

Ontario Energy Board

September 17th, 2004

Smart Meter Vendor Day

Time Slot: 10:35am

Landis+Gyr Facts and Figures

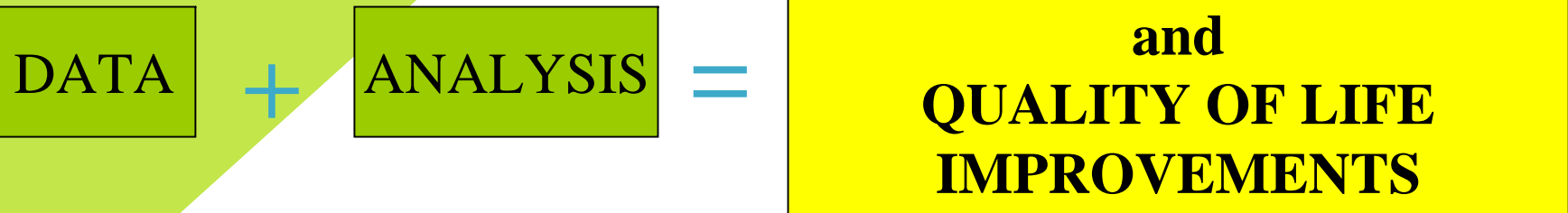
- Global market leader of electric metering devices and metering systems
- 100+ Year of experience in electricity metering
- US Headquarters – Lafayette, IN
- Corporate Headquarters – Zug, Switzerland
- Twelve Manufacturing Plant / Branches worldwide, 26 Groups



What is smart metering?

Continuous Data From Every Source The Mind Can
Imagine.....

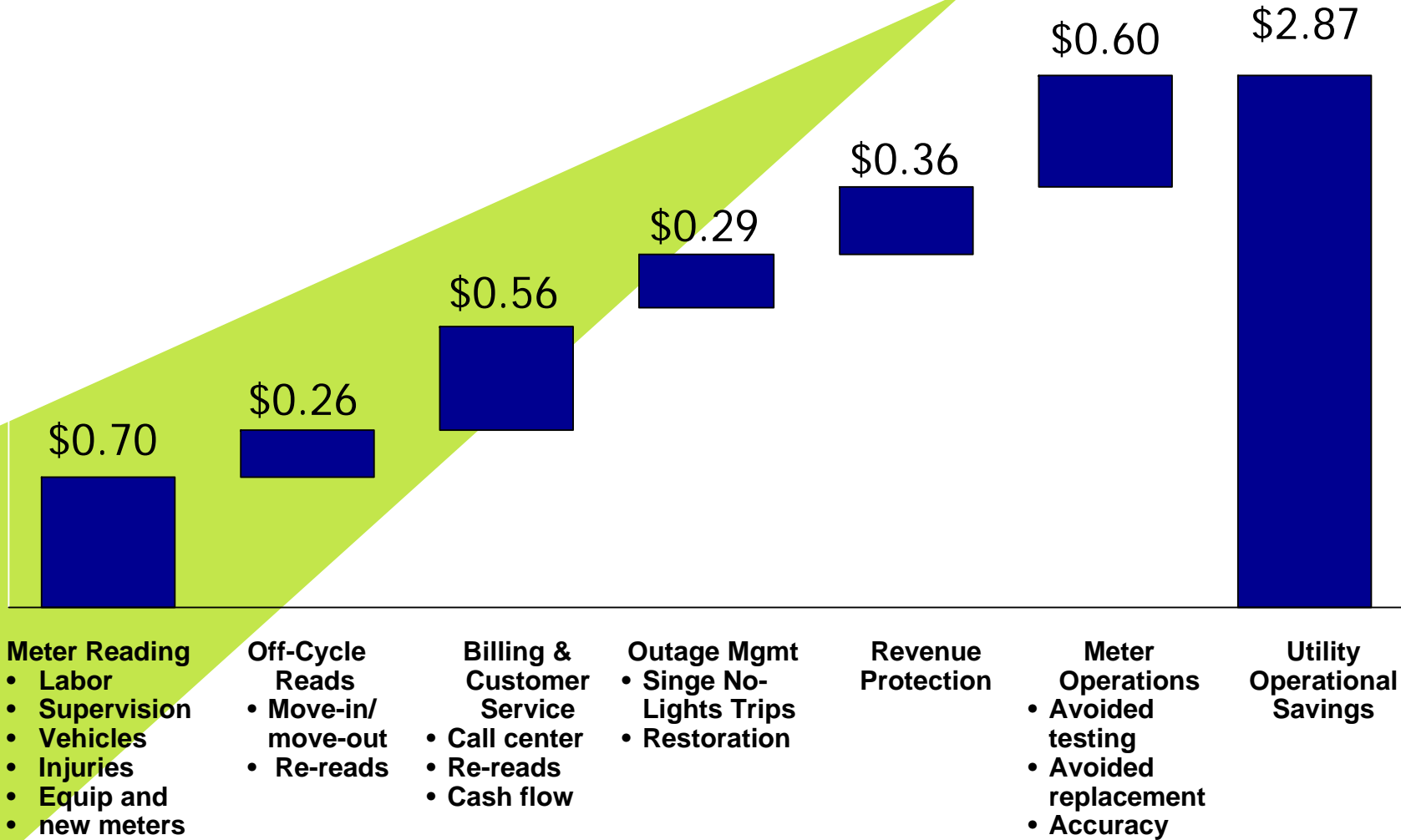
- Frequent Interval data delivered daily
- On Demand Reads
- Two – way system



