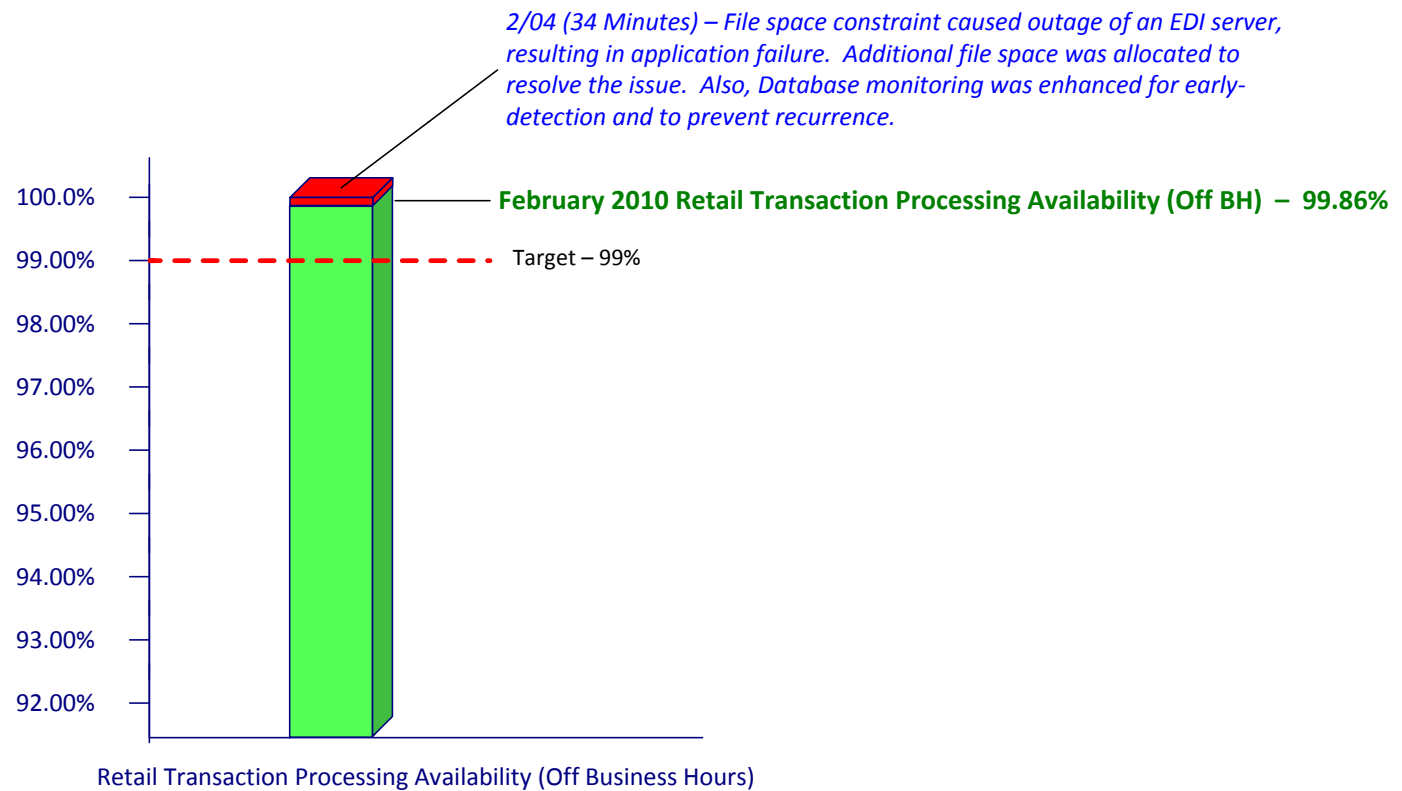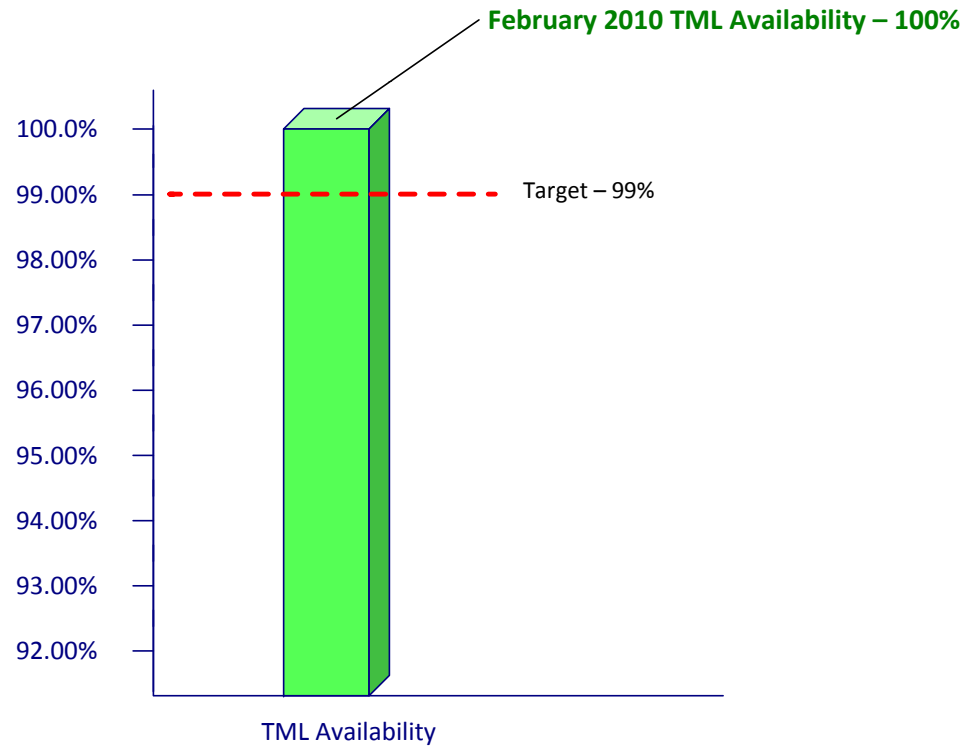
Retail Transaction Processing Availability Summary (contd.)

