Information Technology Service Availability Metrics

ERCOT Board of Directors

January 2009

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❖ Retail and Wholesale Systems Performance

- **Retail Transaction Processing** – December performance was 100%. Overall performance in 2008 (99.47%), was below the target of 99.9%, but was an improvement over 2007 (99.11%).
- **TML, TML Report Explorer, Retail API and Wholesale Total** – December performance was at 100%. Overall the 2008 performance was above the service level targets.
- **MarkeTrak** – December performance was 99.48%. December as well as 2008 performances were above service level target of 98%.

❖ Market and Grid Control Systems Performance

- **Real Time Balancing Market (RTBM), Frequency Control (FC) –** December performance was 99.966% and 100% respectively

❖ Nodal Systems Performance

- **H/W Infrastructure, Grid and Market system** – H/W Infrastructure and Aggregate EMS performance levels exceeded service level targets in December. Aggregate MMS performance was 97.693%, which was below the target of 98%.
  - A mismatch between telemetry data received from EMS and registration data within MMS caused SCED, a component of MMS, to fail. Telemetry value was replaced temporarily until registration data was updated to restore the service.

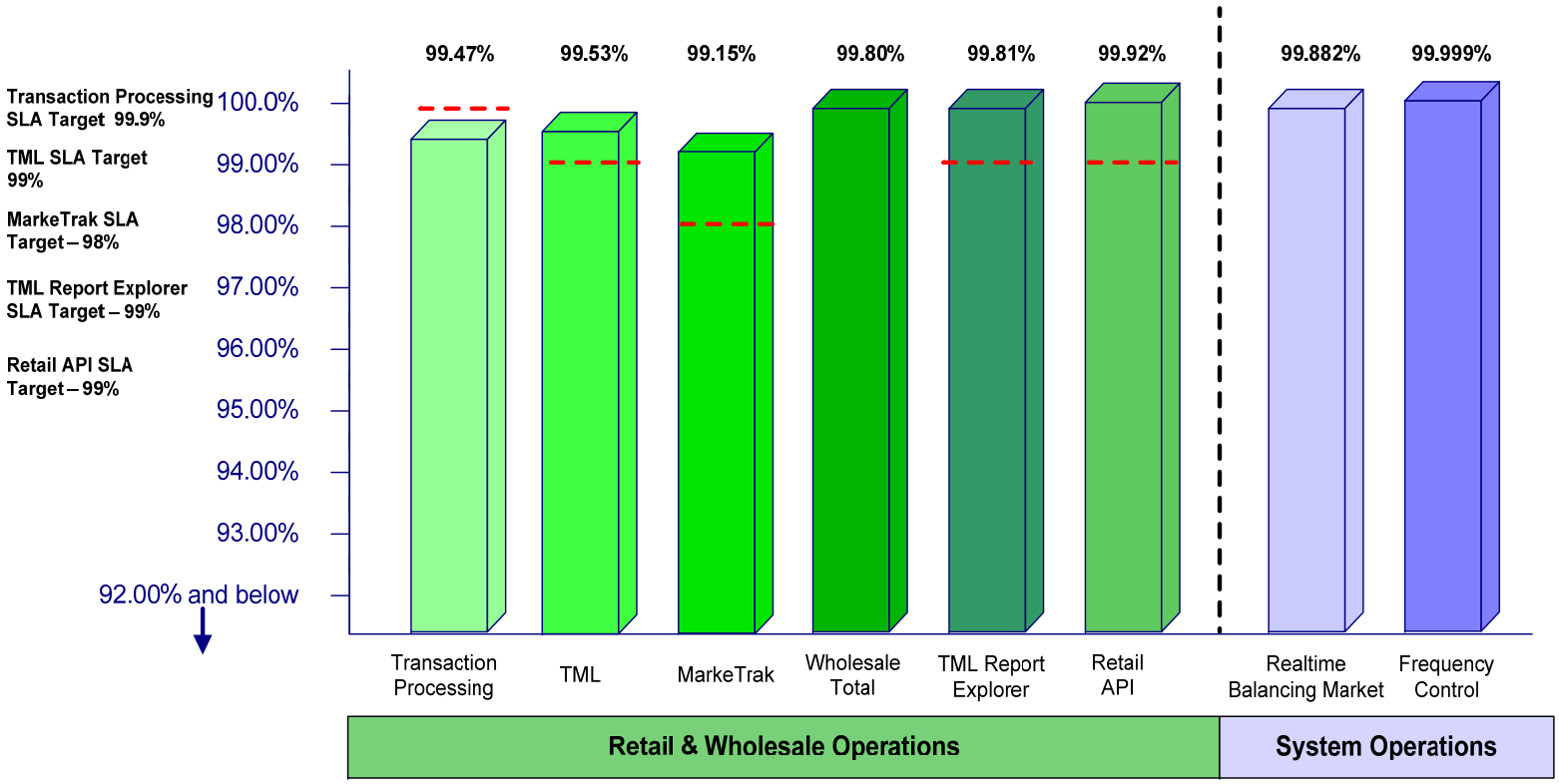
- **MIS, Current Day Reports (CDR) and Financial Clearinghouse** – December performance levels exceeded service level targets

