Information Technology Service Availability Metrics

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Agenda and Commentary

- **Retail and Wholesale Systems Performance**
  - **Retail Transaction Processing** – August performance was 98.68%. This was below the service level target of 99.9%
  - **TML** – August performance was 98.29%. This was below the service level target of 99%
  - **TML Report Explorer** – August performance was 99.20%. This was above the service level target of 99%
  - **Retail API** – August performance was 98%. This was below the service level target of 99%
  - **MarkeTrak, Wholesale Total** – August performance was 100%

- **Market and Grid Control Systems Performance**
  - **Real Time Balancing Market (RTBM), Frequency Control (FC) –** August performance levels were 99.899% and 99.854% respectively

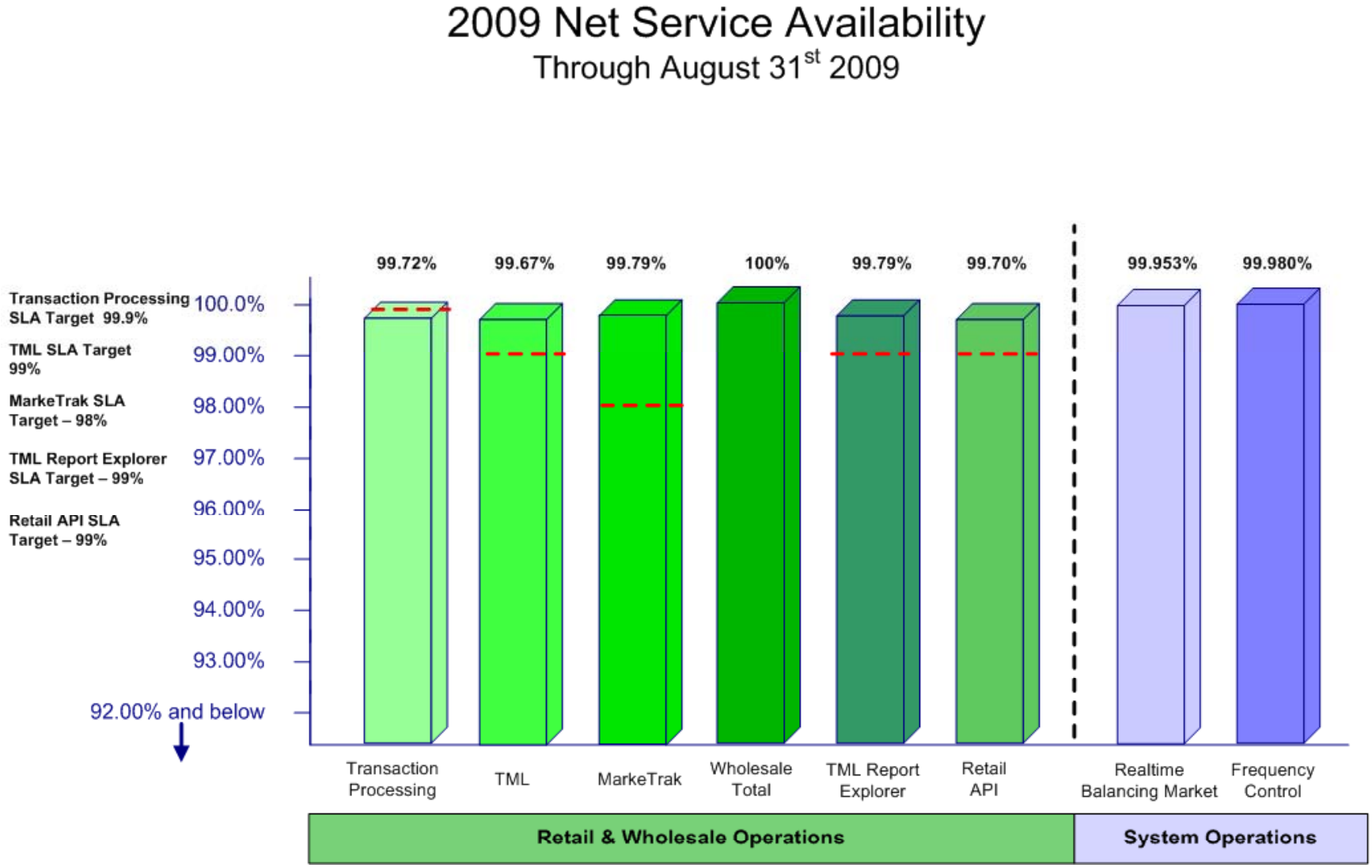
Agenda and Commentary (continued)

