



# Information Technology Report

Richard Morgan  
Vice President & CIO

**ERCOT Board of Directors**  
**May 18, 2010**

# Agenda and Commentary

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## Highlights

- **New Data Centers:** Construction of the new data centers in Bastrop and Taylor continues to be on schedule and under budget. Final integration testing for building is planned to begin in early July, approximately one month ahead of original schedule. These data centers provide additional capacity needed for ongoing ERCOT operations. April highlights include the following:
  - All long lead time items delivered
  - UPS Factory Witness Testing completed during April 5-8 in Ohio
- **UPS Replacement at Met Center:** A 50KVA UPS, which provides backup power supply to the Met Center was replaced without interruptions to operations. The existing UPS failed in October 2009 and was repaired. The vendor agreed to replace the existing system to ensure reliable operations.
- **Trademark application for “Macomber Map”:** A trademark application for the name “Macomber Map” has been filed with US Patent and Trademark Office. This is in compliance with BOD recommendation during Special Nodal Program committee meeting on February 15 to ensure intellectual property protection of the Macomber Map development effort. An application for copyright protection will be filed this month. The Macomber Map provides situational awareness for control room operators so that operators can drill down to details related to network model and operational data (real-time, energy study and market) both geographically and temporally.

# Agenda and Commentary (continued)

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## Highlights

- **Business Continuity Plan:** The 2010 Business Continuity Drill was completed with full participation from the Disaster Recovery Team primary members. Taylor Police and Fire Departments participated in the exercise and critiqued ERCOT plans and action steps for a scenario where the Taylor Data Center was inaccessible and computer center equipment was damaged.
- **Nodal site failover tests:** Site failover tests were completed successfully for the following Nodal systems: EMS, MMS, Current Day Reports (CDR), and Enterprise Integration Framework (based on Tibco / Oracle RAC). Site failover capability is a key part of ensuring high availability and reliability, and is a requirement of Operational Readiness.
- **Application performance improvements:** Commercial systems performance was enhanced by code optimization and tuning, as described below:
  - For the Data Aggregation function, processing time for loading LSE data into internal database tables was reduced from 1 hour to 7 minutes
  - For Missing Consumption reporting for AMS Customers, report generation time was reduced from 16 hours to 24 minutes

# Agenda and Commentary (continued)

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## Highlights

- **Missed Real Time Balancing Market intervals:** EMS network connectivity issues caused a loss of data exchange between the energy and market management systems, resulting in two missed Real Time Balancing Market intervals on 4/1 and 4/22. This is an intermittent issue that also occurred in March. ERCOT is continuing to work with hardware vendor to diagnose the issue. Additionally, ERCOT has enabled additional process logging and is closely monitoring system performance.
- **Retail transaction processing unplanned outages:** Storage disks generated an error resulting in an outage of the Retail Transaction Processing application on two occasions - 4/1 (148 Minutes) and 4/12 (149 Minutes). Data integrity scans were performed before restoring the application. An architectural change was implemented as the final resolution.
- **Delayed posting of data extracts:** Posting of EMMS-related data extracts was delayed from 4/30 to 5/04 due to replication issues between EMMS and Enterprise Information System (EIS) following a software change in the April 29<sup>th</sup> release. A workaround has been put in place and all extracts were made current by May 5<sup>th</sup>. A permanent resolution will be implemented by May 6<sup>th</sup>.

# Agenda and Commentary (continued)

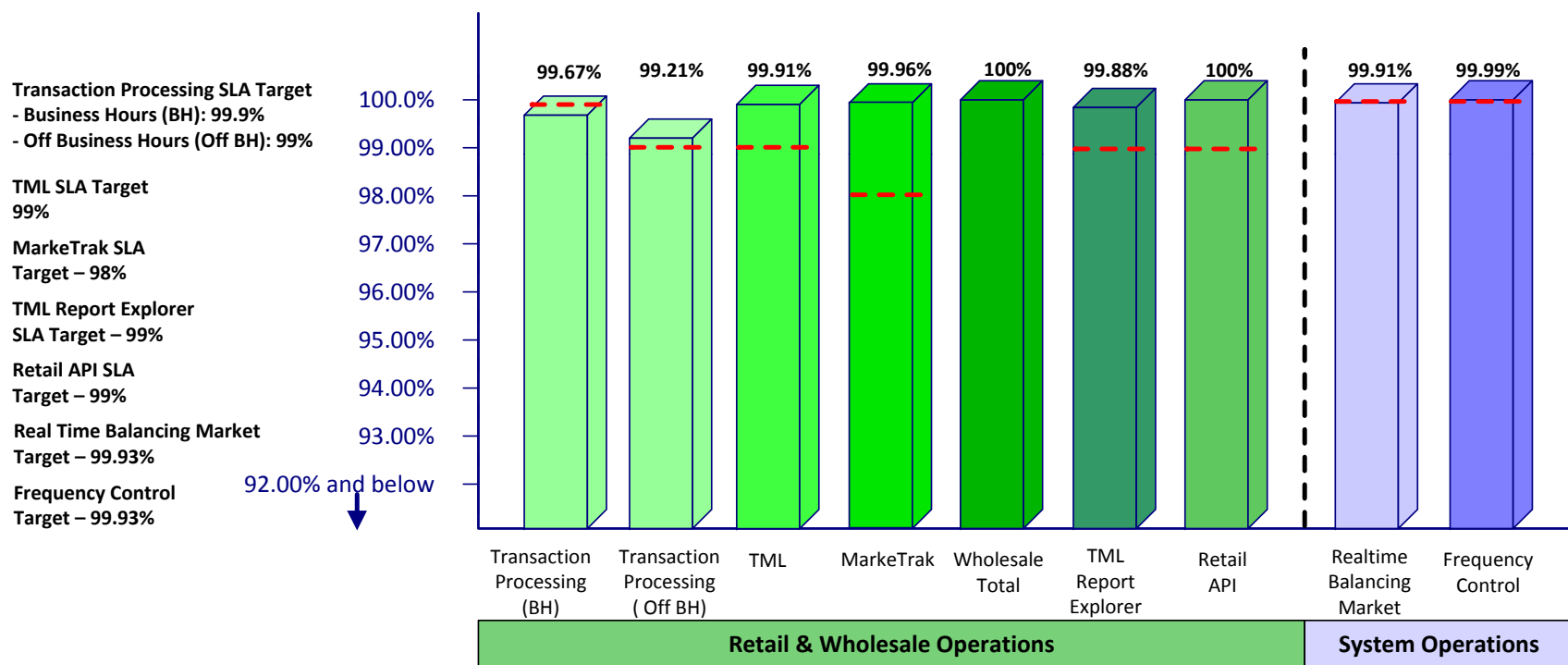
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## Highlights

