

ORACLE®

# Oracle Industry Day for Business Partners - Utilities

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October, 2014

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# Utilities Break Out Agenda

- 1 ➤ Global Trends - **Martin Dunlea** - Global Industry Lead
- 2 ➤ Solutions for Utilities - **Julian Green** - Solution Consulting, UKI
- 3 ➤ DataRaker - Transforming Complex Data into Business Value  
- **David Fernandez** - Business Development DataRaker, EMEA
- 4 ➤ Enabling Technology – **Pinakin Patel** – UK Technology Presales



# Global Trends

Martin Dunlea  
Global Head Industry Lead  
Martin.Dunlea@Oracle.com  
October 16th, 2014

# Global Trends

- 1 ➤ The Grid of the Future - Disruptive Innovations
- 2 ➤ Digital Utilities
- 3 ➤ Digital Transformations

# The Grid of the Future

- Resource mix is being turned on its head, including a large and rapid increase of clean renewable generation as technology and renewable power prices plummet
- Energy efficiency and demand response is reducing the need for new generation and transmission – are increasingly large contributors to our energy and grid support needs.
- Utility customers on the distribution grid are becoming generators of power, no longer content to simply consume power.
- Lower cost unconventional gas resources are choking the life out of baseload conventional power sources like coal and nuclear energy.





# Relentless and Disruptive Innovations \*

- Falling costs of distributed generation and other distributed energy resources (DER)
- Focus on development of new DER Technologies
- Increasing customer, regulatory, and political interest in demand side management technologies (DSM)
- Government programs to incentivize selected technologies
- Declining price of natural gas; slowing economic growth trends; and rising electricity prices.
- Solar photovoltaic or PV becoming economically viable



*\* The Edison Electric Institute – “Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business”*

# Tweaking the Existing Business Model Is Probably Insufficient



- PV panels have fallen in price from \$3.80 per watt to .86 per watt in just four years, from 2008 to mid-2012.
- PV solar is now grid-competitive in 16% of the US retail market (higher on-peak time-of-use rates reinforce that dynamic).
- In Germany private individuals own more than 50% of the solar generation. - with 32 gigawatts of solar – 40% of that on residential rooftops
- Australia has gone from 20,000 solar rooftops in 2008 to over 1,000,000 as of March this year - new ways to remain relevant to customers.
- Renewable energy technologies contributed nearly one fifth of the UK's power mix in the first quarter of the year, as a result of high winds, rainfall, and a surge in new construction in the solar farm industry.

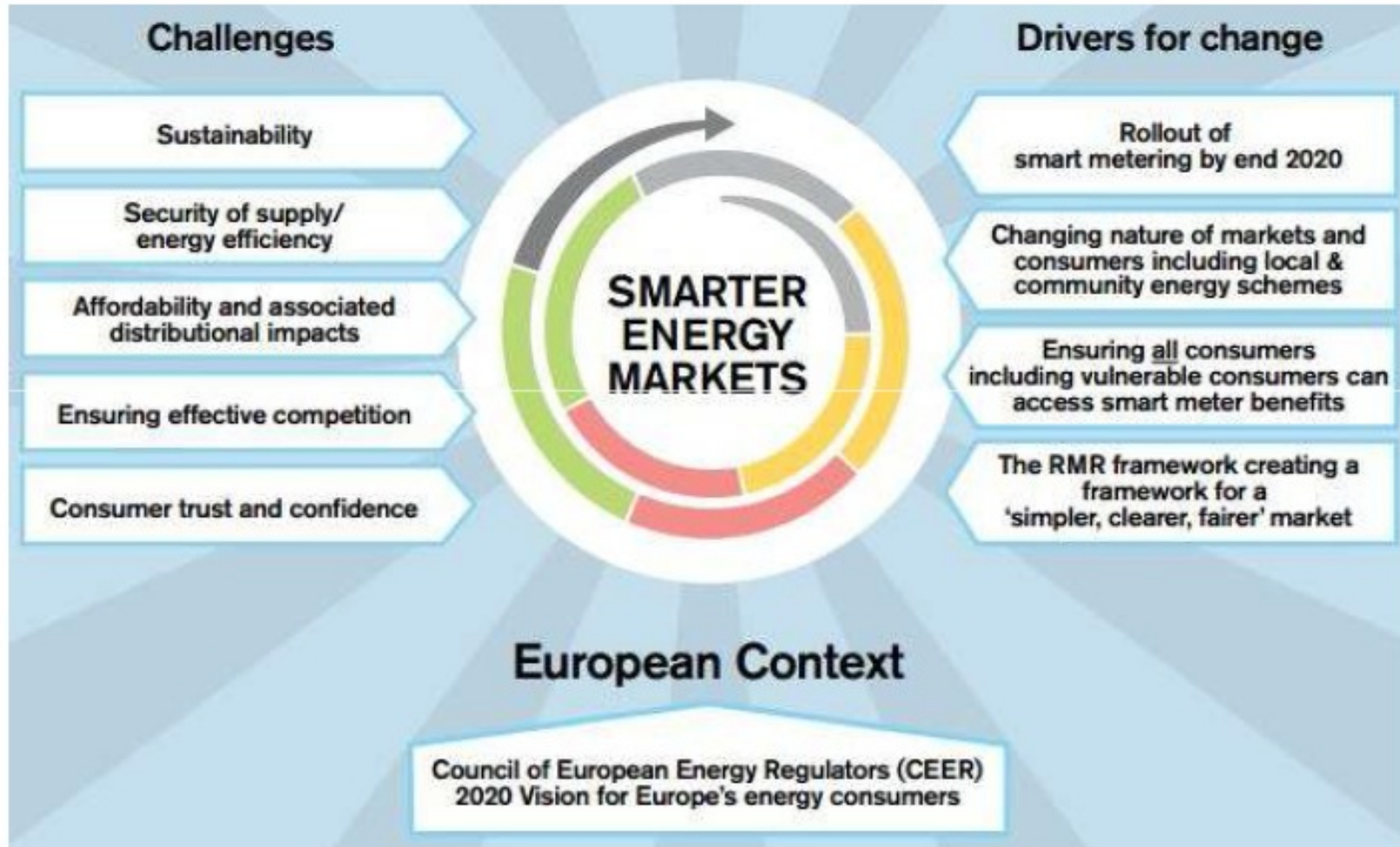


# Political

- Investigation into the UK energy market by referring the sector to the Competition and Markets Authority (CMA). The investigation will begin immediately and will likely publish its final decisions by the end of 2015.
- UK Electricity Market Reform.
- [Proposals for implementation of Electricity Market Reform](#)
- [Electricity Market Reform \(EMR\): Contracts for Difference regulations](#)
- [EMR consultation on industry code and licence modifications](#)
- [EMR: modifications to Balancing and Settlement Code \(BSC\) subsidiary documents](#)
- DECC's Heat Strategy - the use of heat pumps as part of a smart grid. Help reduce peak demand and balance supply & demand
- Scottish Referendum / UK General Election / EU Participation.



# Energy Sector Challenges – Market View



## Programmes:

- Change of Supplier
- Electricity Settlement
- Demand-Side Response
- Consumer Empowerment and Protection

# Energy Sector Challenges – Customer View

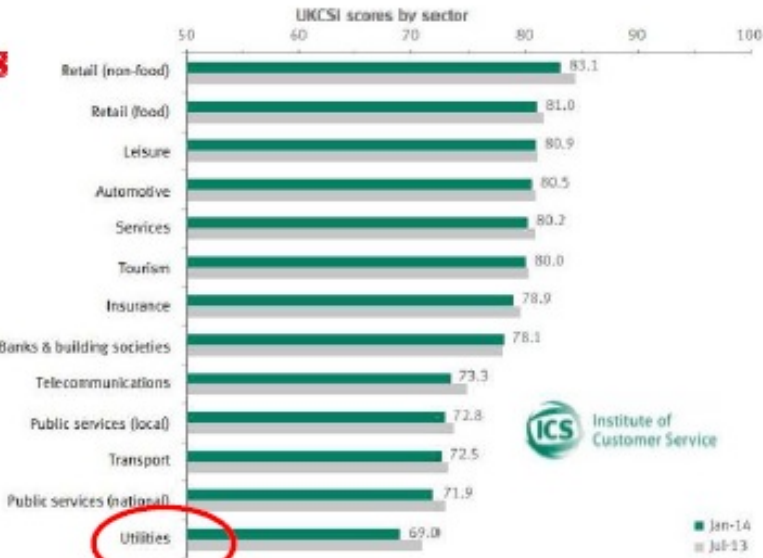
Sources: ICS, Ipsos MORI, Edelman, uSwitch, The Times



