



VERIDIAN
CORPORATION

THE POWER TO MAKE YOUR COMMUNITY BETTER

Smart Meter Deployment & TOU Implementation Experiences

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Agenda — Smart Meter Deployment & TOU Implementation Experiences

- Veridian; who, what, where
- Current status
- How we got started
- How we did it
- How we're doing it

Who is Veridian?

- Formed July 1999 – Ajax/Pickering/Clarington
- Seventh largest LDC in Ontario
- 110,000 customers, Peak Demand 475 MW
- 200 employees
- Member of the CLD (Coalition of Large Distributors)
- Early implementer of smart metering AMI and IESO MDMR integration

What is Veridian?

- A “green” LDC
 - Solar powered & Hybrid vehicles in fleet
 - Solar power on main corporate buildings
- Strong community partner
 - See tag line below
 - Durham Strategic Energy Alliance
 - Major United Way supporter

Where is Veridian?



Snapshot: Where are we now?

- Smart meters
- MDMR
- TOU



Smart Meters

- Elster Energy Axis solution
- ~97,000 meters installed
- WAN backhaul infrastructure nearly complete – combination of POT's and wireless

MDMR

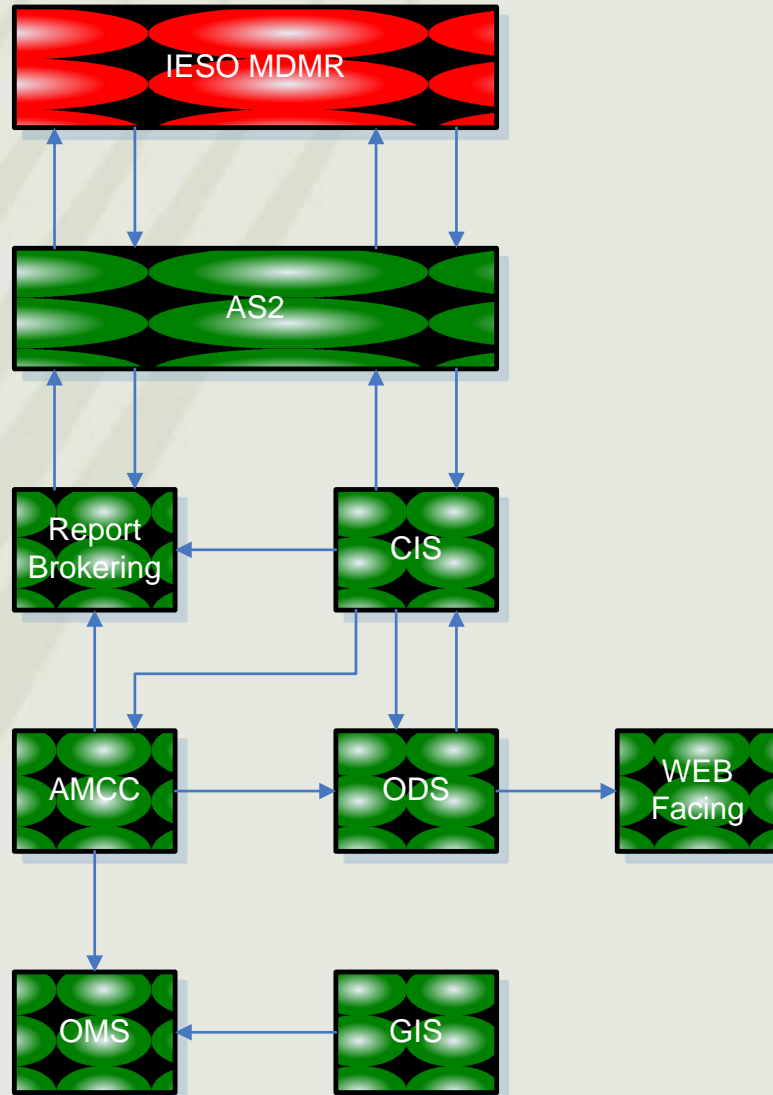
- Completed the testing and integration process with provincial MDMR
- ~23,000 meters enrolled
- Balance to be enrolled by spring 2011



TOU

- In very final stages of testing
- Production data flowing in all systems including provincial MDMR
- First TOU customer invoices to be delivered first week of May 2010

Supporting Systems



How did we get started?

- Provincial Mandate
- Executive Support
- Project Governance
- Project Requirements
- Project Team
- Project Plan
- Partner Engagement

How did we get started?

