



Ontario Energy Board

Commission de l'énergie de l'Ontario

Smart Grid Working Group Meeting 6: Clarifying Key Issues

May 10, 2011

Agenda

9:30 – 9:35	Welcome	Board Staff
9:35 – 9:40	Previous Meeting Summary	Board Staff
9:40 – 9:50	“Virtual Tour” of the residential smart meter	Scott Rouse
9:50 – 10:45	Discussion of “Use Cases”	Board Staff/All
10:45 – 11:00	BREAK	
11:00 – 12:10	Discussion of “Use Cases” (cont.)	Board Staff/All
12:10 – 12:15	Next Steps in Smart Grid Guidance Consultation	Board Staff
12:15 – 1:00	LUNCH	



What We Heard – Adaptive Infrastructure Objectives

Policy Objective	Key Observations
1. Flexibility	<p>Ruling out devices and functionality that could enable future functionality simply on the basis of cost should be avoided. Open standards should be promoted. Specifically with respect to electric vehicles, LDCs and regulators will likely have time to respond to the challenges to existing infrastructure as the EV market evolves.</p>
2. Forward Compatibility	<p>A vision or roadmap document would help to guide investments without prescribing them. Depreciation rates play an important role in assuring forward compatibility. Lessons learned from the smart meter rollout include, in addition to the above and flexibility lessons: clear messaging for future smart grid rollouts can reduce customer uncertainty; and, any deadlines should be set taking into account the possible unintended effects of setting deadlines and build on existing smart grid assets.</p>
3. Encourage and Maintain Pulse on Innovation	<p>Collaboration among stakeholders will help to achieve innovation. This could be enabled by establishing a forum for the sharing and discussion of ideas related to smart grid. A continuation of the Smart Grid Working Group in some form could be considered. Such a forum should draw on the best information in a global context.</p>