Energy industry **trust**  
**lowest globally** in the  
UK at 32%



Trust declining  
March 2012: 34%  
March 2013: 29%  
October 2013: 18%

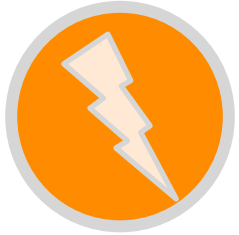




# Utilities Focus on Transformational Opportunities



# Forces in Play for Utilities



- ❖ Affordable Micro Generation & Storage
- ❖ Energy Efficiency and Control

## More Customer Choices



- ❖ Revenue Erosion
- ❖ Price Volatility

## Business Model Challenge



- ❖ Smart Metering
- ❖ Connected Home, Devices, Communities

## Harnessing Big Data

**17%**

of Utilities consider they are prepared for Big Data

**Only 20%**

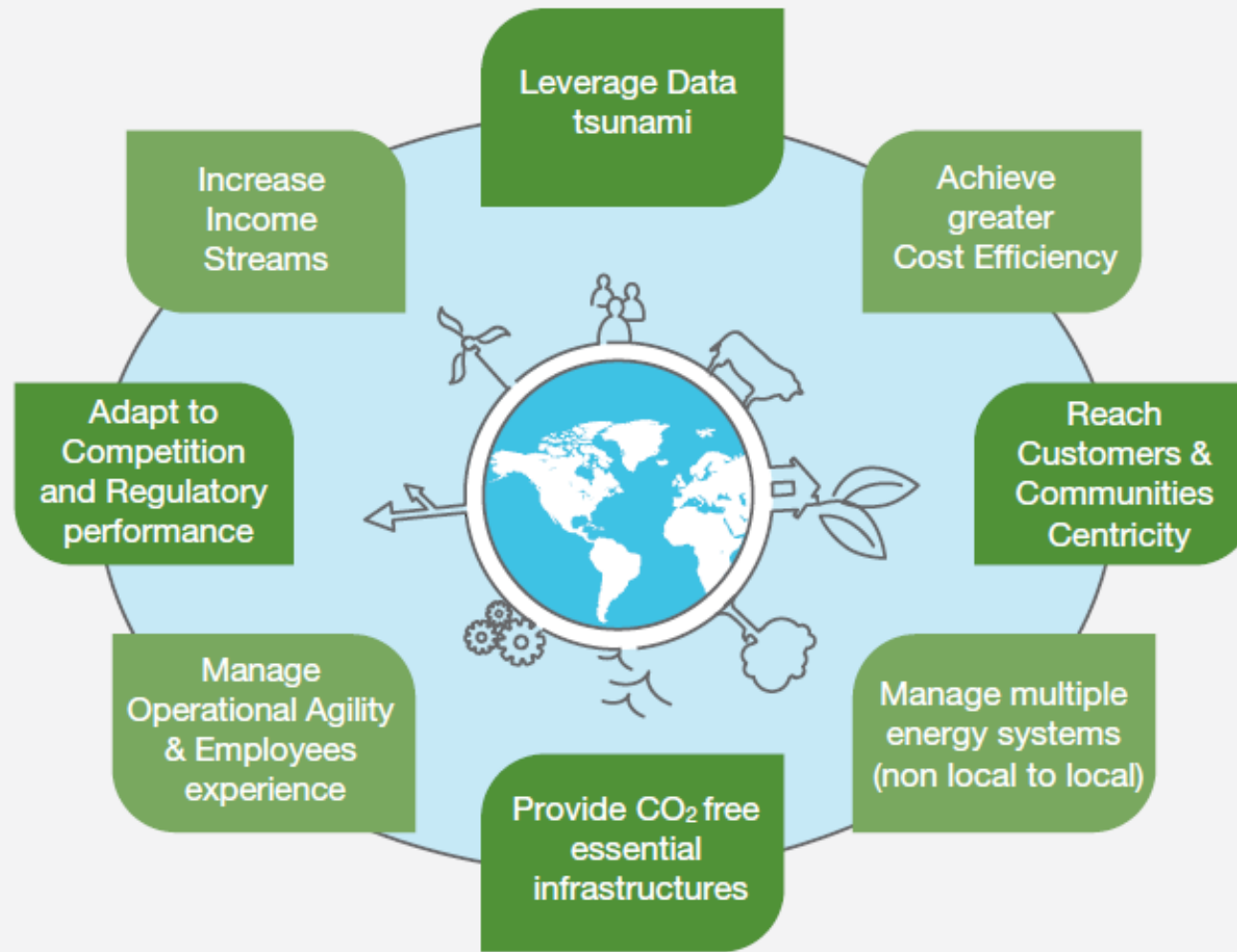
are giving themselves a A+ for giving information to people who need it



Source: : Oracle Study 2013 – “Utilities and Big Data: Accelerating the Drive to Value”



# Utilities Industry drivers for digital transformation



Source: Digital Utilities Transformation. ©2012 Capgemini.

New Products

New Business Models

New Experiences



Social



Mobile



Cloud



Big Data Analytics

New Technologies | New Possibilities

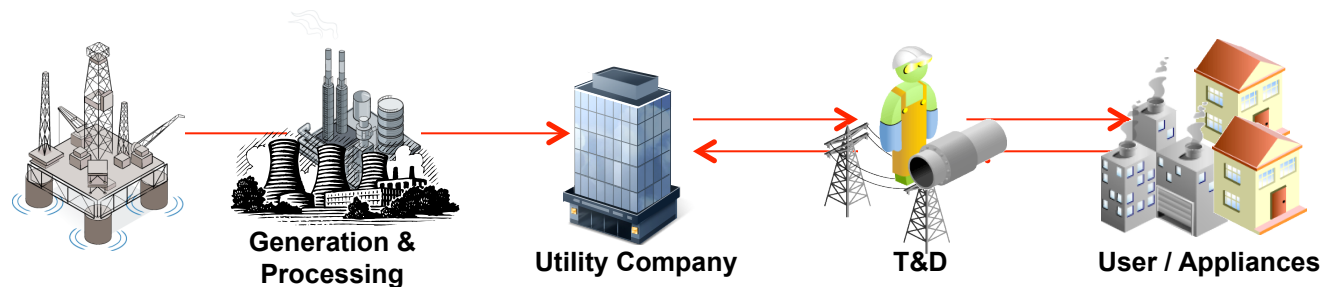
# Digital Transformations

## Customer & Communities Experience Transformation

- To become customer and community centric
- Reducing the cost of operations
- All-Channel-Experience to the customer.
- Data customer analytics

## Digital Asset Management Transformation

- Digital Asset Management
- Capture and analyze all data which are necessary to plan, build and operate assets on near real time basis.
- The economics around the asset life cycle and provide optimization of economic return on assets.
- Enabling the Smart Grid.



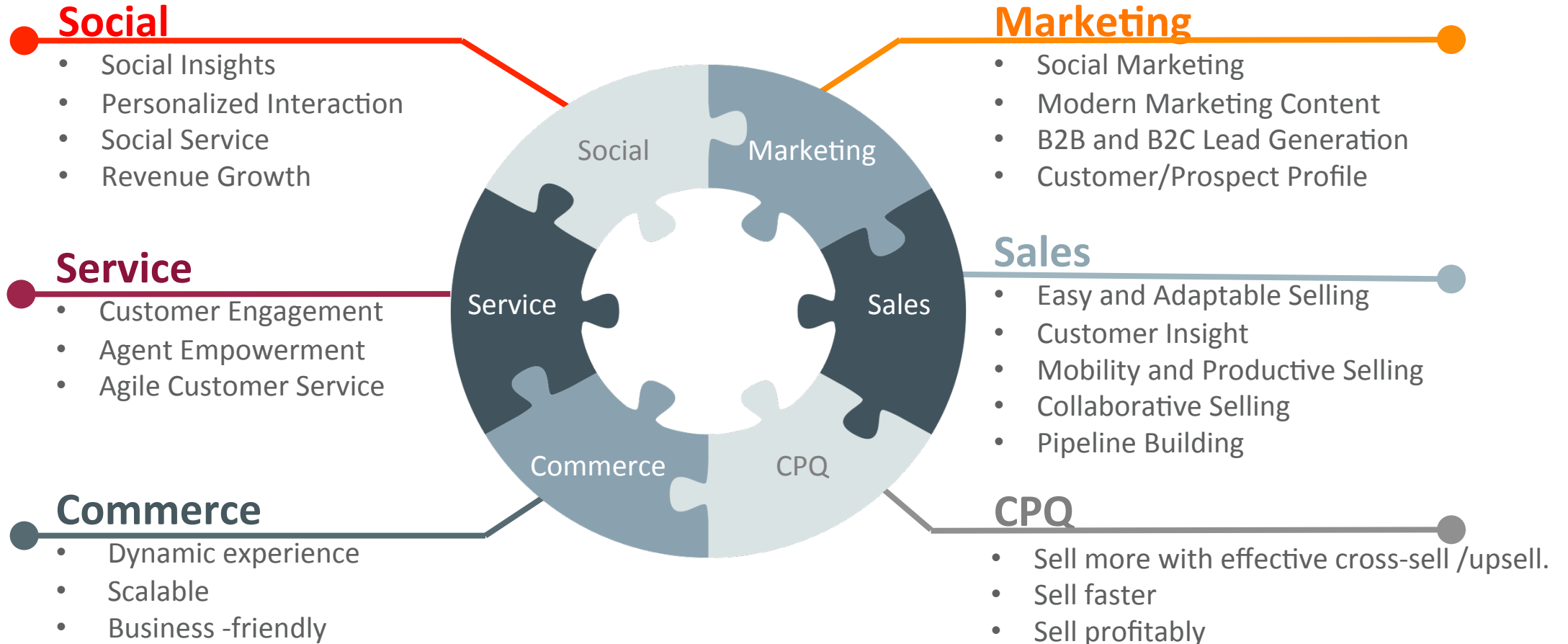
# Customer Experience

Connecting Every Interaction Your Customer Has With Your Brand





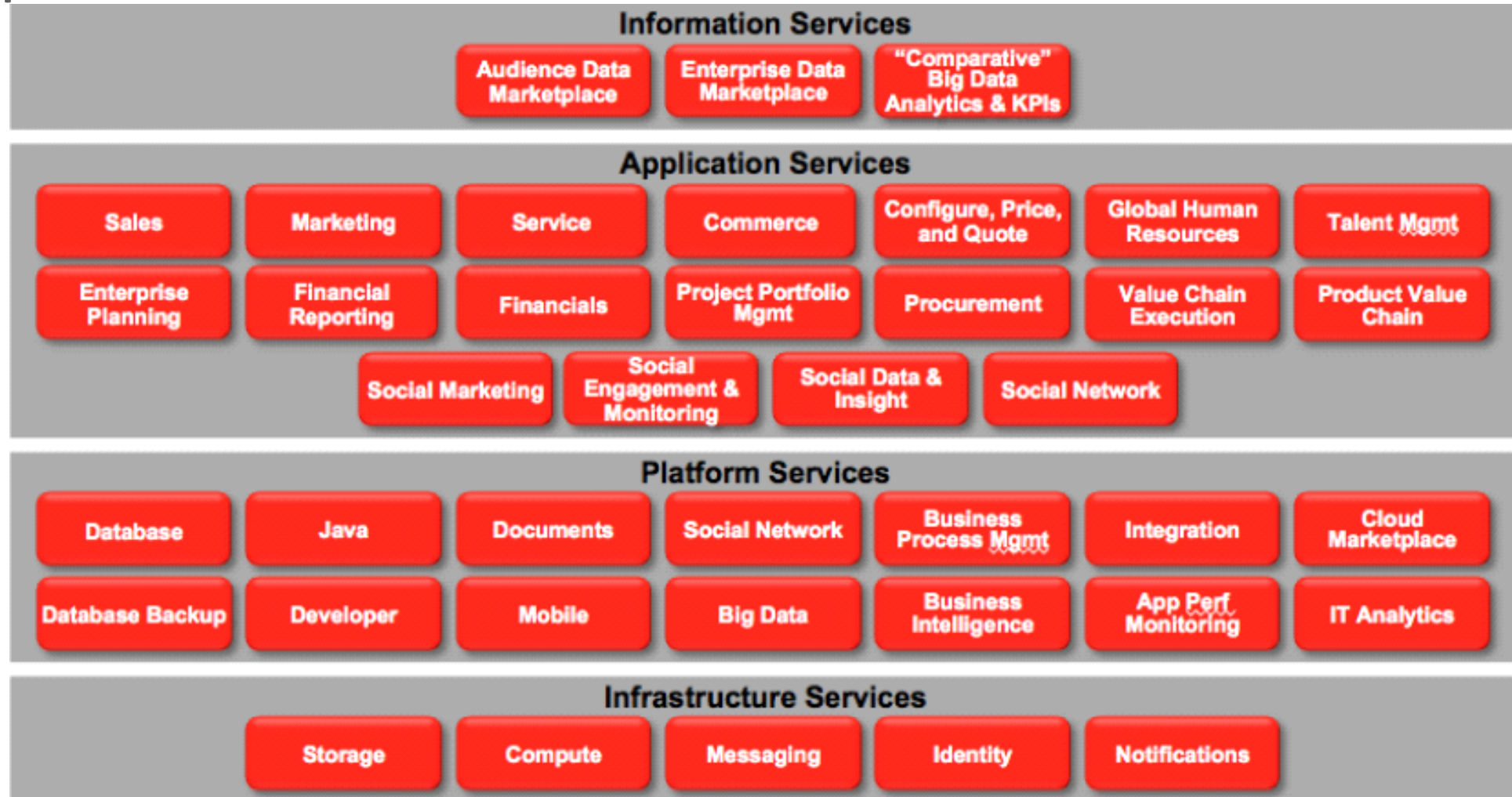
# Capabilities to support your customers' journey