Retail Transaction Processing performance: 2007 and 2008

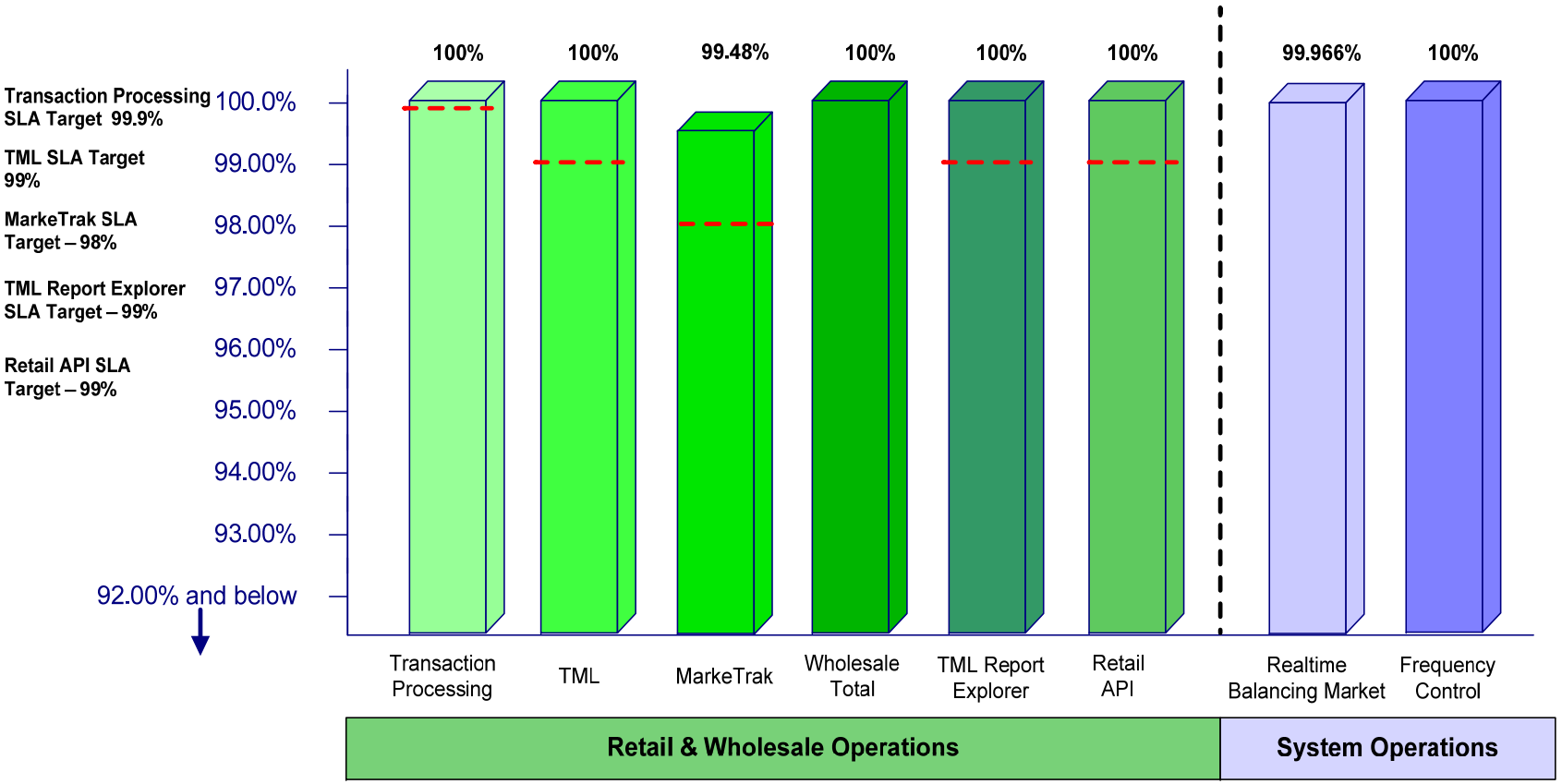
	Retail Transaction processing Outage root cause	2007		2008	
		Number of occurrences	Outage minutes	Number of occurrences	Outage minutes
1	Application	9	1,065	9	769
2	Other				
	Human Error	3	1,016	2	745
	Database	4	1,078	0	0
	Infrastructure	9	1,327	7	1,156
	Total	**25**	**4,486**	**18**	**2,670**
	Availability		**99.11%**		**99.47%**

