VALUE IS BEING LEFT ON THE TABLE
Trynzic’s Story
Origins of the Digital Transformation

Run to Fail

“Smart Meters”

Sense & Respond

People & Processes

Advanced Metering
- AMI Meters
- Backhaul
- Software (head end, etc.)

Digital Transformation!
- Smart Grid!
- Real-time!

Meter-to-cash (billing)
- Customer Smartphone App
- Daily reports, trending analysis

Reviewed:
- 100 AMI deployments from 2010-2019
- Interviews with commissions, utilities, customer advocates
- Studied applications, filings, commission orders

“Value is being left on the table. Experience from utilities has seen the emergence of new AMI value streams. This is increasing expectations about what should be included to justify an investment. Commissions and others want to understand the initial value the utility will achieve, as well as future value streams that will be pursued...”

- Department of Energy Advanced Grid Research (2021), AMI in Review: Informed the Conversation, SmartGrid.gov

Business Processes
- CIS
- MDM
- Field Dispatch
- GIS
- Analytics (BI)
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AMI’s Business Case

**Quantitative Value**
- Operational Savings
- Customer Service Savings
- Other Financial

**Qualitative Value**
- Stakeholder Value
- Cross-Department Benefits
- Market Enablement

- Truck Rolls
- Equipment optimization

- Reduced problem tickets
- Reduced ticket processing time

- Reduced overtime

- DER
- Electrification
- Time of use pricing

- Process orchestration

- Customer experiences
Trynzic AMIPLUS

Data management foundation

Close the software capability gap

Create inertia with industry best practices

Design new service practices

Continuous innovation

AMI

Meters

BackHaul

Software
Data Management Foundations

- Address Latency
  - Meter to Head-End
  - Head-End to Business Processes

- Head End Systems Are Not Designed for Real-Time References
  - Head-End systems are not designed for stream processing (query performance, bursting)
  - Many useful patterns exist (e.g., delta extract) to FREE your data stream

- The same exists with your LOB data (IMPORTANT)
  - Data convergence
  - Data consumption costs
  - Manpower and resource limitations (current state)

“Unlike wine, your IoT data does not increase in value as it ages.”
Close the Software Capability Gap

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SENSE
Stream Processing, Data Convergence [smart & timely Events]

TRIAGE
Human Intermediation

ACT
Case, Workflow, Orchestration

Sense & Respond

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Nightly Queries

Trynzic
Underlying Computing Dynamics
Underlying Computing Cost Dynamics

The closer you get to ‘real time’, the more difficult it is to contain infrastructure costs.

- More data to process
- Shorter intervals to do it within
- More records to store

Higher performant services needed
Higher compute & storage costs

IoT Cost Curve

Nightly Queries

Data Volume/Velocity
Create Inertia with Industry Best Practices

**Business Operations**
- Predicted Missed Billing Read
- Potential Tamper
- Lost Meter
- Old Meter
- Demand Reset Failure
- Missing Read Interval
- Common Event Consolidation (bursts of events within a timeframe)
- Common Event Consolidation (multi asset)
- Connect/Disconnect Failures
- Interval Status
- Usage/Voltage Deviation

**Power**
- OVR: Fifth Lug Issue
- OVR: 12S on 240
- OVR: 2S on 208
- OVR: Flatline Voltage
- OVR: Average outside of Min/Max
- OVR: Potential Transformer Voltage Issue
- OVR: Potential Line/Circuit Voltage Issue
- Out of Voltage Range
- Under/Over-utilized Transformer
- Reverse Rotation
- Over Current (Current exceeds specs/configuration at the meter)
- Out of Phase (Out of phase power from the meter)

**Grid Infrastructure**
- Meter out of Communications
- Meter Malfunction (Clock, RAM, battery, etc.)
- Generic Meter Events/Alarms Post-Processing
- Misconfigured Meters
- Power Network Communication Issues (Issues with Routers, collectors and other network infrastructure)

**Data Integrity**
- Connectivity Model: Meter w/o Transformer
- Connectivity Model: Meter to Transformer Distance
- Connectivity Model: Transformer Phase mismatch
- Connectivity Model: Mesh Network Related Meters
- Enterprise Application Integration (Data issues, data absence, synchronization.)
Design New Service Practices

Case Workflow

Event Case

Work Order

W/O Status

Activity Orchestration

Design New Service Practices

Case Workflow

Event Case

Work Order

W/O Status

Activity Orchestration
Designing New & Improved Business Processes

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**Digital Transformation**
Continuous Improvement

SEEK SOFTWARE THAT GETS OUT OF THE WAY

- SaaS (with short change cycles)
- Performance / cost elasticity
- Parameterization, not custom code
- Multi-environment cloning
- Robust and flexible data integration
- Open access to data
So where does Trynzic’s Software Fit?

- Consider 3 software categories

  **OT**  
  Operational Technology  
  “software that interacts with hardware”

  - Head End Systems
  - SCADA
  - Data Communications

  - CIS
  - MDM
  - GIS
  - OMS
  - Billing
  - Work Orders
  - SQL
  - Excel
  - Power BI

  **Why are we here?**

  - We consume OT data to create value

  - We enrich your analytics capability

  **Analytics**  
  “looking at history”
Tame the real-time data stream
- Stream processing
- Data convergence
- Rules engine

Real-time observability
- Awareness
- Prioritization
- Diagnosis
- Decision-making

Business process facilitation
- Case management
- Workflow (with designer)
- Orchestration (system of systems)

Events
- Case
- Your workflow
- Remote action (work order)

- Head End Systems
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Real-Time - Affordable scale - Continuously Current - User Friendly - Secure - Flexible

Microsoft Azure

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Trynzic
“The enhanced system observability provided by IoT will improve the monitoring, visibility, control and orchestration capabilities of utility — and customer-owned assets that will help reshape network operations.”

https://trynzic.com/resources/
Questions
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