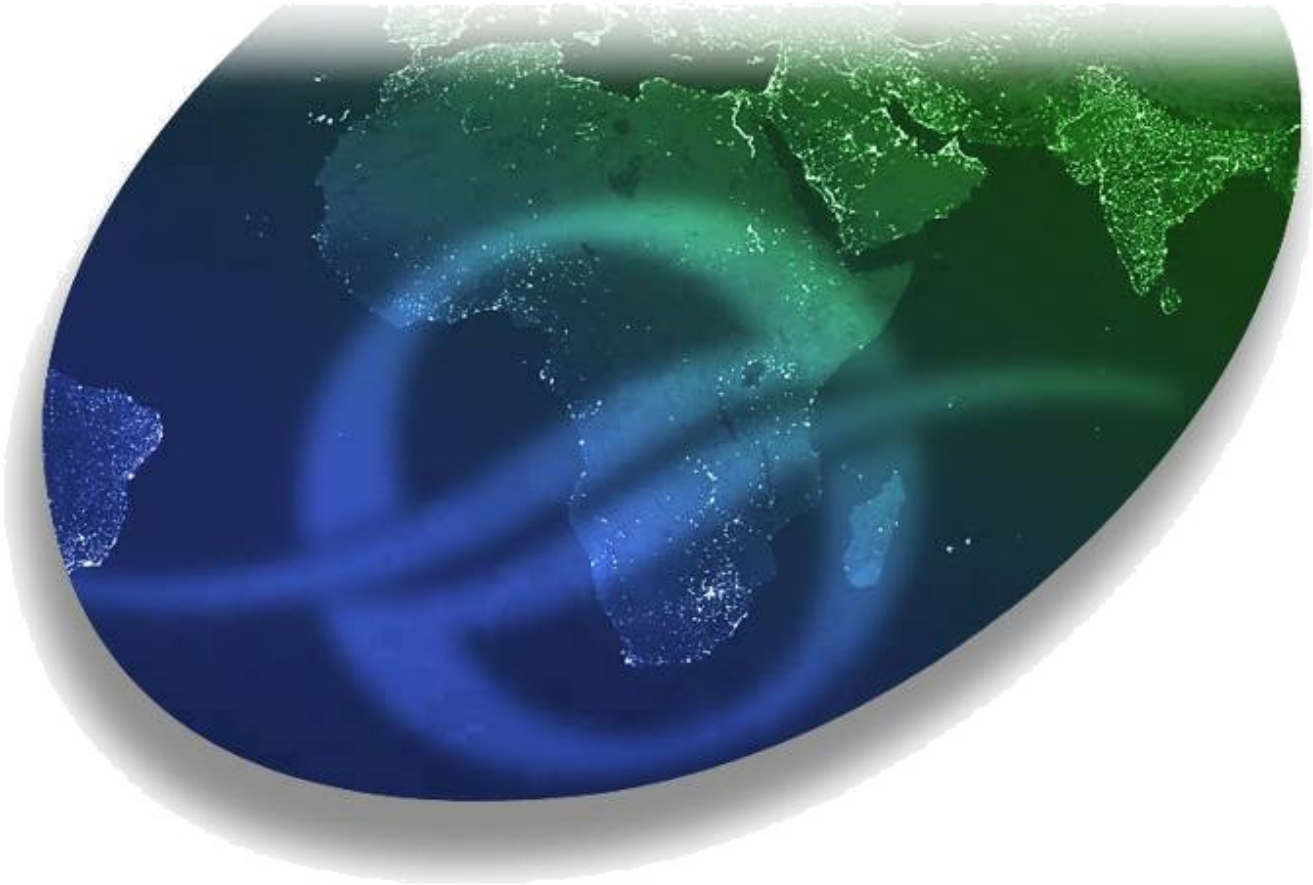
Load Management System



CONLOG
Solutions for utilities

a company of
Schneider
Electric

Who is Conlog?