2008 Net Service Availability

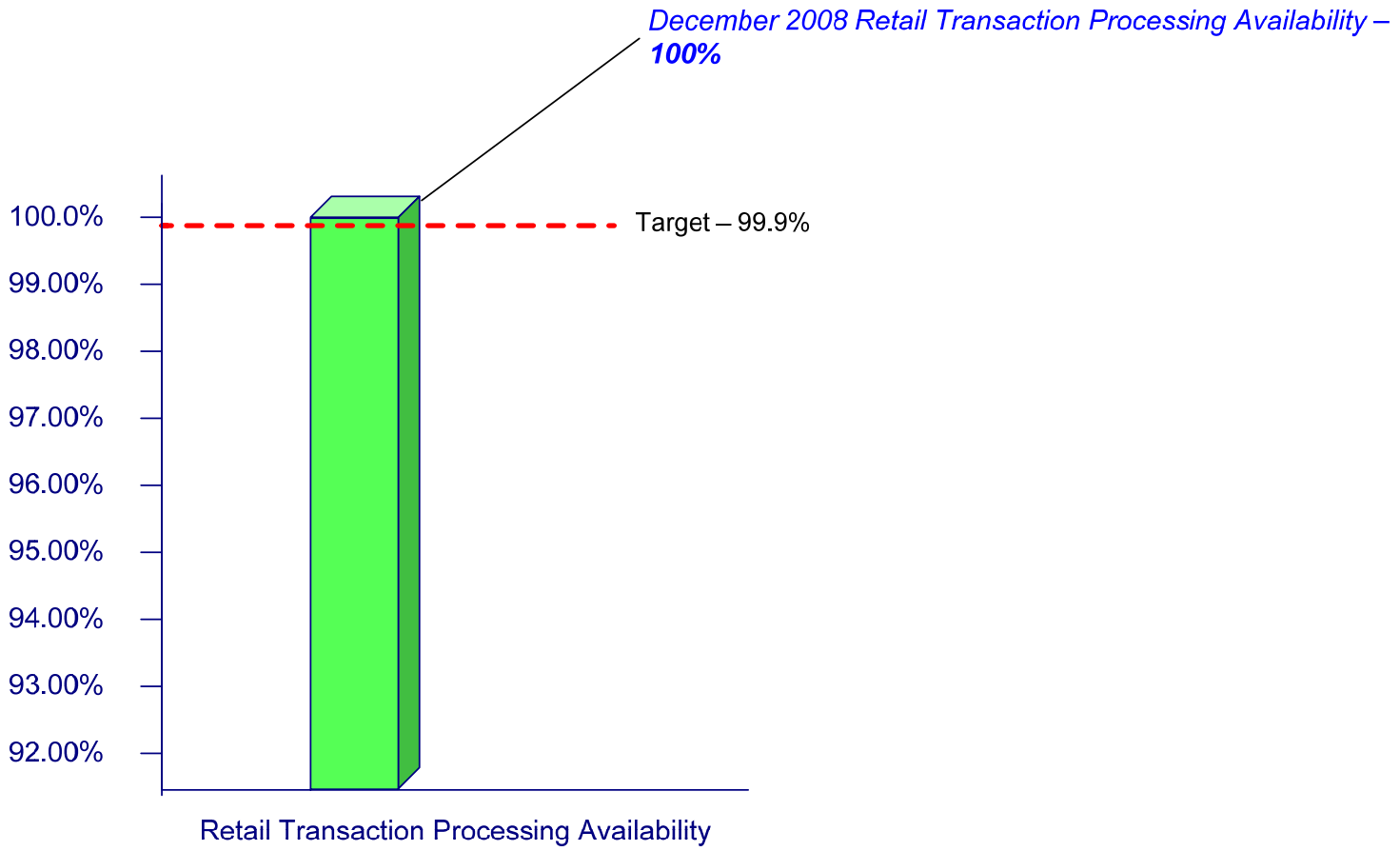
Through December 31st, 2008



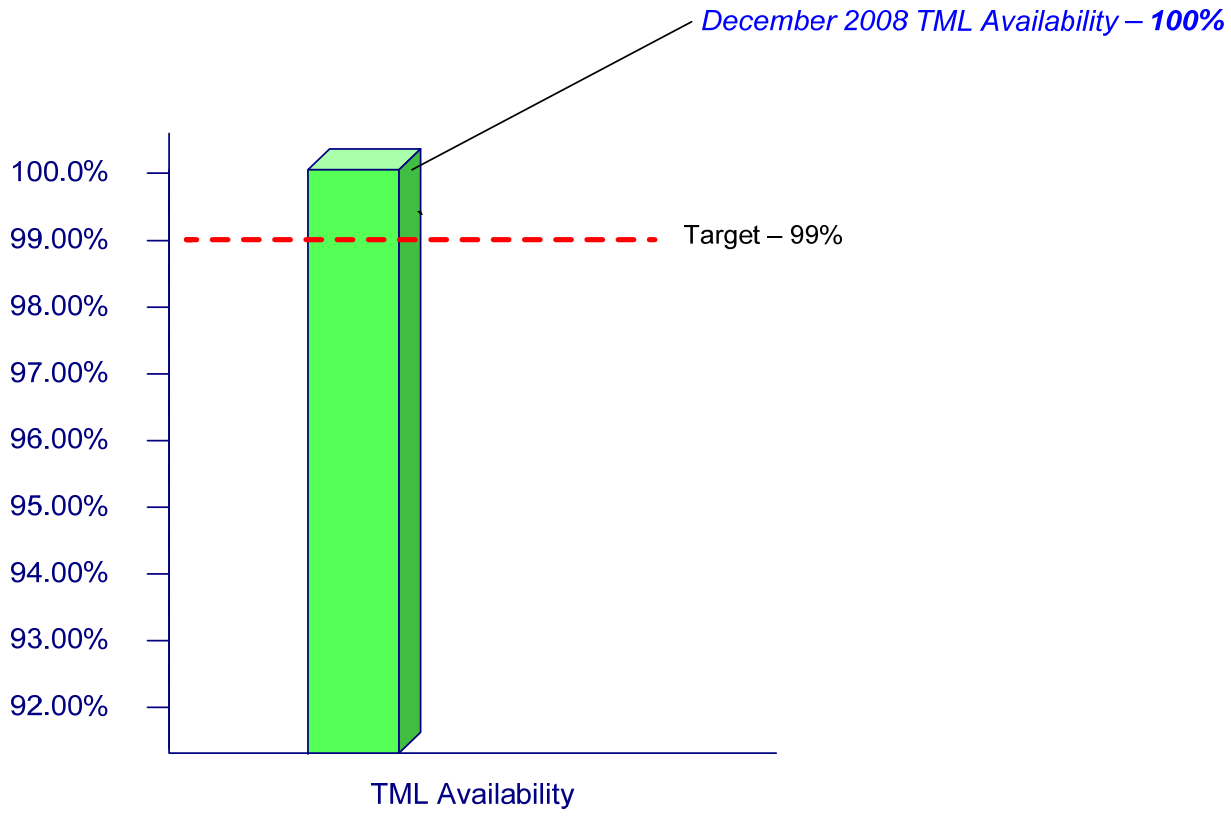
