



# Information Technology and Facilities Report

Richard Morgan  
Vice President & CIO

**ERCOT Board of Directors**  
**September 21, 2010**

# Highlights

---

- **Service Availability:**
  - Systems availability for all services met or exceeded SLA targets
  - Numerous system performance issues occurred on 8/30, primarily after business hours
- **Service Level Agreements (SLA):**
  - Completion of Nodal Service Level Agreements in progress
  - SLAs for post-Go Live services are being drafted and analyzed with results of Market Trials and the 168-hour test, and will be presented to the NATF in October
  - Nodal SLAs will add numerous metrics for availability and performance reporting
- **8/7: Retail processing outage of 80 minutes caused by a network card failure**
- **8/13 – 8/14: Failure of internal multiplexer resulted in a frame outage in the Austin Datacenter, impacted 41 SCED intervals and a delay of the Day Ahead Market on 8/13**
  - A planned repair of the system was completed from 5:00pm 8/13 to 8:00am 8/14
  - SCED was down from 3am to 6am on 8/14 during the planned maintenance outage
  - An emergency site failover to Taylor was initiated on 8/14 after initial repairs failed to fully resolve hardware failure
  - Process changes underway to monitoring, incident management, and application defect fixes

# Highlights

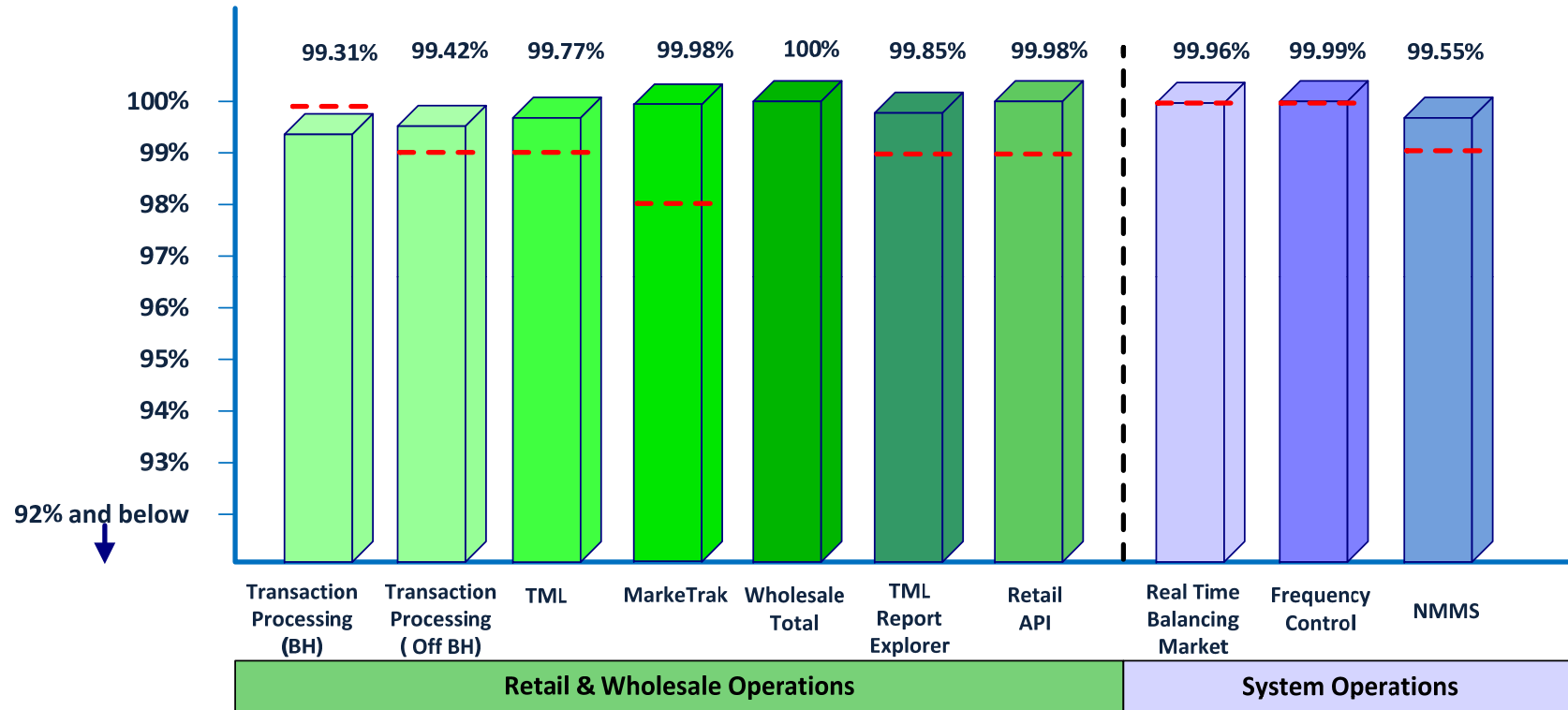
---

- **8/30: Multiple Web applications were unavailable or intermittently available over several hours as a result of two outage incidents, both caused by human error**
- **9/4 – 9/7: ERCOT experienced a storage area network (SAN) hardware failure in the Taylor Datacenter**
  - Required a site failover for Nodal systems to the Austin Datacenter on 9/5
  - Required a 14 hour emergency outage on 9/6 for system repairs
  - Numerous components using ERCOT's data warehouse were unavailable during the outage
  - Six categories of extracts and reports were delayed between 2 hours and 3 days while the systems processed the transaction backlog
    - Settlement Input Data, Market Shadow Price, Day-Ahead Report, Weekly Siebel Service Order, ESI ID Service History and Usage and Ancillary Service Bid Stack were affected
- **Network Model Management System (NMMS)**
  - **Stability and Performance:**
    - System stability significantly improved from June
      - 4 unplanned restarts in August vs. 109 in June-July
      - 6 planned restarts performed outside SLA window to correct IMM database issues
    - Performance improvements achieved with patch implemented in August
  - **Topology Processor Defect (Planning and CRR model creation):**
    - Code fix implemented with upgrade on 9/9 to resolve issue; testing underway

