STS ASSOCIATION

STANDARD TRANSFER SPECIFICATION

TID Rollover 2024

Don Taylor

Background

- 1993 Eskom electrification program
  - 10 million households over 10 years
  - Prepayment meters as the technology of choice
- Standard Transfer Specification (STS) developed
  - Standard protocol to transfer credit to the meter
  - 20-digit token to be entered into meter
- To date 10+ million meters in SA
  - 7+ million Eskom
  - 3+ million Munics + Metros
- 70+ million world-wide

Problem statement

- Unique token identifier (TID) encoded into each 20 digit token
  - Calculated as the number of minutes elapsed from a base date of 1993
  - Stored in the meter to prevent token replay
- TID runs out of range on 24 November 2024
  - **Meter will stop accepting new tokens**

- **REMEDY**
  - Visit each meter and enter 2 special “Reset” tokens
  - “Resets” the meter to a new base date of 2014
  - Extends the useful life of the meter until 2045

TID Rollover campaign

- STS Association initiative
  - Reach out to all users of STS technology
  - Alert users to the pending 2024 event and remedial actions to take
  - Provide guidelines and assistance

- Established a special task team and central information repository + help line
  - Website : https://www.tidrollover.com
  - Email : tid@sts.org.za

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Stakeholders

- STS Association members
  - Meter manufacturers
  - Vending system manufacturers
  - Security module manufacturers
- Utilities (electricity, water and gas)
- Sub-metering entities
- Token vendors

