

Revenue Metering System (RMS) Replacement/Upgrade Project

Revenue Metering Standing Committee
April 20, 2011



RMS Replacement Project

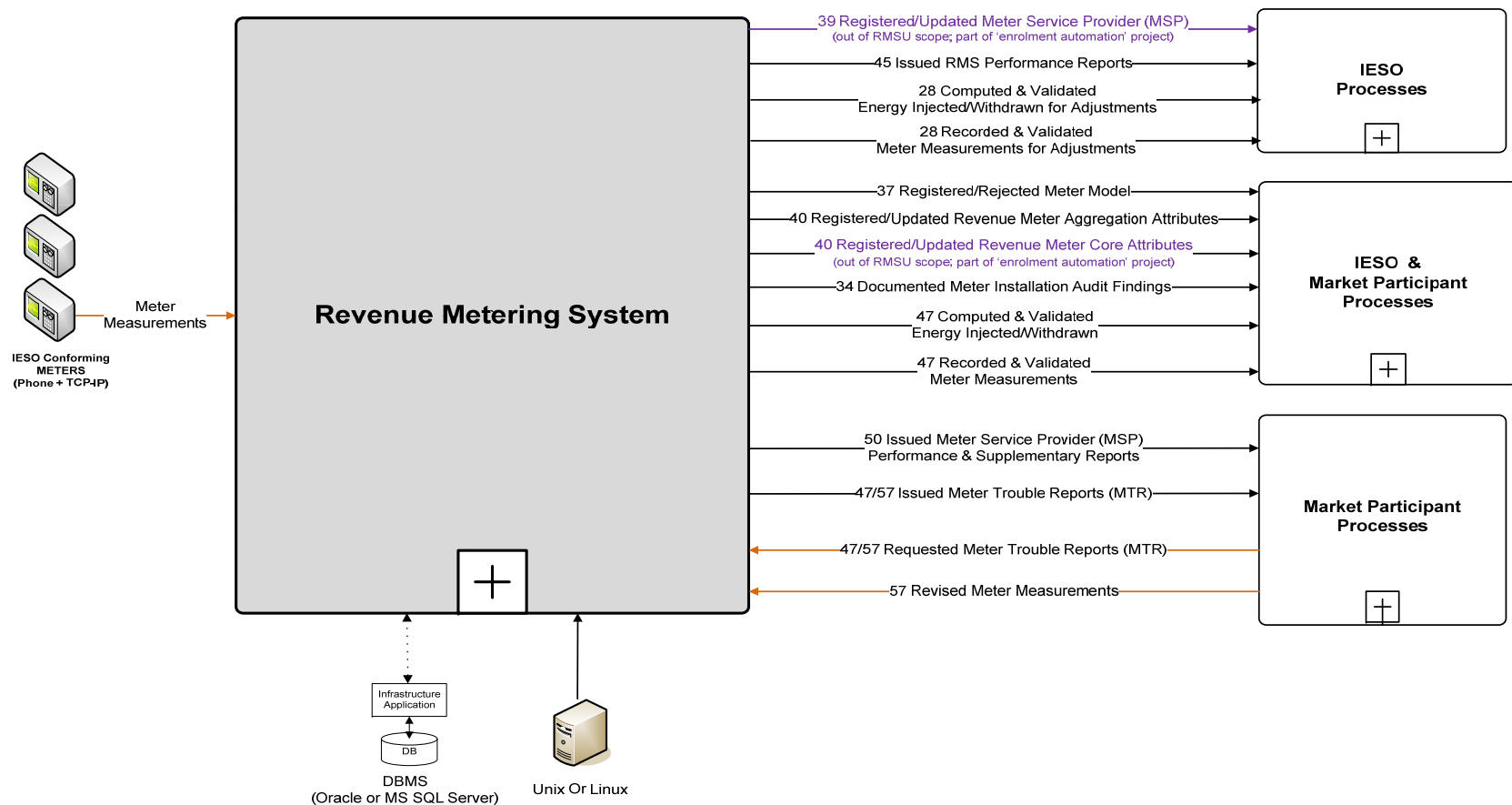
- IESO is proceeding with the first phase of the Revenue Metering System (RMS) Replacement/Upgrade Project
- RMS components include:
 - MV- 90; meter data collection system
 - MV-Star; meter data management system
 - MV-Web; meter data distribution system
 - Meter Trouble Reporting (MTR) system; workflow management system
- Key drivers for RMS replacement/upgrade initiative include:
 - Functional and performance limitations with current solutions
 - Expect growth in number of revenue meters and delivery points
 - Integration of existing end user computing (EUC) tools into IT supported solutions
 - Compliance to current infrastructure standards