- **Nodal Systems Performance**
  - **Grid Management systems** – August performance levels exceeded service level targets
  - **Market Management and other select systems** – These were taken offline as notified to the Market via Market Notice, dated July 16, 2009. Nodal Market Notices are also posted at: http://nodal.ercot.com/readiness/notices/index.html

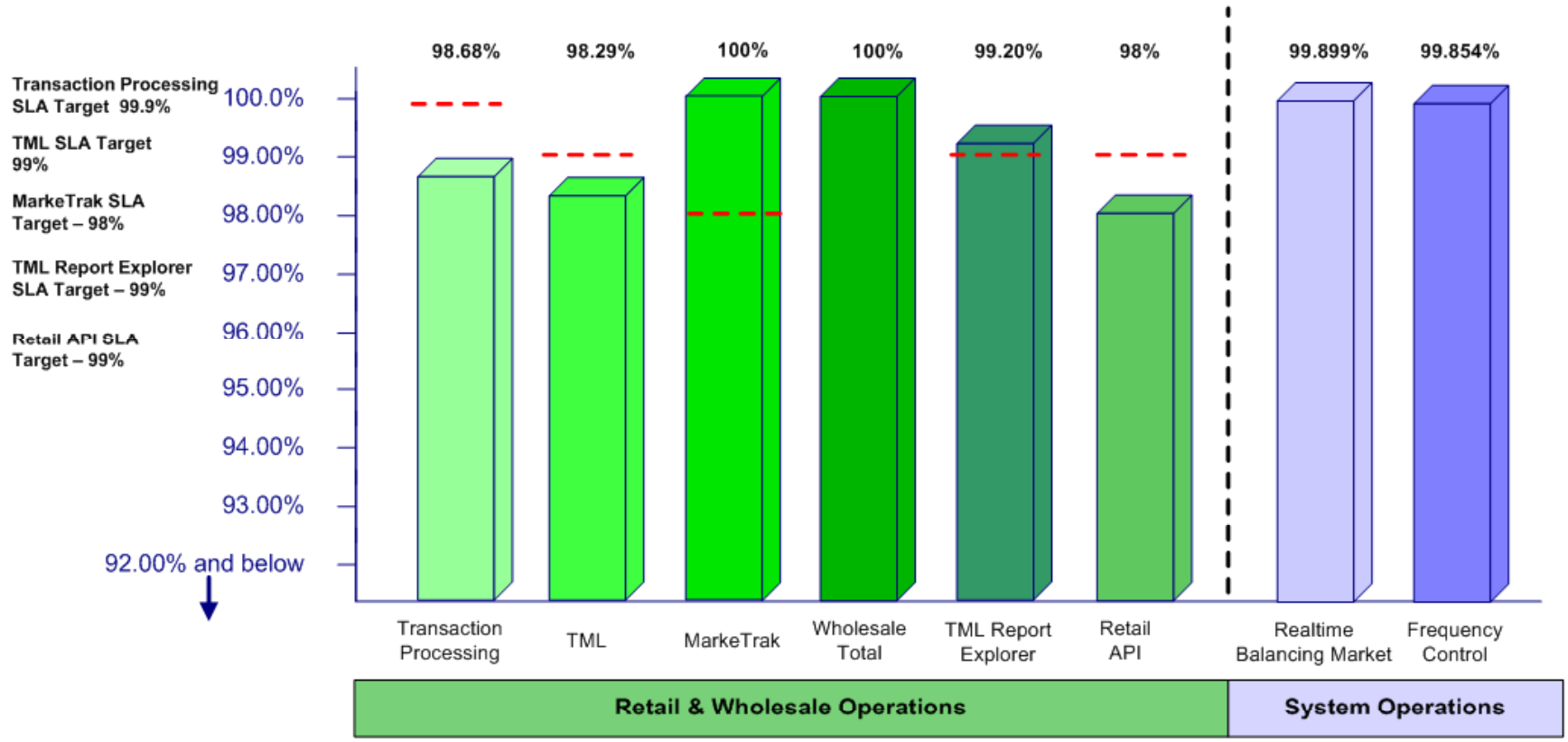
SLA Impacting Issues

- **Retail Systems**
  - 8/16/09 – **Infrastructure issue** – Server that hosted the databases became unresponsive resulting in outage. Root cause analysis is in progress. Server was shutdown and all systems were restarted to restore the service – 213 Minutes
  - 8/10/09 – **Database issue** – Database performance degraded following an update of query optimization statistical model, resulting in connection timeout and / or slow response. Previous version of the model was restored to recover the performance. Subsequent models worked without issues – 435 Minutes
  - 8/9/09 – **Infrastructure issue** - A hardware failure caused by a configuration issue following a scheduled maintenance impacted the network, resulting in an unplanned outage. Configuration was updated to restore the service – 271 Minutes
  - 8/2/09 – **Planned maintenance outage overrun** – Due to a batch overrun prior to the start of a planned maintenance outage, the maintenance outage started late and resulted in an overrun of the prescribed window – 72 Minutes