# 2010 Net Service Availability

## 2010 Net Service Availability

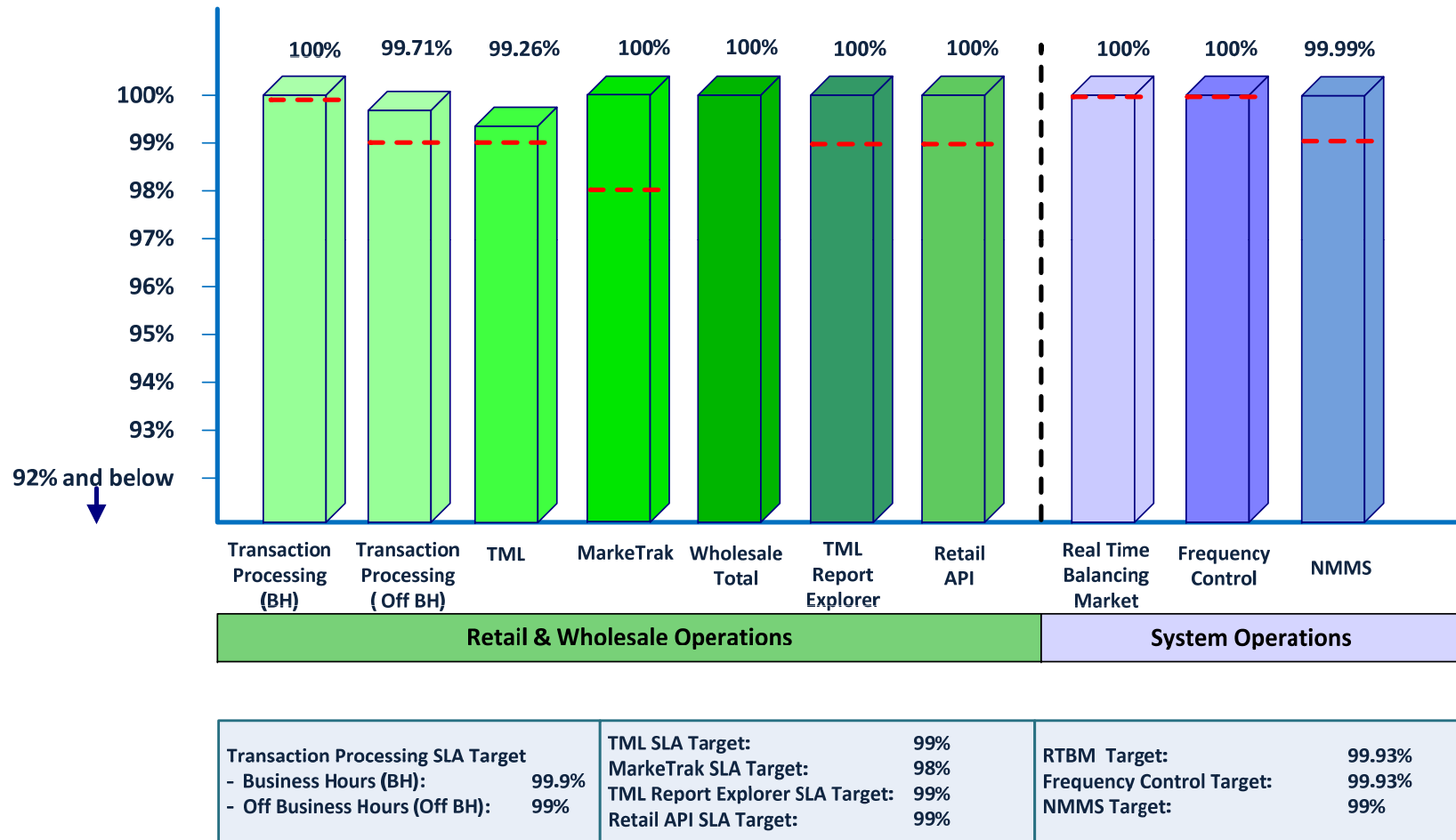
Through August 31<sup>st</sup>, 2010



Transaction Processing SLA Target	TML SLA Target:	99%	RTBM Target:	99.93%	
- Business Hours (BH):	99.9%	MarkeTrak SLA Target:	98%	Frequency Control Target:	99.93%
- Off Business Hours (Off BH):	99%	TML Report Explorer SLA Target:	99%	NMMS Target:	99%
		Retail API SLA Target:	99%		