February 2010 Retail Transaction Processing Availability Summary
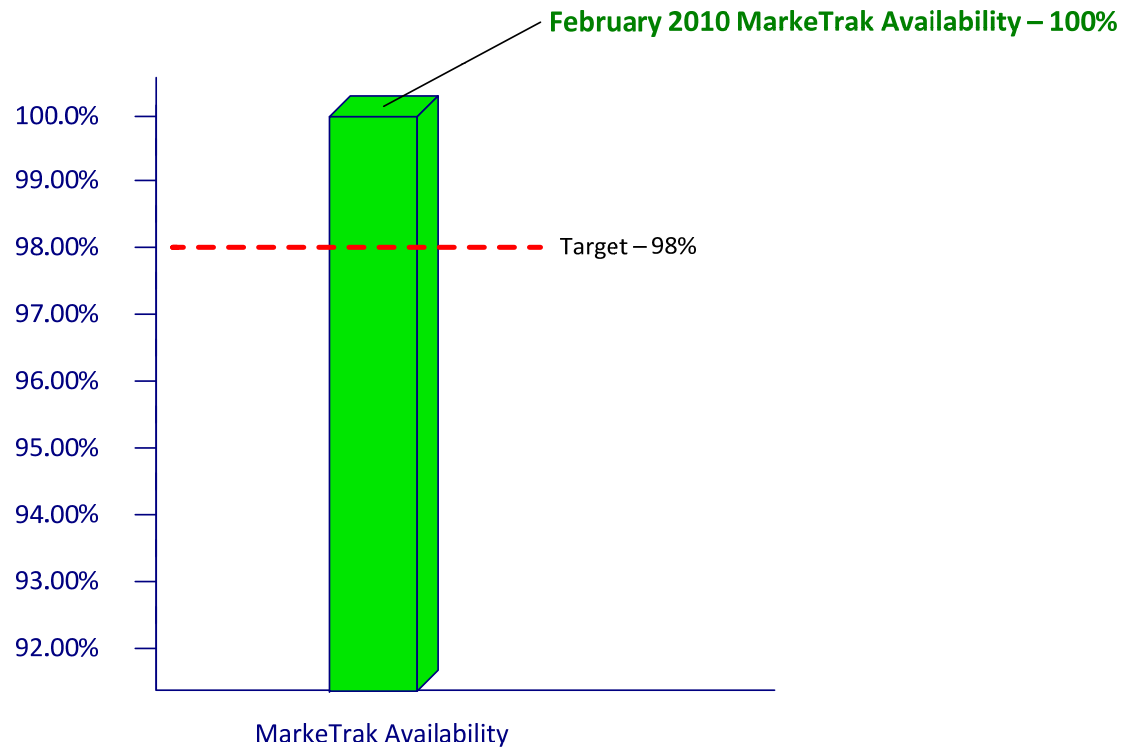## (Off Business Hours)

2/04 (34 Minutes) – File space constraint caused outage of an EDI server, resulting in application failure. Additional file space was allocated to resolve the issue. Also, Database monitoring was enhanced for early-detection and to prevent recurrence.