- Secure executive support
 - Is your company ready to begin?
 - Are all internal stakeholders on board?
 - Are necessary resources going to be made available? Money? People? Equipment?



How did we get started?

- Determine project governance
 - Executive decision making
 - Steering committee of key stakeholders
 - Project Manager



How did we get started?

- Decide what you want/need
 - Select an appropriate meter technology
 - Select an appropriate backhaul technology
 - AMCC – In house? Hosted? Fully Outsourced?
 - ODS? Mapping? Web Services?
 - External Support? – Temp staff? Consultants?

How did we get started?

- Assemble project team

- Cross functional

- Metering

- Billing

- Customer Service

- Finance

- Communications

- Regulatory

- Engineering

- Information Technology



How did we get started?

– Core Project Team – Resource requirement over entire project

- Project Manager ~30%
- Supervisor, AMI Data ~60%
- Systems Analyst ~75%
- AMCC Operator ~100%
- Billing Clerk X 2 ~40%
- Supervisor, Billing ~20%
- Consultants X 2 ~10 months

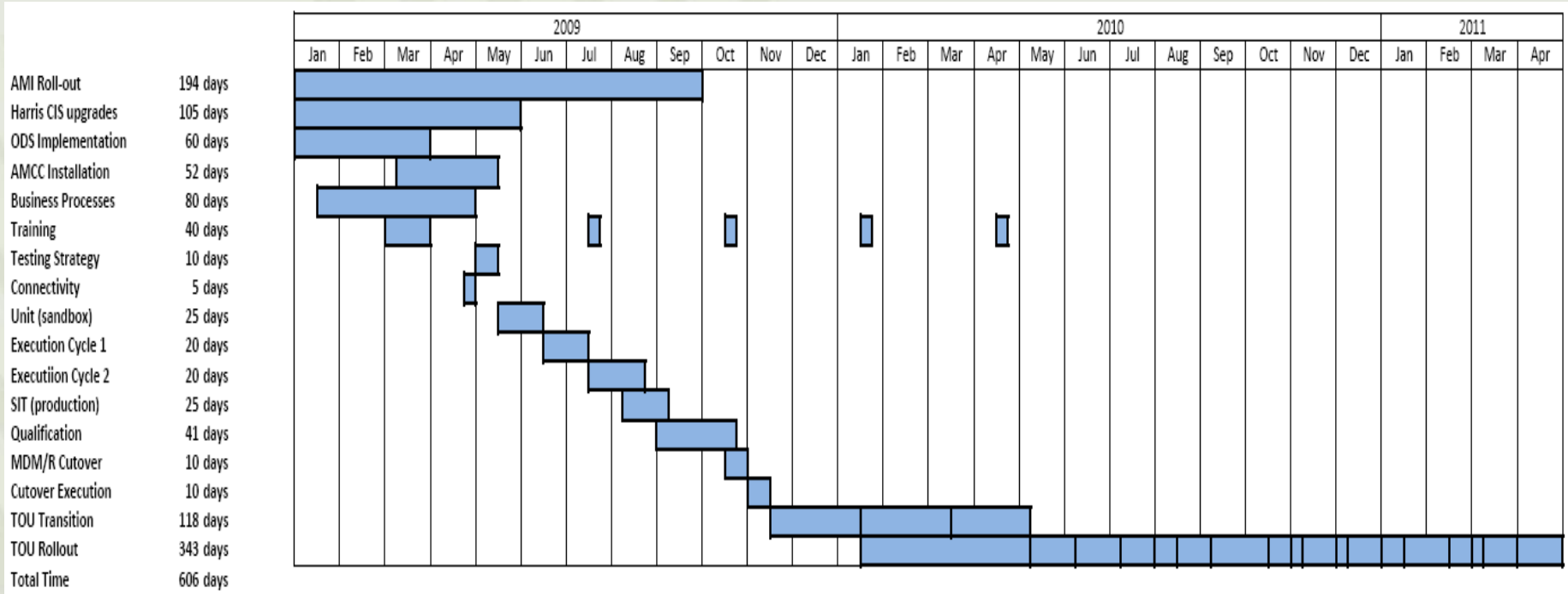


How did we get started?

- Draft your project plan



How did we get started? – Project Plan



How did we get started?

