IESO Meeting
Packet Switched Data

Gary Moody

October 4, 2007

Trilliant
NETWORKS

Agenda

- Company Overview
- C&I CellReader Solution
- Q&A

Company Overview

- **20 years in industry, acquired NERTEC**
- **People and Experience –**
  - **Bill Vogel – CellNet Classic**
  - **Geoff Williamson - CellNet Classic**
  - **Paul Aubin – Founder of Nertec**
  - **Michel Veillette – Nertec - ANSI committee since inception**
  - **Brian Pollom – Program manager PSE & President of AMRA**
  - **Venki Ramachadran – CellNet Classic, WACS founder**
  - **Mike Mortimer – CellNet Classic, Schlumberger**
  - **Jonathan Ziegler -**
  - **Tom Bushman – co-founder MetraTek, Schlumberger, CellNet**
  - **Gary Moody – Square D, Power Measurement, SmartSynch**
- **Committed to open standards**

Company Overview

- **Strong Industry Partnerships**
  - **Bell Canada**
  - **Rogers**
  - **Telus**
  - **Motorola**
  - **Elster**
  - **Itron**
  - **General Electric**
  - **Landis & Gyr**
- **Over 100 utility customers including**
  - Baltimore Gas & Electric, Duke Energy, Hydro One, Hydro Quebec, Milton Hydro, Northeast Utilities, OneOK, Public Service Electric & Gas and San Diego Gas & Electric
- **Privately held company w/ operations centers in:**
  - **Granby, Quebec - Engineering**
  - **Concord, Ontario – Customer Service**
  - **Redwood City, California – Head Quarters**

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NERTEC

1985: Nertec was formed and develops the first interval meter communications devices.

2004: Trilliant Networks provides acquisition software; under-glass solutions were the first and only solution to be compatible with the industry-dominant data acquisition system, Itron's MV-90.

During 2006: Trilliant Networks qualified AMI devices for the leading meter companies including GE, Itron, L+G and Sensus.

Trilliant NETWORKS

2004: Trilliant Networks, Inc., was formed and acquires the assets of Nertec, Inc. to commercialize standards-based solutions using ANSI and IEEE.

Fall, 2005: the company became the first AMI Company to begin billing on Time-of-use at Milton Hydro in Ontario.

May, 2006: the company launched the industry's first standards-compliant mesh network solution for residential meters installing it in Ontario and passing the OUSM (Ontario Unified Smart Meter) testing.

January, 2007: The company becomes the first AMI vendor to provide integrated demand response (i.e. load control) of thermostats and other loads such as pool pumps, water heaters. This solution enables "in-home" consumer displays that control the loads, display meter readings and utility messages.

| 1985 | 2000 | 2004 | 2005 | 2006 | 2007 |

2000: Nertec develops industry's first ANSI development, simulation, and compliance system. Today, this system is being used by most every major meter manufacturer as well as AMI and networking companies to develop and test ANSI meters and meter communication products.

2004: Trilliant Networks launches the industry's first standards-based and "under-glass" advanced meter communications products for commercial electric meters and advanced gas meter instruments. Supports all of the major digital cellular networks in North America.

Summer, 2004: Motorola selected Trilliant Networks as their core solution for advanced metering and entered into a formal strategic alliance agreement in which Motorola promotes Trilliant Networks AMI communications modules incorporating iDEN-based digital cellular technology.

hydro One

September 2006: the company began a 1.3m meter deployment with Hydro One, Ontario's largest energy company. This followed extensive evaluations and testing which lasted well over a year from initial selection.

Spring, 2006: the company launched its Advanced AMI implementation ("ProVisor") and field O&M ("ProCare") systems. ProVisor is the only system in the industry to completely interrogate, completely provision, and electronically tag the AMI device with GPS tracking.

ZigBee Alliance Wireless Control That Simply Works

May, 2007: Trilliant Networks provides industry's first ZigBee Home Automation Network gateway integrated with IEEE 802.15.4 standards-based AMI mesh network.