- **Systems Issues at the end of April:** Information Technology staff implemented a large number of software and infrastructure changes from Thursday April 29<sup>th</sup> through Sunday May 2<sup>nd</sup>. Inadequate testing and failure to correctly restart services resulted in impact to both internal ERCOT business units and Market Participants. Recovery procedures were implemented throughout the weekend to minimize the issues. Impacts were to both Zonal systems and Nodal Market Trials.
  - **Major Impacts:**
    - Eleven daily market reports were not available per Protocol requirement
    - Retail Transaction Processing was delayed on Monday
    - The Nodal Network Model Management system was unavailable; and,
    - Some users experienced report access, slow response, and system access issues
- **Planned system change “Freeze”:** Effective May 3<sup>rd</sup>, in preparation for Nodal “Go-Live”, all system changes are being limited until after Nodal implementation. Any change other than Nodal changes or emergency changes must go through the CEO Review process for exception approval.

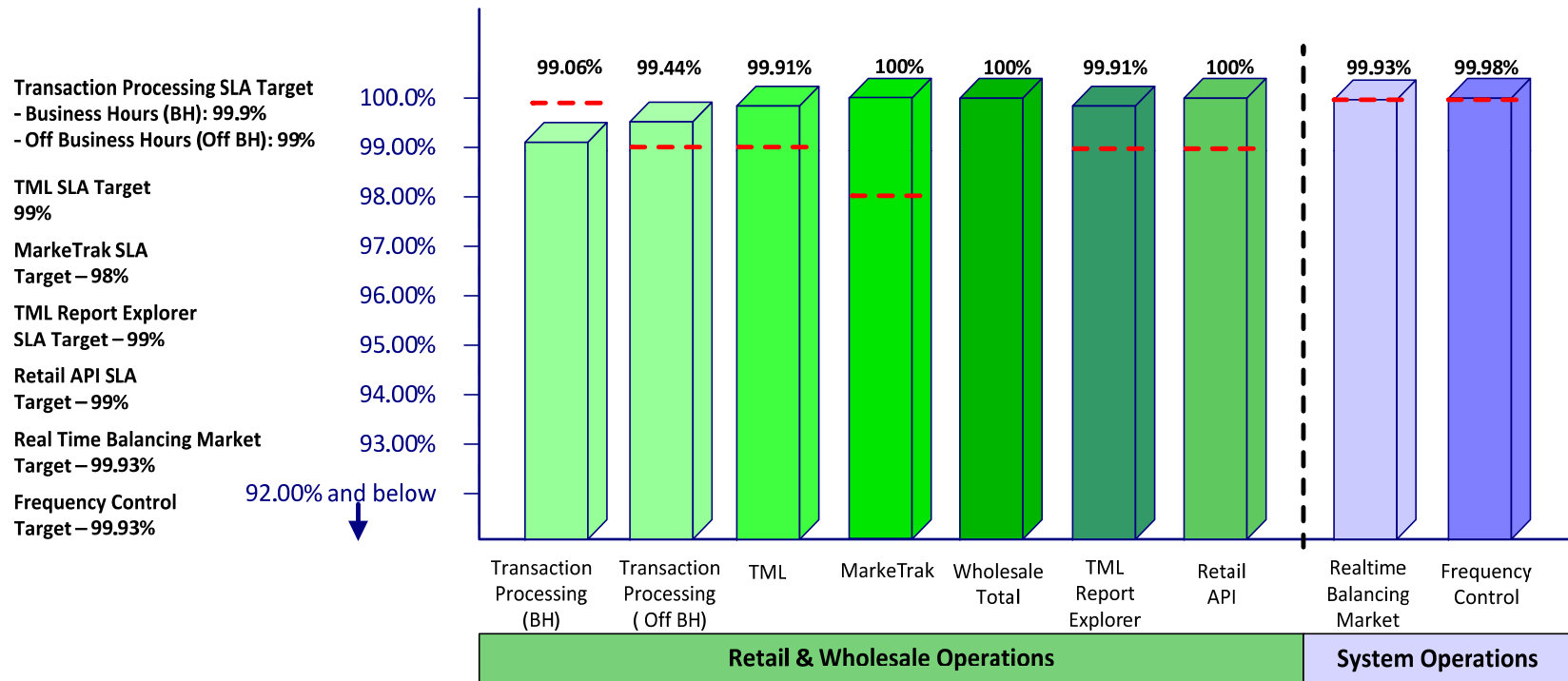
# 2010 Net Service Availability

## 2010 Net Service Availability Through April 30<sup>th</sup>, 2010



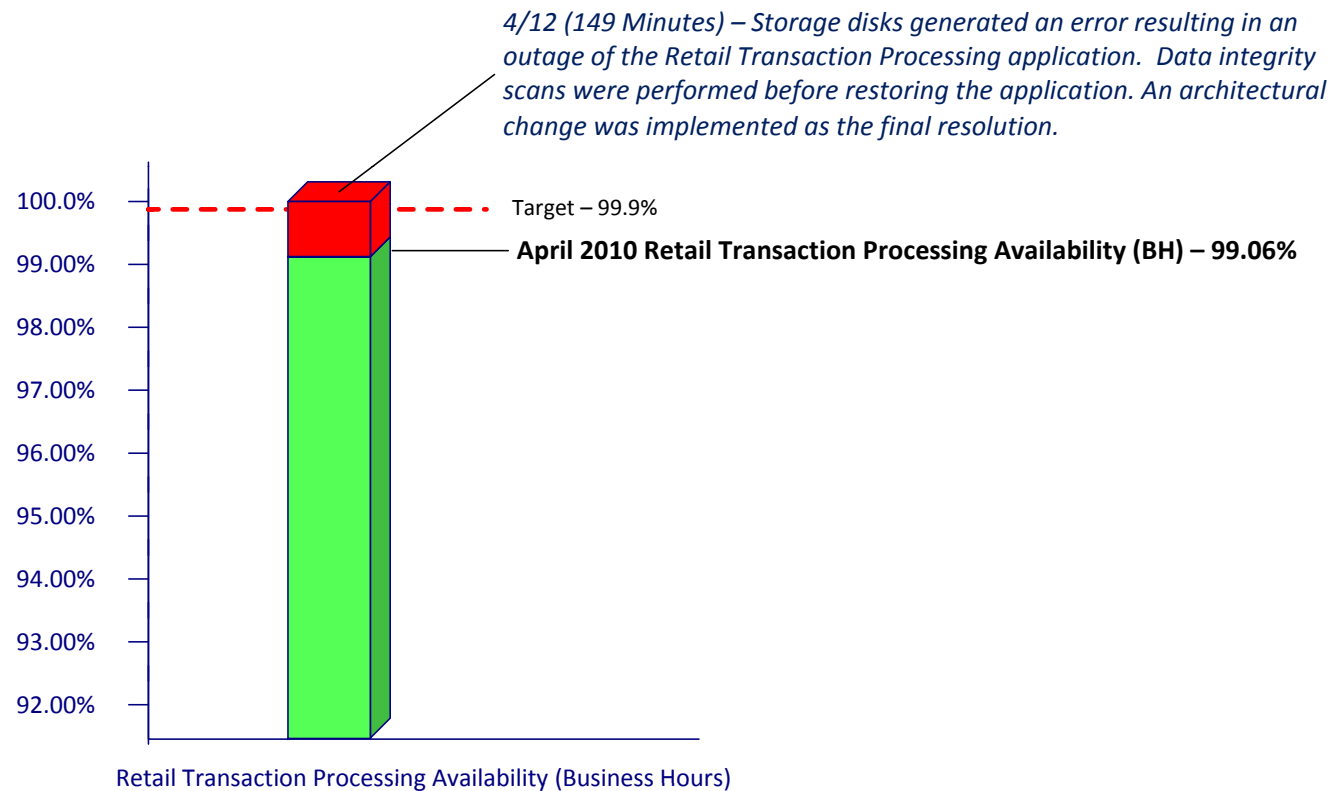
# April 2010 Net Service Availability

## April 2010 Net Service Availability



# Retail Transaction Processing Availability Summary

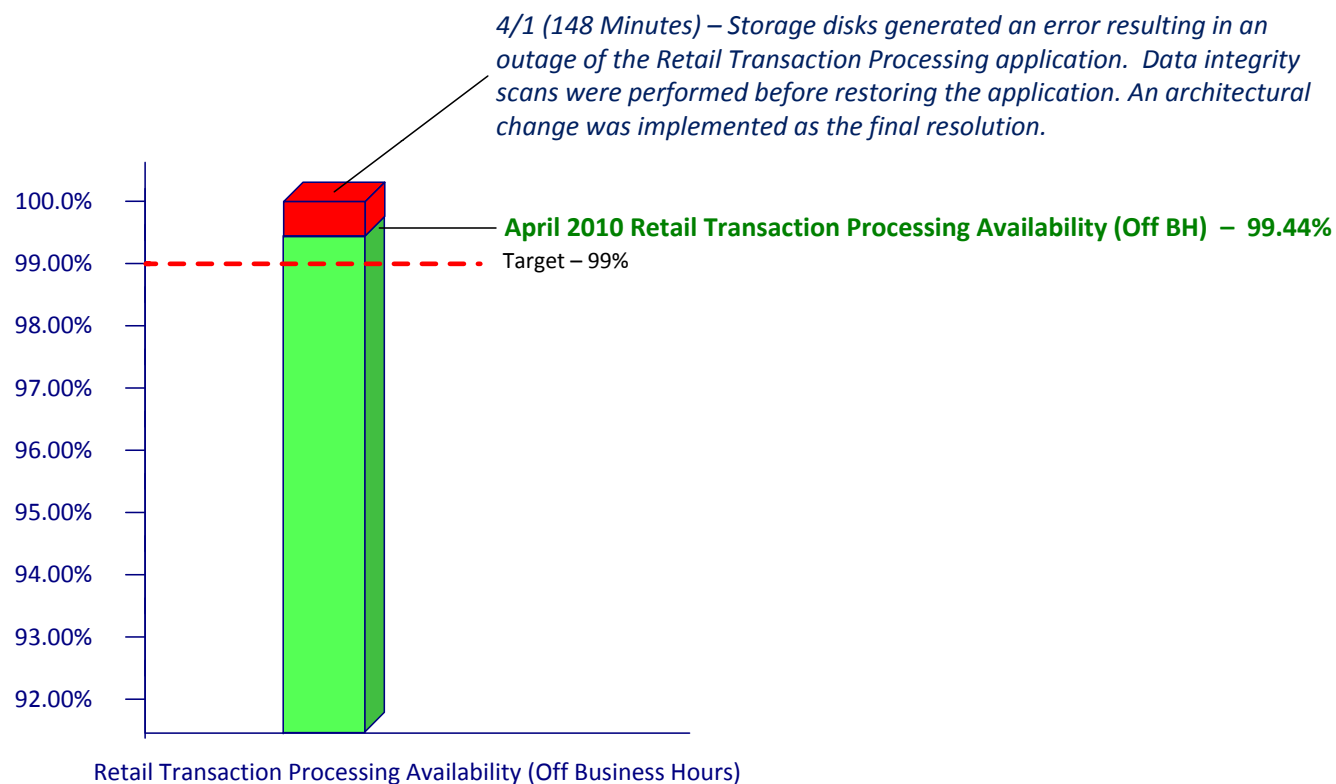
## April 2010 Retail Transaction Processing Availability Summary (Business Hours)