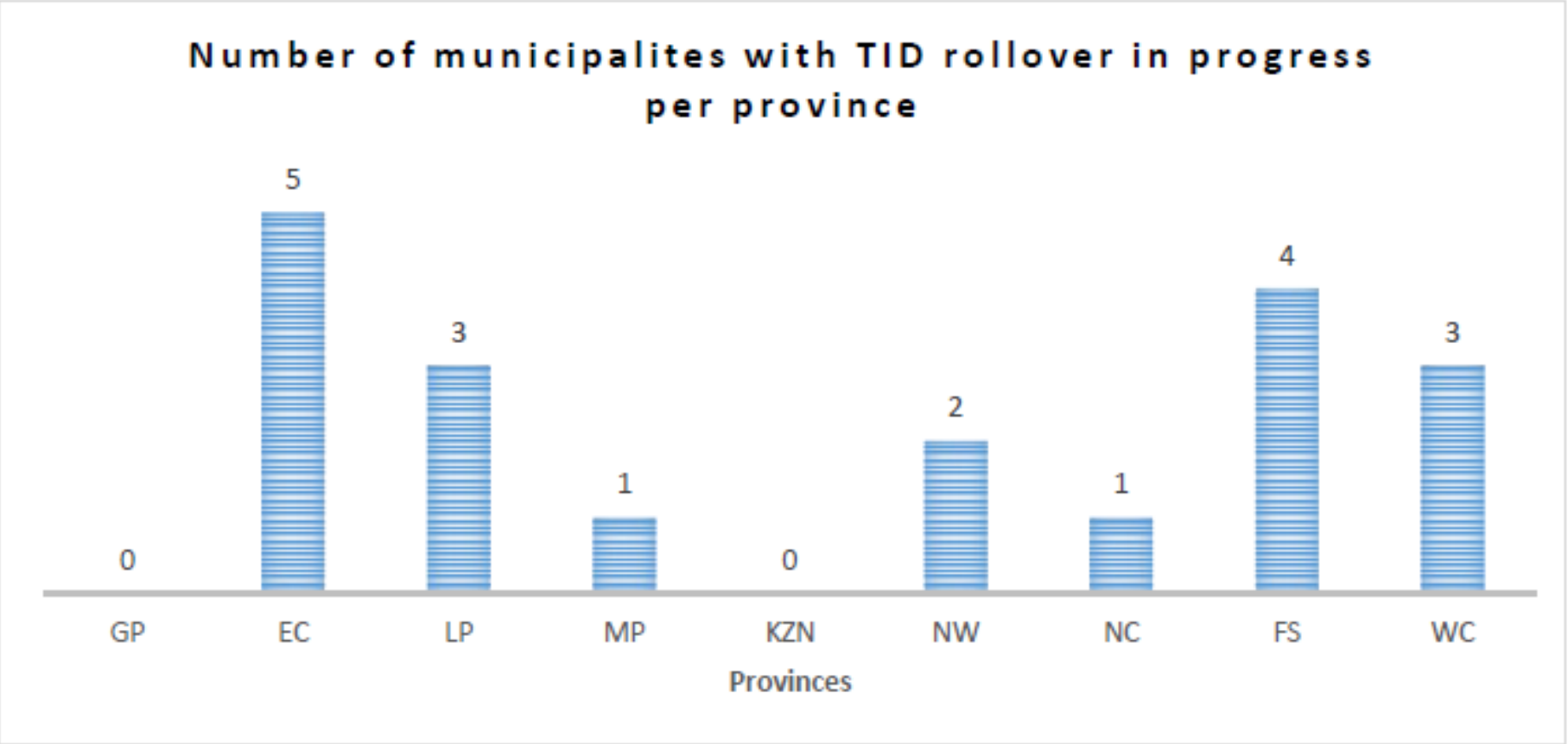
Role players engaged

- STS Association
- SARPA
- CIGFARO
- SALGA
- AMEU
- National Treasury
- COGTA/MISA
- Eskom
- SANEDI