# Complete Cloud Process



# Analytics are Fundamental to Improving and Sustaining Utility Business Performance

Improve...

## Customer Satisfaction

Targeted Interactions

Segmentation-driven marketing offers

Proactive alerting

Personalized communication

## Reliability

More Effective Monitoring and Proactive Maintenance

Asset management

Transformer load management

## Operational Efficiency

Better Planning and Execution

Employee utilization

Revenue assurance

Optimized field work

## Safety

Understanding and Mitigating Hidden Risks

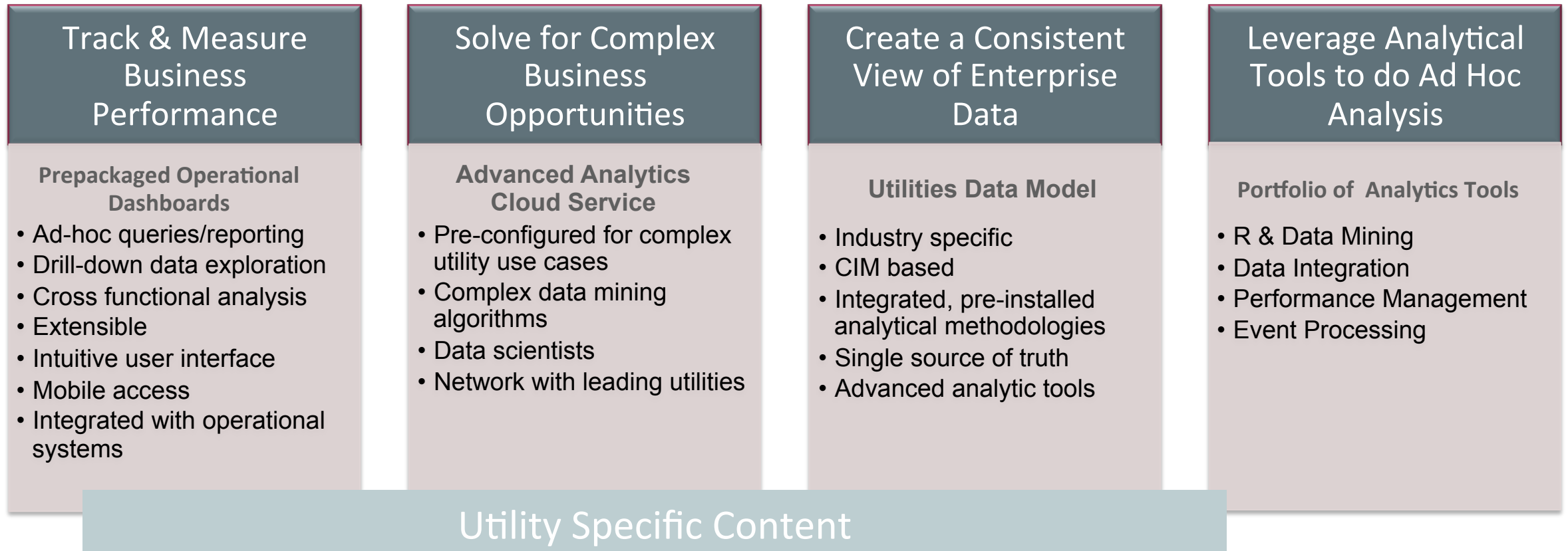
Reducing public safety hazards

Vegetation management

Field work management

**Transform the Utility into a data driven organization.**

# Utility Analytics Objective Scenarios



# Top Performing Companies Use Analytics to Drive Business Performance

## CHANGE YOUR BUSINESS

Imagine what analytics can do for your business

**3x** 

Top performers are **3x** more likely to use analytics than low performers

**53%** 

use analytics to drive **strategy**

**50%** 

use analytics to transform **daily operations**

## ORGANIZATIONS WHICH USE ANALYTICS GET

**\$10.66** 

FOR EVERY

**\$1** 

THEY SPEND ON **ANALYTICS**

## However, in utilities ...

ONLY

**17%**

of utilities are completely prepared for the data influx. Up from **9%** in 2012

JUST

**20%**

of utilities give themselves an **"A+"** for getting information to the people who need it. Up from **8%** in 2012

Source: Oracle Study 2013 – "Utilities and Big Data: Accelerating the Drive to Value"

# Summary

- Utilities have to rethink their retail and business operation models
- Utilities can use digital technology to become more innovative.
- Utilities are facing new challenges including Big Data , affordable self generation and energy management technologies
- Achieving operational excellence lies in adopting the right technologies
- Utilities can change the economics around the asset life cycle and provide optimization of economic return on assets
- Utilities need to better understand how to use analytics



# Solutions for Utilities

Industry Solutions dedicated to the needs of Utilities

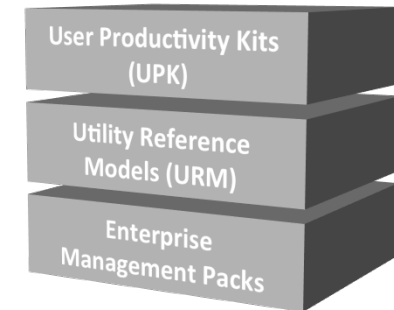
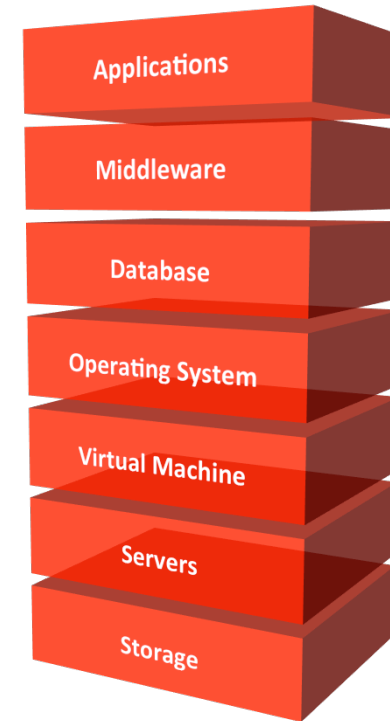
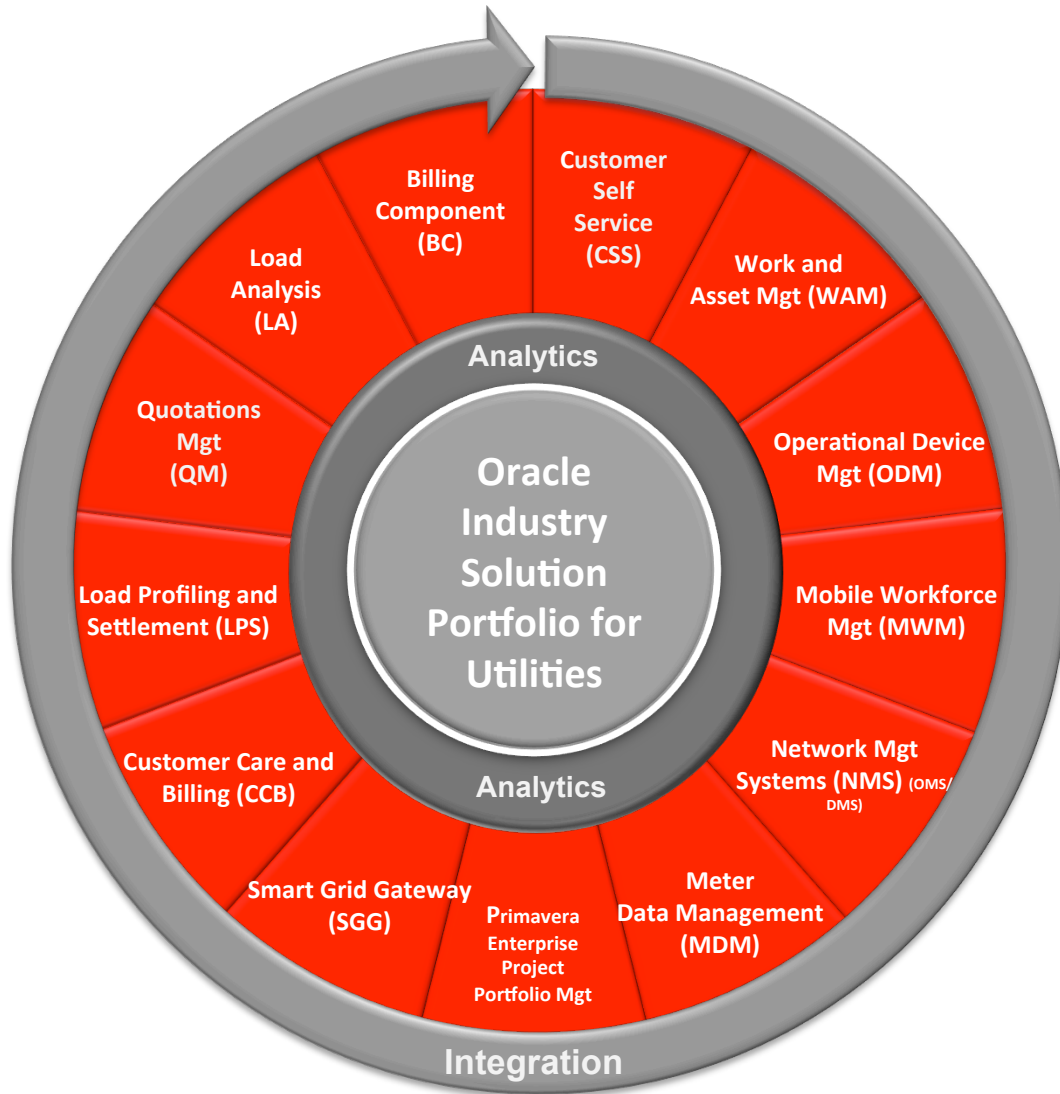
Julian Green  
Solution Consulting  
Oracle Utilities Global Business Unit  
October 16th, 2014