2009 Net Service Availability

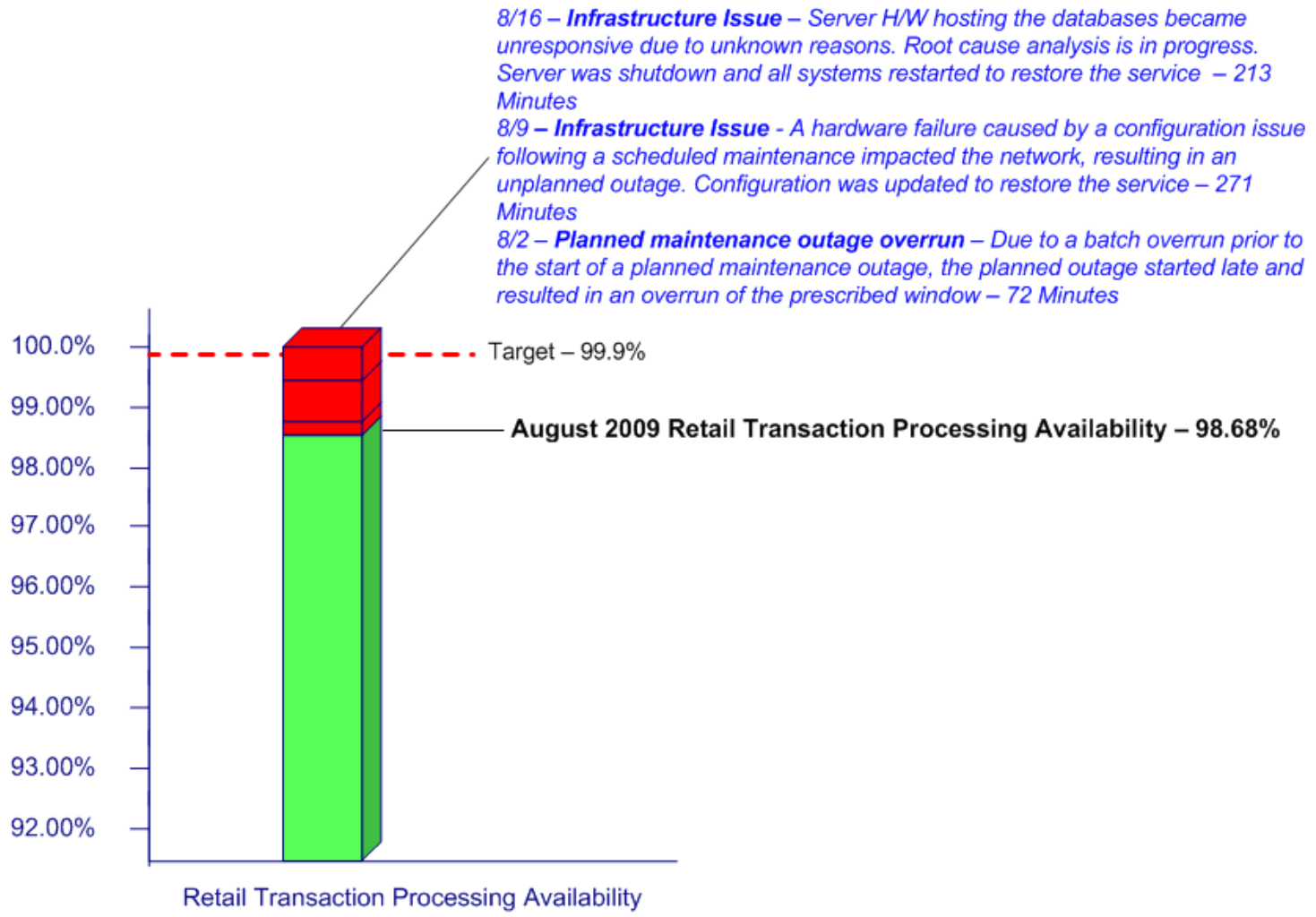


August 2009 Net Service Availability