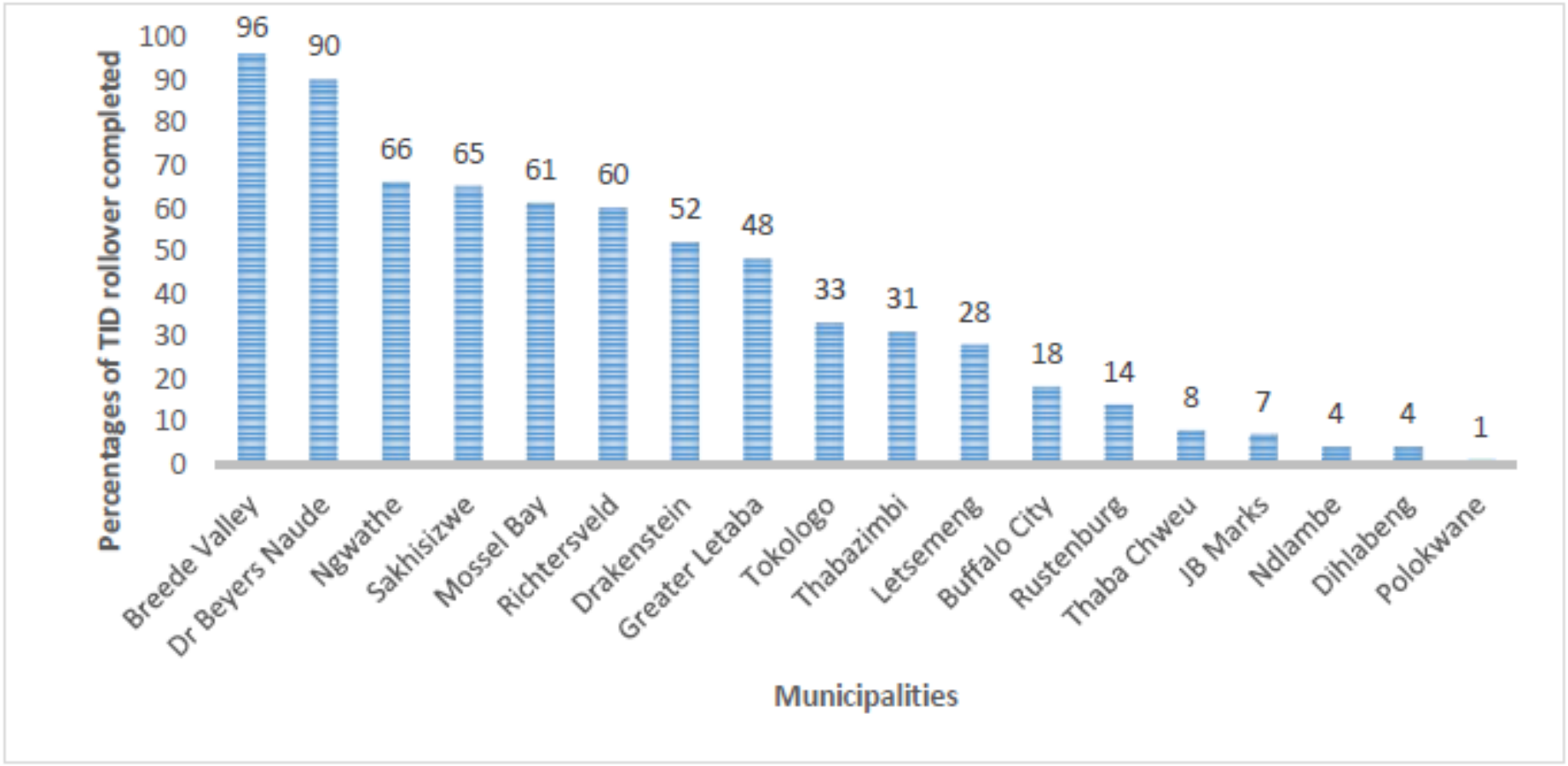
Added benefits

- Do a meter audit on installed base at the same time
- Remedy any faulty or tampered meters
- Update the customer/meter database information system
- Recovered non-technical losses can fund the TID Rollover project

In progress (survey response)



% completion (survey response)



THANK YOU

For further information

Visit www.tidrollover.com

3 YEARS TO GO

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STANDARD TRANSFER SPECIFICATION

Smart Metering and the evolution of STS

Riccardo Pucci

OVERVIEW

- The STS standard (IEC62055-41) has been in place for over 20 years and during this time, the DLMS User Association published their set of standards (IEC62056 series) for use in smart metering
- DLMS = **D**evice **L**anguage **M**essage **S**pecification
- DLMS defines a “standard language” for smart devices – and just like STS prepayment meters, smart devices need a globally accepted standard language that ensures interoperability and peace of mind for utilities using metering technology developed according to these standards