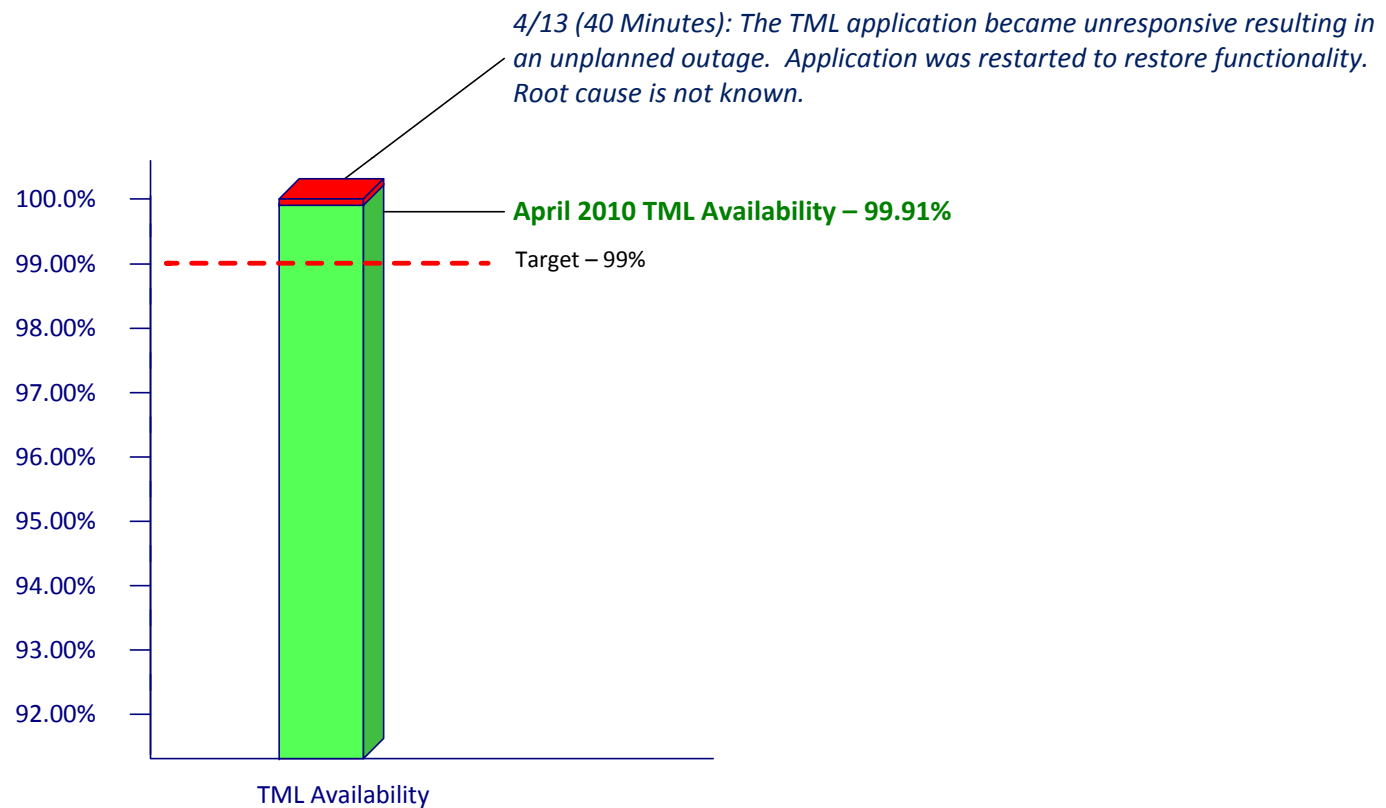
# Retail Transaction Processing Availability Summary (contd.)