Use Case 1: Residential Display

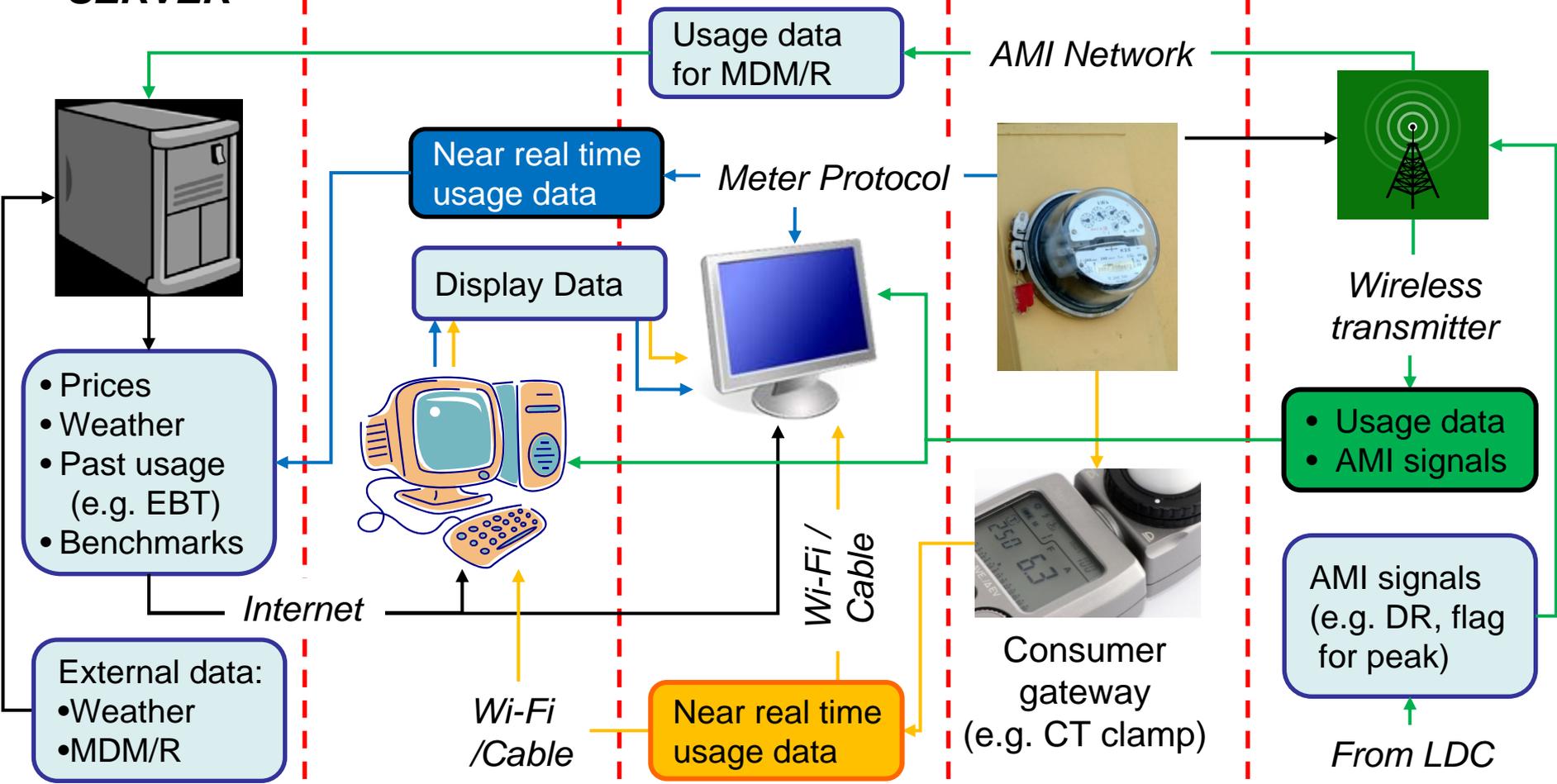
3rd PARTY / LDC DATA SERVER

IN-HOME PC/DEVICE

DISPLAY

METER

AMI NETWORK



Generic Pros & Cons (Excluding Costs)

	Pros	Cons
LDC Meter	<ul style="list-style-type: none">• Leverages existing data-stream	<ul style="list-style-type: none">• Increased cyber-security risk (to grid)
Consumer meter	<ul style="list-style-type: none">• No incremental cyber-security risk (to grid)	<ul style="list-style-type: none">• Not as accurate
AMI device	<ul style="list-style-type: none">• Leverages existing data-stream• No incremental cyber-security risk (to grid)	<ul style="list-style-type: none">• Relies on data upload schedules set by LDCs

Clarifying the Current Access Rules

- Chapter 11 of the RSC recently amended to provide unrestricted access to consumers
- Consumers allowed to access “raw data” as long as they pay the incremental cost
- The means of access is left to consumers and LDCs
 - Larger users have been using these provisions
 - The appropriate means for residential and other low-volume users is not clear

Clarifying Access to Real-time Meter Data

- RSC deals with billing-quality data
 - Has to undergo VEE
- Can never be “near real-time” (or even “near hourly”)
- Currently “smart meters” are not included as “interval meters”
 - Retailers cannot get billing quality data for consumers who have “smart meters”
 - They **can** get “raw data”