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Current State of Trilliant Networks

People

Concord, ON- Service

People

People

Redwood City, CA - HQ

Granby, QC - Engineering

Cellular Based Solutions Commercial & Industrial

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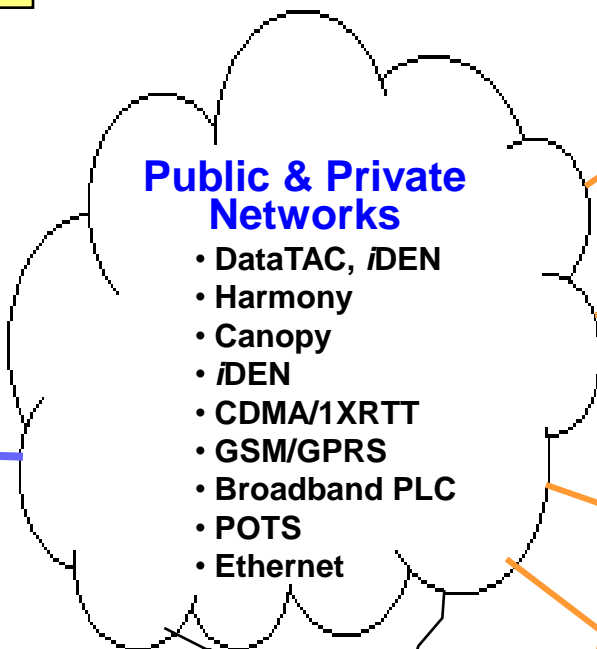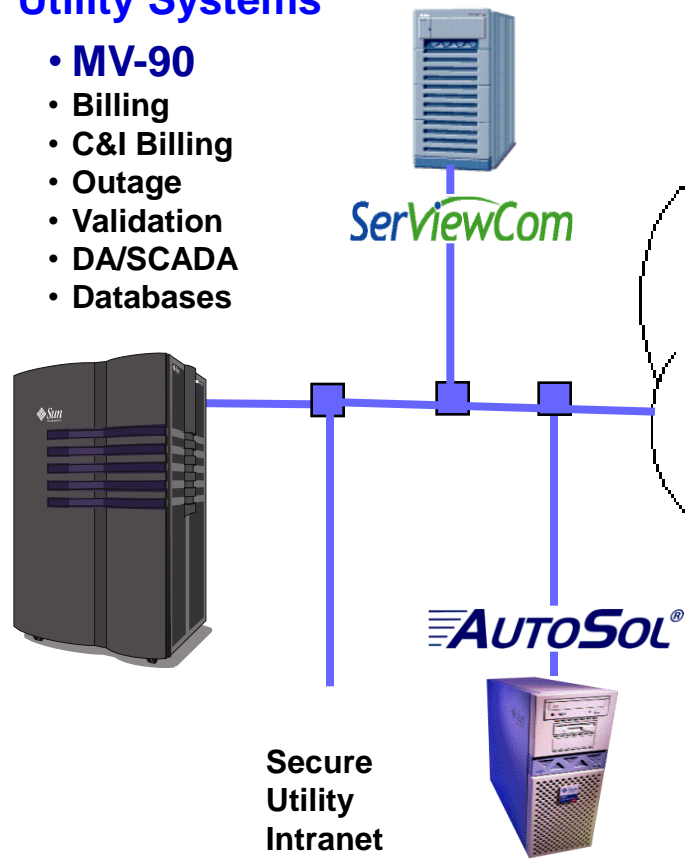# Flexible Architecture

Back Office Integration

Communication & Data Servers

Network Communication

Electric & Gas Metering

Utility Systems

- **MV-90**
- Billing
- C&I Billing
- Outage
- Validation
- DA/SCADA
- Databases

SerViewCom

AutoSol®

Secure Utility Intranet

Public & Private Networks

- DataTAC, *i*DEN
- Harmony
- Canopy
- *i*DEN
- CDMA/1XRTT
- GSM/GPRS
- Broadband PLC
- POTS
- Ethernet

