

Session : 5 (250 Million Smart Meters)

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Business Model: CAPEX or OPEX

The choice of Utility for CAPEX or OPEX will depend upon

- Cost – Benefit analysis of Business case; Drivers like low technical losses / Marginal increment in investment
- Technical capability of Utility personnel to handle complex technology
- Interdependence on other factors like billing system
- Other factors like availability of grants

OPEX Offers from Service providers will depend upon

- Availability of Funds to Service Provider
- Analysis of risk profile of Utility
- Maturity of technology
- Previous experience of similar projects
- Availability of surplus capacity with Manufacturers
- Partner Ecosystem

Standard Bidding Documents and Model Contract

- Common specifications will increase opportunity for Standardization
- Supports technology roadmap and long term strategy
- Help in all phases of project viz. Design, Procurement, Implementation, Audit
- Provide Level playing field
- Opportunity for Innovations
- Some space to accommodating local conditions is essential

Benefits in the use of smart meter with rooftop solar and edge of the grid solutions

- Uniformity in use of meters
- Single source of meter data reduces complexity
- More Opportunities for P2P contracts
- Common data repository for analysis of capacity and technical losses
- Opportunity for Diverse Services

Prepaid or Post-paid or Mix of Both

- Multiple modes of prepaid mechanism like CTS / STS / Smart Prepaid
- Consumers would prefer prepaid connections on the basis of assessment of their risk of excessive expenditure on electricity with respect to risk of interruption in supply
- Simple tariff structure ease of recharge through tokens and boosts adoption of prepaid option
- Technology should permit switching from prepaid mode to post paid & Vice Versa
- The count of prepaid consumers has some correlation with profile of consumers

Approach for Integration of Smart Meters with Distribution Automation and SCADA Systems

- Cloud Based Integration Platform
- Event Driven
- Standardization of data format for data exchange between systems
- Applications that may be integrated
 - Multiple Billing Systems
 - Legacy MDAS
 - Multiple MDMS
 - Multiple HES
 - SCADA Solution
 - Other OT Platforms

Use cases related to IT and OT Integration Platform*

Sl. No	Use case	Source System	Destination System	Integration method
1	Interval reads, Daily reads, Event log	HES (s)	MDMS	CSV/XML files
2	Critical meter alarms	HES (s)	MDMS	Push; MQ/ REST API
3	Outage alarms for outage identification	HES (s)/ MDMS	ADMS	Pub-Sub; MQ (with transformation)
4	Meter health alarms	HES (s)/MDMS	Workforce Management	Pub-Sub/ Push; MQ/ REST API
5	Fraud alarms	HES (s)/MDMS	Fraud management system	Pub-Sub/ Push; MQ/ REST API
6	Billing determinants	MDMS	Billing system(s)	Request-Response; REST API
7	On-demand reads for off-cycle transactions	MDMS HES	Billing system (s) MDMS	Request-Response; REST API
8	Command actions	MDMS HES	Billing system (s) MDMS	Request-Response; REST API
9	Network hierarchy changes	GIS	Billing System (s)	Push: REST API

Functions of IT and OT Integration Platform*

- Message Handling
- Message Queuing
- Message Transformation
- Streaming Data Ingestion
- Streaming Data Analytics
- API Request Handling

Thank You

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