RMS Replacement Project

- Need to determine if project will be 'full upgrade', 'refresh' or some combination of both
- This will be done once the analysis is complete (including RFI process) and will be based on following criteria:
 - Time factor
 - Cost to implement
 - Improvement in process efficiencies
 - Improvement in service levels
 - Other
- Goal is to meet all requirements with 'out of the box' solution requiring minimal customization

As of: April 15, 2011 2:06 PM

RMSU – Black Box Services View



Project Timelines

- First step is the RFI process
 - Better understand solutions and technologies currently available related to RMS application
- May 2011 - Issue RFI for RMS
- June 2011 - Close RFI for RMS
- Aug. 2011 – Evaluate RFI for RMS
- Sept. 2011 – Complete RFI for RMS

- Other 2011 project related activities include:
 - Identification of requirements (8-12 months)
 - Finalize business case and seek approval
- Proposed project timelines:
 - Issue RFP (Q2-2012)
 - Build, test and implement new information solution (2013)

Validation (Meter Data Management) Principles

- Q1/2011 we had a number of discussions within Settlements (Metering and Production) to review existing Market Rule requirements and processes related to meter data management
 - Prepare for identification of requirements phase of RMS project
 - Identify issues and opportunity for improvements
- As a result, we have identified a number of key recommendations worth considering

Recommendation #1

Main/Check Metering Installation

- Market Rules have provisions for *main/check metering installation*
 - *main/check metering installation means a metering installation comprised of one revenue meter and one check meter measuring the same electrical quantities;*
- *main/check metering installation* has specific registration and validation requirements
- Section 12 of the Wholesale Revenue Metering Standard – Hardware, identify requirements for *main/check metering installation*
- Market Manual 5.2 – Meter Data Processing identify VEE requirements for *main/check metering installation*

Recommendation #1

Main/Check Metering Installation

- Since market open, the IESO has not had a single *main/check metering installation* registered
 - *main/alternate metering installation* is much more cost effective than *main/check metering installation*
 - Need to establish correlation factor between main and check meter
 - Daily submission of meter data for check meter
- IESO's current processes support *main/check metering*
- IESO considering market rule amendment to remove *main/check metering installation* provisions
 - This will simplify RMS requirements resulting in cost saving to marketplace
- Does the RMSC support this recommendation?

Recommendation #2

Tertiary Meter Data Source

- Certain facilities (directly connected) have operational metering requirements - real time telemetry
- Real time information collected and stored in PI database and reported using IESO SCADA (WS500) system
- Data is valuable in assisting Production staff when assessing revenue meter data enquiries:
 - Load transfers
 - Power outages
 - Change in load patterns (renewable supply mix)
- IESO is considering requirement or provisions for a tertiary meter data source (SCADA data) directly in the RMS application

Recommendation #2

Tertiary Meter Data Source

- Details not determined but considerations will need to include:
 - Identification of tertiary source as part of registration process
 - Understanding of accuracy and operational limitations
 - 2 second instantaneous data vs. revenue meter (energy) data
 - Establishment of correlation factor
 - (1:1) vs (1: many) relationship between tertiary source and revenue meter source (location of meters)
 - Equivalent tertiary source not available for all revenue meter points (embedded meter point for example)
 - Identify capabilities to automatically transfer SCADA data to RMS application
 - Possible market rule and VEE process changes required
- Does RMSC agree with the benefits of the proposed recommendation?

Additional Opportunities for Process Enhancement

- Review of VEE processes identified a number of other recommendations
- Validation of meter data is currently performed in MV-90, MV-Star EUCT and CRS EUCT
- Existing validation processes/tolerances result in a number of 'false positives' – opportunity for 'fine tuning'

Additional Opportunities for Process Enhancement

- Main/Alt. comparison (hourly comparison)
 - include provisions for percentage and absolute tolerance
 - comparison of previous trade day (TD-1 or TD-2 for example)
- Voltage/Current presence check
 - Fine tune V2h avg. during 'PO' interval
 - Incorporate 'deadband' into tolerance
- Enhanced validation at various levels of aggregation (similar to masterfile hi/lo limits)
 - Physical meter, summary meter and delivery point level

Additional Opportunities for Process Enhancement



- Opportunity to automate 'PO' case assessment
- New requirements from external drivers such as MC proposed LUM and VA regulations include:
 - Flag data block when meter time tolerance has been exceeded
 - Validation of PLUM demand to SLUM demand

Summary

- Review of Loss Principles (Q1-2010) and Validation Principles (Q1-2011) provided an opportunity to understand current issues and identify new requirements
- This will provide a ‘jump start’ during the requirements identification phase of project
- We can expect additional requirements once the real work begins