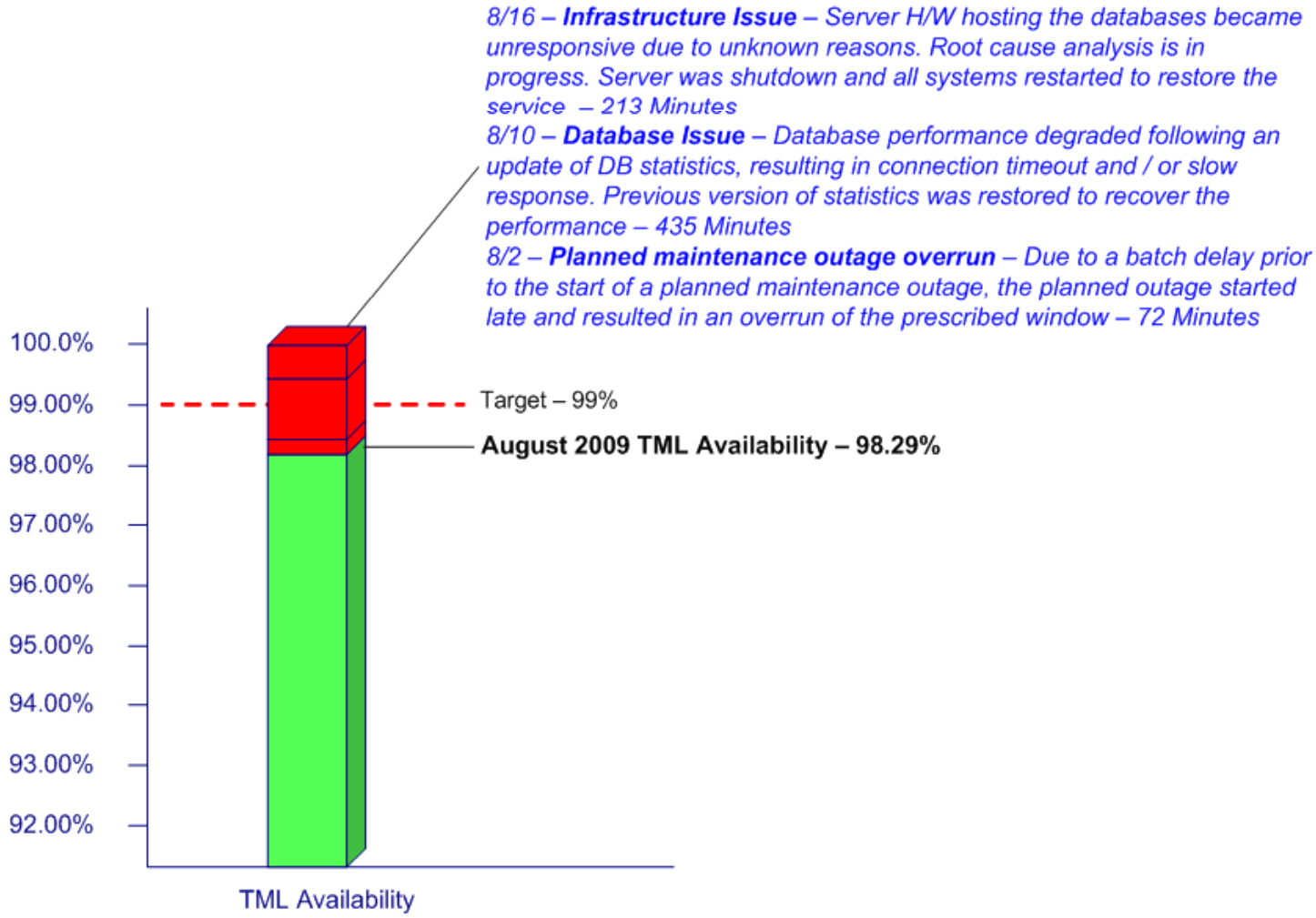
Retail Transaction Processing Availability Summary