# A Selection of Global Utility customers



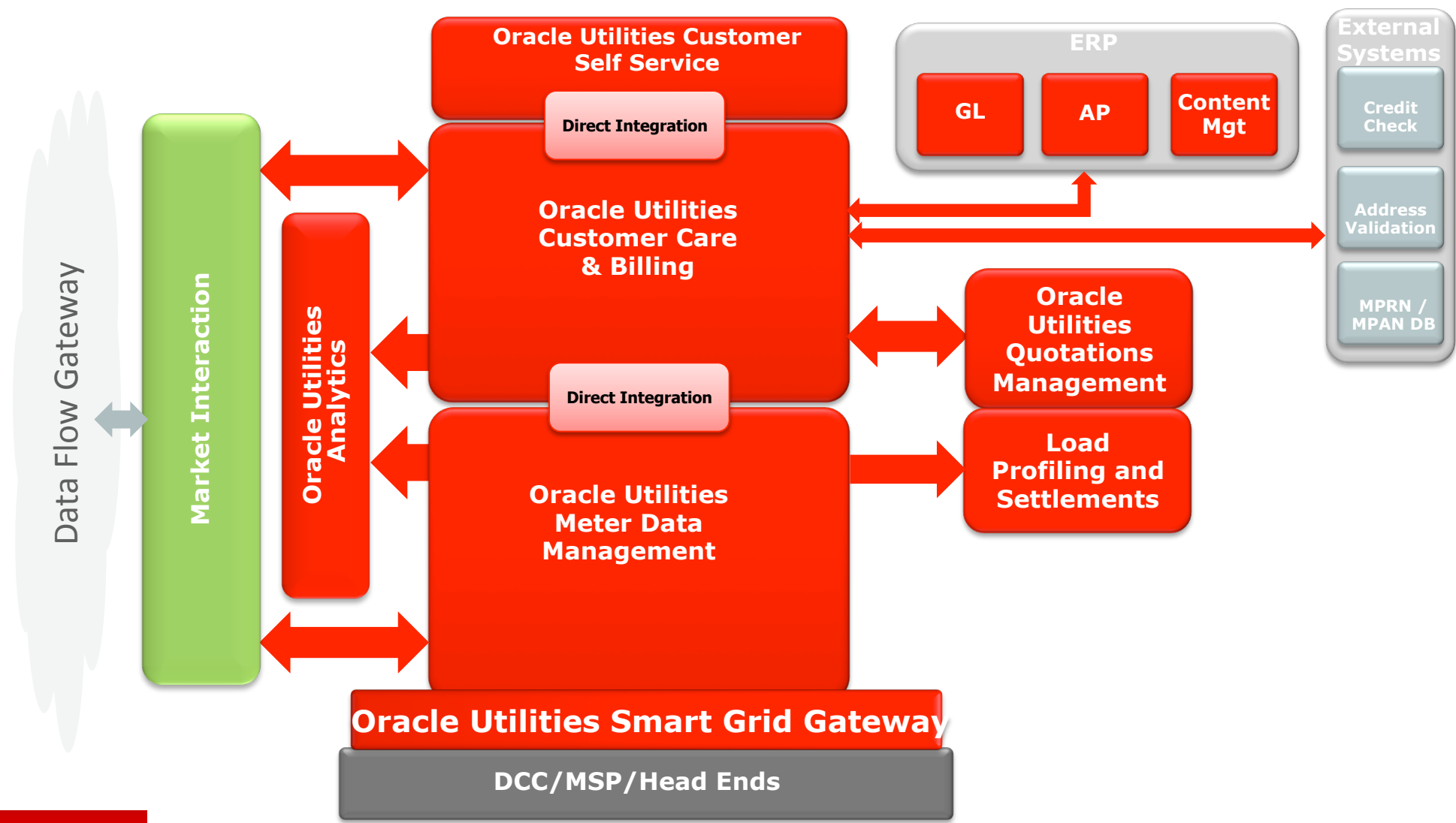


# Oracle Solutions for Utilities



End-to-End Process **Solutions**  
*Engineered to Work Together*

# Retail Energy Architecture



# Key Differentiators

## UK Market Proven, Adaptable, Scalable, Standardisation, Maximises ROI

- UK Market Proven

- Customers

- EDF Energy

- Live using similar solution since 2013
      - Targeting I+C and SME

- Coop Energy

- Implementing now
      - Targeting SME and Domestic

- Scottish and Southern Energy

- Implementing a broad suite of products for all aspects of their business
      - Live with Meter Data Management

- Centrica

- Live since 2010 using QM

- npower

- - Demand Forecasting – Live since 2012

- GDFS – Live since 2003 Electric, QM for Gas 2009

- UK Industry Immersion

- All components of our solution live in UK market with additional customers under deployment
  - Increasing our UK market share
  - Collaborations with Utiligroup, ability to interact with MI solutions well proven, integration is deployed at multiple live sites in the UK
  - Solutions are delivering value in the UK right now
  - Oracle and MI providers are combining our strengths to deliver a low risk solution to our customers using best in class products, services and ongoing support.



# Key Differentiators – Express Implementation

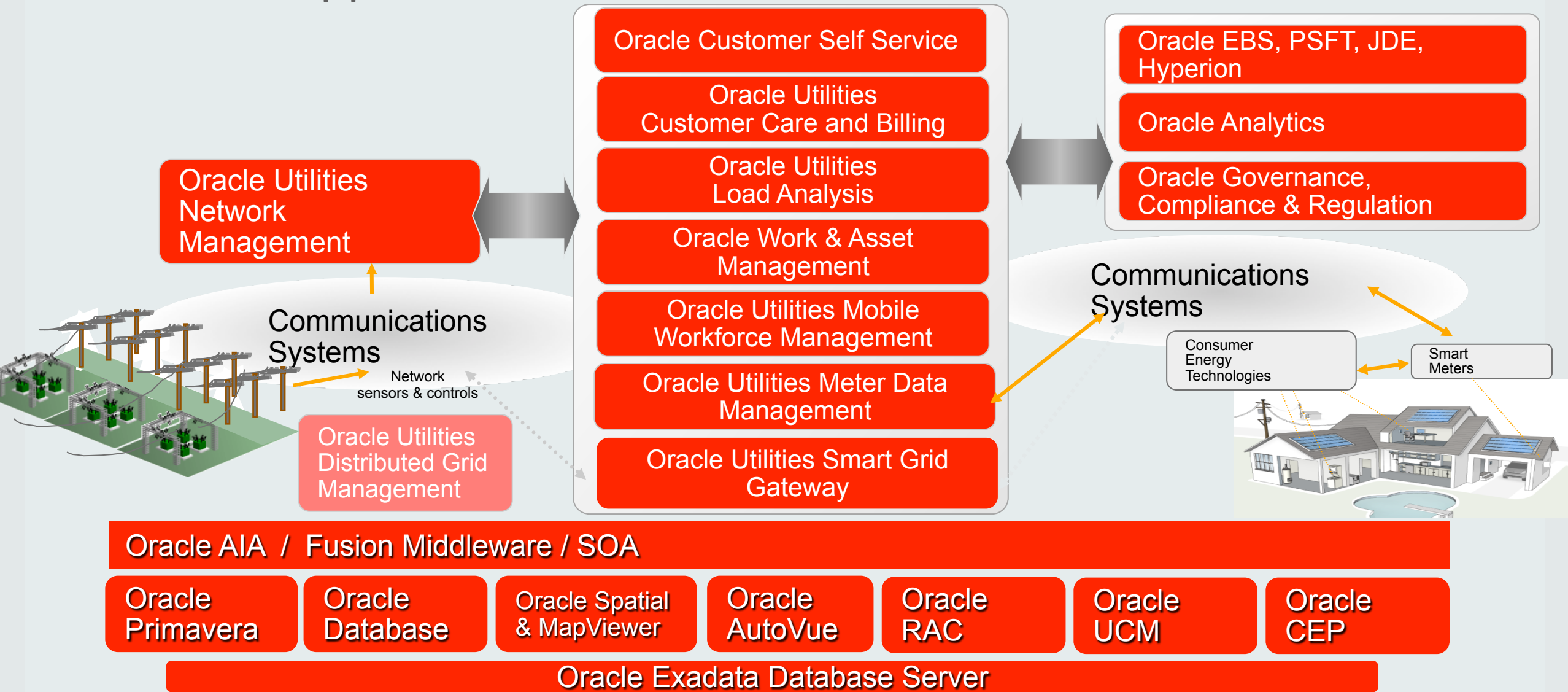
- **What is the UK Market Express Implementation:**

- Oracle Utilities Consulting Services has developed a UK Market Accelerator for QM, CCB and MDM that provides specific functionality for the complexities of the UK energy market, simplifying and streamlining the implementation process to reduce the implementation timeline and accelerate ROI. The accelerator includes:
- QM, MDM and CCB instance pre-configured for UK market
- Contains data and processes that all UK implementations require:
  - **QM** - Industry costs, Internal business costs, Industry reference data, Point of sale forecasting
  - **CC&B** - Customer Information management (contracts, premises, rate rules and more), Collections, Calculates charges based on customer contact detail
  - **MDM** - Stores metered usage events, Performs validation, editing and estimation (VEE), Produces bill determinates

## Benefits of express implementation include:

- **Pre-configured**
  - Business processes
  - Utility Reference models (pre-configured process flows)
  - Test Scripts
  - User Documentation
  - Key letters & reports
- **A path for growth**
  - Solid base for subsequent project phases and business growth
  - Accelerator components can be used as templates for additional configuration
- **Ideal as a working prototype to drive design activities**
  - Environment available within days of project kickoff
  - Access to working software takes guess work out of design
- **Reduced Cost and Risk and faster time to market**

# Oracle Grid Applications



# Key Differentiators - Distribution

**Market Proven, Adaptable, Scalable, Standardisation, Maximises ROI**

- Market Proven
    - Products implemented and delivering business value at customers across the globe
    - MWM, NMS, CCB, MDM & SGG
  - Broadest Pre-integrated Solution Portfolio from one vendor
  - Information Management Focus to provide decision support and automation
  - Scalable and proven to perform in the most challenging situations
  - Engineered Systems available
- Broadest Portfolio
    - All components of our solution are delivering real benefit European market with additional customers under deployment
    - Increasing our EMEA market share
    - Collaborations with Integration and Solution Partners, ability to interact easily with market specific MI solutions, integration is deployed at multiple live sites
    - Solutions are delivering value in the UK and other European Markets right now
    - Oracle and Partners are combining our strengths to deliver a low risk solution to our customers using best in class products, services and ongoing support.