December 2008 Net Service Availability



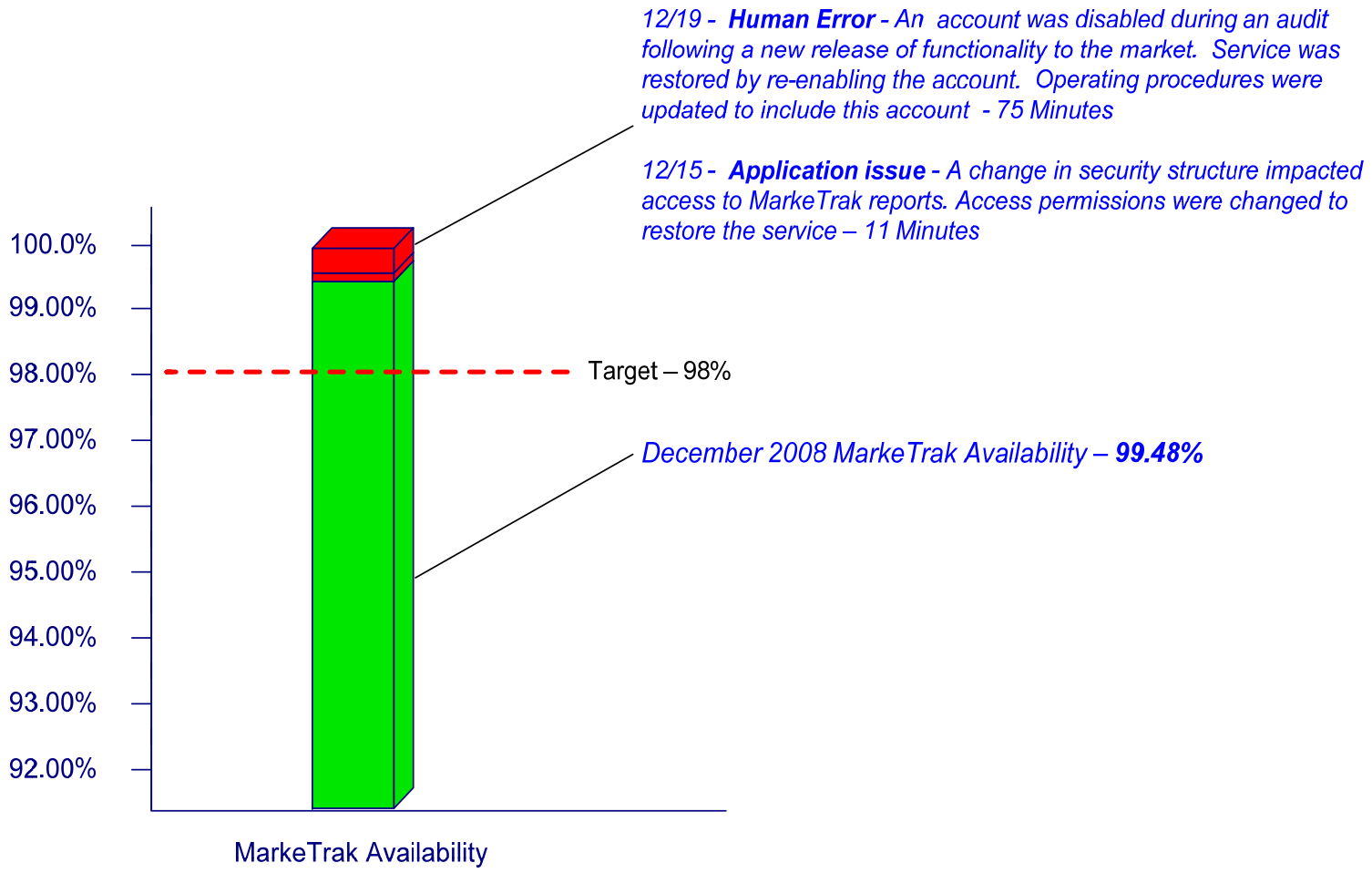
December Retail Transaction Processing Availability Summary