February 2010 Retail Transaction Processing Availability (Off BH) − 99.86%

Target – 99%

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

Retail Transaction Processing Availability (Off Business Hours)

TML Availability Summary

February 2010 TML Availability Summary

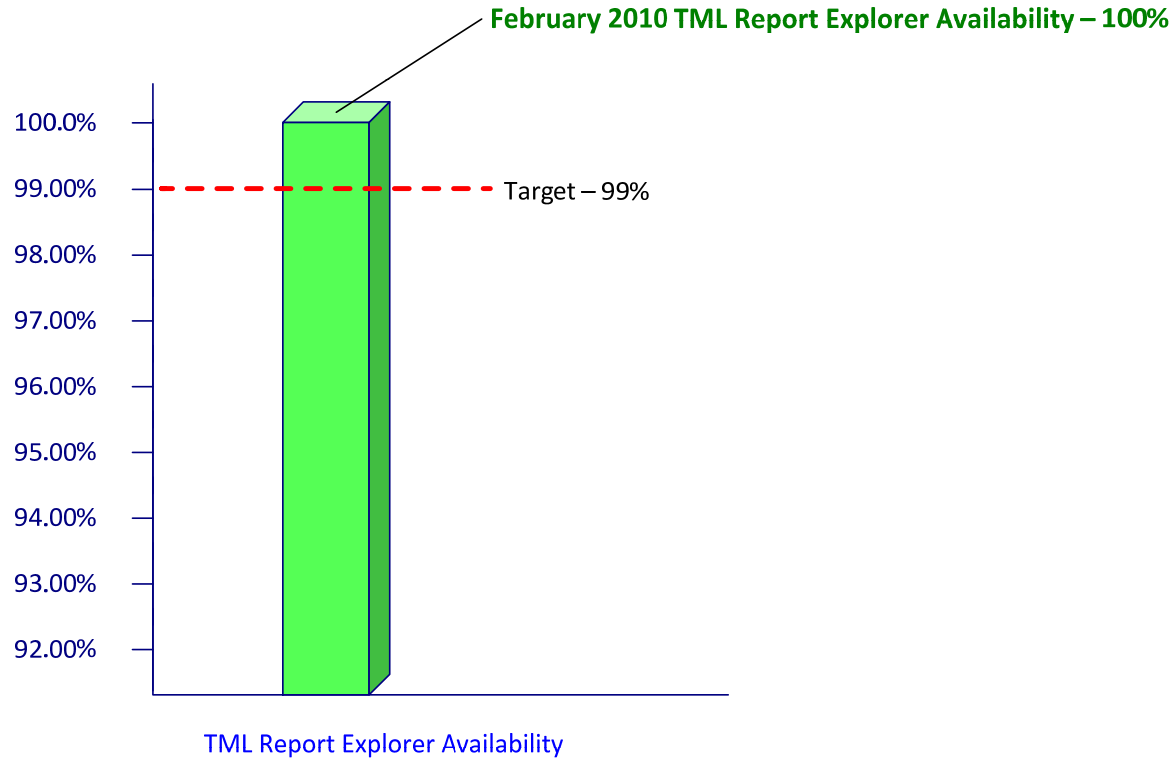**February 2010 TML Availability – 100%**