- Engage your partners
 - AMI vendor
 - CIS vendor
 - Consultants
 - ODS vendor
 - IESO

How we did it— SM PROCUREMENT

- CLD worked with the MOE to develop initial Smart Meter Spec's.
- CLD with the MOE and a FC created and issued a RFP to qualify meter technologies.
- Each LDC then determined the technology that fit their needs.
- LDC's that chose similar AMI solutions then negotiated together with the vendor for volume discounts.

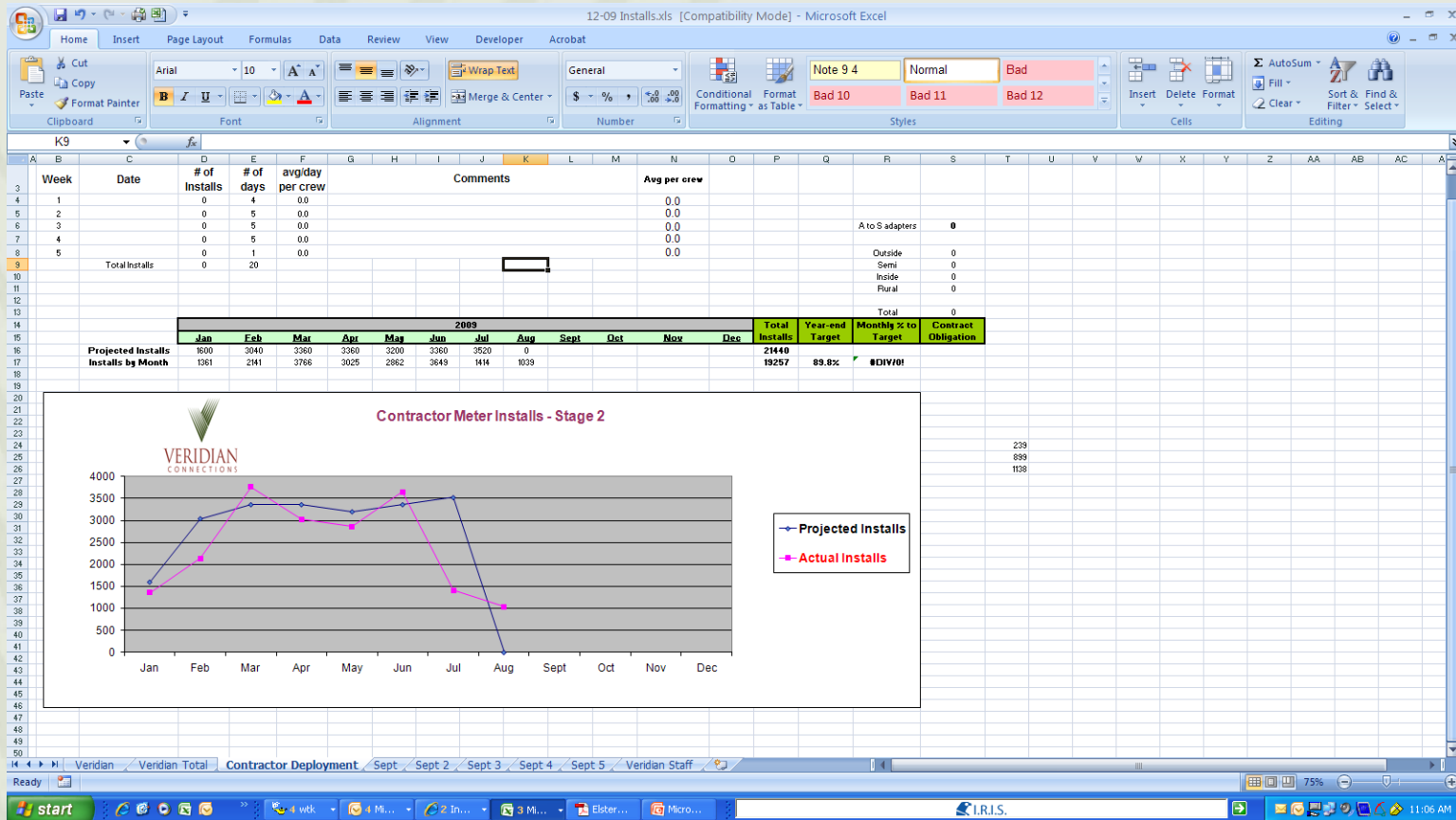
How we did it— SM PROJECT GOALS

- Initial direction was to get in as many smart meters as possible by the end of 2007 so that the gov't would reach the 800,000 install milestone.
- Veridian chose all of the remote service territories except Gravenhurst.
- Data backhaul was not a priority at this time.
- Make this a good news story for the customer.