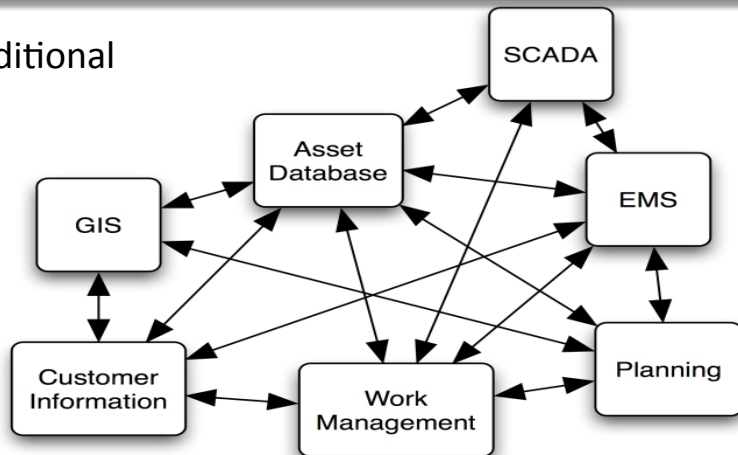
# CIM (Common Information Model)

## Why Oracle has adopted CIM



*Provide a leading integration platform to build out a fully integrated Oracle Utilities suite complying with CIM (and MultiSpeak) standards. Enabling integrations to be built on this platform allowing comprehensive industry domain coverage for utilities.*

Traditional



Streamlined

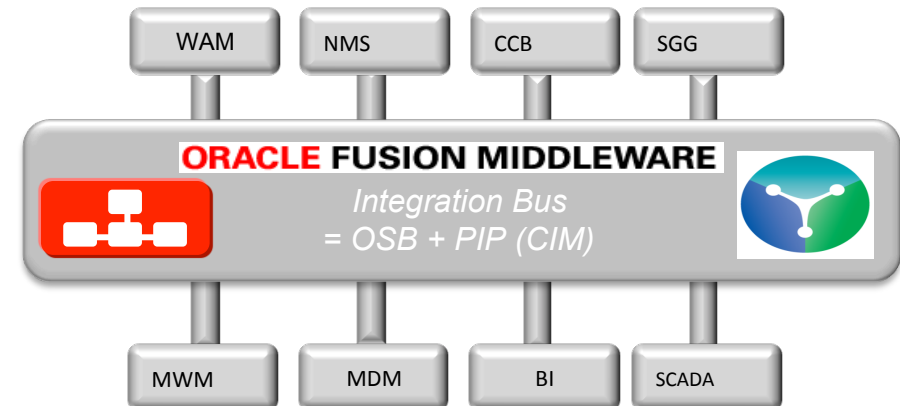
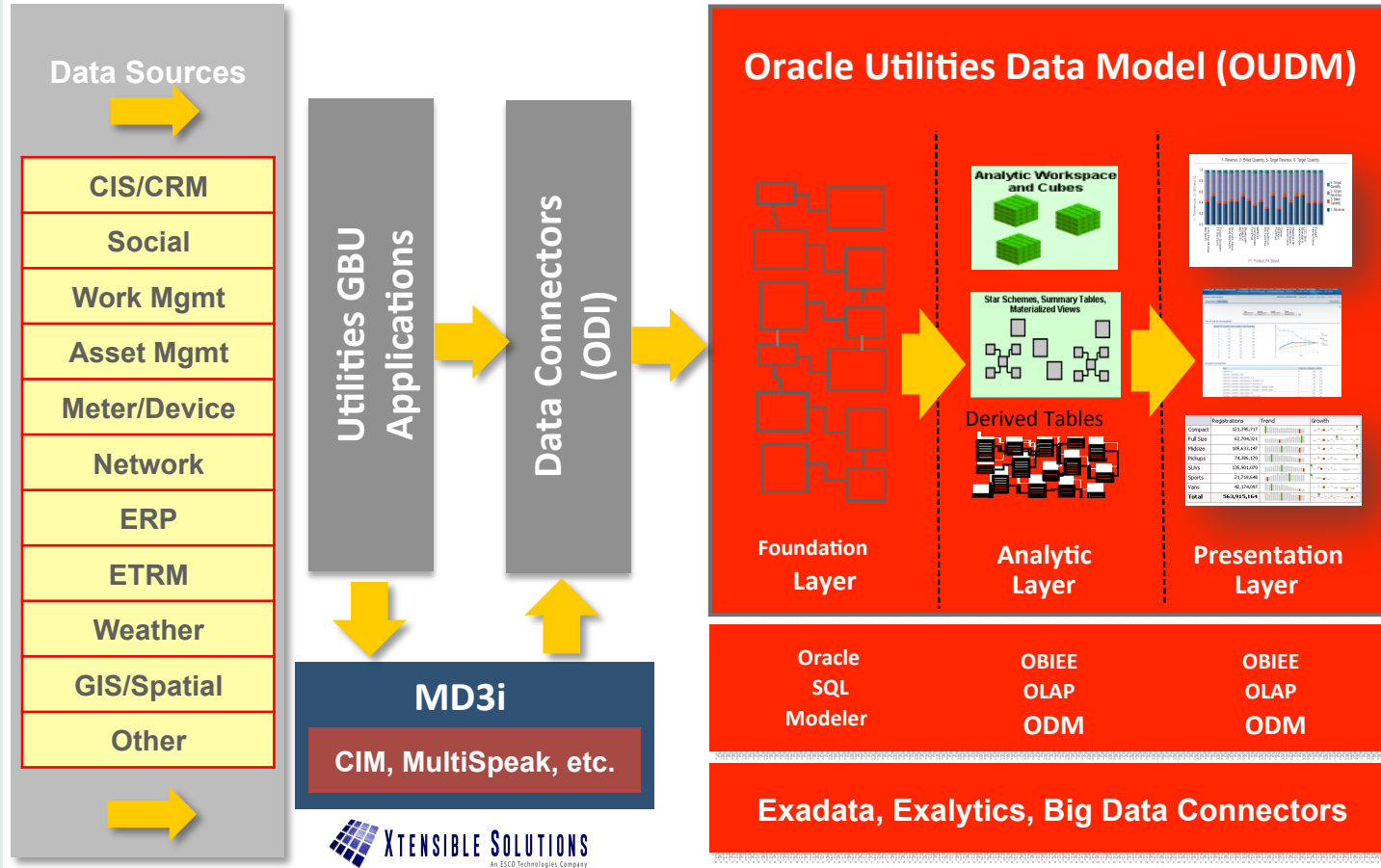


Diagram Source: An Introduction to IEC 61970-301 & 61968-11: Alan McMorran

# Oracle Utilities Data Model Technical Architecture



## The 1<sup>st</sup> release of OUDM includes the following key components:

- 3<sup>rd</sup> Normal Form (3NF) Industry Standard-based Enterprise Wide Data Model
- Foundation Layer with Reference & Base Transactions
  - Over 670 tables with over 4,800 columns; and 1,300 industry measures and 80 KPIs
- Analytical Layer with Aggregates, OLAP Cubes, Pre-built Mining Models
- Presentation Layer with Dashboard & Sample Reports
- Intra ETL Exchange, Extensive BI Metadata
- Easily Extensible & Customizable

## Value-Added from Xtensible:

- MD3i Framework for data integration
- Pre-built connectors for selected business applications.
- Additional analytical reports, models, etc.



# Key Utility Business Benefits

## An Integrated, Standards-based, Enterprise Ready Platform

Delivers Compelling Business Improvements	<ul style="list-style-type: none"><li>• Accelerate business value with configurable, pre-built data model and analytics samples</li><li>• Provide better service and decision making by enabling the cross-domain data and business analysis</li><li>• Increase operational efficiency with streamlined and enterprise scale Analytics/DW solution</li></ul>
Provides Common, Accurate Data Definition Across All Applications	<ul style="list-style-type: none"><li>• Improve quality and information accuracy between applications and establish a single source of truth</li><li>• Join new, existing or 3<sup>rd</sup> party customer and operational information on a robust, open industry standards-based platform</li></ul>
Reduces Implementation Risk and Operational Costs	<ul style="list-style-type: none"><li>• Reduce need for costly custom BI/DW development with pre-built model and architecture based on best practices</li><li>• Accelerate user adoption of Analytics/DW strategy and drive holistic analytics use as strategic business differentiator</li><li>• Simplify model extensions as future analytical needs change</li></ul>



# DataRaker

Transforming Complex Data into Business Value

David Fernandez  
DataRaker Business Development, EMEA  
Oracle Utilities Global Business Unit  
October 16th, 2014

# The World has changed!



1793 – **40** bit/s



2013 – **9 300 000** bit/s  
average UK Internet speed



# The World has changed!



1850 - **1** Glance to tell the bad guy



**UTILITIES NEED  
BIG DATA  
ANALYTICS**



2013 - **29** petabytes of data a day handled by the NSA

# The Road(s) to Heaven of Utilities Big Data Analytics!

## Plan A: DIY



- You'll be the Mechanic
- You'll be the Expert
- You don't really know when it will fly, ...but you hope it will
- You don't know when it will crash, ...but you know it will
- If something goes bad... you'll be the first to know!