100.0%

99.00% — — — — — — — — — — — Target – 99%

98.00%

97.00%

96.00%

95.00%

94.00%

93.00%

92.00%

TML Availability

MarkeTrak Availability Summary

February 2010 MarkeTrak Availability Summary
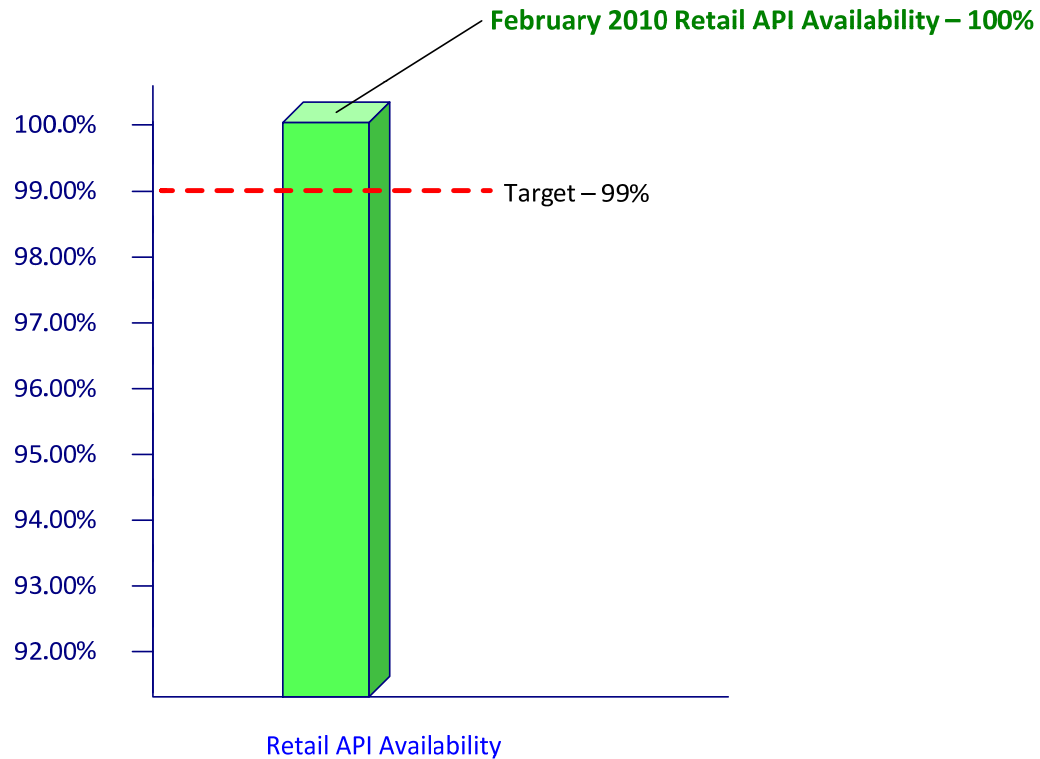
February 2010 MarkeTrak Availability – 100%