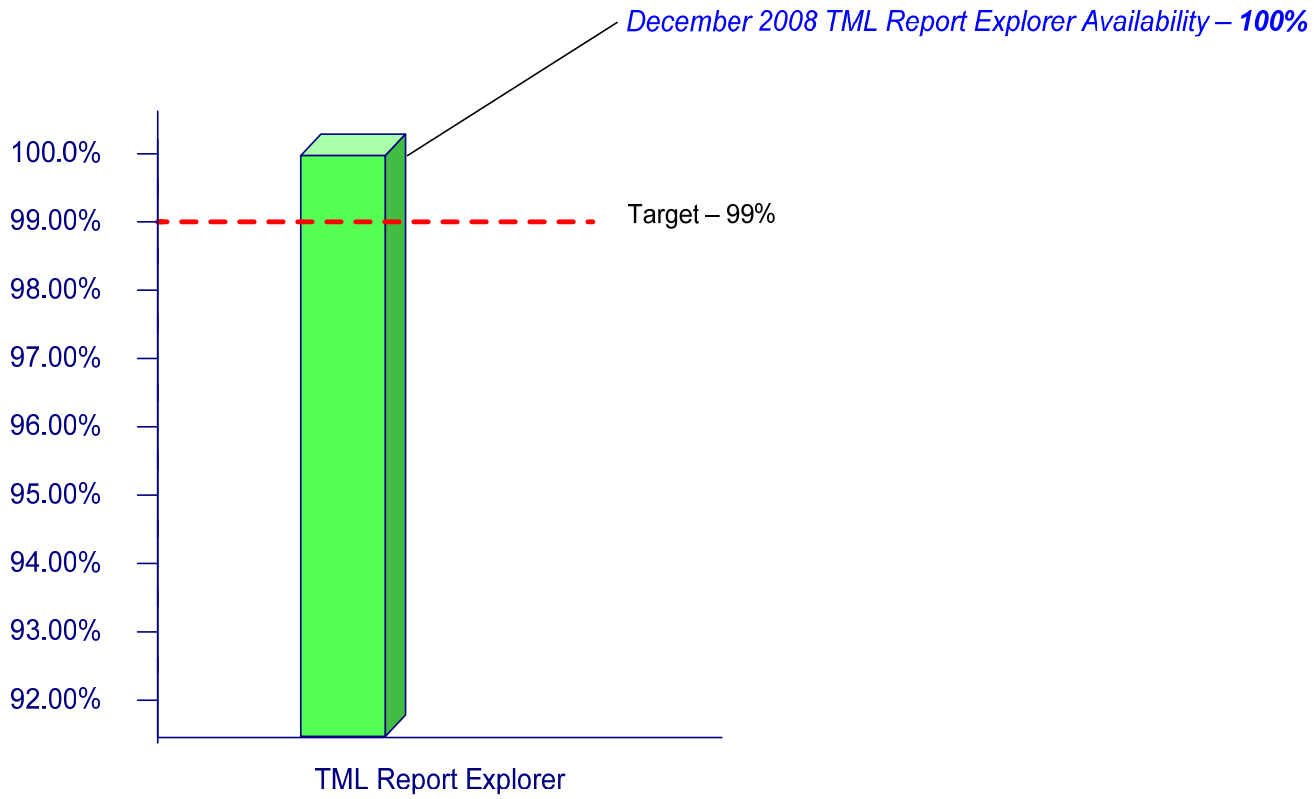
December 2008 TML Availability Summary