Operational Benefits: Cumulative Industry Experience

Gross savings in \$ per meter per month

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- Meter Reading**
- Labor
 - Supervision
 - Vehicles
 - Injuries
 - Equip and new meters

- Off-Cycle Reads**
- Move-in/move-out
 - Re-reads

- Billing & Customer Service**
- Call center
 - Re-reads
 - Cash flow

- Outage Mgmt**
- Singe No-Lights Trips
 - Restoration

Revenue Protection

- Meter Operations**
- Avoided testing
 - Avoided replacement
 - Accuracy

Utility Operational Savings

Source: North American Advanced Metering AMR, Frost & Sullivan

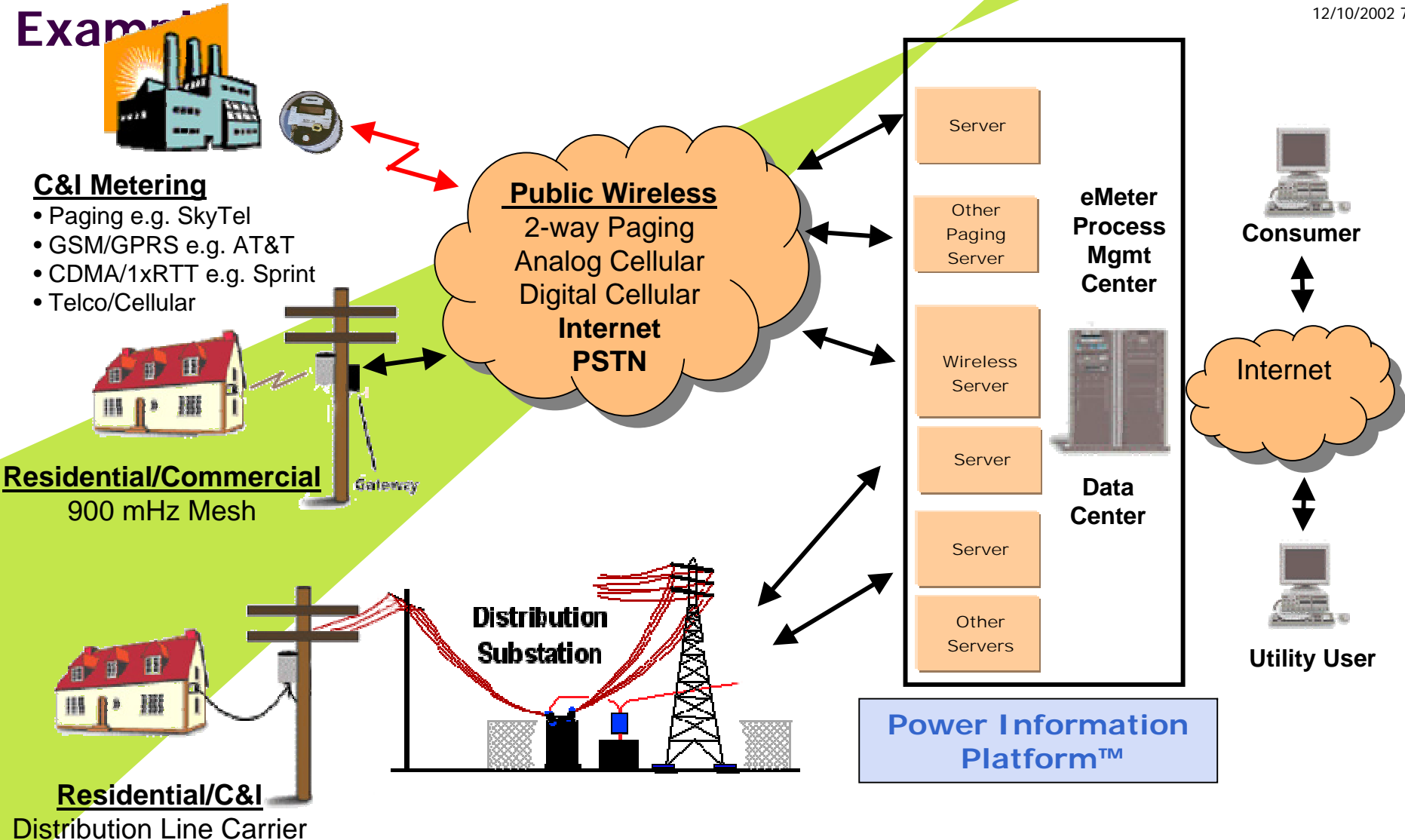
- **Advanced Data Infrastructure (ADI) components:**
 - The **ADI Architecture** is an open architecture design comprised of the endpoint, the communications technology, and the IT infrastructure which allows the collection, processing, managing and application of this information
 - The **ADI Solution set** is assembled by Landis+Gyr with different product and service partners for different utility market segments to meet current and future meter and energy information needs.
 - L+G's primary contribution is around the meter and will interface with as many communications technologies as L+G sees being suitable and viable in the AMI marketplace
 - Upside on initial electric ADI solution is: Water, Gas, Load control