Target – 98%

MarkeTrak Availability

TML Report Explorer Availability Summary

February 2010 TML Report Explorer Availability Summary

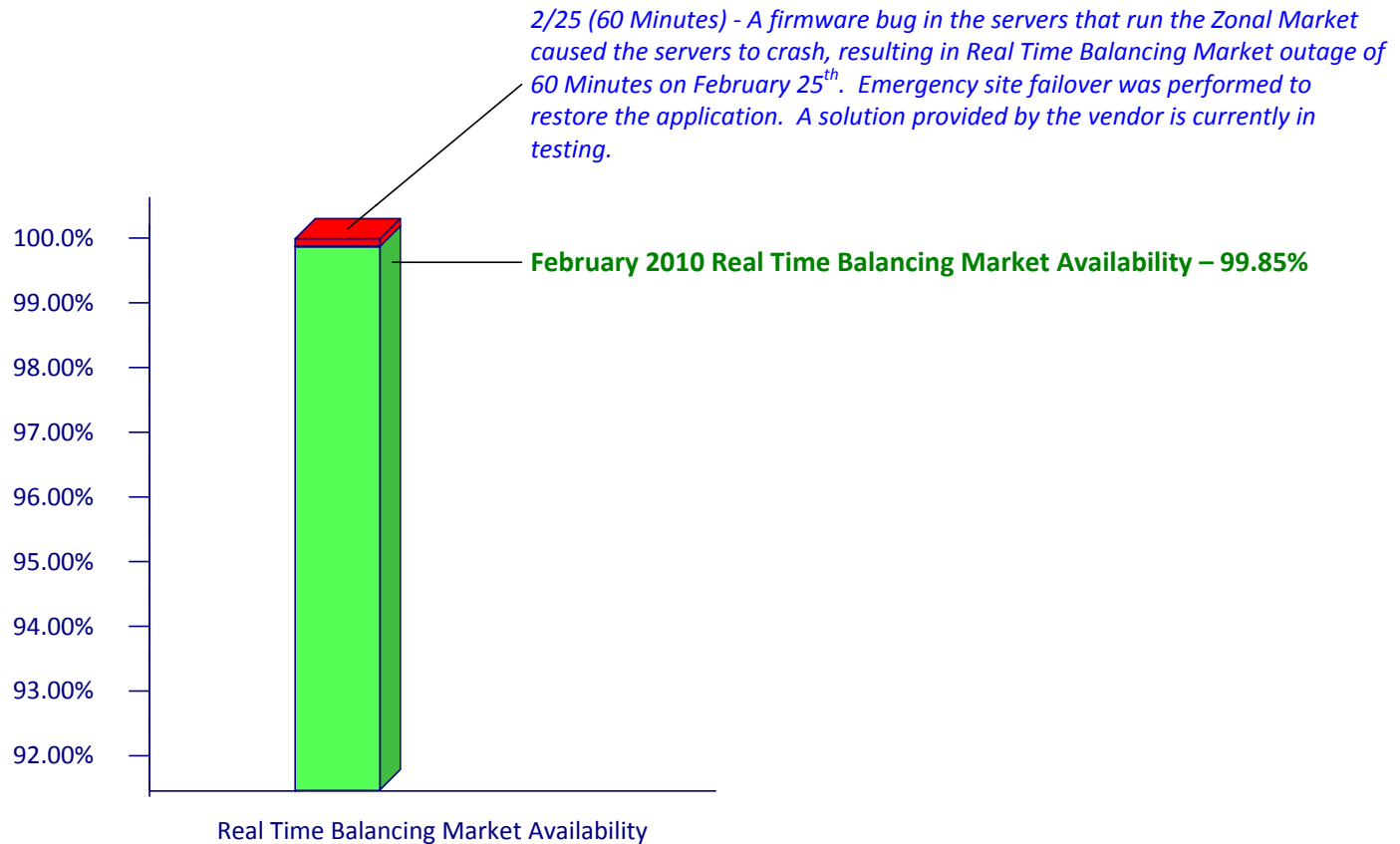February 2010 TML Report Explorer Availability – 100%

100.0%	
99.00%	Target – 99%
98.00%	
97.00%	
96.00%	
95.00%	
94.00%	
93.00%	
92.00%	

TML Report Explorer Availability

Retail API Availability Summary

February 2010 Retail API Availability Summary

February 2010 Retail API Availability – 100%

Target – 99%

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

## February 2010 Real Time Balancing Market Availability Summary

2/25 (60 Minutes) - A firmware bug in the servers that run the Zonal Market caused the servers to crash, resulting in Real Time Balancing Market outage of 60 Minutes on February 25th. Emergency site failover was performed to restore the application. A solution provided by the vendor is currently in testing.

