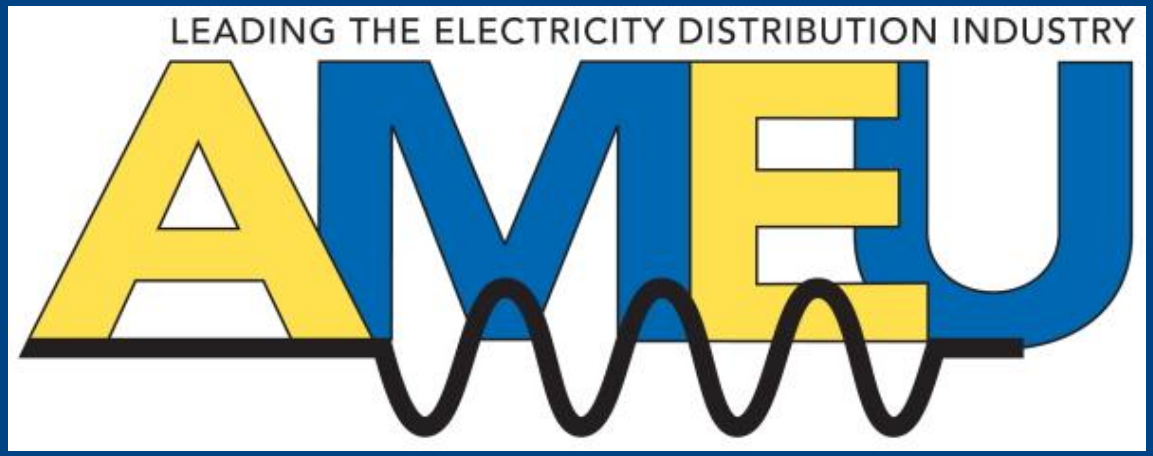
Building a real smart solution



Presented by:
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CONLOG
Solutions for utilities

Topics

Context:

Project drivers:

The players:

The tools:

Technology:

Getting it together:

The solution:

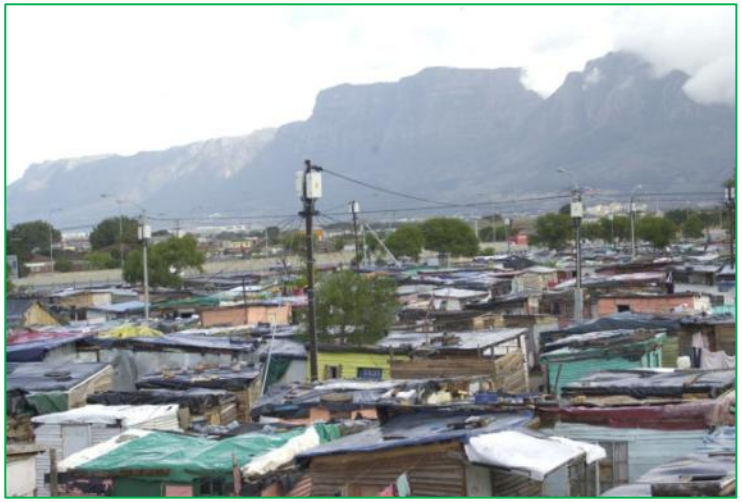
Local context

- Smart meters in households consuming > 1,000kW per month
- Infrastructure projects
  - Rural electrification 2.2 million
  - 1.2 million informal settlements
- Issues related to skills retention and training

Our customers

- **High income / high consumption**
  - In excess of 50kWh per day
  - Multiple geysers, pool pumps, air conditioning, appliances
  - 3 phase, maximum demand 70kW
  - Revenue more than R 1,500 pm

- **Lower income / Lower consumption**
  - Less than 7kWh per day
  - Lights, two plate cooker, kettle, radio, TV, (possibly) a bar heater
  - Single phase, maximum demand 5kW
  - Average revenue R 170 pm



Topics

Context:

Project drivers:

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The solution:

More bang for your buck

- Optimised cost per connection
  - Use the existing infrastructure (build on the installed base)?
  - Sustainability of the prepayment revenue management model
  - Use appropriate technology
  - Cost / benefit optimised
  - Appropriate functionality
- System simplicity

Topics

Context:

Project drivers:

The players:

The tools:

Technology:

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The solution:

Stakeholders / beneficiaries

- Utilities / Municipalities
  - Finance
  - Engineering / Maintenance
  - IT / Customer services
- Value added service suppliers
  - GSM network providers
  - Internet service providers
  - IT infrastructure
- Third party vendors
- End users / consumers

Topics

Context:

Project drivers:

The players:

> The tools:

Technology:

Getting it together:

The solution:

Utility toolbox

- Remote meter reading / meter status updates
- Alarm enunciation
- Remote token loading
- Energy balancing
- Consumer load profiling
- Remote supply connection / reconnection
- Demand side load management
- Asset traceability

Topics

Context:

Project drivers:

The players:

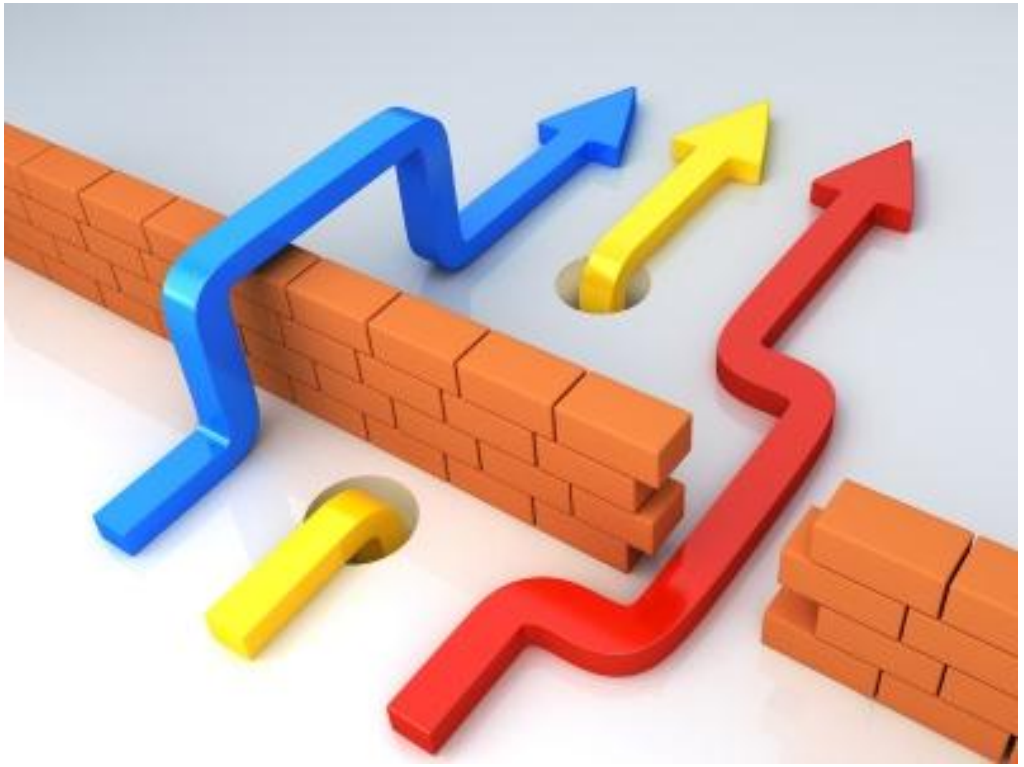
The tools:

Technology:

Getting it together:

The solution:

The right stuff



- Standards
  - STS / IEC
  - DLMS / COSEM
  - Secure communications
- Functionality
  - System complexity
  - 10mW transmission power
  - Intrinsically compatible with NRS049
  - ESKOM DSP34-1635 compliance

Operational requirements

- Field proven prepayment technology supplying redundancy
- Local communications infrastructure based on field proven RF technology
- Flexible connectivity into the web using a variety of communication technologies
- Servers and back-end scalable from hosted to large customised systems

Topics

Context:

Project drivers:

The players:

The tools:

Technology:

Getting it together:

The solution:

System elements

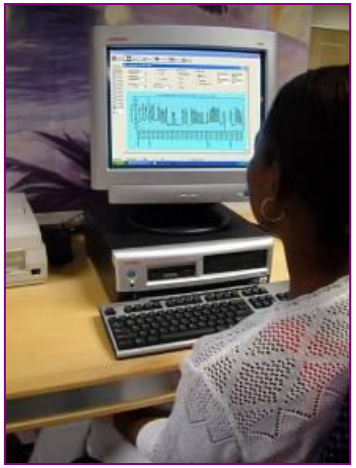
- Customer's premises
  - Customer interface unit / keypad
- At the point of supply
  - Conventional split configuration "smart" prepayment electricity meter
  - Low power 433MHz ISM licence free band
  - Ability to manage up to four load control devices (control the appliances at the source)
  - Configurable either as prepayment or conventionally billed