- Founded in South Africa in 1965
- Acquired by Schneider Electric in 2000
- Schneider Electric network of offices in 190 countries
- Pioneers in the prepayment field for over 20 years
- Projects in over 20 countries, comprising over 70 utilities globally
- Pioneered Standard Transfer Specification (STS)
- ISO 9001:2000 (quality)
- ISO 14001:2004 (environmental)
- OHSAS 18001:2007 (health & safety)

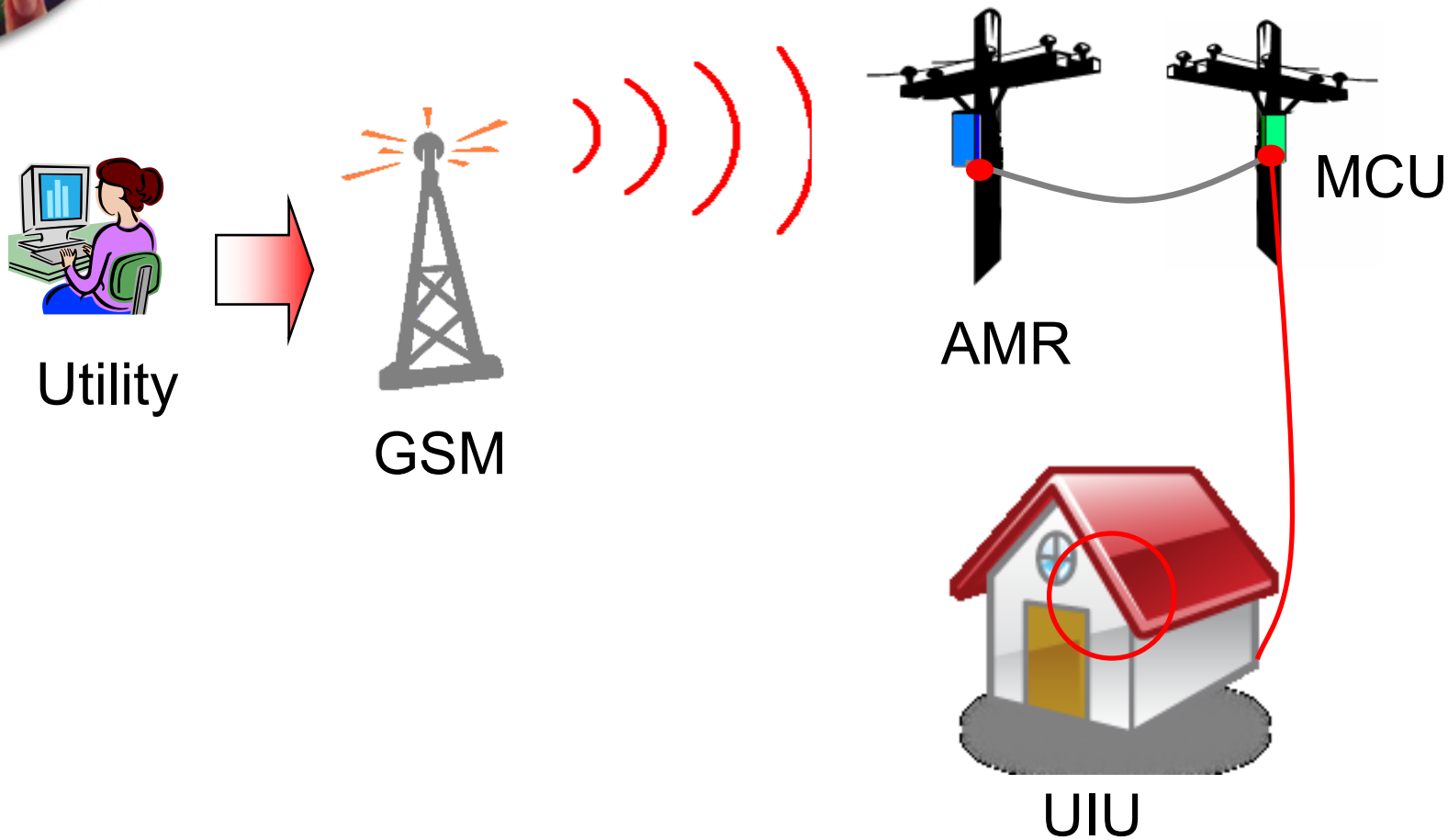
Load Limit Principal

- Conlog's intelligent meters have a overload feature
  - Proven in over 5 million installed meters worldwide
- Utility transmits load limit signal
- The meter informs consumer of pending degradation in allowable supply
- User disconnects nonessential appliances until complies
  - Failure to comply leads to disconnection as per normal meter operation
  - Reconnection if some load is subsequently shed

Solution

- Shift load management responsibility
  - Tried with Status indicator on TV
- Consumer is empowered
  - lives with the consequences of their decision
  - has a supply of electricity to which he/ she is entitled
- Reducing consumption consumer's prerogative
  - Utility still honours the consumers right to an electrical supply
  - Consumer decides his personal load shedding outcome
- Random reconnect
- (Note: not prepayment proprietary technology)

Load Limit System



Transmission

- Current split meters communicate with AMR concentrator unit
  - Every feature is available through the AM concentrator
  - GSM network provides connectivity
  - STS security (prepayment variant)
  - Bi-Directional
- Downgrade the consumer's maximum allowable load
  - Scheduled
  - Immediate
  - Quota

Wireless

- Building Blocks
- Wireless UIU, AMR concer on same frequency
- RF UIU
  - Awaiting validation
  - Extra RF unit required on cu meter

Wireless

- RF AMR
  - Prototype
  - Up to 255 meters dependant on broadcast range
- All wired AMR features
- GPS

Wireless Load Switches

- Load switches on all non essential appliances
- Fails to hear notification
- Blanket automatic disconnectior essential appliances

OR

- Intelligence in prioritised disconr
- Random reconnection of loads

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Management System

- Centralised
- Online
- Conlog hosted
- SQL server based (Microsoft)
- Support for existing billing systems (SAP etc.)
- Customer access (limited) to profiles etc.
- AMMS is exposed as a Web Service.
- Interaction with AMMS is based on implementing an XML based protocol.