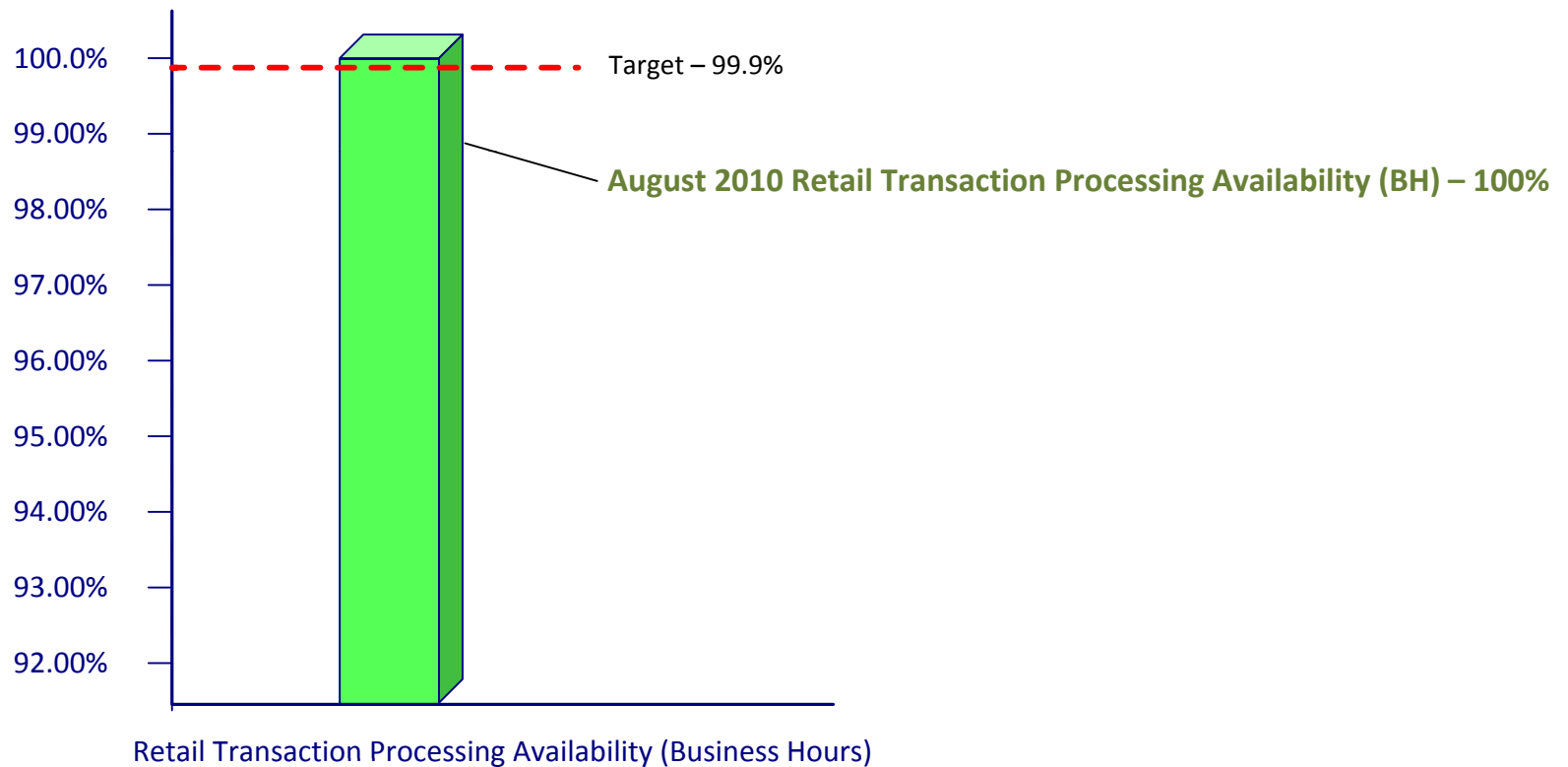
# August 2010 Net Service Availability

## August 2010 Net Service Availability



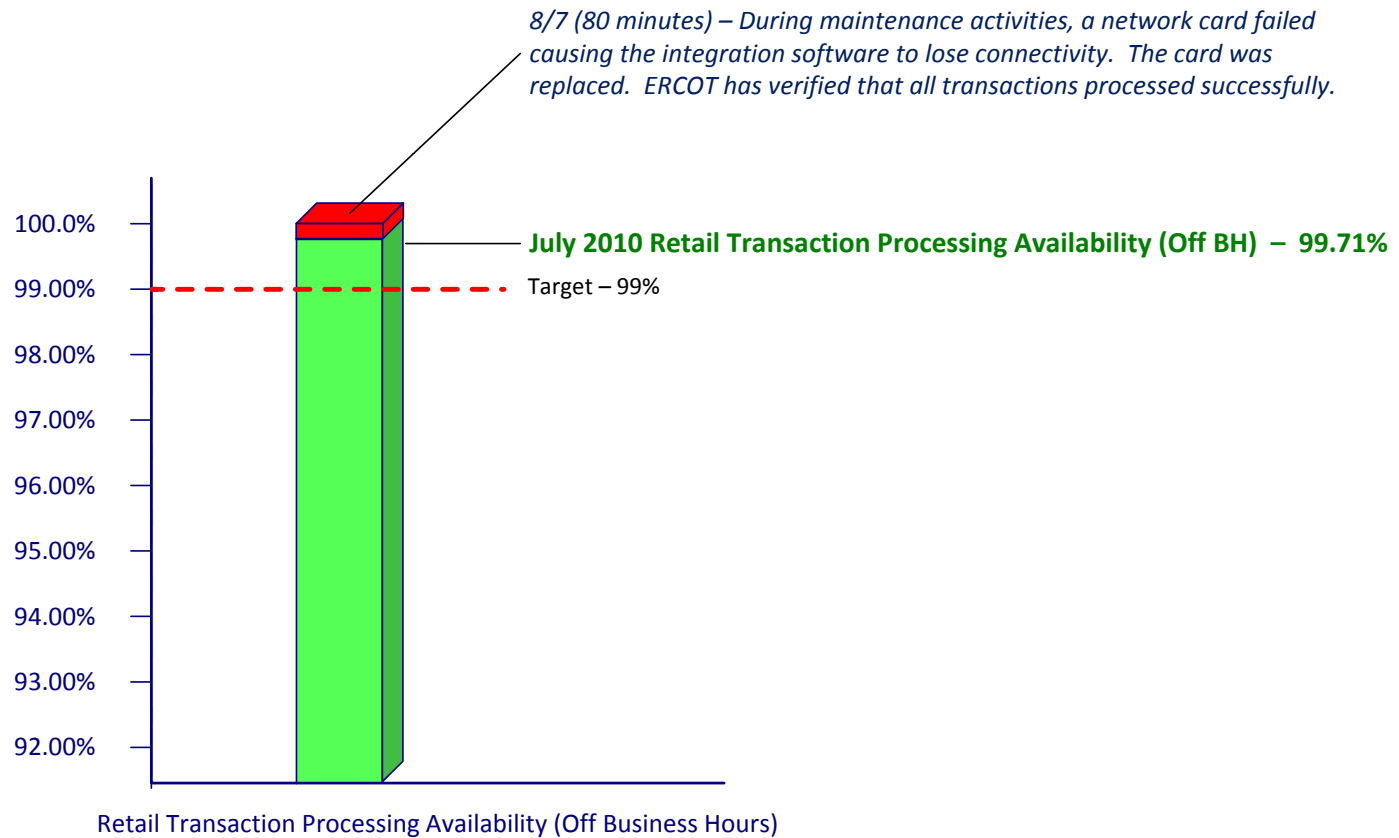
# Retail Transaction Processing Availability Summary