THE EVOLUTION OF STS

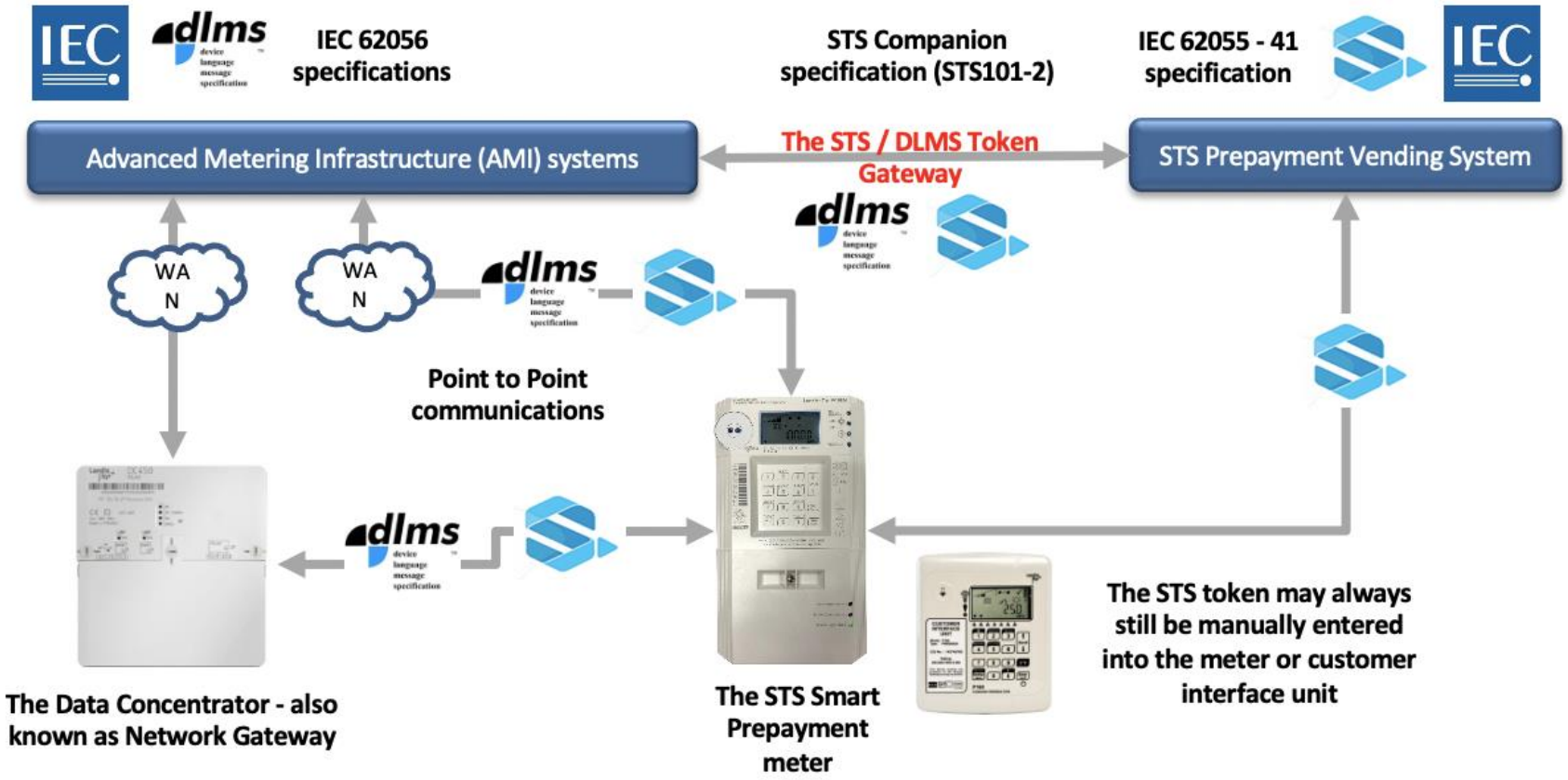
- With more than 70 million STS prepayment meters deployed worldwide, the rapid advancement of two-way communications between metering devices has enabled the ongoing evolution of the STS technology to form part of an Advanced Metering Infrastructure (AMI)

- While the STS 20-digit prepayment token has traditionally been entered into the keypad of the prepayment meter or customer interface unit, the advancement in communications now makes it possible for STS tokens to be transmitted remotely from AMI systems to the STS meter via AMI communication gateways

THE DLMS [TOKEN] GATEWAY

- For users of STS to make use of smart metering standards, the STSA has published a companion specification (STS 101-2) for the integration of STS into DLMS/COSEM
- To this end, STS 101-2 makes use of the DLMS/COSEM Token Gateway Interface Class (115) that supports the transfer of STS tokens from the point of sale to the meter over a DLMS online connection
- STS smart prepayment meters can now be realized by making use of additional standard DLMS/COSEM interface classes already used in smart meters

THE DLMS [TOKEN] GATEWAY



SMART STS PREPAYMENT METERS

- Now offer an extensive range of additional features for utilities and electricity service providers worldwide, including:
  - Flexible account modes (prepayment or post-payment)
  - Import/export energy accounting in the meter
  - TOU/BLOCK tariffs in the meter
  - Auxiliary charge collection in the meter
  - Token credit by local or remote entry
  - History logging of accepted tokens
  - Load control by local or remote management
  - Remote firmware updates
  - Load profiles and billing information by remote reading
  - Fraud and alarm events reporting by push notifications
  - Remote auditing / reading of meter data (enhanced revenue protection)

VALUES & BENEFITS

STS & DLMS are both international open standards and their convergence supports the development of smart STS solutions with two-way communications, powerful smart meter functionality, while retaining proven STS standards that will continue to ensure secure and upfront collection of revenue for electricity service providers for many years to come

The DLMS gateway also supports the efficient & remote transmission of the

TID Rollover key changes

** TID Rollover deadline is 24th November 2024 **

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