TeleReader Solutions

ANSI Standard Meters Under Glass

CellReader

ANSI & Non-ANSI C&I Meters

CellGateway

RS232/485

Gas Meters with Pulse Output

NC_L801

Pulse

Gas Instrumentation

CellGateway

RS-232/485

Trillia NETWORKS

Flexible Network Solutions
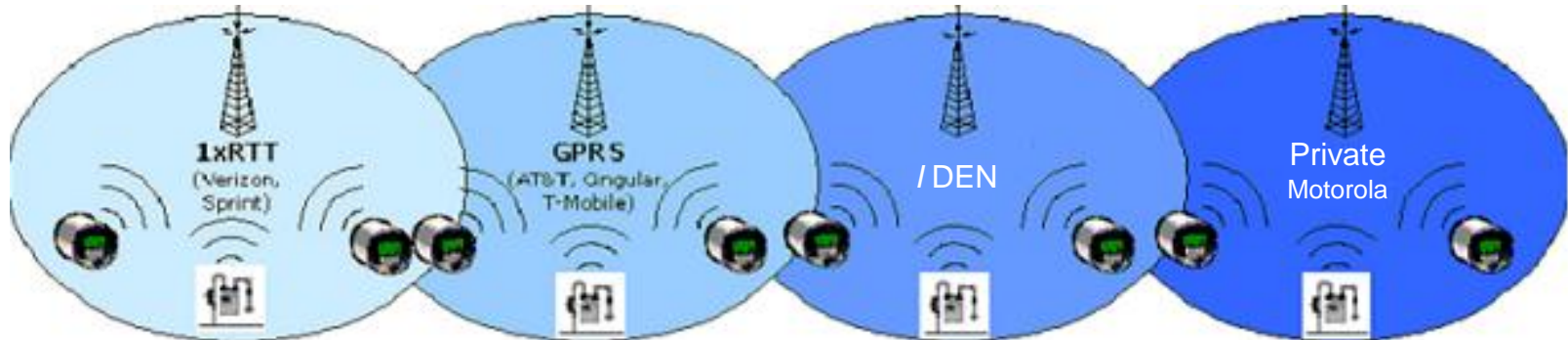
Flexible Meter Solutions

	Integrated "Underglass" Meters CellReaders®				External Devices CellGateways®
NETWORK	**GE KV** KV series	**Elster** A3	**Itron** Sentinel	**L+G** S4	**Electric/Gas/RTU** RS232/485
• CDMA/1xRTT	NCXR801-KV	NCXR801-A3	NCXR801-Sen	1st QTR 2008	NCXL801
• GSM/GPRS	NCGR801-KV	NCGR801-A3	NCGR801-Sen	1st QTR 2008	NCGL801
• iDEN	NCiR801-KV	NCiR801-A3	NCiR801-Sen	4th QTR 2007	NCiL801
• DataTAC	NCDR801-KV	NCDR801-A3	NCDR801-Sen	1st QTR 2008	NCDL801

verizon wireless
We never stop working for you.®

MOTOROLA
intelligence everywhere™

Sprint
Together with NEXTEL

NEXTEL
from Sprint

cingular
raising the bar™

CANOPY
Motorola Wireless Broadband Platform

alltel™

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Flexible Physical connections

- Internal options
- External options

RS 232 / RS485

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Flexible External Gateway

- RS-232 or RS-485 serial communication with remote device

- Transparent protocol gateway

- Replacement for Wireless Analog/CDPD Modems

- Extends life of existing meter assets

- Excellent for RTU communications

- Ideal for Natural Gas instrumentation

- Provides Circuit-switched (C-S) and/or packet wireless connectivity over the widest range of public and private networks:

  NCXL801:   CDMA/1xRTT (public packet and C-S network)
  NCGL801:   GSM/GPRS (public packet and C-S network)
  NCDL801:   DataTAC (private packet network)
  NCiL801:   *iDEN* (public or private packet network)