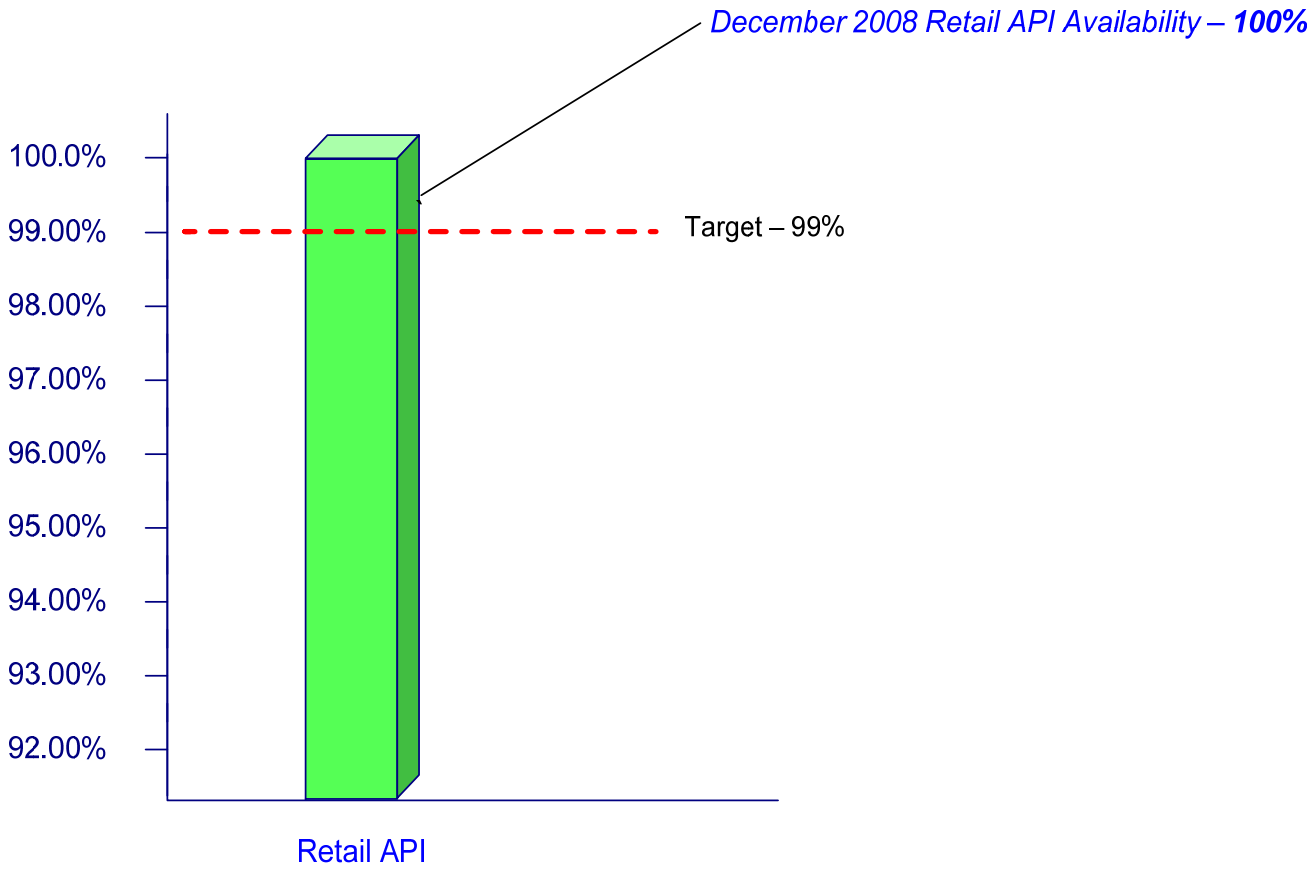
December 2008 MarkeTrak Availability Summary