Emergency Scenario

Network Limit Exceeded

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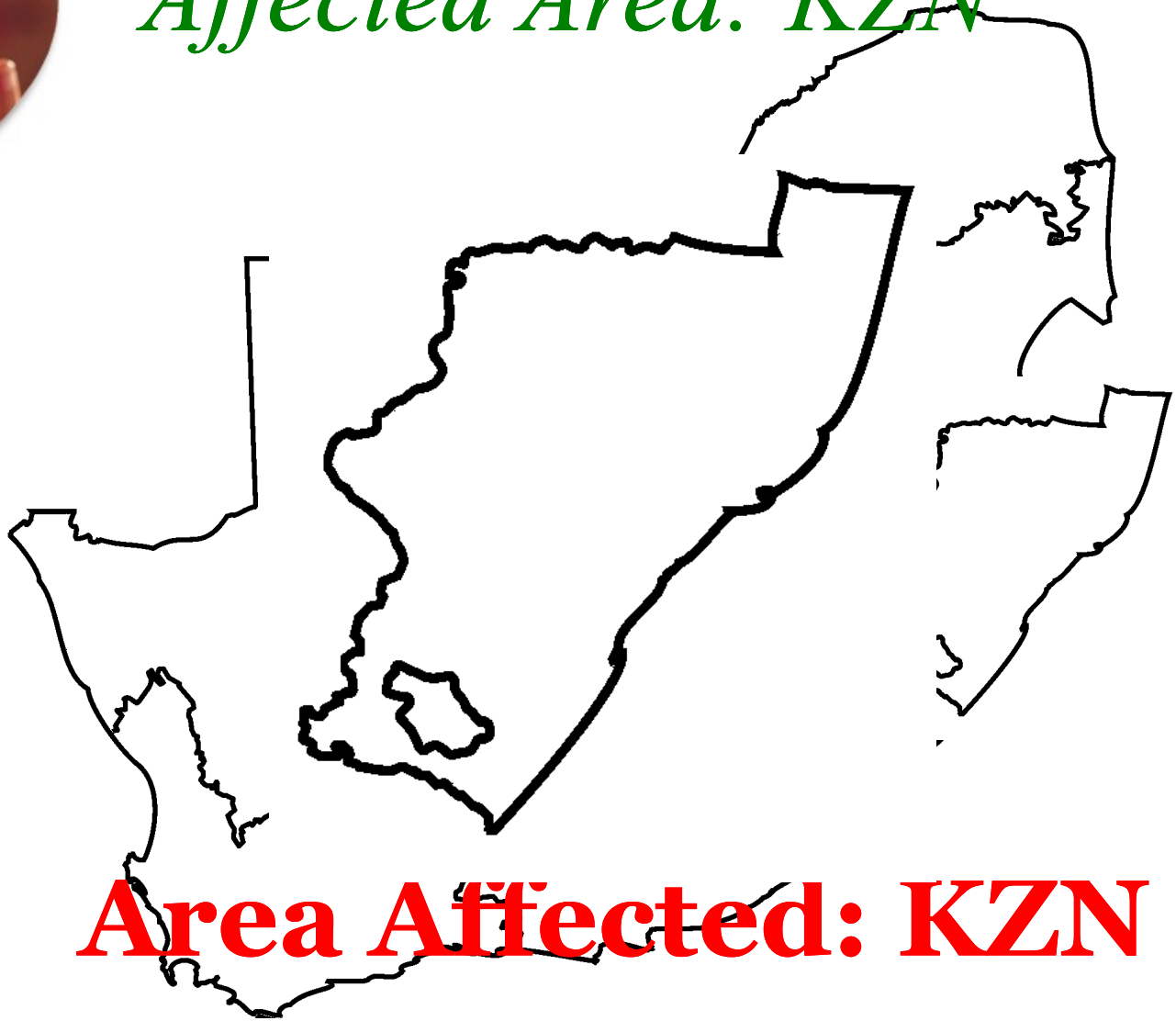
Affected Area: KZN