Trilliant NETWORKS

Flexible Installation

- Buy meter integrated from vendor
  - Buy meter with module from vendor
- Buy meter and module separate
  - Buy meter from vendor
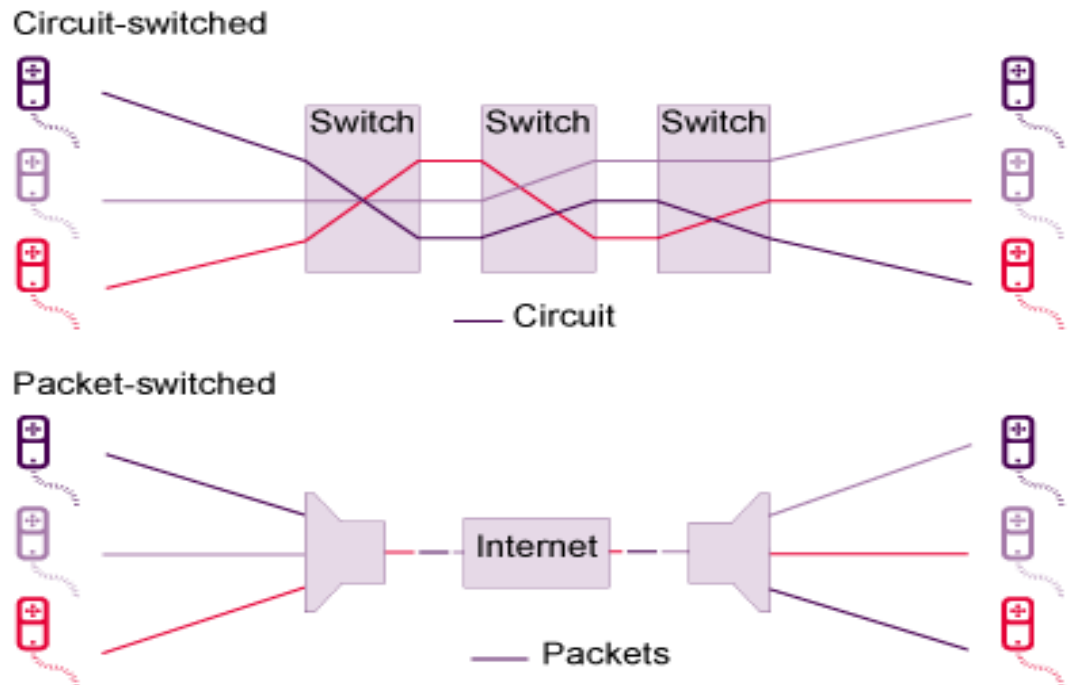 - Buy module from vendor
  - Integrate at meter shop

Flexible Antenna Mount Options

- Internal Antenna
- External Antenna
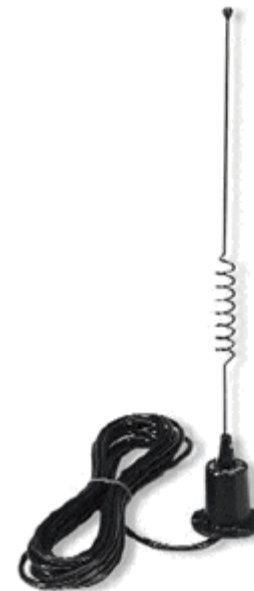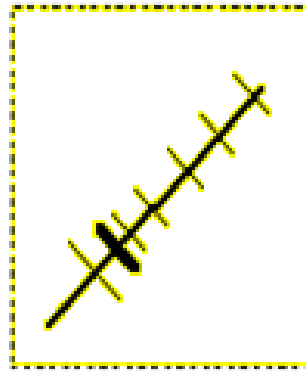
Flexible Network Connections