February 2010 Real Time Balancing Market Availability – 99.85%

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

Real Time Balancing Market Availability

Frequency Control Availability Summary

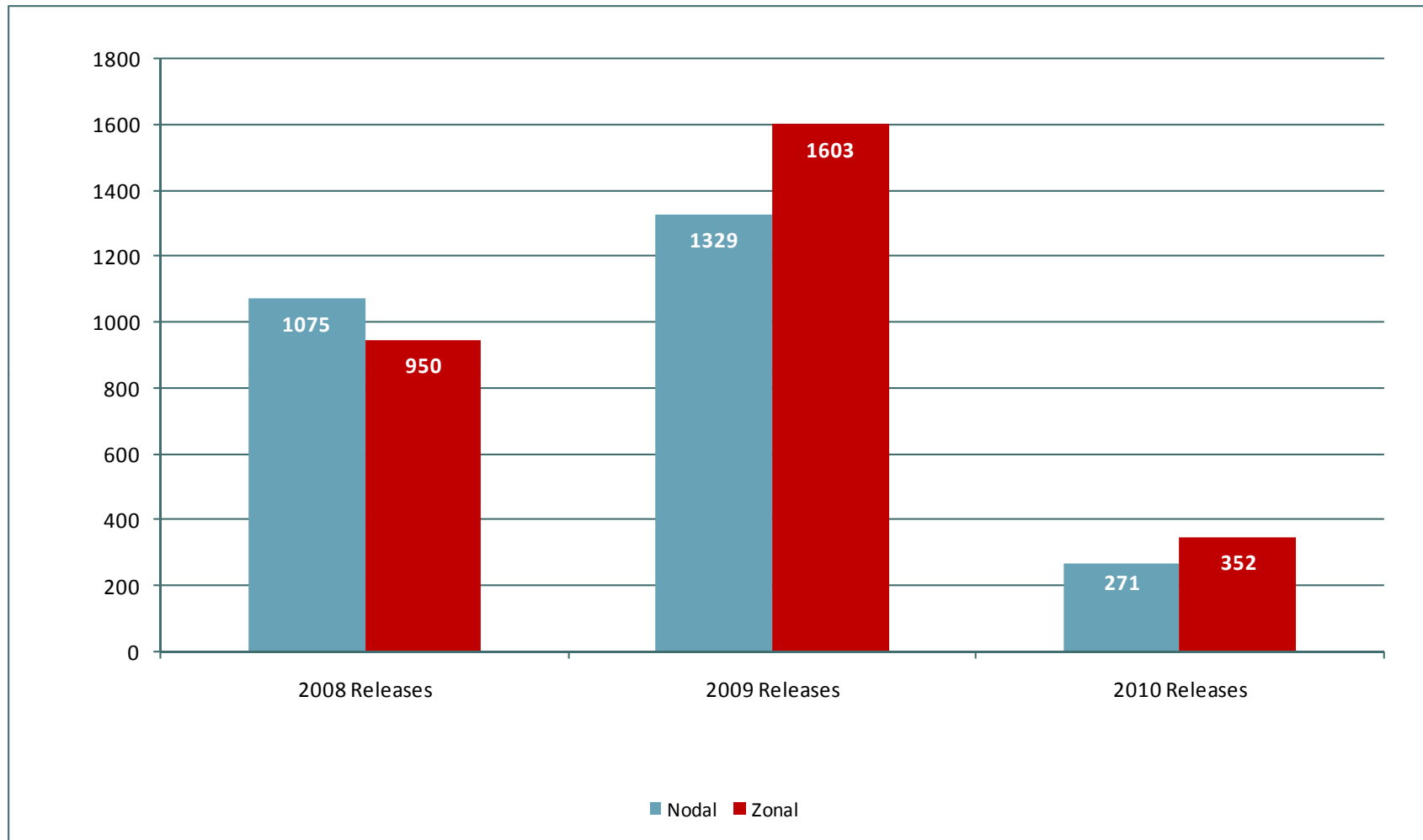February 2010 Frequency Control Availability Summary