Area Affected: KZN

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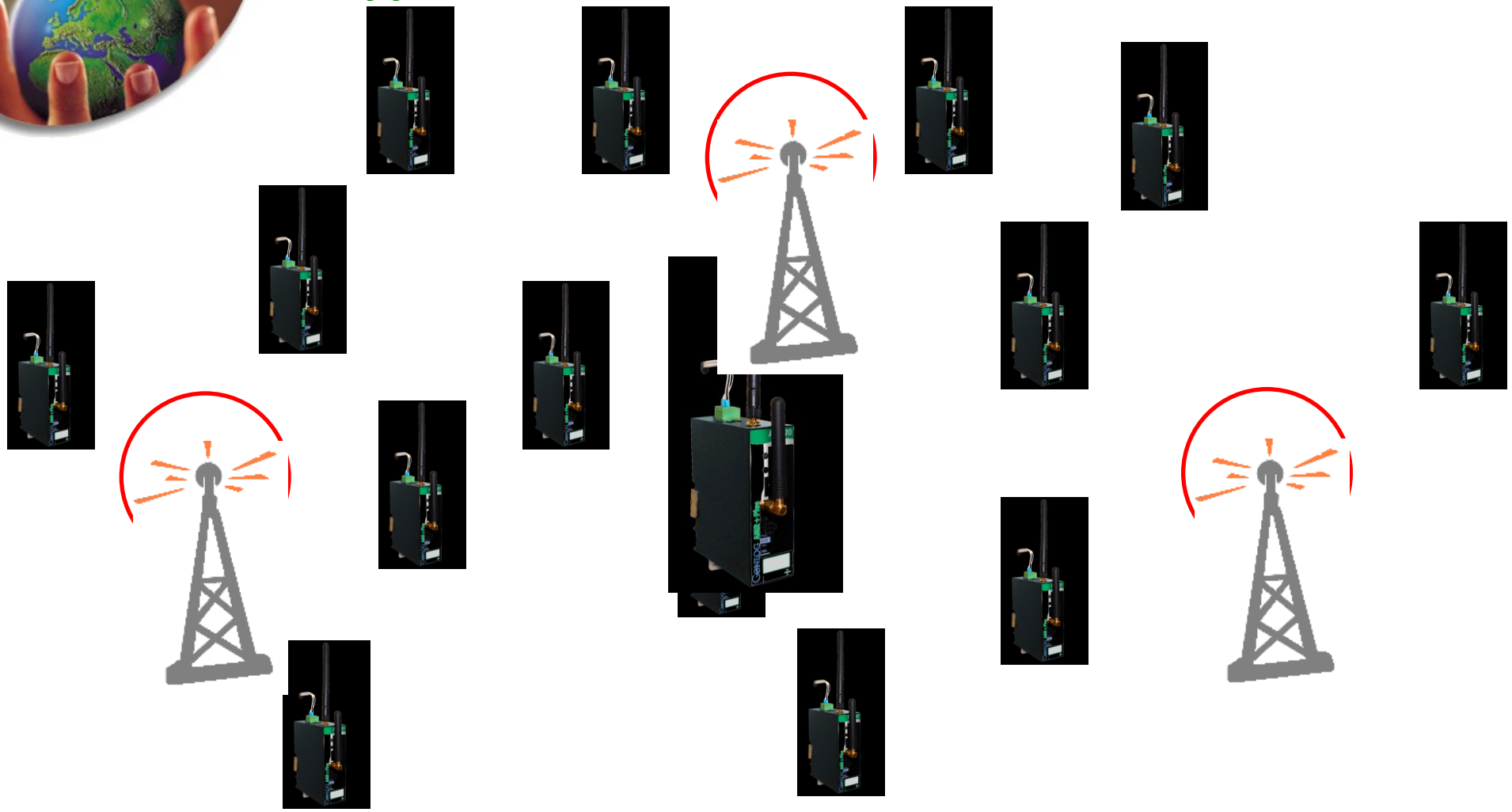
Load Limiting: Blacklisted