August 2009 Retail Transaction Processing Availability Summary



TML Availability Summary

August 2009 TML Availability Summary

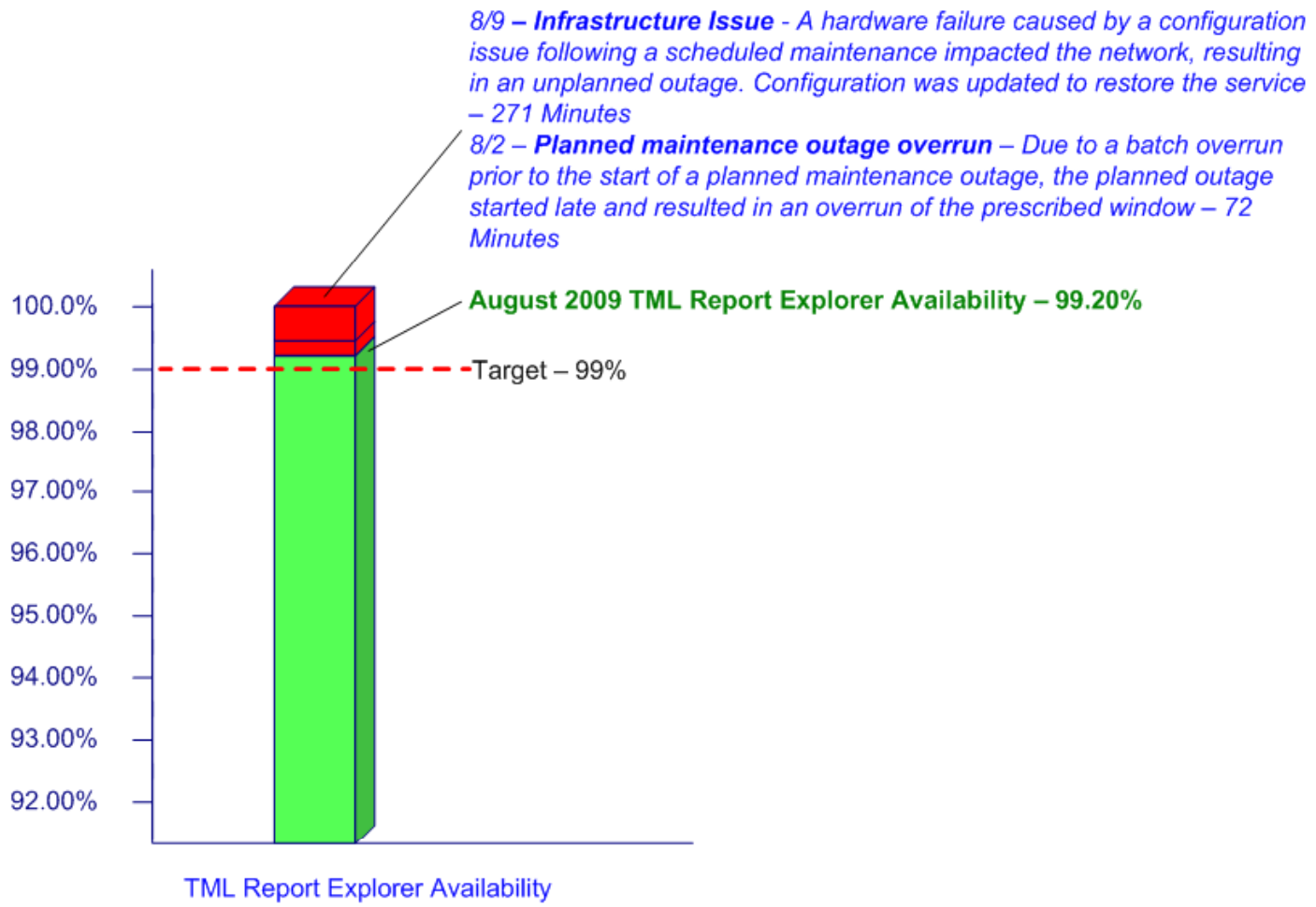