## Plan B: Buy & Fly



- It's been architected
- It's been tested
- We'll bring some experts and we have prebuilt models
- It's already serving numbers of customers
- Nothing will go wrong
- You can be up and flying in 6-8 weeks



# The Road(s) to Heaven of Utilities Big Data Analytics!

## Plan A: DIY



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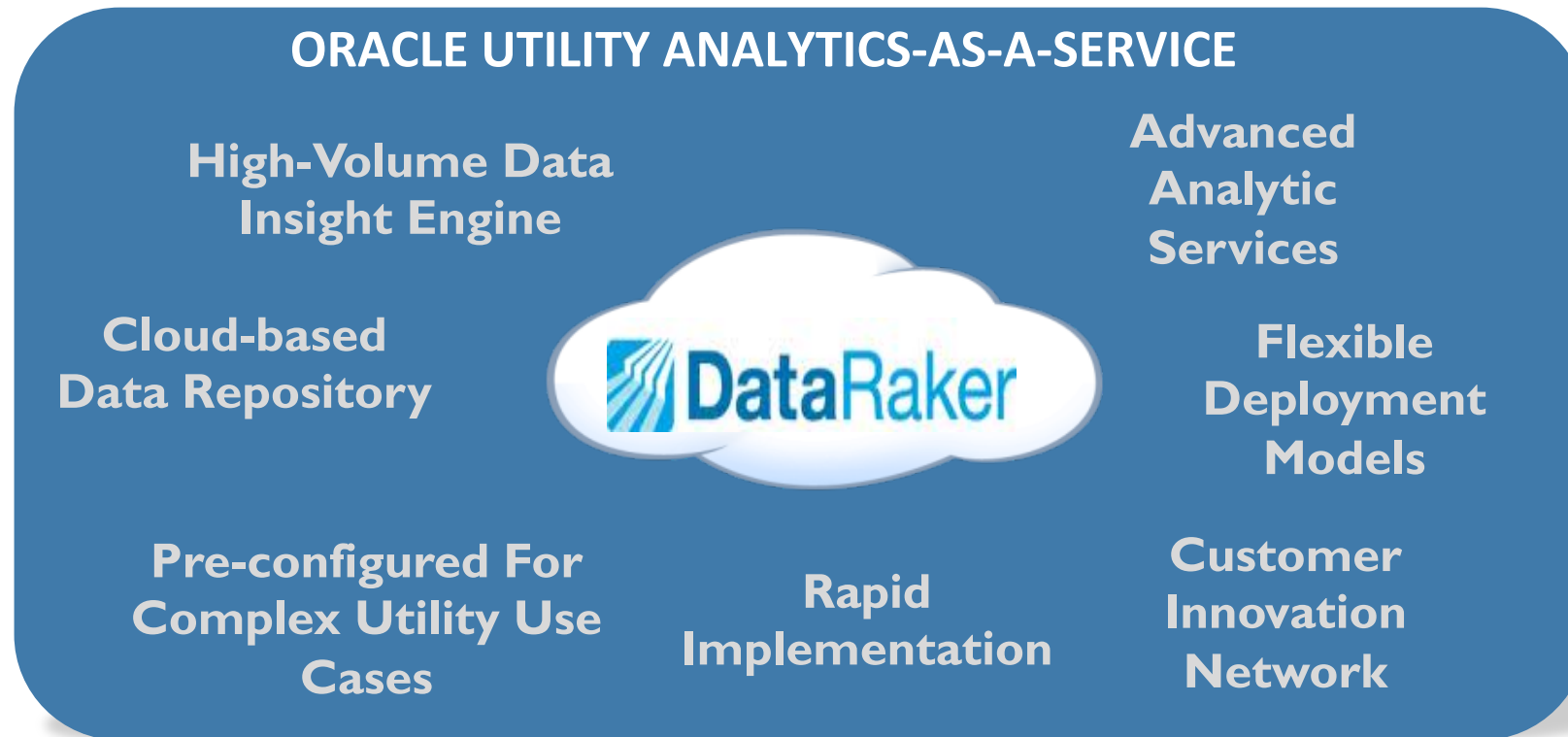
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# Oracle Utility DataRaker

## Key Characteristics



- **Analytics-as-a-service** for utilities' most complex operational data
- Customers realize **high ROI value** from:
  - ✓ Pre-packaged industry-specific applications
  - ✓ SaaS implementation that does not impact existing systems
  - ✓ The shared knowledge of the DataRaker Customer Network
  - ✓ Flexible deployment approaches
- Analytics **enhances the effectiveness** and accuracy of existing on-premise applications

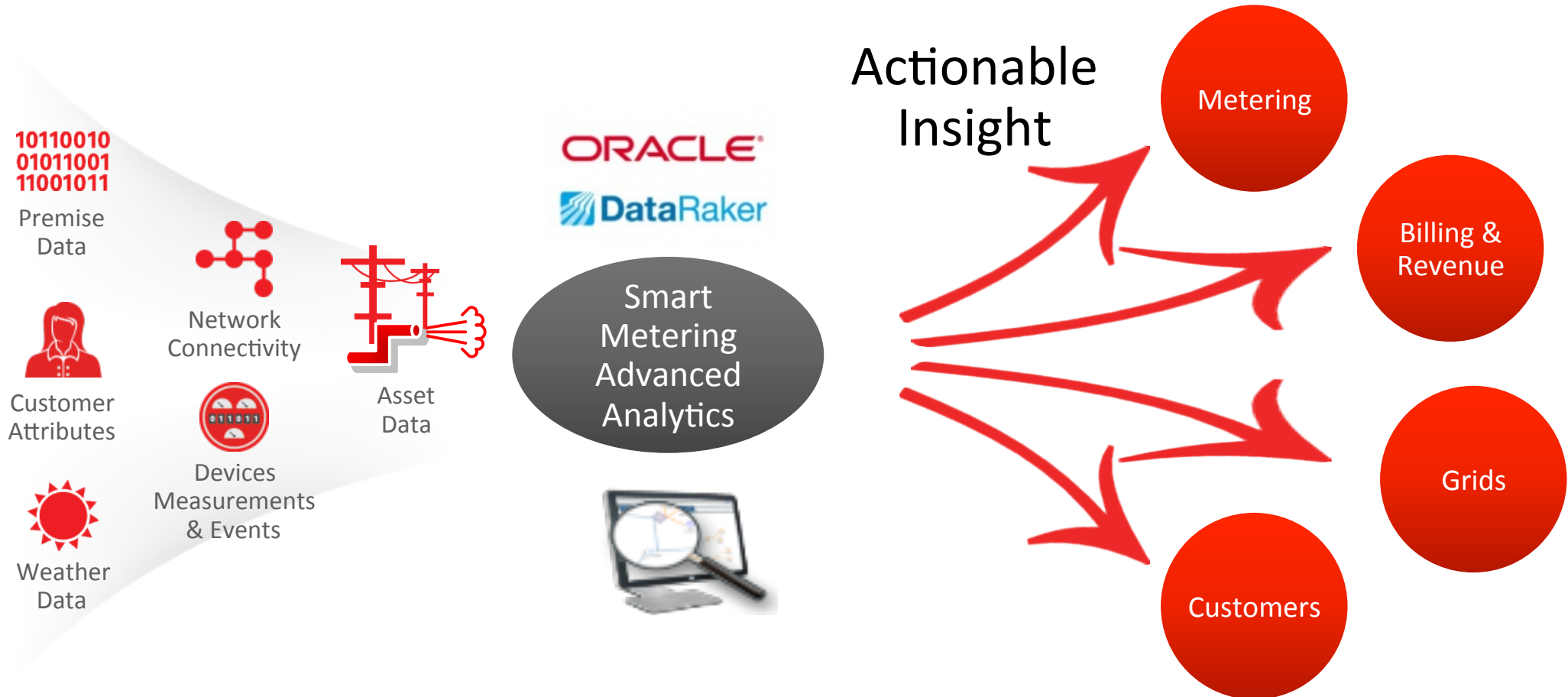
# Value & Experience built with Utilities

20 Million+ Supply point under Service



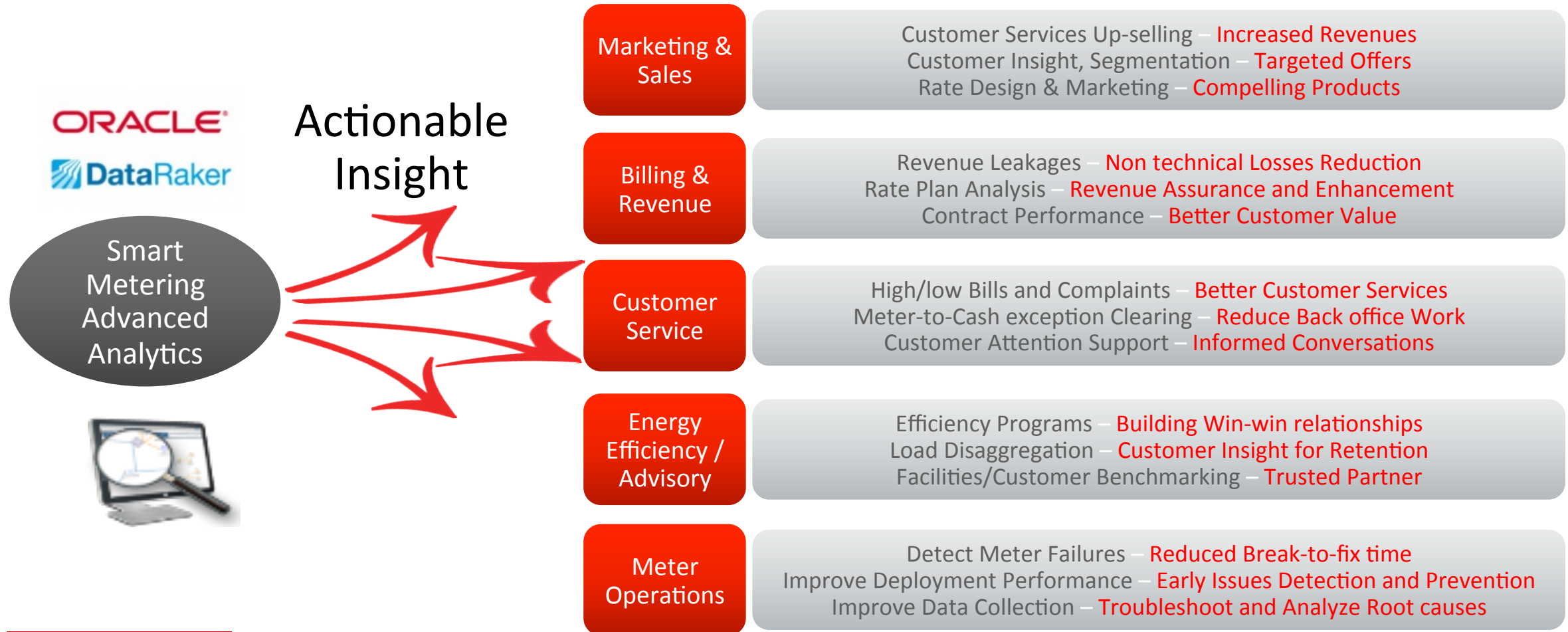
# Utility Smart Analytics Services

How does it work? Practical Approach. Real Results.