Affected Area: Transmission



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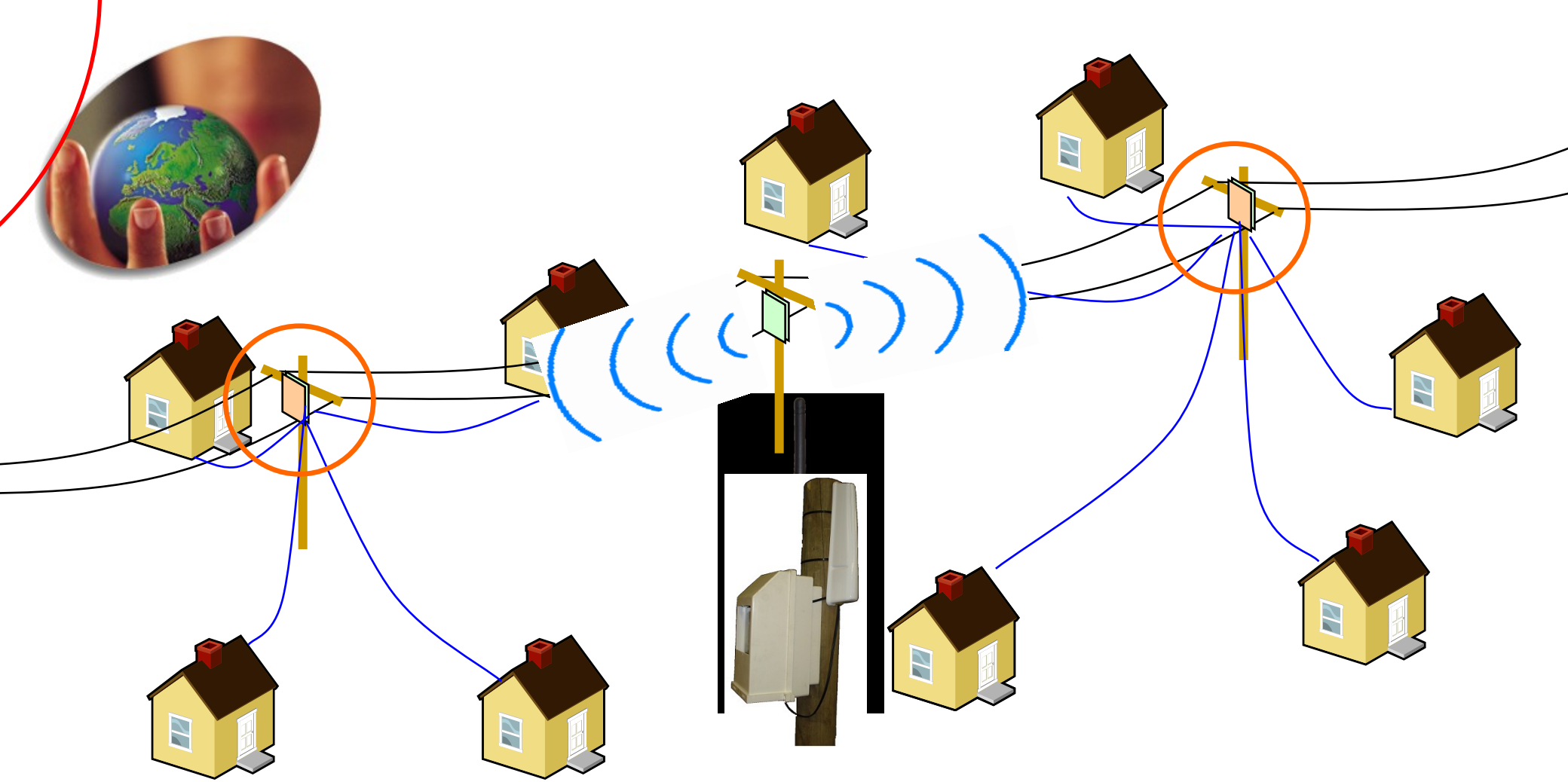

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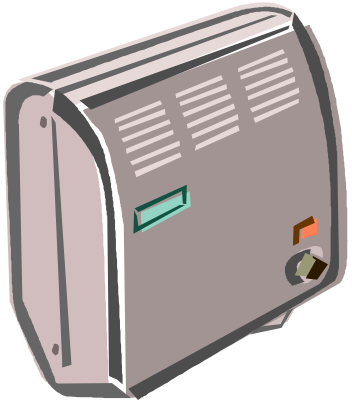
RF Intelligent Disconnection



AIR CONDITIONER

GEYSER

POOL
PUMP

Time of Use (TOU)

- Peak capacity solution/ Revenue solution?
- Brazilian investigations
- Fuel price example
- Cheap Energy
- Expensive meters
- Low income households
- Funding for new installations?

Implementation

- Wireless has bigger footprint
- Can retrofit current split meters
- Installation external to premises
- Cabling cost reduced/ no longer required
- UIU becomes consumers responsibility
- Load Switches are consumers responsibility (their benefit)
  - Consumer purchases
  - Installs

Conclusion

- Shift load management to the consumer
- Quick & easy deployment
- Economical solution
- Rapid broadcast
- Remotely managed and hosted
- Proven building blocks
- Local company, renowned and a market leader
- Proven prepayment savings
- NRS049