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



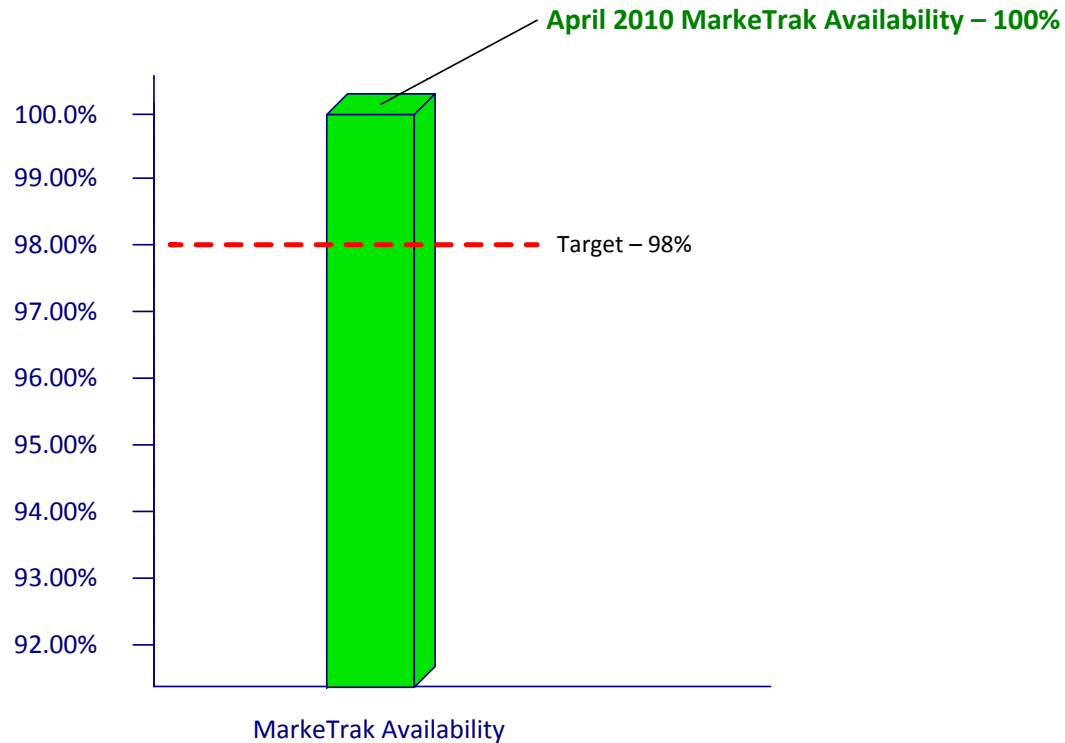
# TML Availability Summary

## April 2010 TML Availability Summary



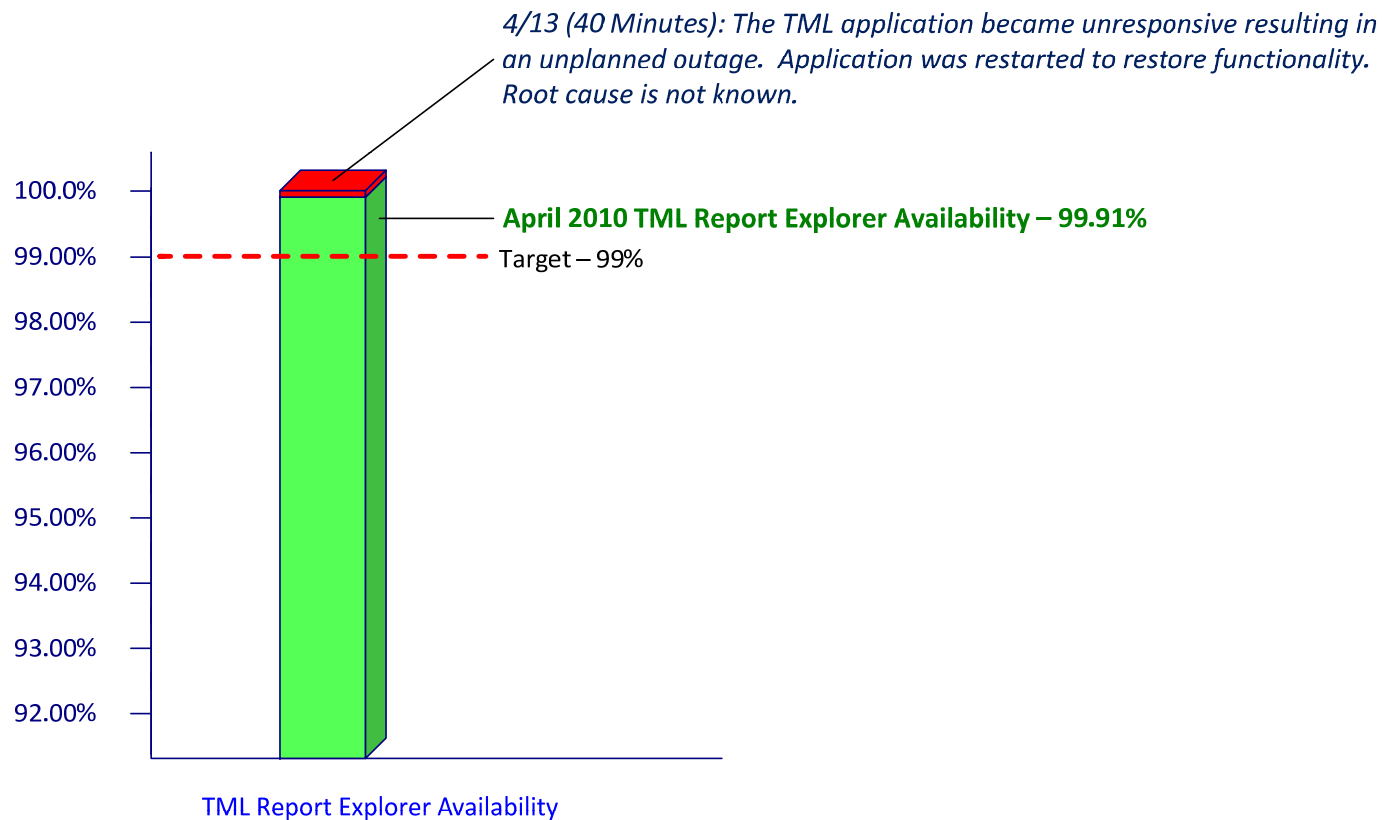
# MarkeTrak Availability Summary

## April 2010 MarkeTrak Availability Summary



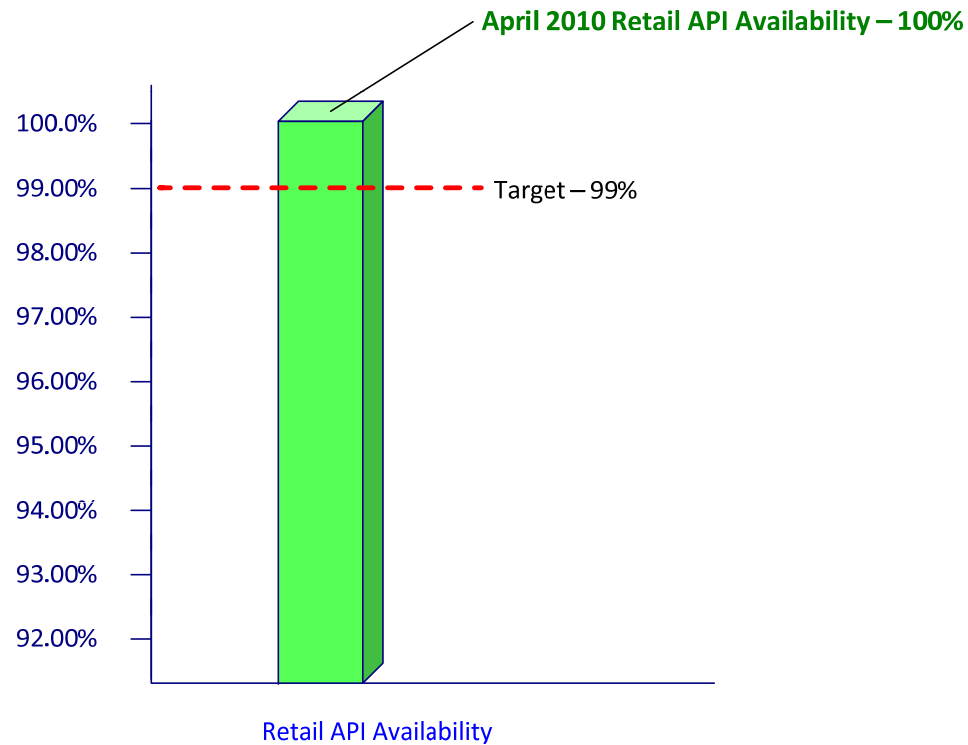
# TML Report Explorer Availability Summary