How we did it— SM DEPLOYMENT

- Accomplished with a combination of existing staff and third party contractors.
- Purchased a WFM tool.
- Deployed by billing cycle – blackout schedule.
- After 1st phase of deployment (approx. 40K SM) collectors were installed with POTS as the communication link.
- AMCC was not initially purchased by Veridian but the SM data was collected by a third party and brought into our CIS via FTP.

How we did it— SM REPORTING



Today— SM DEPLOYMENT

- In excess of 87K SM installs.
- Currently working on GS<50kw customer class.
- SM data is combination of approx. 100 POTS and 100 cell units.
- Utilizing web help desk daily to report and monitor smart meter data issues.



How We Did It – MDM/R

- AMI Rollout
- CIS Upgrades
- ODS Implementation
- AMCC Installation
- Business Process Development
- Training Strategy
- Connectivity Testing
- Unit Testing cycle 1
- Unit Testing cycle 2
- SIT Testing
- QT Testing
- Cutover Execution
- Communications
- TOU Transition

How We Did It – AMI Rollout

Metering Staff, Contractors – 18 months

- Smart meter installation
- Collector installation
- Transition from a hosted AMCC environment

How We Did It – CIS Upgrades

Systems Analyst – 105 days plus

- i-synch
- p-synch
- Billing request/response files
- AS2 functionality
- Transition from fixed RPP to TOU
- Bill print

How We Did It – ODS Integration

Supervisor, AMI Data – 60 days plus

- System synchronization
 - CIS
 - AMCC
 - Report Brokering
- File acceptance
- File formatting
- MDM/R integration

How We Did It — AMCC Installation

Supervisor, AMI Data — 52 days

- Install hardware
- Install software
- Marriage files
- Synch files
- Training
- System Acceptance Testing

How We Did It — Business Process Development

Consultant X 1 – 80 days

- Review existing bp's
- Engage all stakeholders
- Created thirty new business processes



How We Did It – Training

Consultant X 1, Billing Supervisor – 40 days

- Create a strategy
- Staggered across entire project timeline
- Job aids/scripts based upon new bp's
- Trained internal trainers



How We Did It — Unit Testing

Entire Core Team at 80% – 65 days

- Sandbox(non production environment) testing
- Two distinct phases
- Cycle one – problem after problem – get the bugs out
- Cycle two – same scripts – much fewer technical problems
- Dozens of test scenarios

How We Did It – SIT

Entire Core Team – 25 days

- Self certification
- Test script review
- Data prep
- Execution
- IESO prescriptive scripts



How We Did It — Qualification Testing

Entire Core Team at 80% – 41 days

- Review test scripts
- Data preparation
- Execution
- IESO prescriptive



How We Did It — Cutover to MDM/R

Entire Core Team – 20 days

- Request USDP ID's
- Submit pSynch
- Submit meter read file
- Load Historical data
- Production Data flow



How We Did It – TOU Transition

Entire Core Team – 118 days

- Management Training
- Staff training
- Post cutover testing
- Post communications testing
- TOU billable data testing



How We're doing it – TOU Rollout

- Communications strategy
- Direct mailer
- Newspaper
- Bill stuffer
- Newspaper
- Bill stuffer



How we're doing it – TOU Rollout

Entire Core Team – 343 days

- Rollout in 21 distinct tranches
- Early tranches have fewer customers
- Last tranches have much higher customer counts
- Two distinct billing models/business processes for over a year



How We're doing it - Issues

- Negative publicity
 - Latest numbers show 79% of media coverage is “negative”
 - Aggressive communications campaign
 - Scripted call centre responses
 - Shareholder(Town council) briefings
 - Considering town hall meetings

How We're doing it - Issues

- Customer Access Issues
 - Direct mailers
 - Cold calls
 - Call centre solicitation for appointments



How We're doing it - Issues

- Customer Refusals
 - No direct regulatory intervention
 - Relying on conditions of service
 - Will ultimately disconnect service

Lessons Learned

- Impacts all aspects of an LDC's operations
- **Very** complex systems and integrations
- Many *new* business processes required
- Requires full time commitment – either dedicated staff or spread out

Lessons Learned

- Test, Test, Test in the sandbox