MarkeTrak Availability Summary

August 2009 MarkeTrak Availability Summary

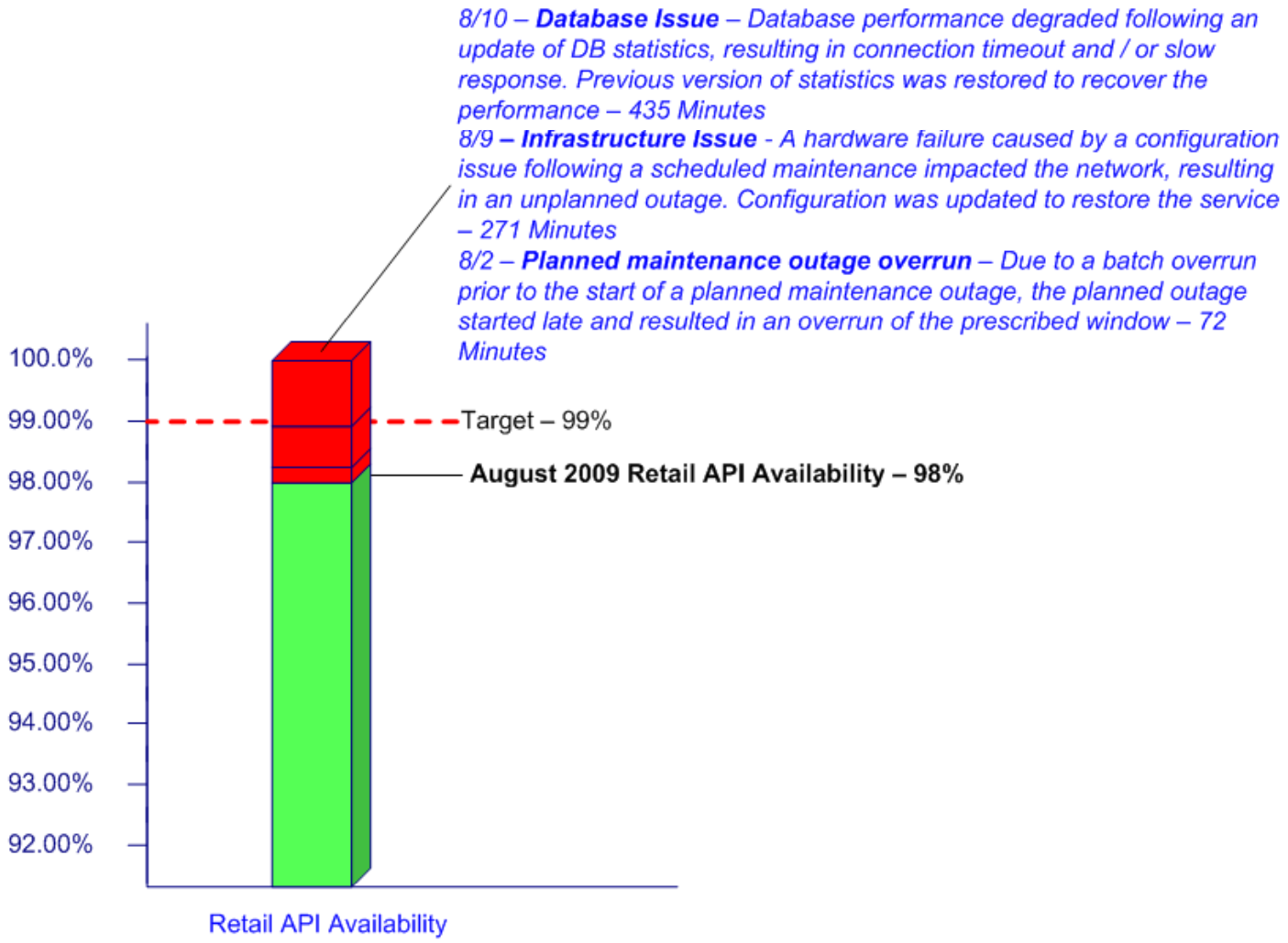
TML Report Explorer Availability Summary