# Oracle Utility Smart Analytics Services

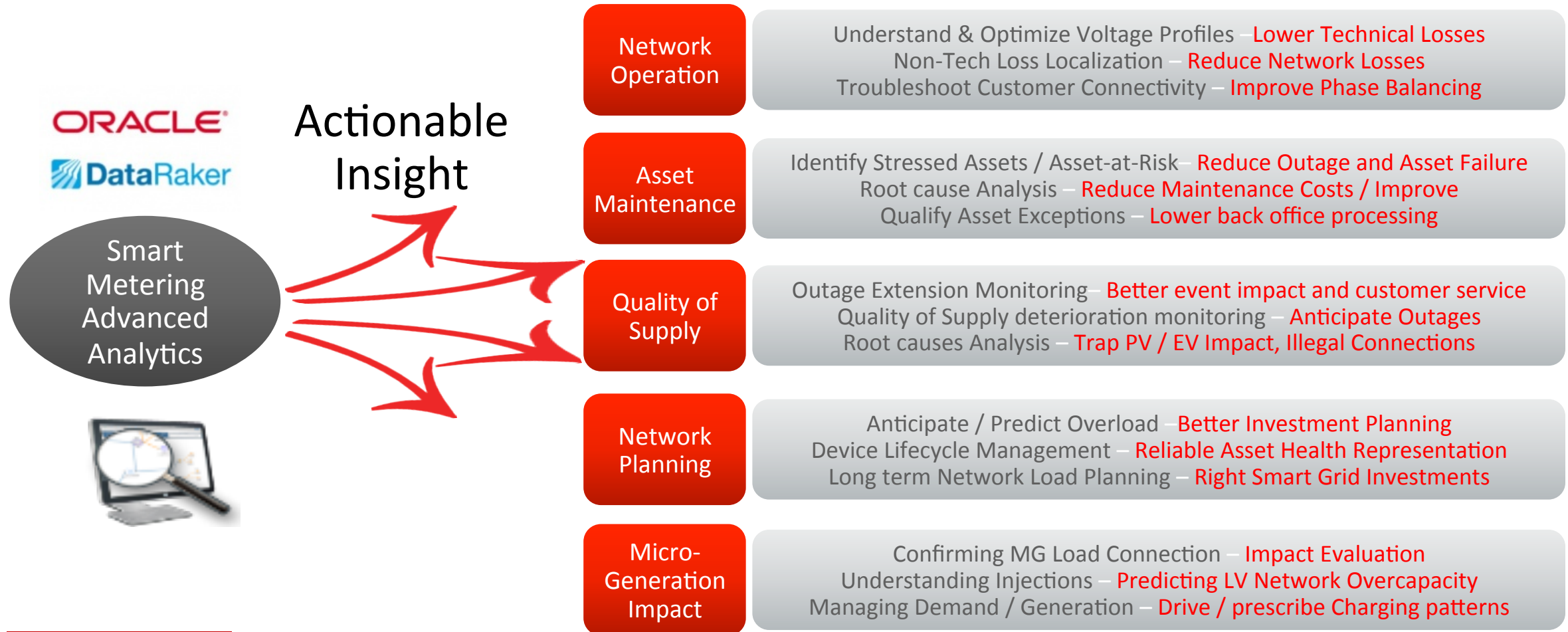
## Insight for **Competitive Retailers**





# Oracle Utility Smart Analytics Services

## Insight for **Distribution Companies**



# Advanced Analytics Services

## Services deliverables for our customers

### DataRaker's Analytics Platform

Data Visualization



Ad-hoc Querying/Profiling

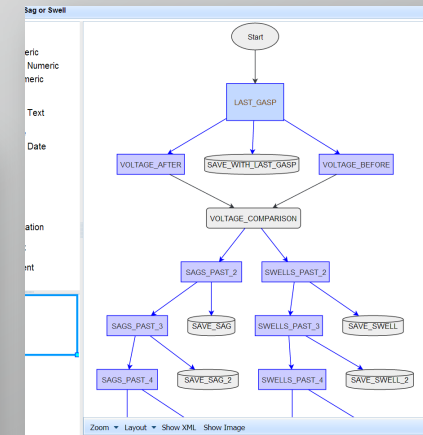
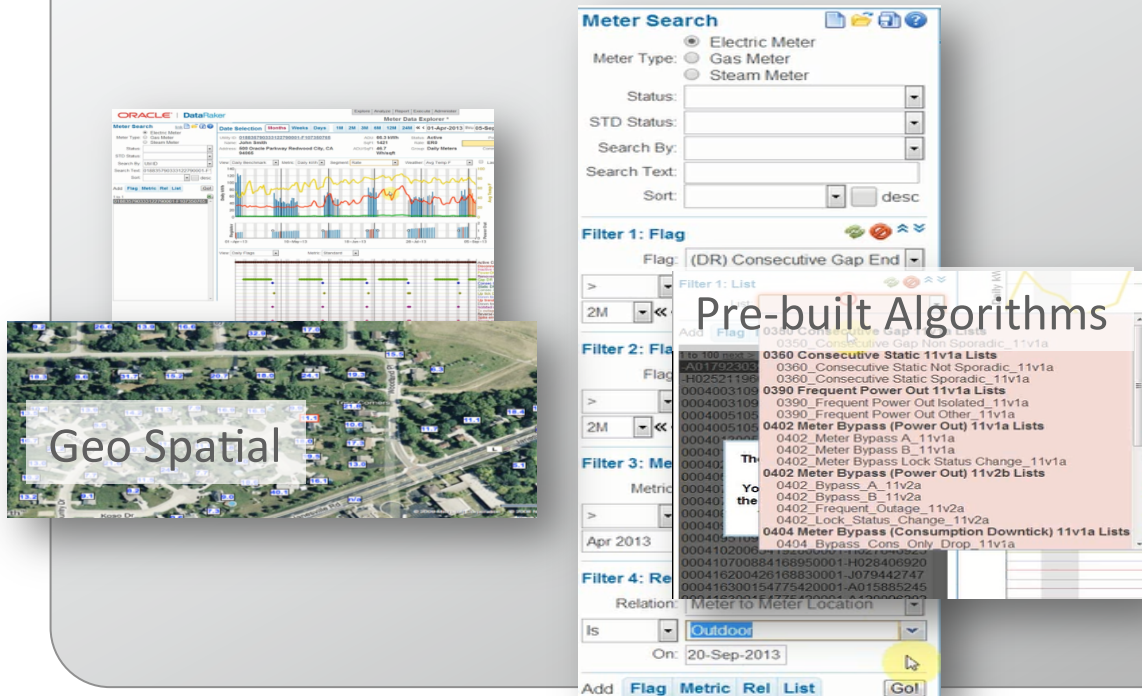