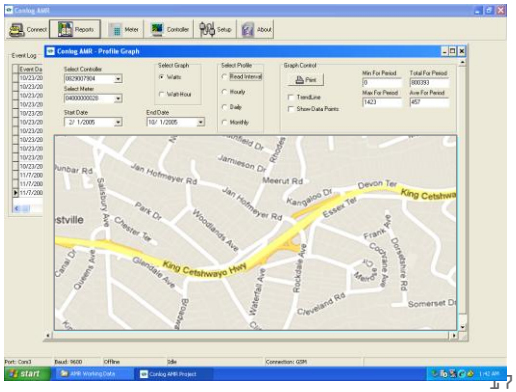
System elements……

- Last mile communications
  - Data concentrator unit (DCU)
    - Low power 433Mhz ISM licence free band
    - Flexible backhaul communications
      - GSM technology
      - Ethernet
      - PLC
      - Zigbee
      - Fibre Optic
      - RF wireless
    - OTAP upgrades
  - Field service terminal (FST)
    - Drive by data collection
    - GPS aware
    - System backup

System elements……

- Head End Infrastructure
  - Network management servers
  - Data collection servers
  - Data management and reporting clients
- Value added services
  - Demand side load management
  - Asset management
  - Consumer notification / web services
  - Maintenance and engineering services





Topics

Context:

Project drivers:

The players:

The tools:

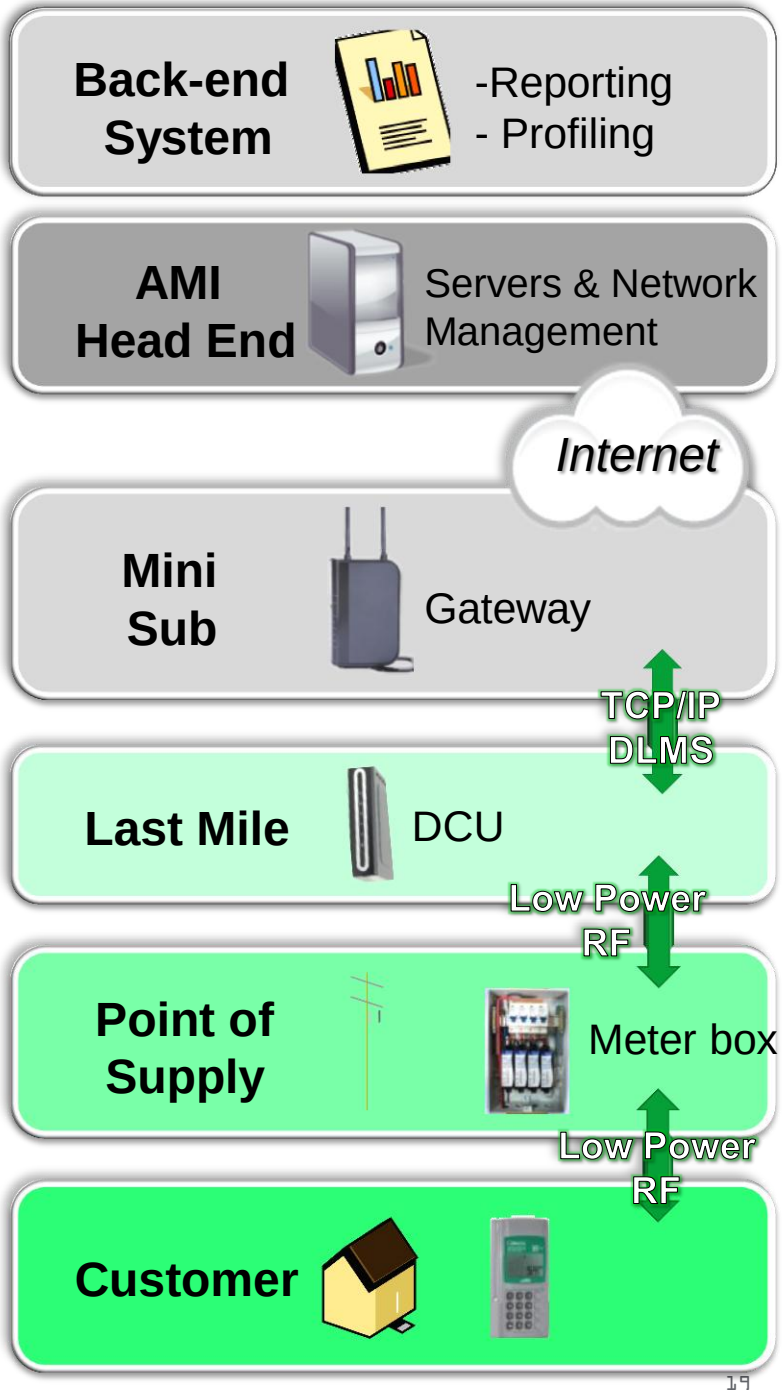
Technology:

Getting it together:

The solution:

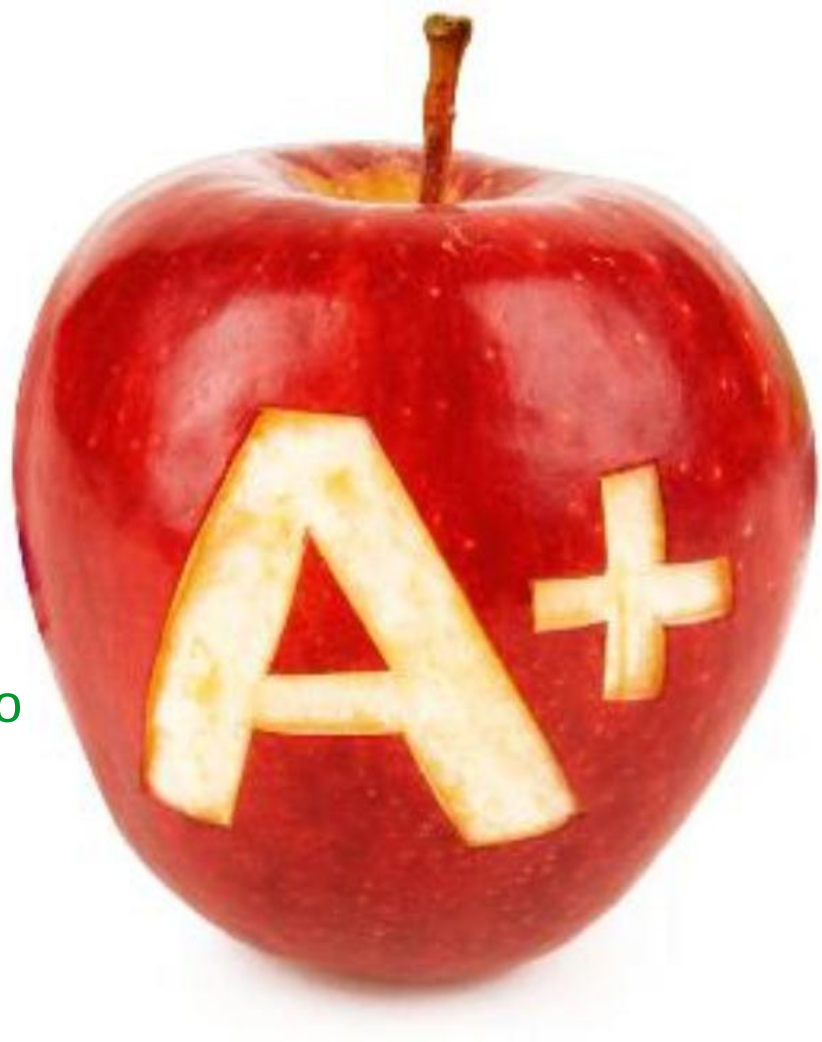
It all comes together

- Build on the existing infrastructure and investment
- A business model that has stood the test of time
- Built in system redundancy
- Technology that is appropriate to our reality
- A cost effective solution that caters for low consumption customers



The final analysis

- Revenue protection and management from the comfort of your office
- Scalability and sustainability are guaranteed
- System is appropriate and justifiable to every level of consumer
- Utilisation of existing knowledge, training and expertise



Thank you

For further information

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