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



# Retail Transaction Processing Availability Summary (contd.)

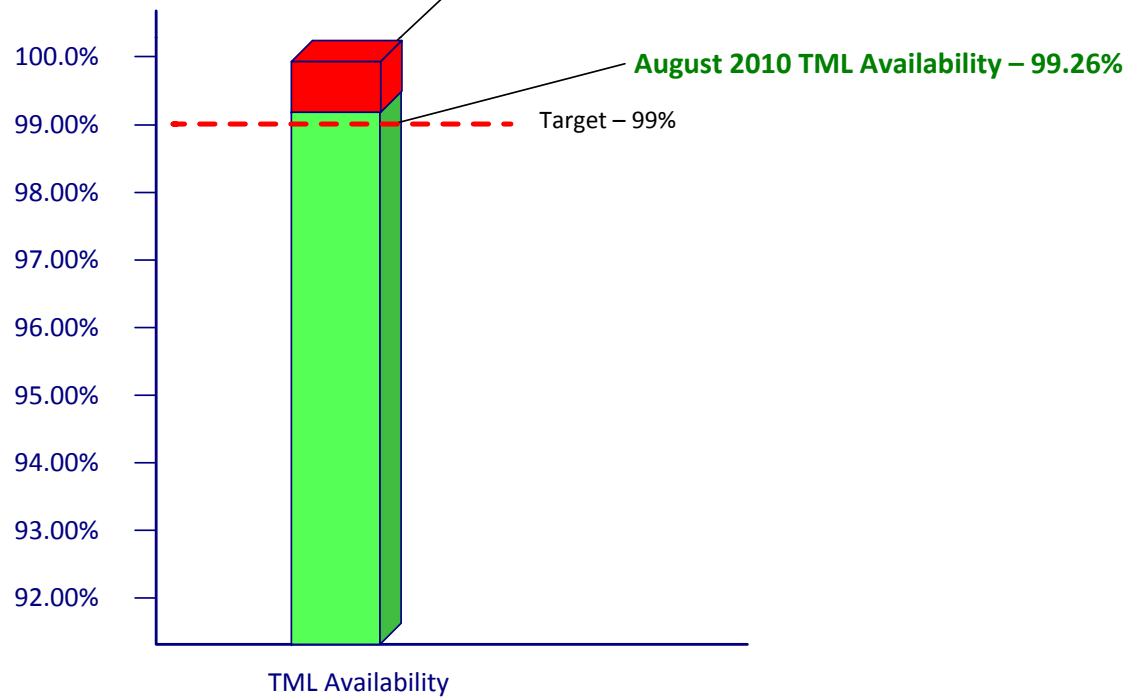
## August 2010 Retail Transaction Processing Availability Summary (Off Business Hours)



# TML Availability Summary

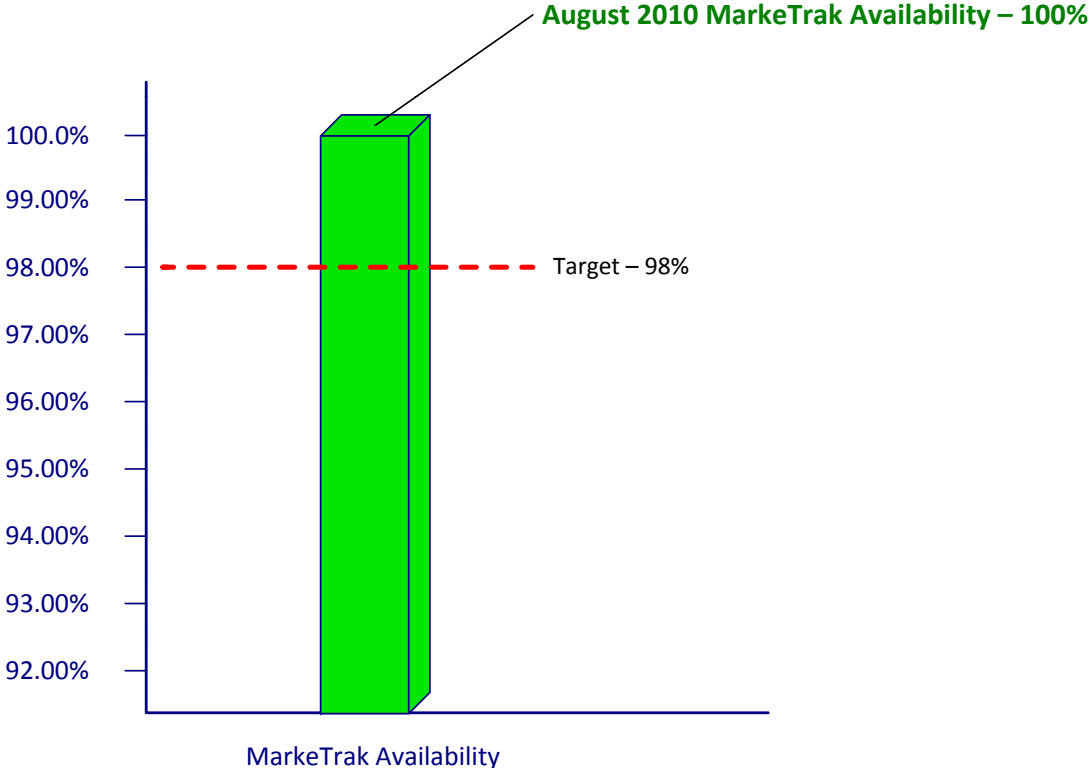
## August 2010 TML Availability Summary

*8/30 (320 minutes) – Two separate outages occurred. A 50-minute outage occurred during business hours due to a configuration issue with the authentication server. A 270-minute outage was caused by 5-year server digital certificates expiring. Certificates were renewed and monitors were put in place. Both outages were the result of human error.*