- **Circuit Switched**
- **Packet Switched**
  - Static IP
  - Dynamic IP

Flexible Data Plans

- Purchase Data directly from carrier
  - Utilize internal telecomm team
  - Leverage existing carrier relationship
- Purchase Data from AMI vendor
  - Potentially more competitive pricing
  - AMI Vendor takes risk of overage charges
  - One point of contact
  - Guaranteed coverage

Flexible Data Retrieval
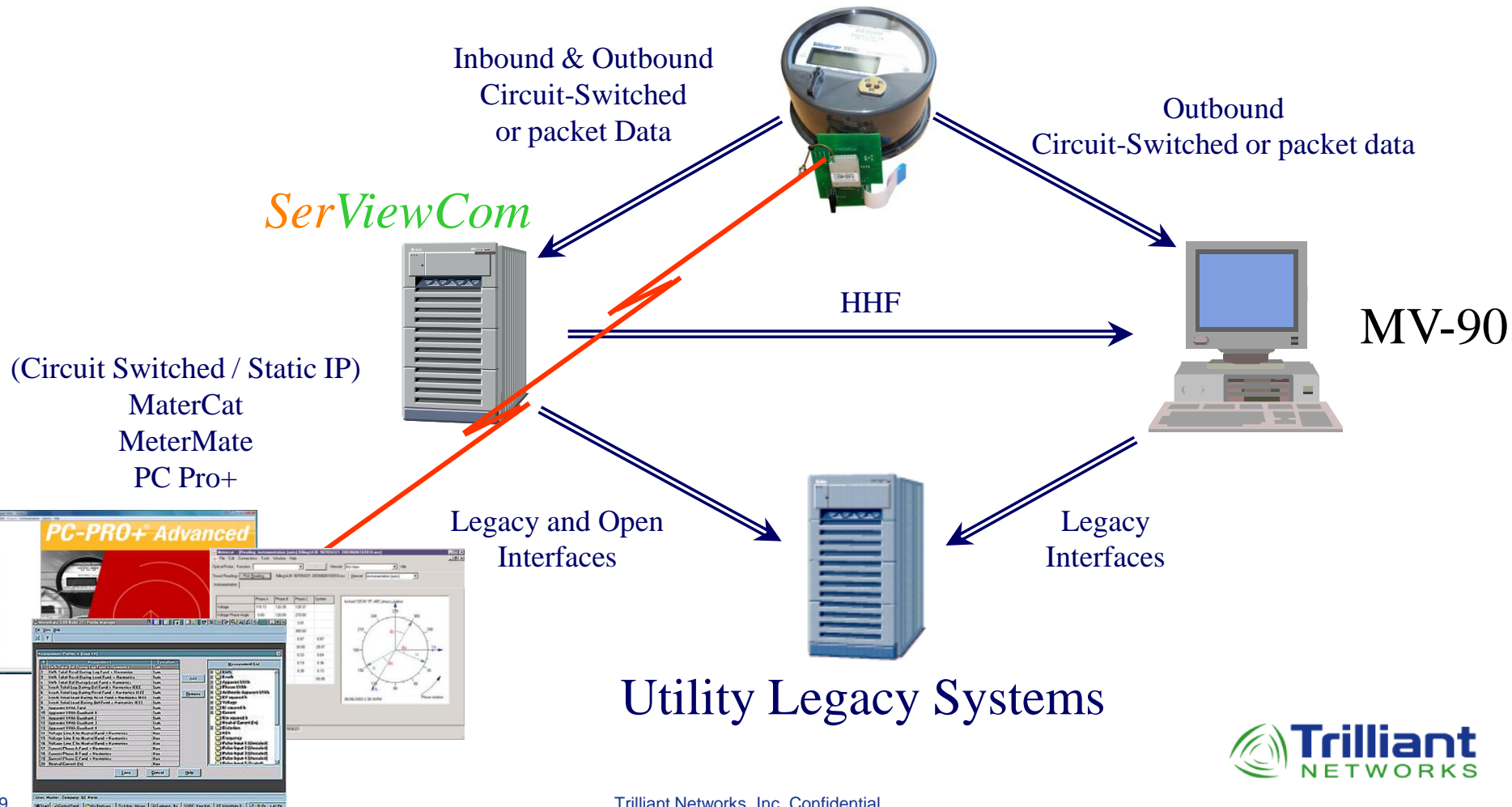
- On a schedule
- On demand
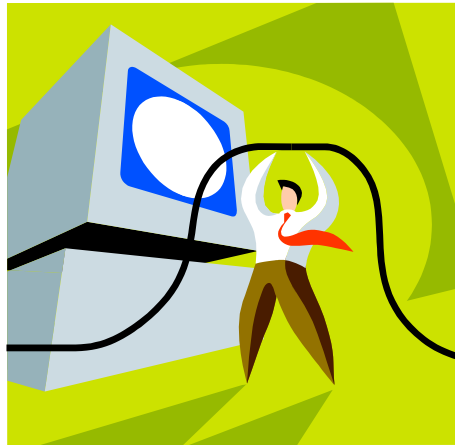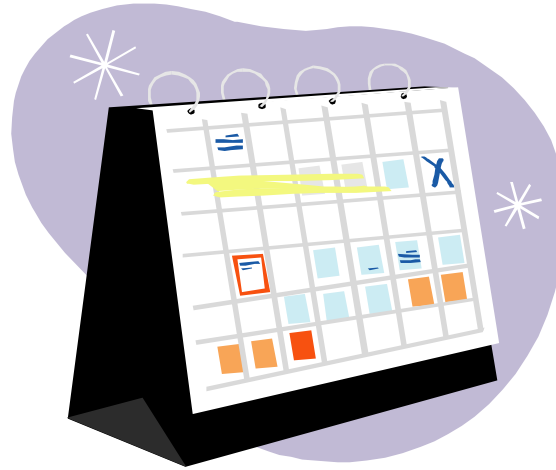
Flexible Software Options