February 2010 Frequency Control Availability – 100%

Release Management Metrics (3-Year Releases by Month)
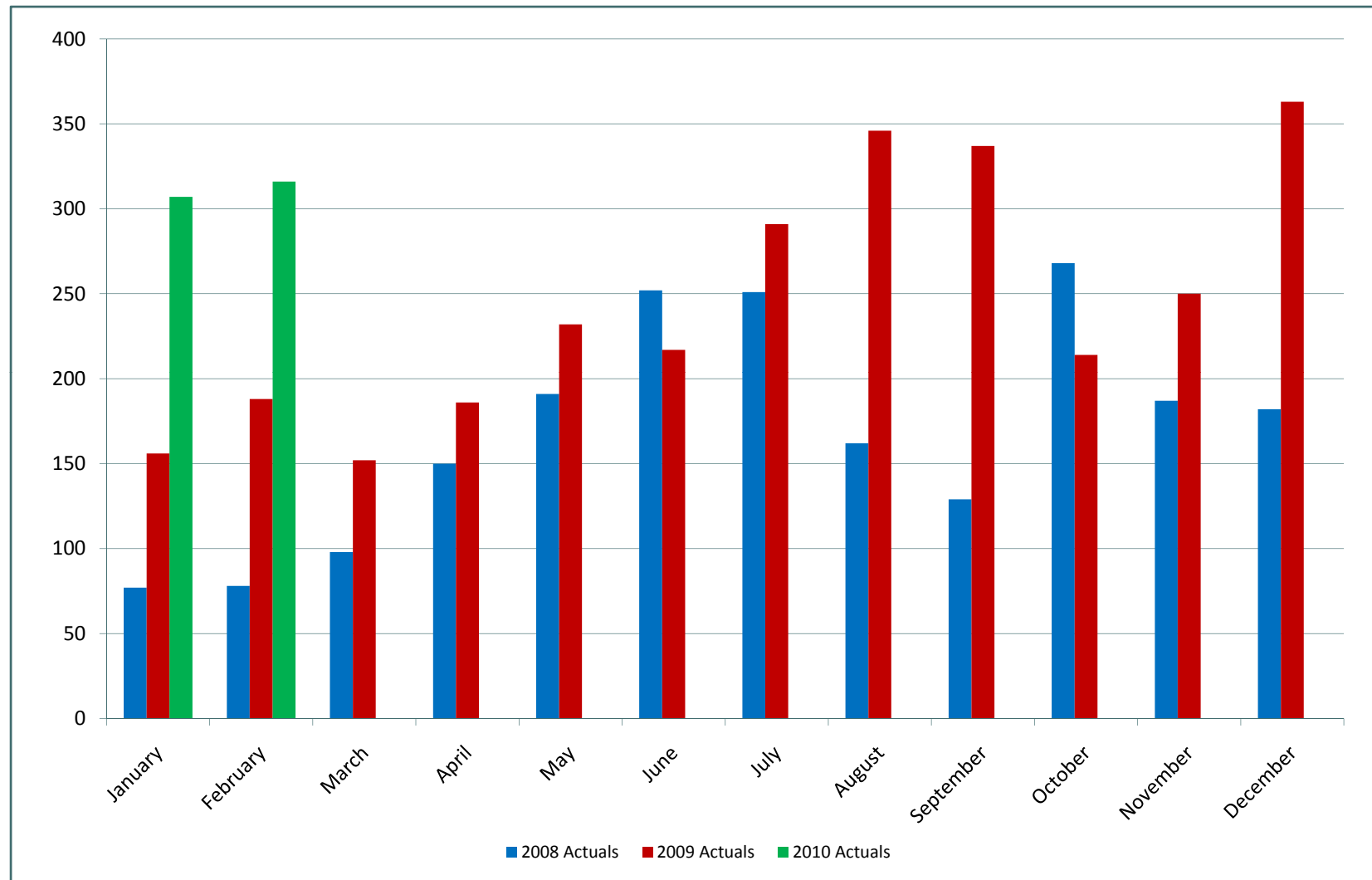
Release Management Metrics (Nodal vs. Zonal Releases)

Note: **2010 metrics are YTD**

ERCOT Public Website Metrics (February 2010)

Name↑	Reports	Status	Visits	Avg. Time on Site	Bounce Rate	Completed Goals	Visits % Change
http://faq.ercot.com UA-460876-6							
☆ faq.ercot.com	View report	✓	993	00:02:43	45.12%	0	⬆ 23.97%
http://nodal.ercot.com UA-460876-5							
☆ nodal.ercot.com	View report	✓	13,725	00:03:51	35.34%	0	⬆ 16.59%
http://planning.ercot.com UA-460876-7							
☆ planning.ercot.com	View report	✓	2,254	00:04:56	20.14%	0	⬇ -2.25%
http://search.ercot.com UA-460876-8							
☆ search.ercot.com	View report	✓	5,120	00:03:12	47.70%	0	⬇ -3.94%
http://www.ercot.com UA-460876-2							
☆ www.ercot.com	View report	✓	98,033	00:02:40	60.07%	1	⬇ -1.52%

Find profile: _____   Show rows: 10

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

Metrics Guide – Nodal Production

- **Aggregate Energy Management System (EMS)**
  - Measure of the availability of the software that provides real time grid control capability. Calculated as average of deployed & monitored components availability

- **Outage Scheduler**
  - Measure of the availability of the software to manage the submission, modification, deletion of schedules for various types of transmission and generation systems outages

- **Network Model Management System (NMMS)**
  - Measure of the availability of the software to manage the ERCOT network model. Calculated as availability of model management core engine (IMM)

- **Congestion Revenue Rights (CRR)**
  - Measure of the availability of the software to manage the financial instruments that help Market Participants hedge against losses due to transmission constraints

Nodal Production – February 2010 Net Availability

February 2010 Net Availability for Nodal Production systems

	Aggregate EMS	Outage Scheduler	NMMS	CRR
Availability	99.46	100.00	99.62	100.00
SLA Target	98.00	98.00	98.00	98.00