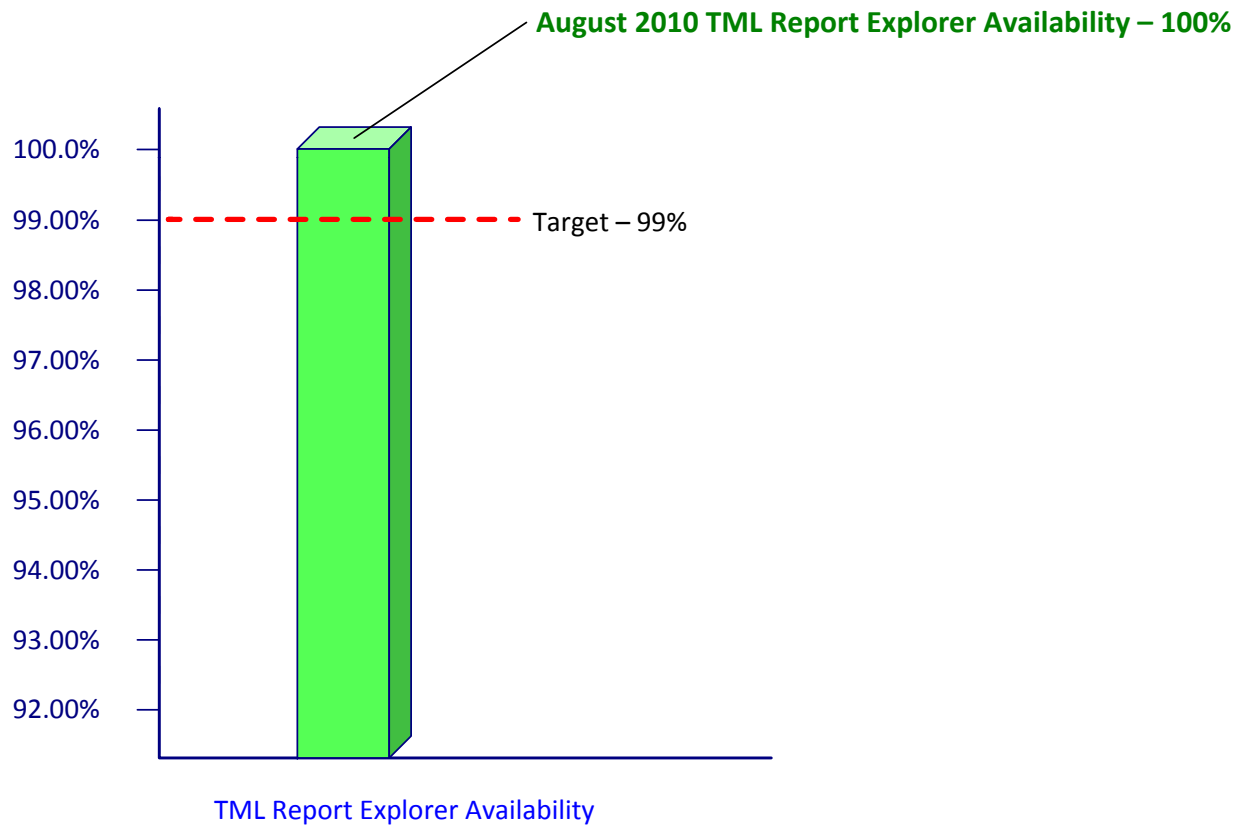
# MarkeTrak Availability Summary

## August 2010 MarkeTrak Availability Summary



# TML Report Explorer Availability Summary

## August 2010 TML Report Explorer Availability Summary



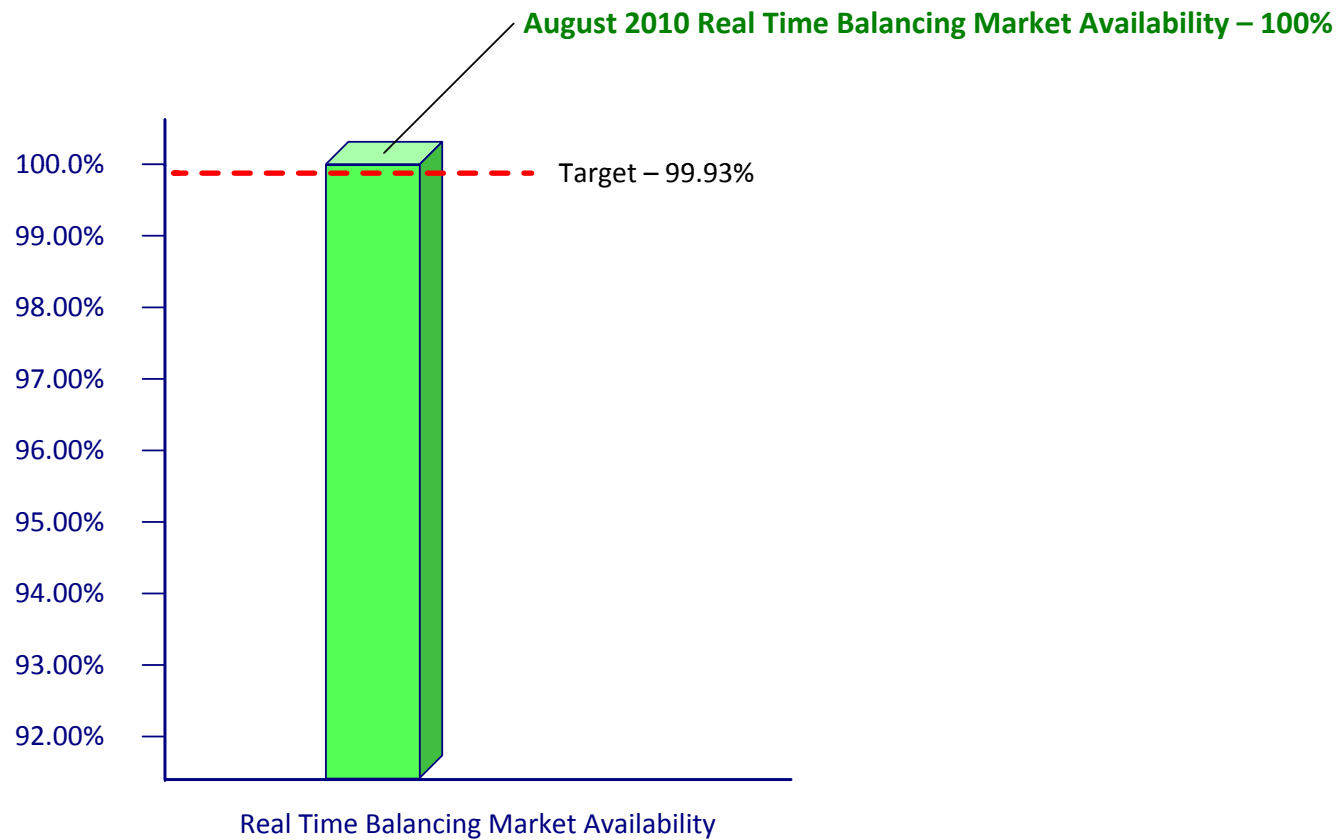
# Retail API Availability Summary

## August 2010 Retail API Availability Summary



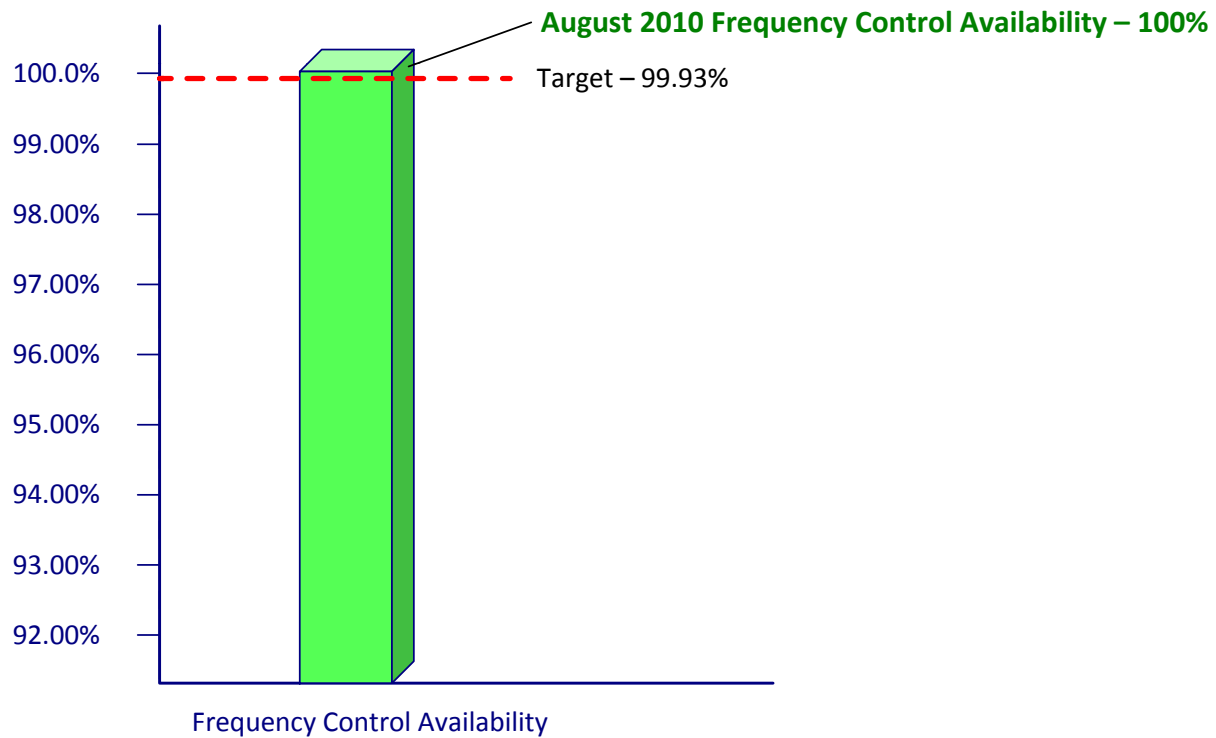