- Direct MV-90

- Software interface
  - Export to other software (HHF, XML, CSV)

- Meter Manufacturer direct connect
  - PC-Pro+ Advanced, MeterMate, MeterCat

- Communications diagnostic software
  - Table TestBench

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Flexible Data Integration Solution

Trilliant CellReader

Inbound & Outbound
Circuit-Switched
or packet Data

Outbound
Circuit-Switched or packet data

SerViewCom

(Circuit Switched / Static IP)
MaterCat
MeterMate
PC Pro+

HHF

MV-90

Legacy and Open
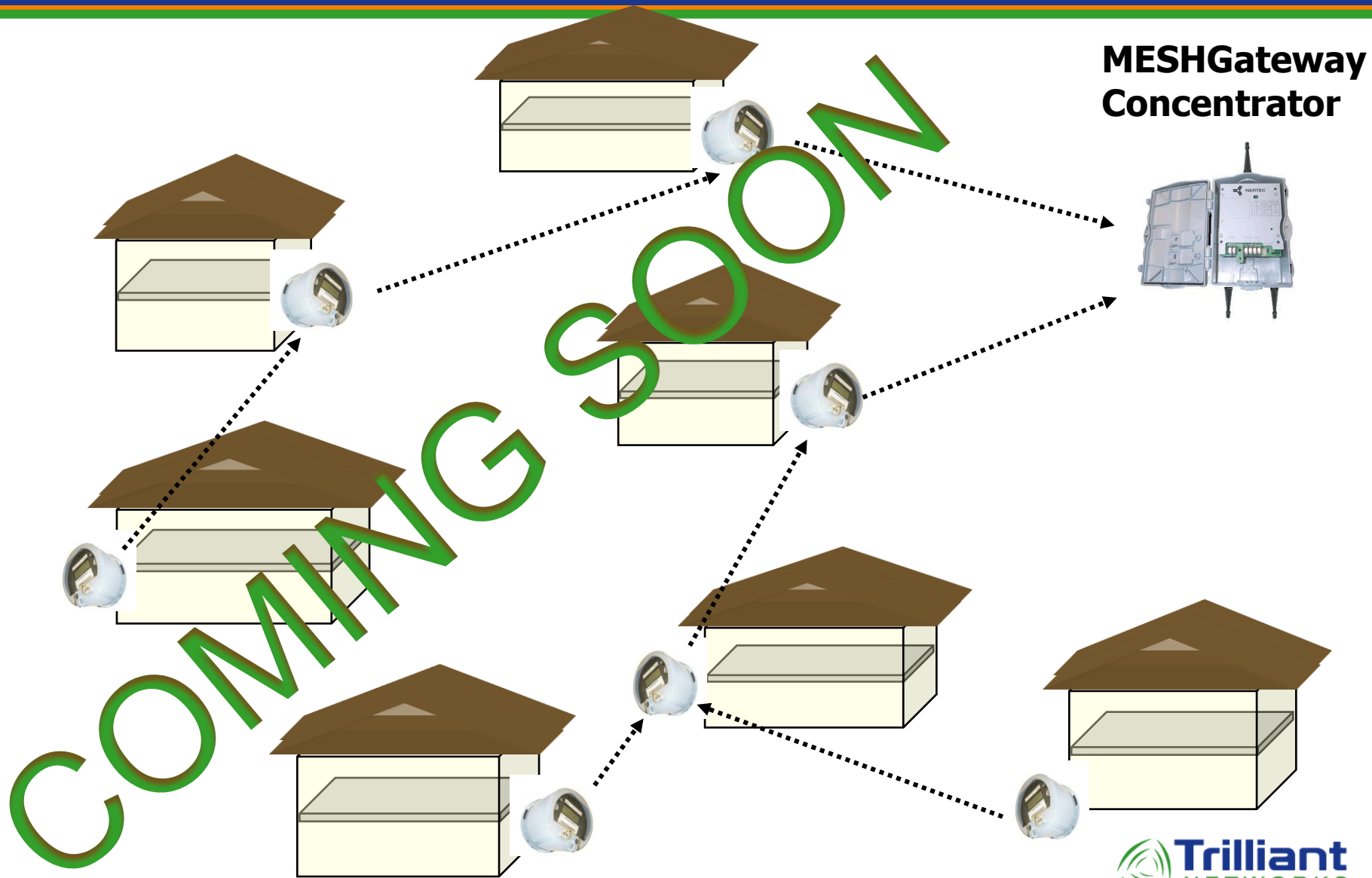Interfaces

Legacy
Interfaces

Utility Legacy Systems

Flexible Future Firmware Options

- Downloadable firmware is a must!
- Over the Air upgrading is a must!
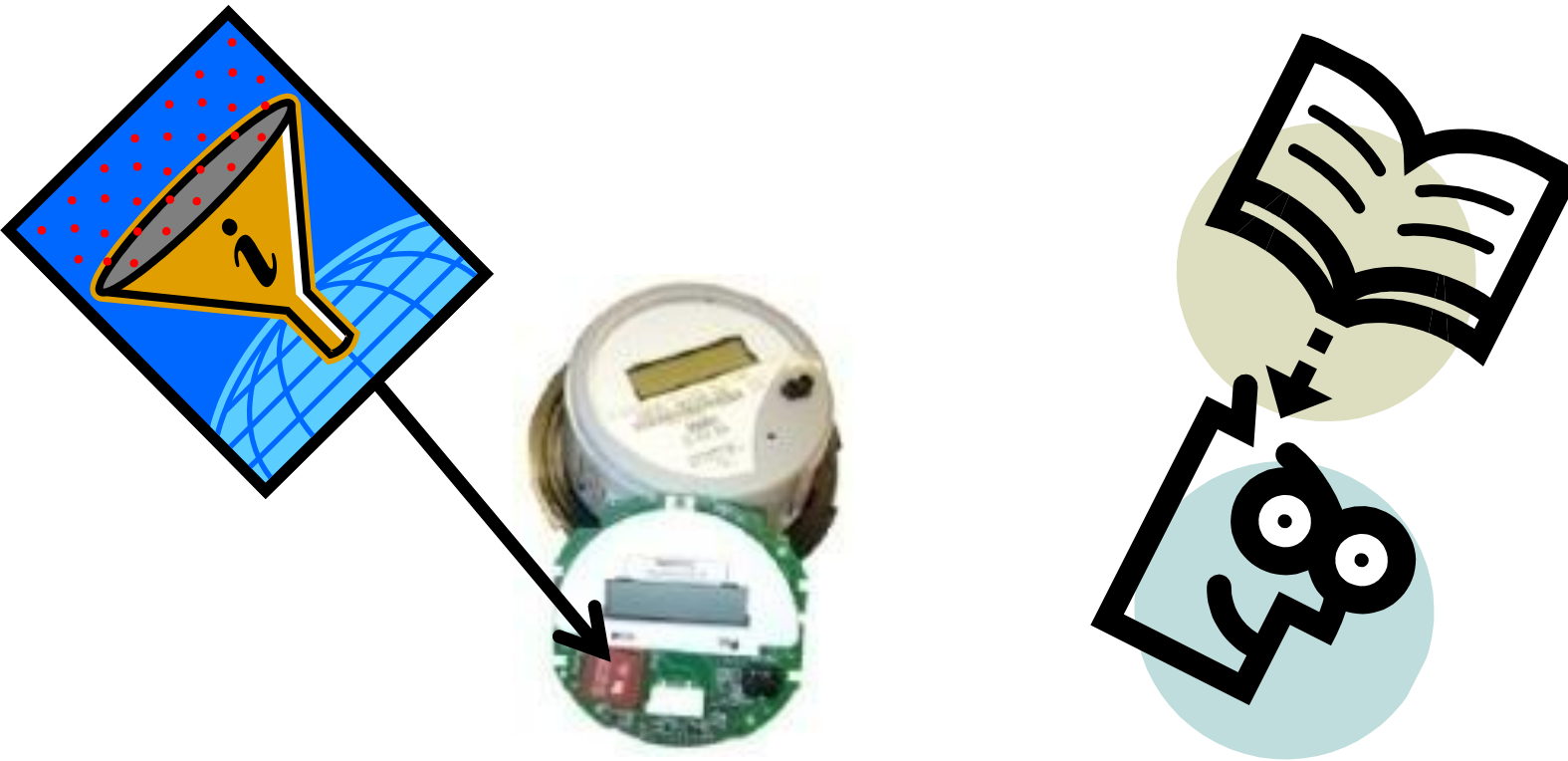
Mesh C&I Meter to Cellular Gateway

MESHGateway Concentrator

Flexible Metering

- Electricity
- Gas
- Water
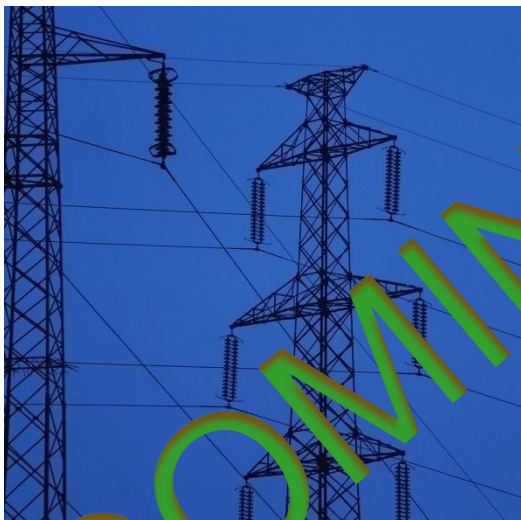
COMING SOON

Questions & Answers

Thank You

- Gary F. Moody
- Director C&I Business
- (650) 703-1774   Mobile
- (650) 204-5073   Office
- gary.moody@trilliantnetworks.com