## April 2010 TML Report Explorer Availability Summary



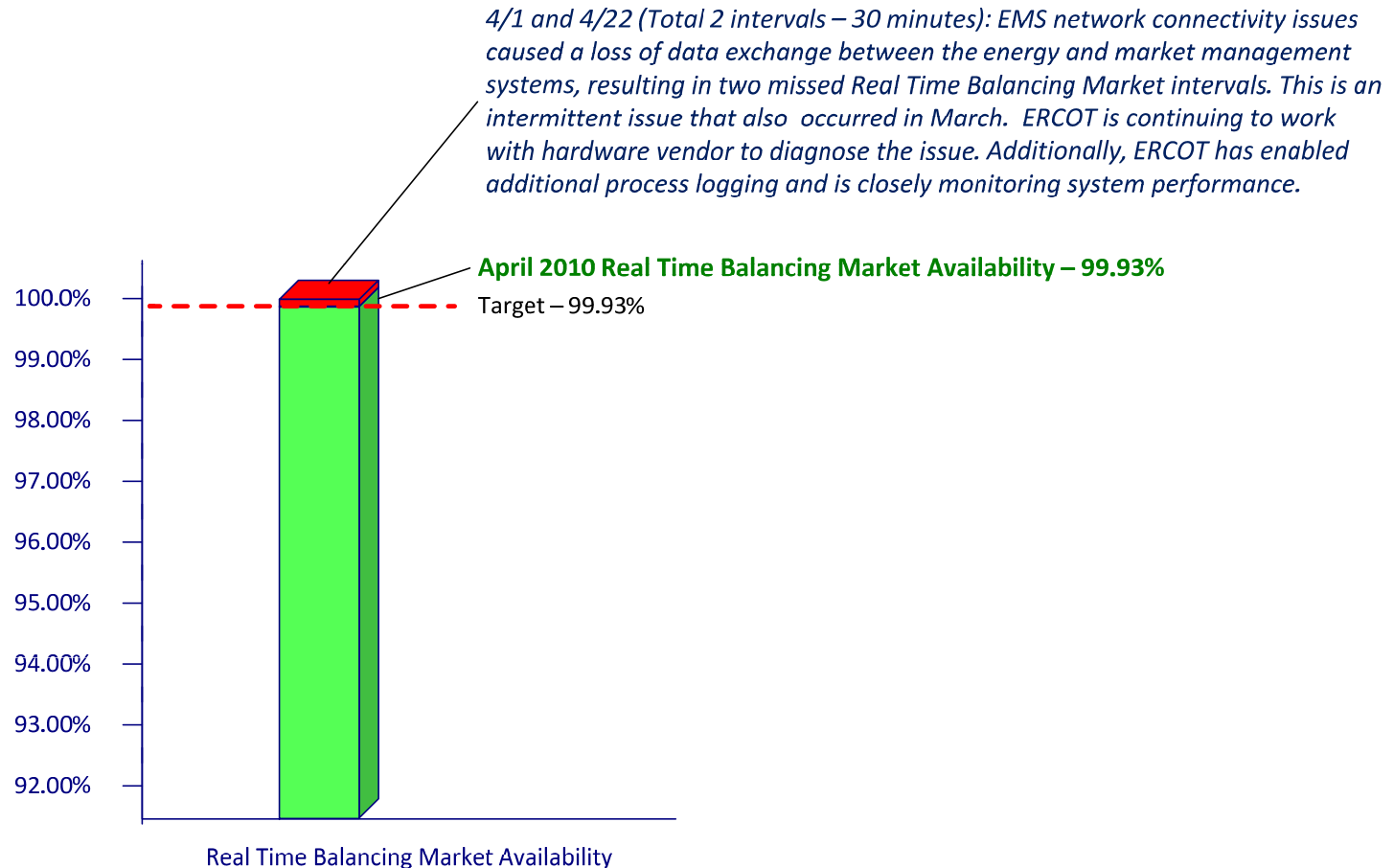
# Retail API Availability Summary

## April 2010 Retail API Availability Summary



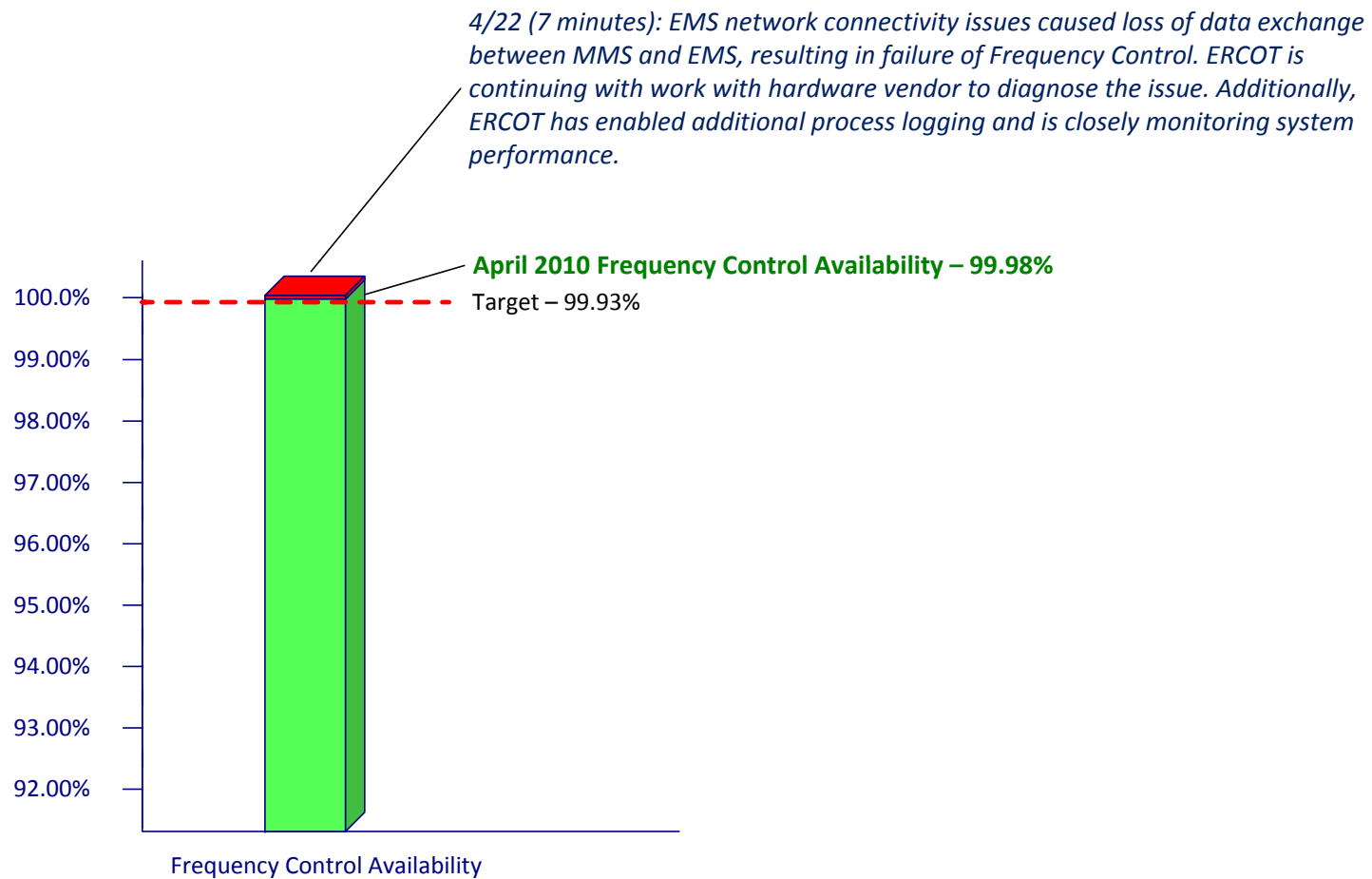
# Real Time Balancing Market Availability Summary