# Real Time Balancing Market Availability Summary

## August 2010 Real Time Balancing Market Availability Summary



# Frequency Control Availability Summary

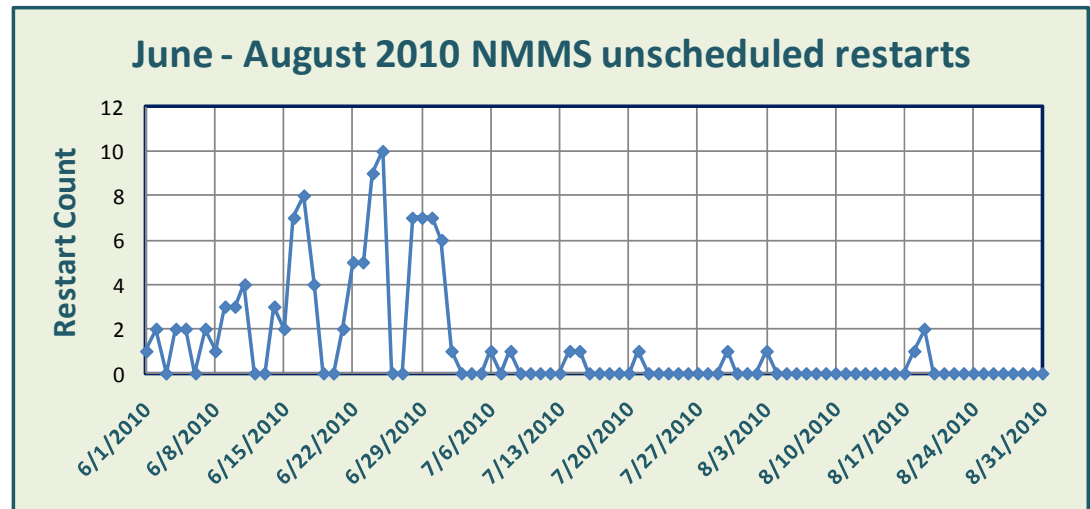
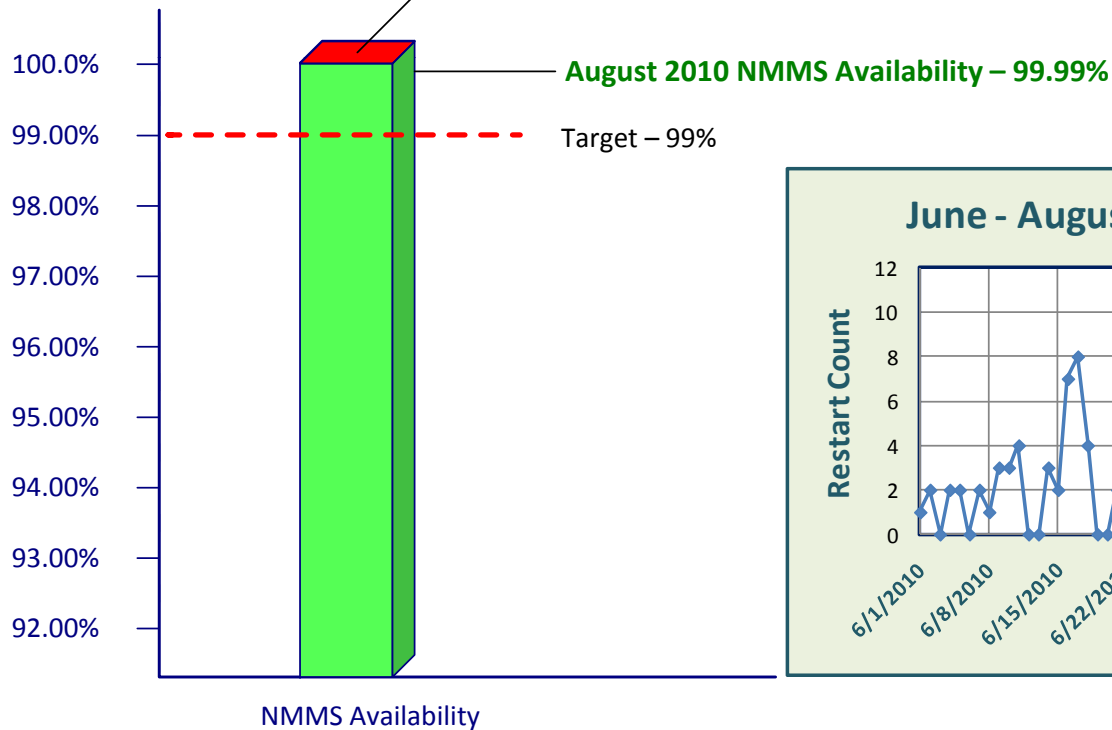
## August 2010 Frequency Control Availability Summary