L+G's ADI Value Proposition

The ADI Solution offers the utility:

- A **cost-effective, comprehensive and flexible solution** for the utility's AMI needs
- **Cost-effective**
 - Cheaper on a TCO basis to competitive offerings
 - Based on best mix of technologies and services to ensure cost-effectiveness
- **Comprehensive**
 - A vast array of products and services are offered through L+G's alliances which enable an end-to-end and 100% offering
- **Flexible**
 - The functionality to meet today's and the future's metering and energy information needs
 - Meet the targeted and mass market needs of the utility – grow as the utility wants it to
 - Support new technologies as they emerge

A Complete ADI Solution - Example



L+G Works with Various AMR and AMI Providers

Landis
+
Gyr

POTS 1G Wireless 2-3G Wireless Internet Drive-by PLC

Proprietary
Wireless

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ALL

SKYTEL
Don't Miss A Word.

comverge
The Power in Power Technology™

Embrace
NETWORKS

TWACS
BY DCSI

STAT SIGNAL

The
Turtle
System
from Hunt Technologies, Inc.
The Winning Choice™ in AMR

SchlumbergerSema
*IT consulting, systems
integration and network &
infrastructure solutions*

Itron

Landis+Gyr Residential Metering



Most communication friendly

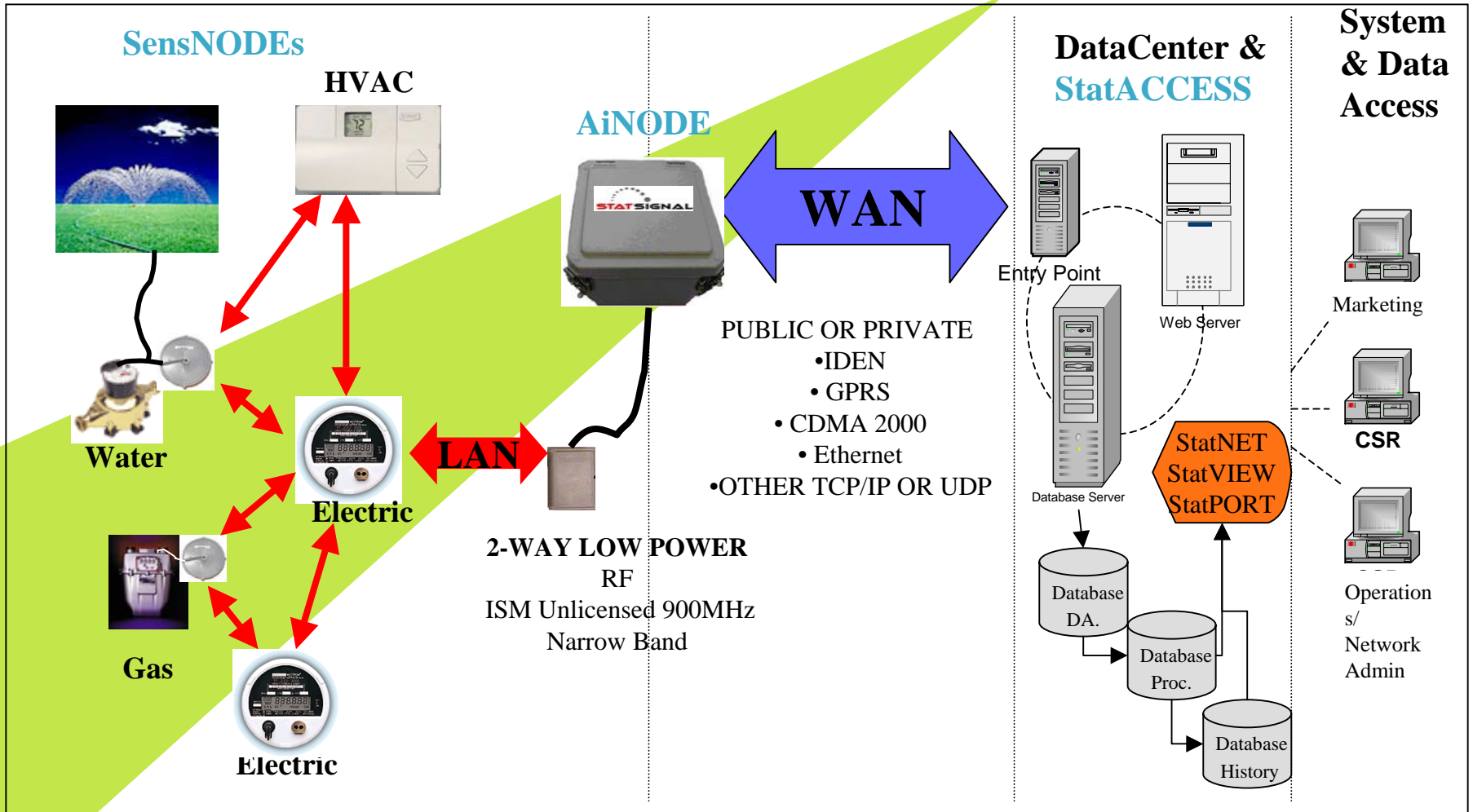
- *Single circuit board design facilitates easy and inexpensive retrofit*
- *50mA extra power supply*
- *Standard 10 pin connector for all communication modules*

FOCUS AMR Technologies

- S4 / FOCUS DCSI
- FOCUS Hunt Technologies (PLC)
- FOCUS Cellnet (Fixed RF)
- FOCUS StatSignal (Mesh RF)
 - Single Channel
 - Multi Channel
- S4 Utilinet
- FOCUS ETG
- Cash Power
- Converge

THE APPLICATION:

AMR Data Acquisition & Control



THE EXPERIENCE:

Landis + Gyr Easy To Apply & Manage

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Electric Meters: 100 L+G FOCUS
AiNODE (collector): 1