December 2008 TML Report Explorer Availability Summary



December 2008 Retail API Availability Summary



Metrics Guide – Nodal Early Delivery Systems

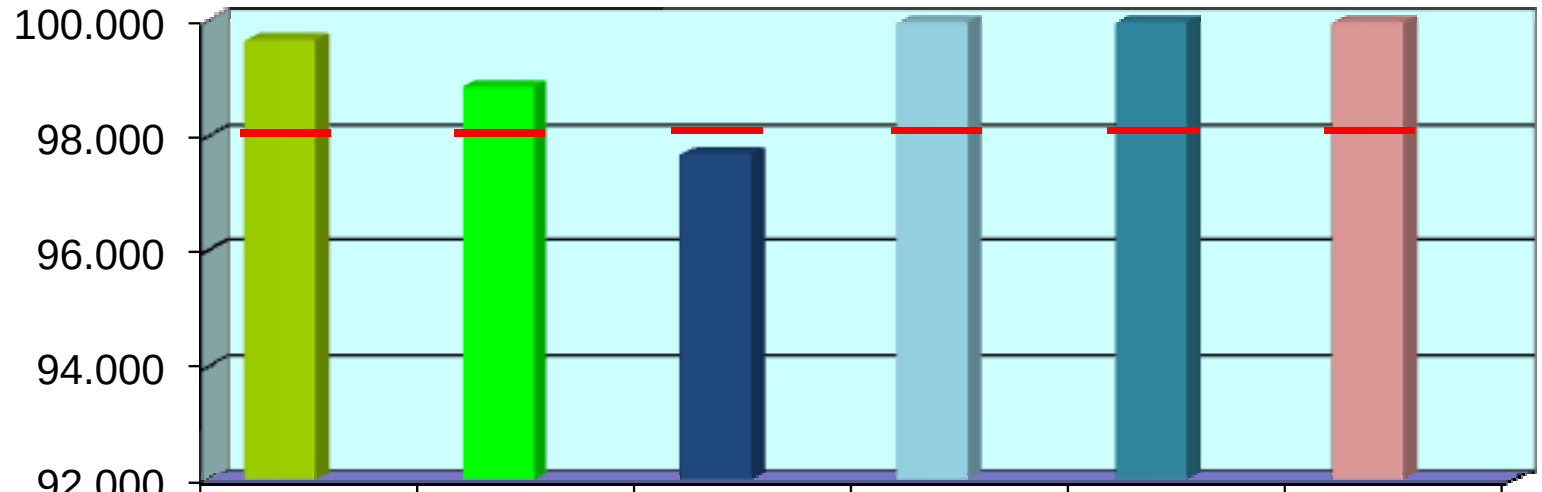
- **EDS Hardware Infrastructure**
  - Measure of the availability of the systems that compose the “Early Delivery Systems” where Nodal applications are deployed
- **Aggregate Energy Management System (EMS)**
  - Measure of the availability of software that provides real time grid control capability. Calculated as average of deployed & monitored components availability
- **Aggregate Market Management System (MMS)**
  - Measure of the availability of the software to economically deploy generation and manage day ahead, real time and ancillary services markets. 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)

Metrics Guide – Nodal Early Delivery Systems (Contd.)