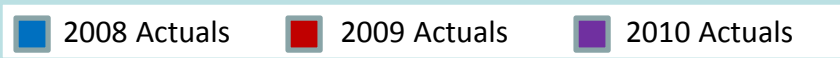
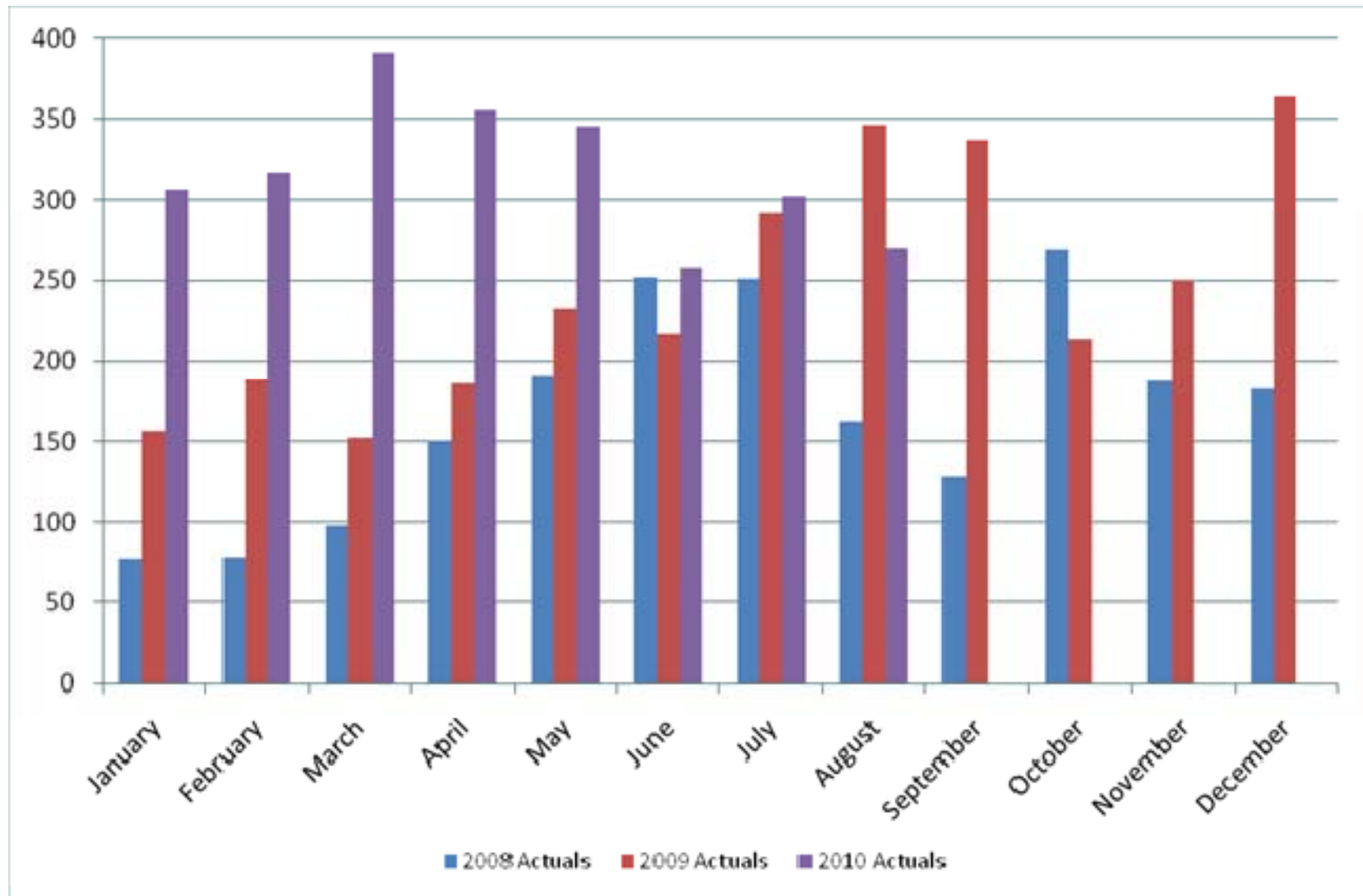
# Network Model Management System

## August 2010 Network Model Management System (NMMS) Availability Summary

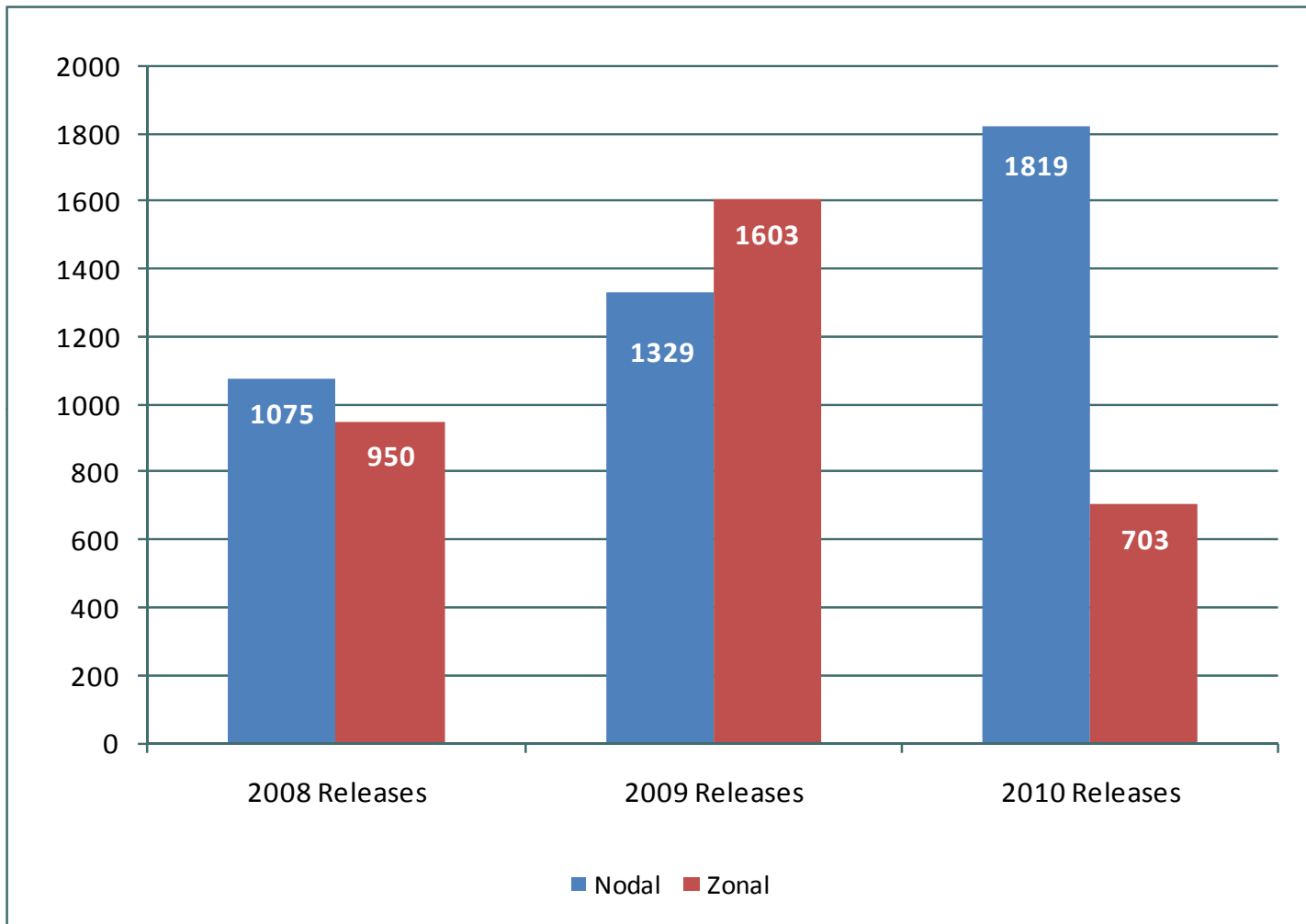
*8/1 – 8/31 (30 Minutes): NMMS was impacted with 30 minutes of outage due to 10 restarts in August. Four of those restarts were unplanned and occurred during business hours. The recurrence of restarts has declined significantly since June.*