August 2009 TML Report Explorer Availability Summary



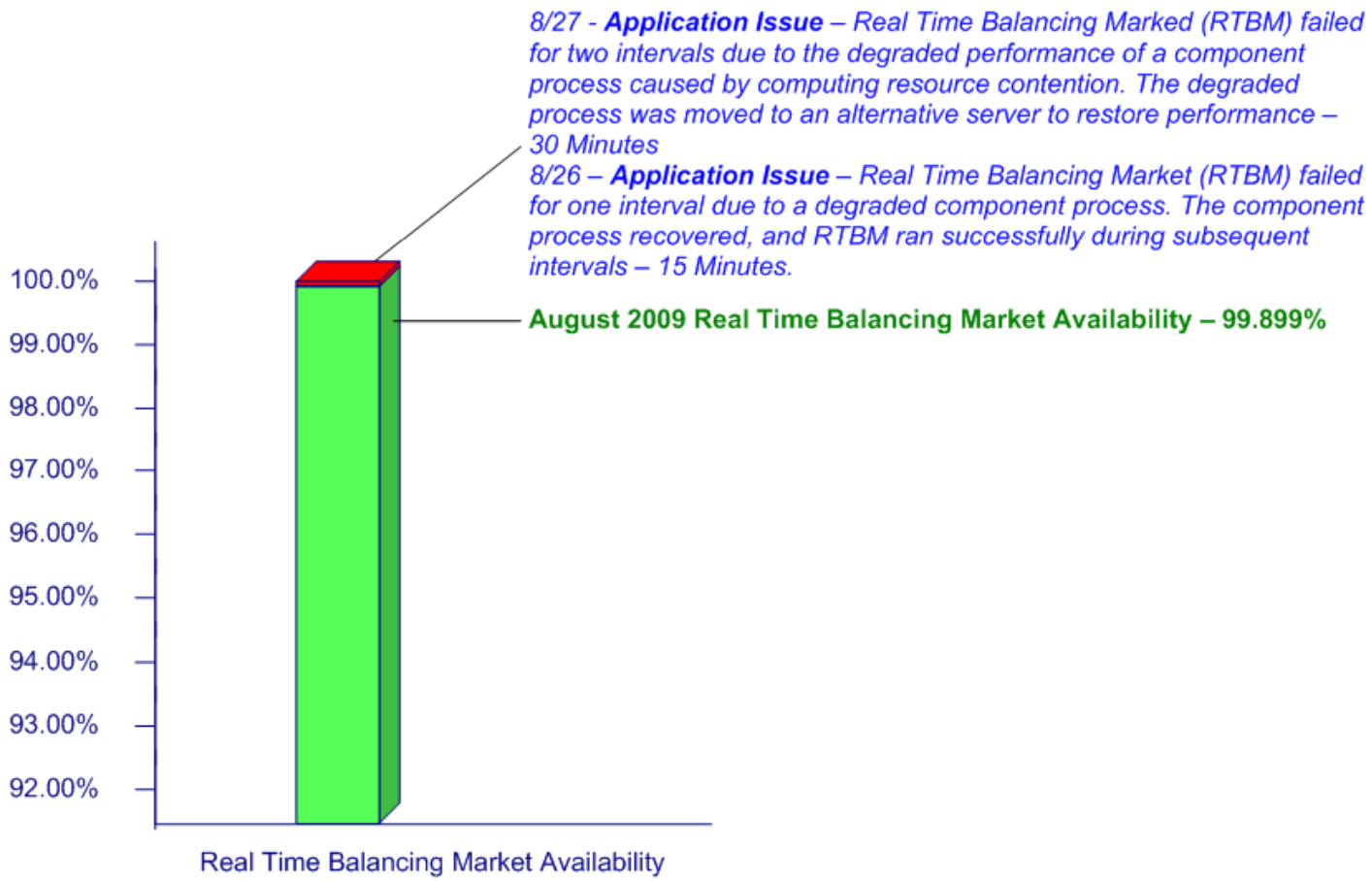
Retail API Availability Summary

August 2009 Retail API Availability Summary



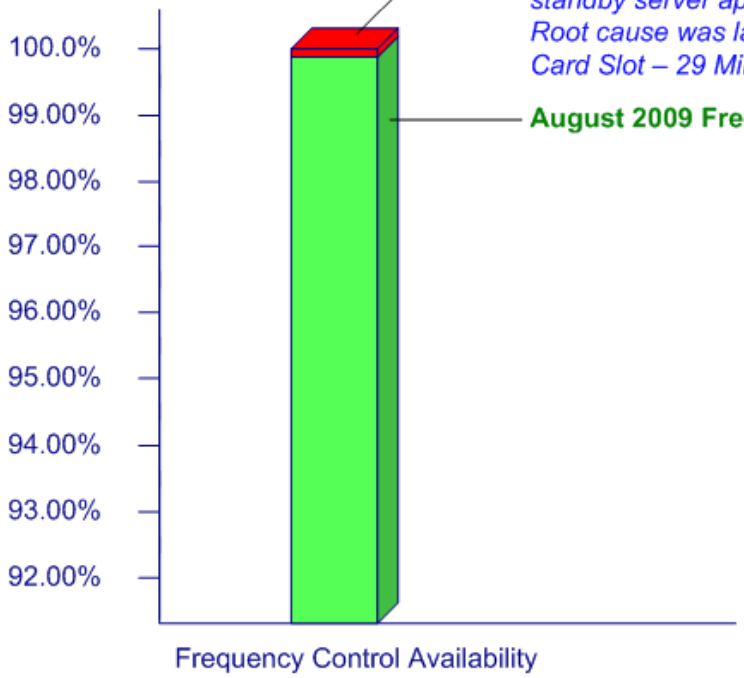
Real Time Balancing Market Availability Summary

August 2009 Real Time Balancing Market Availability Summary



Frequency Control Availability Summary

August 2009 Frequency Control Availability Summary



*8/7 – **Infrastructure Issue** - Primary and Standby EMS Servers sensed a loss of network connection due to the excessive network errors and were unable to automatically assume the primary role. The standby server applications were started manually to restore service. Root cause analysis diagnosed a defective Network Interface Card Slot – 36 Minutes*