- **Congestion Revenue Rights (CRR)**
  - Measure of the availability of software to manage the financial instruments that help Market Participants hedge against losses due to transmission constraints.
- **Aggregate Market Information System (MIS)**
  - Measure of the availability of software that provides web-based interfaces for Market Participants to interact with ERCOT markets. Calculated as average of deployed & monitored user-interface components availability
- **Current Day Reports (CDR)**
  - Measure of the availability of the software that allows Market Participants query and download reports related to grid and market operations in near real time
- **Settlements & Billing (S&B)**
  - Measure of the availability of the software to financially settle Market Participant transactions and generate statements and invoices
- **Credit Monitoring and Management (CMM)**
  - Measure of the availability of the software to determine credit exposure of Market Participants to the ERCOT markets and continually monitor their ability to meet the credit standards

Nodal EDS Environment – December 2008 Net Availability

December 2008 Net Availability - Infrastructure, Grid and Market Systems

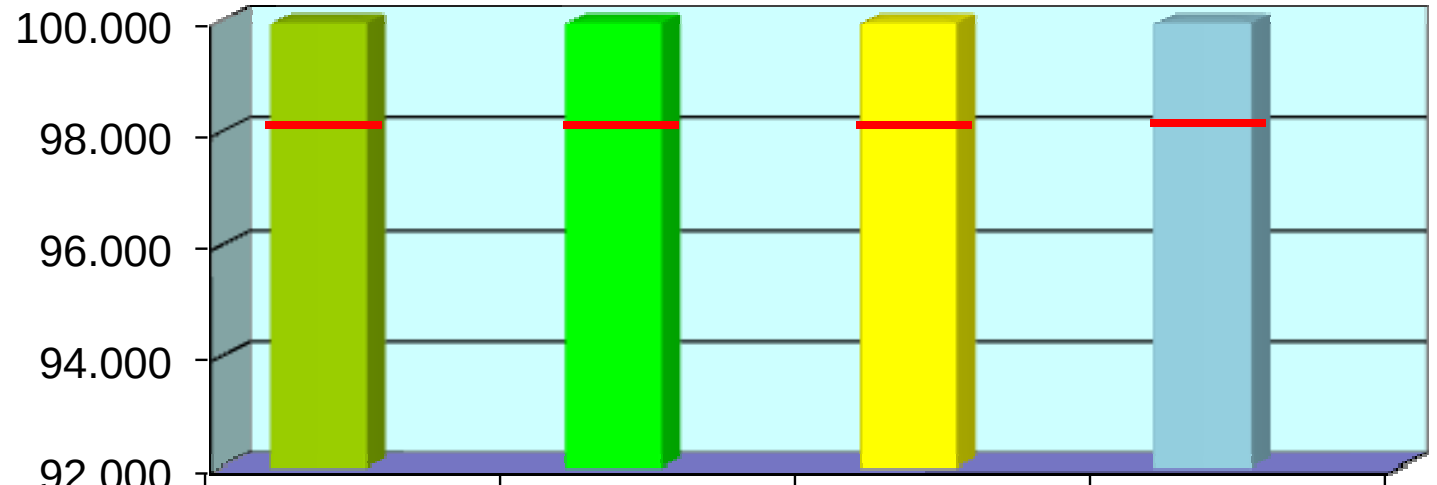


	H/W Infra	Aggregate EMS	Aggregate MMS	Outage Sched	NMMS	CRR
Availability	99.704	98.867	97.693	100.000	100.000	100.000
SLA Target	98.000	98.000	98.000	98.000	98.000	98.000

A mismatch between telemetry data recieved from EMS and registration data within MMS caused SCED, a component of MMS, to fail. Telemetry value was replaced temporarily until registration data was updated to restore the service.

Nodal EDS Environment – December 2008 Net Availability (Contd.)

December 2008 Net Availability - MIS, Reporting and Financial Clearinghouse



	Aggregate MIS	Cur Day Reports	Sett & Bill	CMM
Availability	100.000	100.000	100.000	100.000
SLA Target	98.000	98.000	98.000	98.000