## April 2010 Real Time Balancing Market Availability Summary

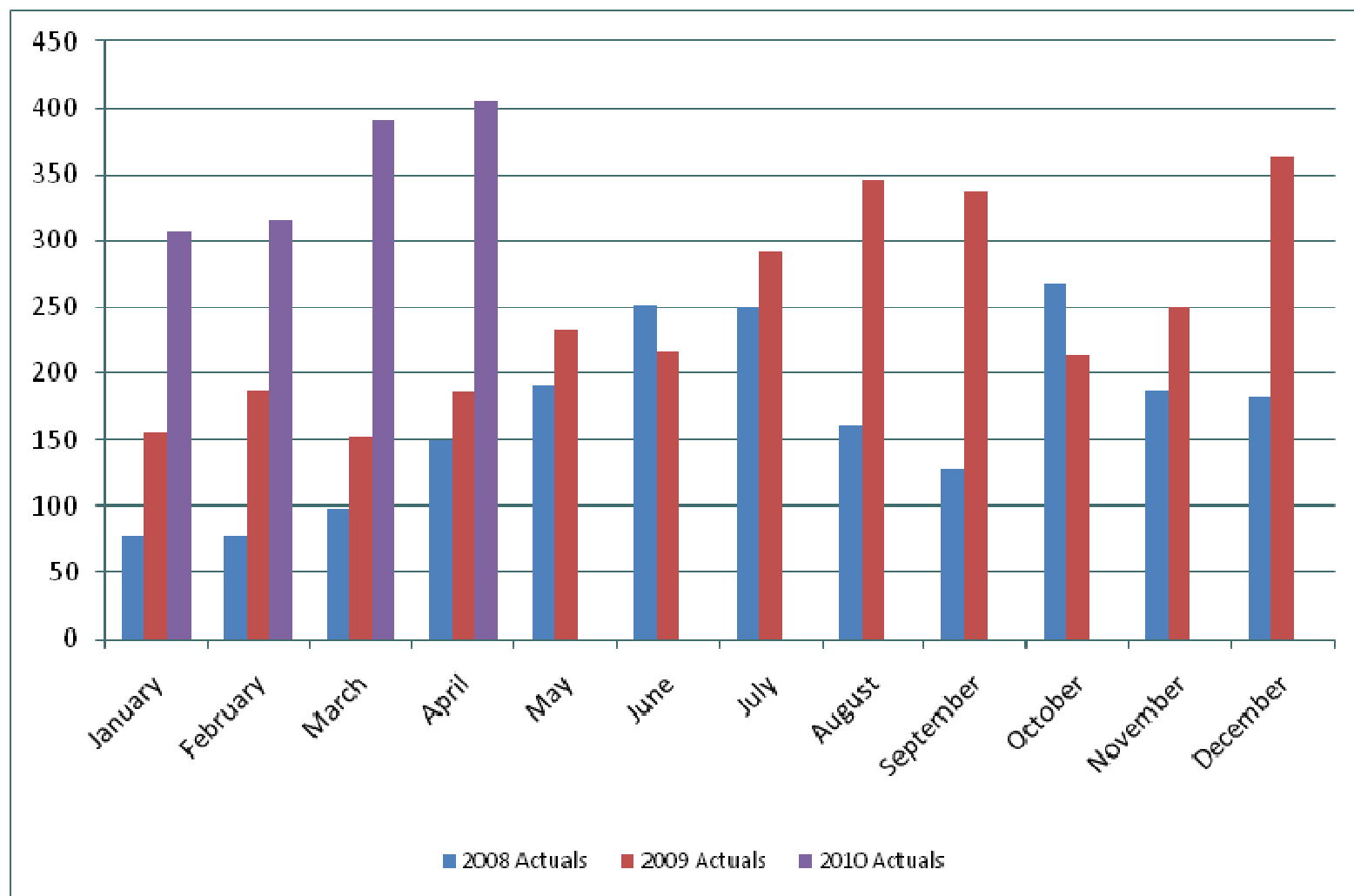


# Frequency Control Availability Summary

## April 2010 Frequency Control Availability Summary

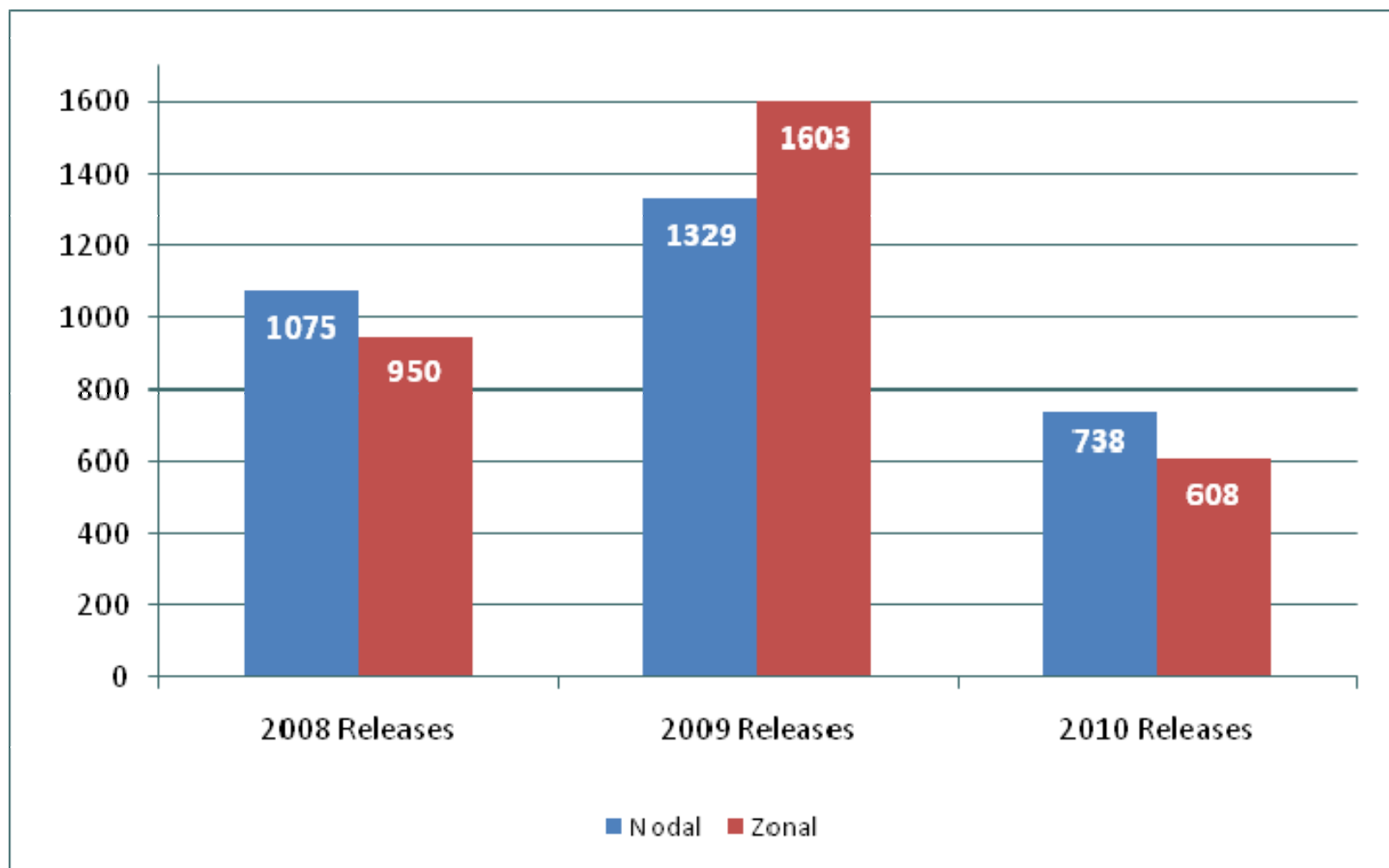


## Release Management Metrics (3-Year Releases by Month)





## Release Management Metrics (Nodal vs. Zonal Releases)



**Note:** 2010 metrics are YTD

# ERCOT Public Website Metrics (April 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	<a href="#">view report</a>	✓	1,289	00:02:15	48.56%	0	↑ 25.02%
http://nodal.ercot.com UA-460876-5							
★ nodal.ercot.com	<a href="#">View report</a>	✓	15,347	00:03:53	35.00%	0	↑ 29.58%
http://planning.ercot.com UA-460876-7							
★ planning.ercot.com	<a href="#">View report</a>	✓	2,454	00:04:57	17.81%	0	↑ 12.21%
http://search.ercot.com UA-460876-8							
★ search.ercot.com	<a href="#">View report</a>	✓	5,727	00:02:59	49.61%	0	↑ 16.05%
http://www.ercot.com UA-460876-2							
★ www.ercot.com	<a href="#">View report</a>	✓	104,043	00:02:36	60.31%	1	↑ 13.61%
Find profile: <input type="text"/>							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

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- **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 – April 2010 Net Availability

**April 2010 Net Availability for Nodal Production systems**