Deployment: Meters day 1,
AiNODE day 2

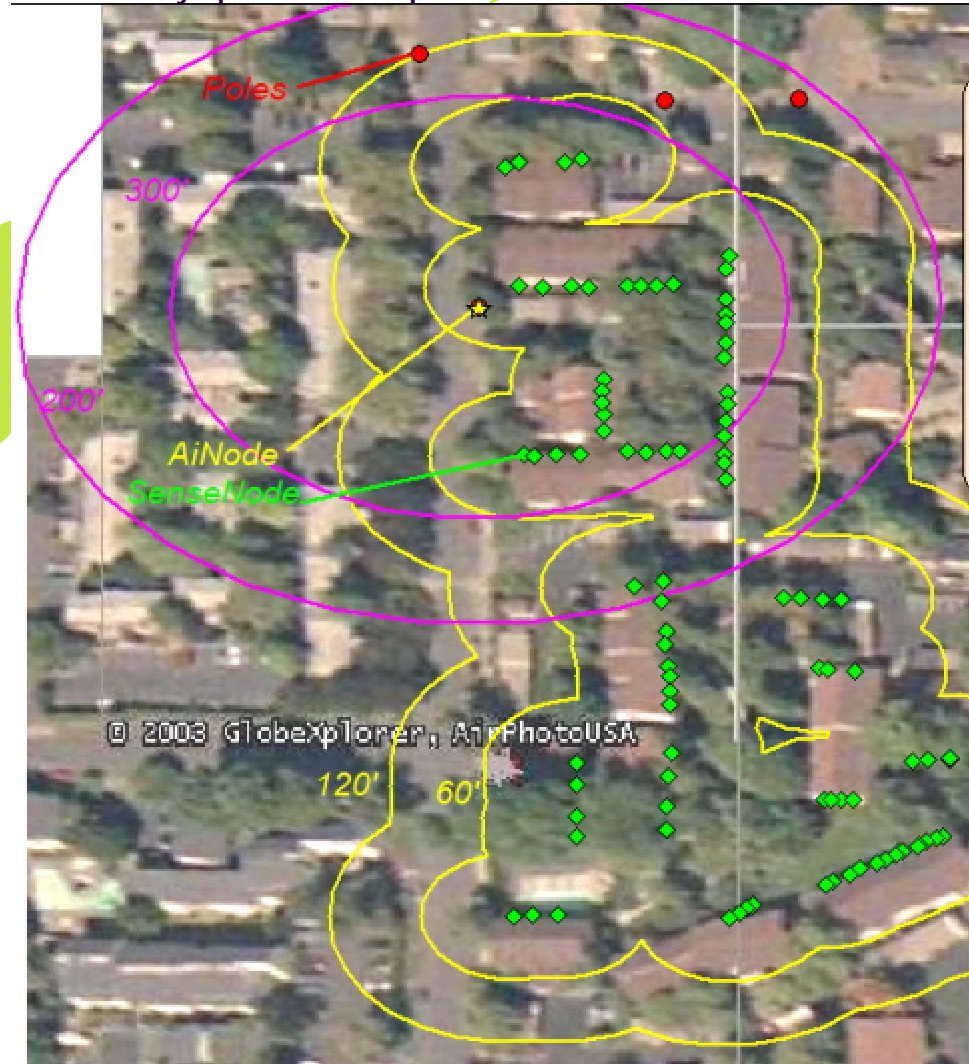
Data Flow: End of DAY 4 at 100%
daily read and 99% hourly read.

Problems: Yes, initial Data Flow
did not happen due to meters not
being set for Plug & Play mode at
factory. (Process/Procedure) 2 day
delay on receiving data.

Countermeasure: Easy to use Handheld
Windows CE based application / RF
deployment tool (IPAQ) utilized by
Utility to reset meters via RF for “plug
& play” mode. Required time less
than 2 hours and not requiring premise
access or manual connection to meters.

Learning: Easy to install, easy to
address field problems quickly,
improved internal production
programming procedure, and consistent
and quick data flow soon after
deployment.

SITE E: Multi-Family Apartment Complex Pilot



THE RESULTS: Reliable & Consistent

Representative Sample of Five Multi-Family Deployments as of 9/14/04

(Control Panel Snapshot: Performance & Composition)

SITE	A	B	C	D	E
DATE DEPLOYED	May-99	Jan-02	Feb-03	Dec-03	Feb-04
ELEC. METERS DEPLOYED	245	119	50	626	94
AiNODE DEPLOYED	1	1	1	1	1
WAN METHOD	Dial Modem	Ethernet/Fiber	IDEN RF	IDEN RF	IDEN RF
DEPLOYMENT SUPPORT	Onsite	Onsite	Onsite	Utility only	Utility only
Hourly Read %	89.9%*	95.30%	100.00%	97.60%	99.69%
Daily Read %	100.00%	100.00%	100.00%	100.00%	100.00%

* Original design retrofit that does not have any storage of reads in AMR module.
Result is Hit or miss on hourly reads, but consistent Daily reads.

Site Characteristics:

A: Initial proof of concept deployment.

Multi-Family units in hilly / extreme RF noisy environment

B: Proof of Concept deployment adding water AMR feature.

C: Pilot deployment in remote Island Community

D: Pilot deployment in medium size Multi-Family area

E: Pilot deployment in strategic Multi-Family next to other 915MHz AMR system.

THE VALUE: Information to feed CSI and Operations

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STAT SIGNAL

Landis+Gyr+

[on demand reads] [scheduled reads] [display load profile data] [import billing file] [change password] [print] -> logout

aschadetest | load profile data > values

All Accounts
Device Serial No :
Device Address:
Values on period : 9/5/2004 - 9/11/2004

Click [here](#) for text mode

Export to Excel
back

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Applet started. Internet

Screen shot of Site E cumulative loads at selectable Time of Use, with on screen data export option.

Continue building off of the fundamental success and learnings from Generation I StatSignal Low Power 2-Way RF MESH Multi-Family deployments and enhance so as to enable expansion into the waiting and data hungry AMR markets for less dense Single Family and C&I applications.