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



# Release Management Metrics (Nodal vs. Zonal Releases)



**Note:** 2010 metrics are YTD

# ERCOT Public Website Metrics (August 2010)

Website Profiles								Visits
Name↑	Reports	Status	Visits	Avg. Time on Site	Bounce Rate	Completed Goals	% Change	
http://faq.ercot.com UA-460876-6								
★ faq.ercot.com	<a href="#">View report</a>	✓	1,585	00:02:44	44.79%	0	↑ 34.89%	
http://nodal.ercot.com UA-460876-5								
★ nodal.ercot.com	<a href="#">View report</a>	✓	12,591	00:03:19	38.37%	0	↓ -8.96%	
http://planning.ercot.com UA-460876-7								
★ planning.ercot.com	<a href="#">View report</a>	✓	2,352	00:04:50	18.58%	0	↑ 11.47%	
http://search.ercot.com UA-460876-8								
★ search.ercot.com	<a href="#">View report</a>	✓	5,810	00:03:08	50.84%	0	↑ 11.90%	
http://www.ercot.com UA-460876-2								
★ www.ercot.com	<a href="#">View report</a>	✓	108,079	00:02:28	57.51%	1	↑ 10.88%	
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

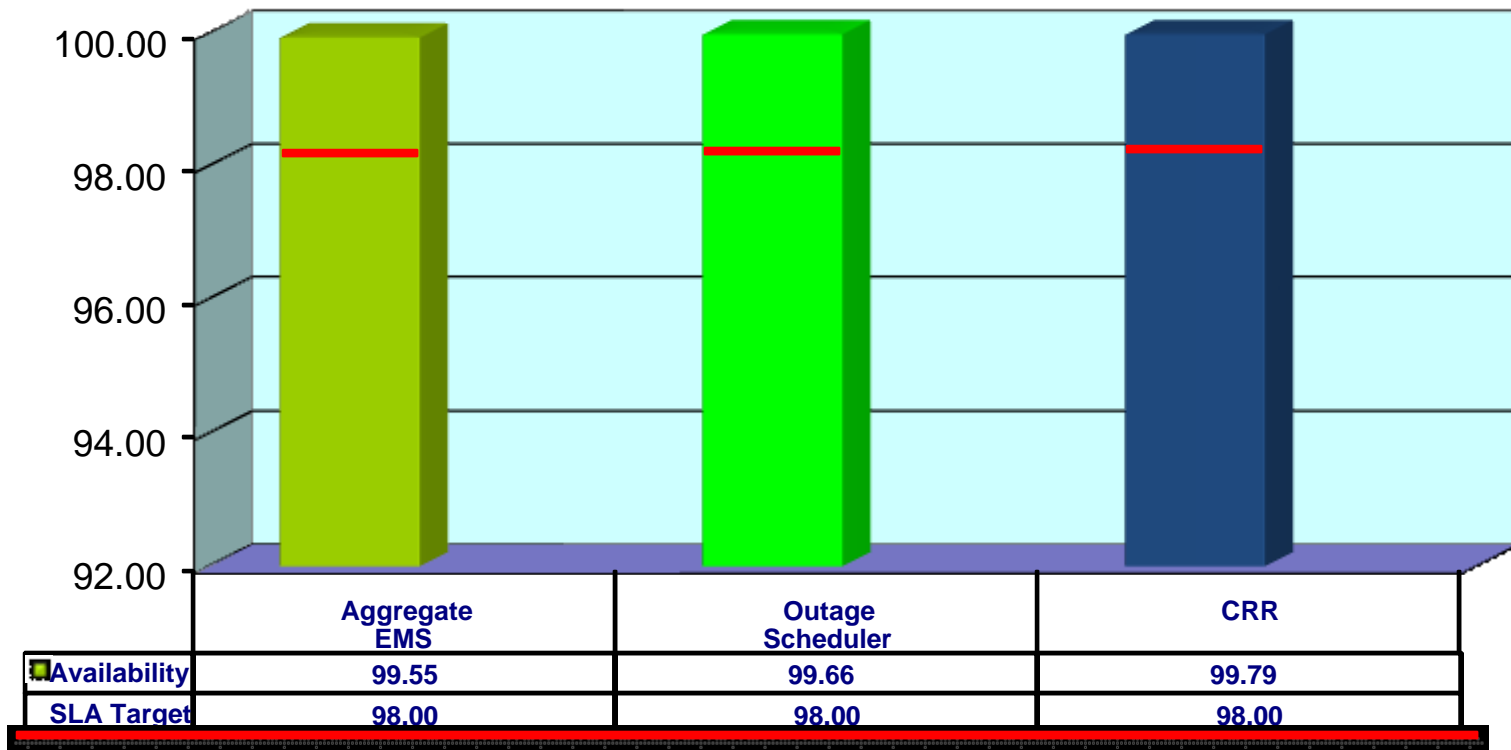
# Metrics Guide – Nodal Production

---

- **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 – July 2010 Net Availability

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



**Legend**

Outage Scheduler and CRR are now measured through synthetic transactions