Use Case 2: Load Control

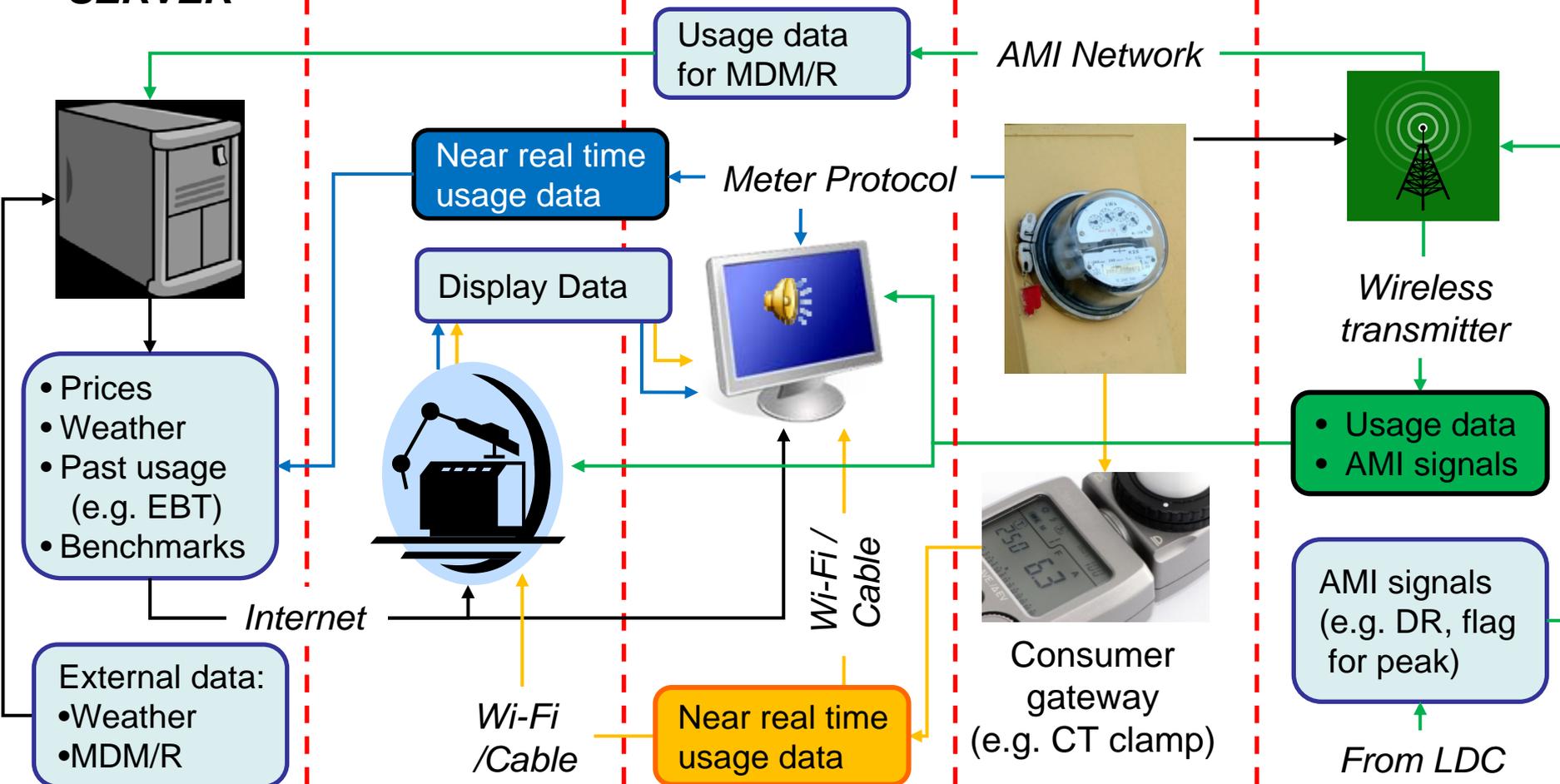
3rd PARTY / LDC DATA SERVER

IN-HOME PC/DEVICE

DISPLAY

METER

AMI NETWORK



LEGEND → LDC Meter Signal → Consumer Meter Signal → Internet → AMI Signal

Use Case 3: Outage Management

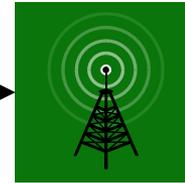
CONSUMER

**REPAIR
DISPATCH**

SCADA

AMI

METER



Call consumer

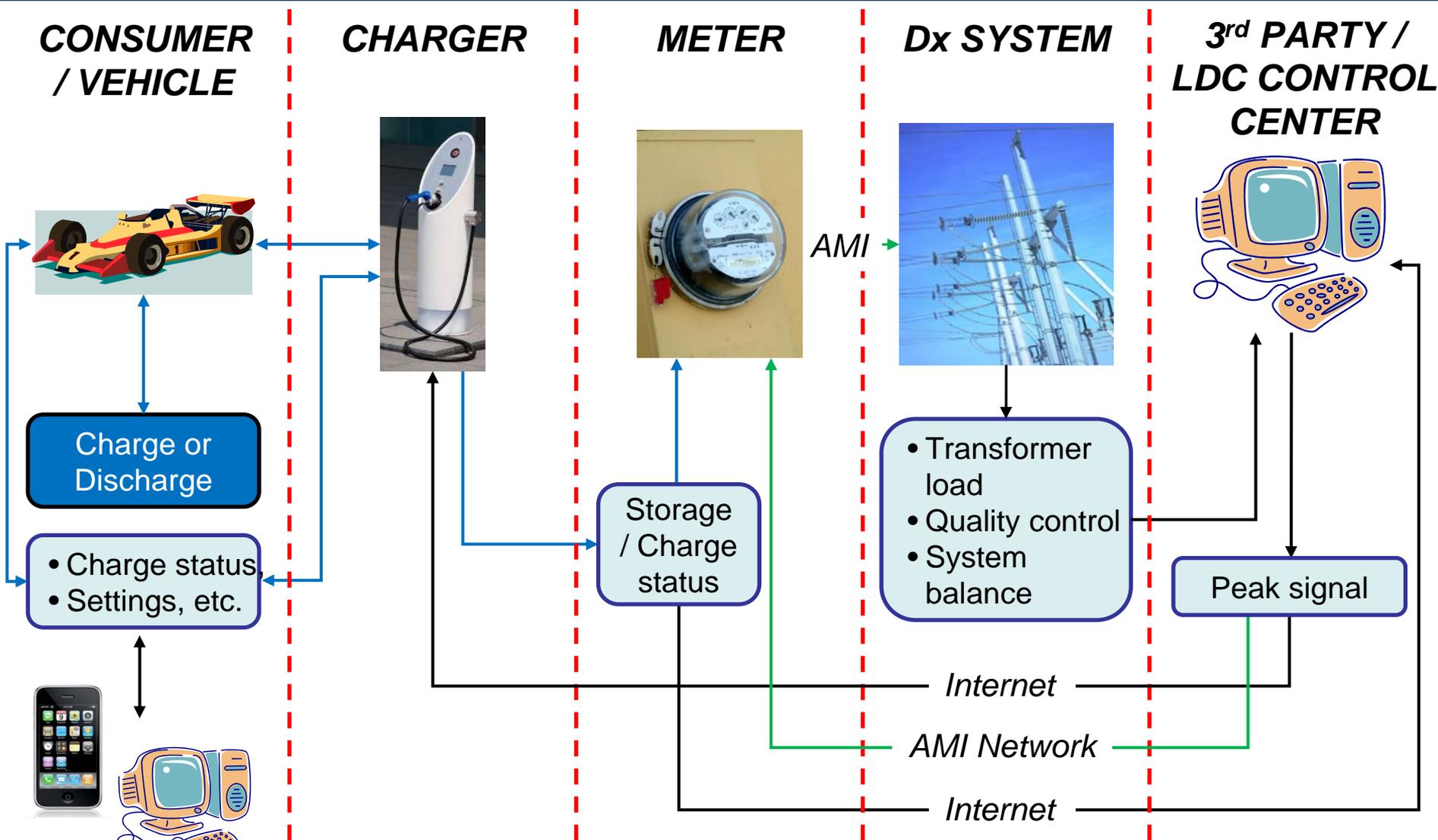
Send truck

Feeder(s)
/breaker(s)
Loads affected

“last gasp”
signal may
not be
localisable

Sends
“last gasp”
signal

Use Case 4: EVs at Residence



LEGEND → EV-Related Signal → Internet → AMI Signal

- Charging Level: 120V or 240V
- Consumer monitoring
 - Via Panel
 - Via wireless gateway (including meter)
- Storage and ancillary services (e.g. AGC/regulation)
 - Scheduling of charging/storage
 - Via Panel
 - Via wireless gateway (including meter)

Next Steps in Smart Grid Guidance Consultation

- Board staff will draft a discussion document with options for the Board's Guidance for release before June 30, 2011.
 - This will be sent to all stakeholders
 - Board staff may seek further advice from SGWG members prior to release
- After receiving comments Board staff will prepare a Report to the Board by early September.
 - Staff may convene a technical conference and/or seek further advice from SGWG members