*8/6 – **Infrastructure Issue** - The primary EMS server froze abruptly without initiating a local failover to the standby EMS Server due to excessive network traffic errors. Since servers interpreted these errors as loss of network connection, neither assumed the primary role. The standby server applications were started manually to restore service. Root cause was later determined to be a defective Network Interface Card Slot – 29 Minutes*

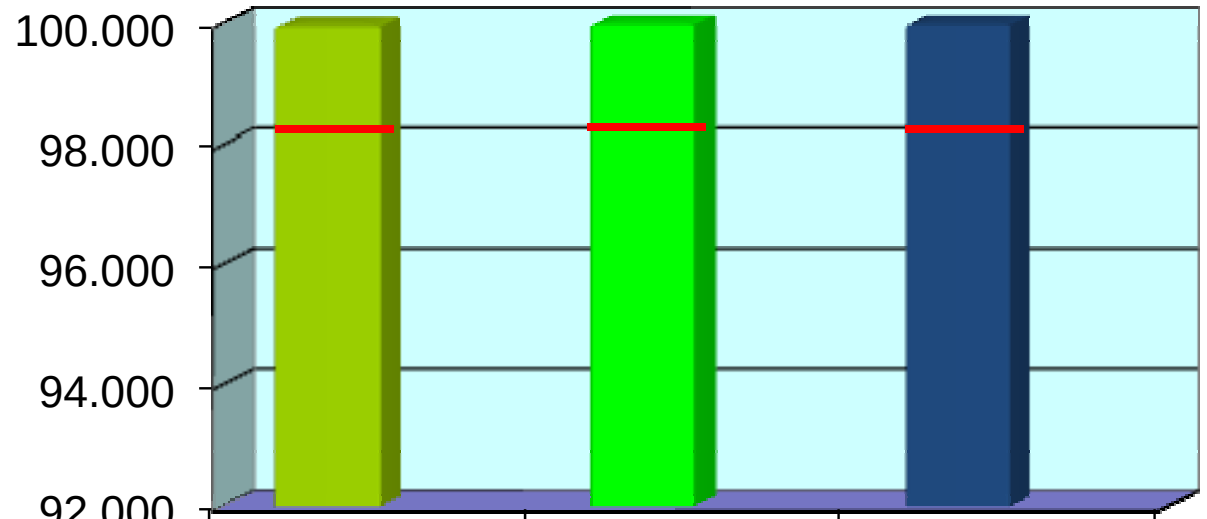
August 2009 Frequency Control Availability – 99.854%

Metrics Guide – Nodal Early Delivery Systems

- **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
- **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)

Nodal EDS Environment – August 2009 Net Availability

August 2009 Net Availability - Grid Management Systems



	Aggregate EMS	Outage Scheduler	NMMS
Availability	99.973	100.000	100.000
SLA Target	98.000	98.000	98.000