Algorithms Tools



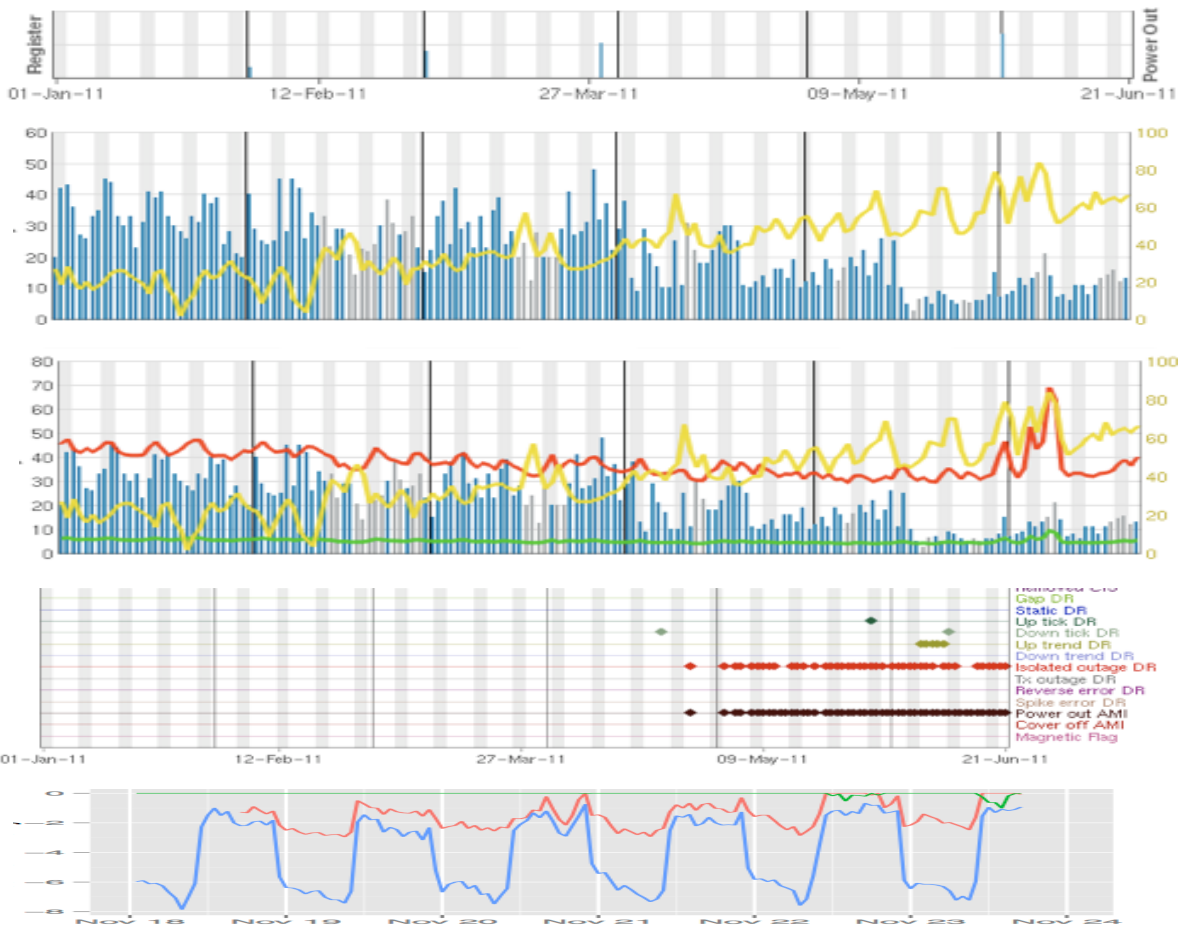
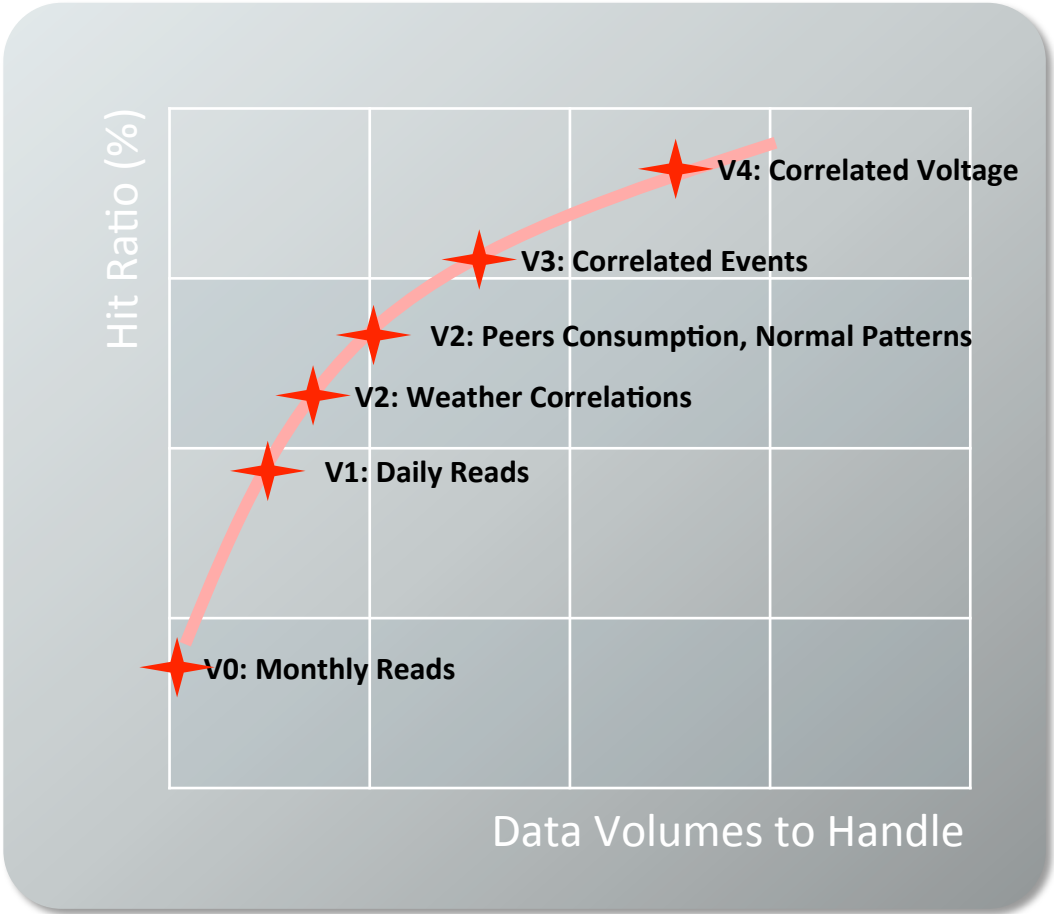
### DataRaker's Experts

Utilities Data Scientists



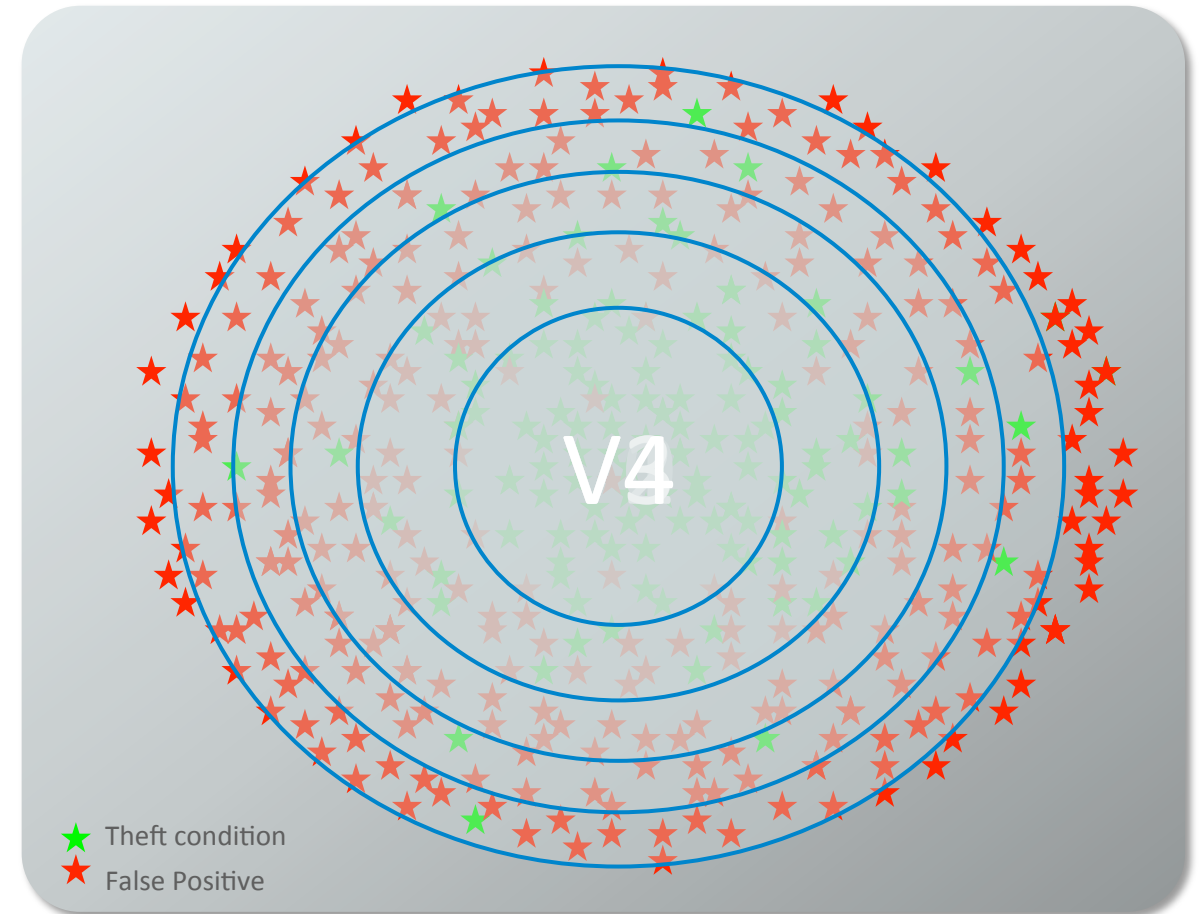
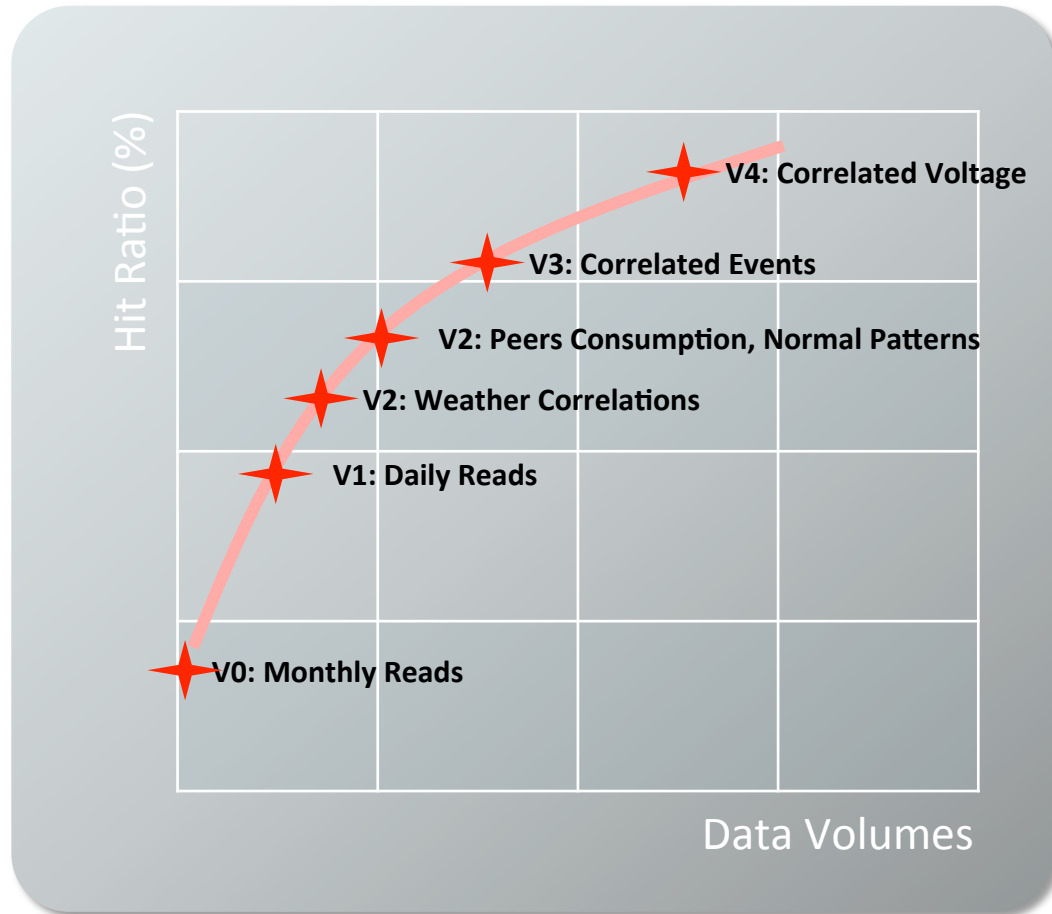
# Needles in Haystacks and Reliable Predictions

## Revenue Protection Example



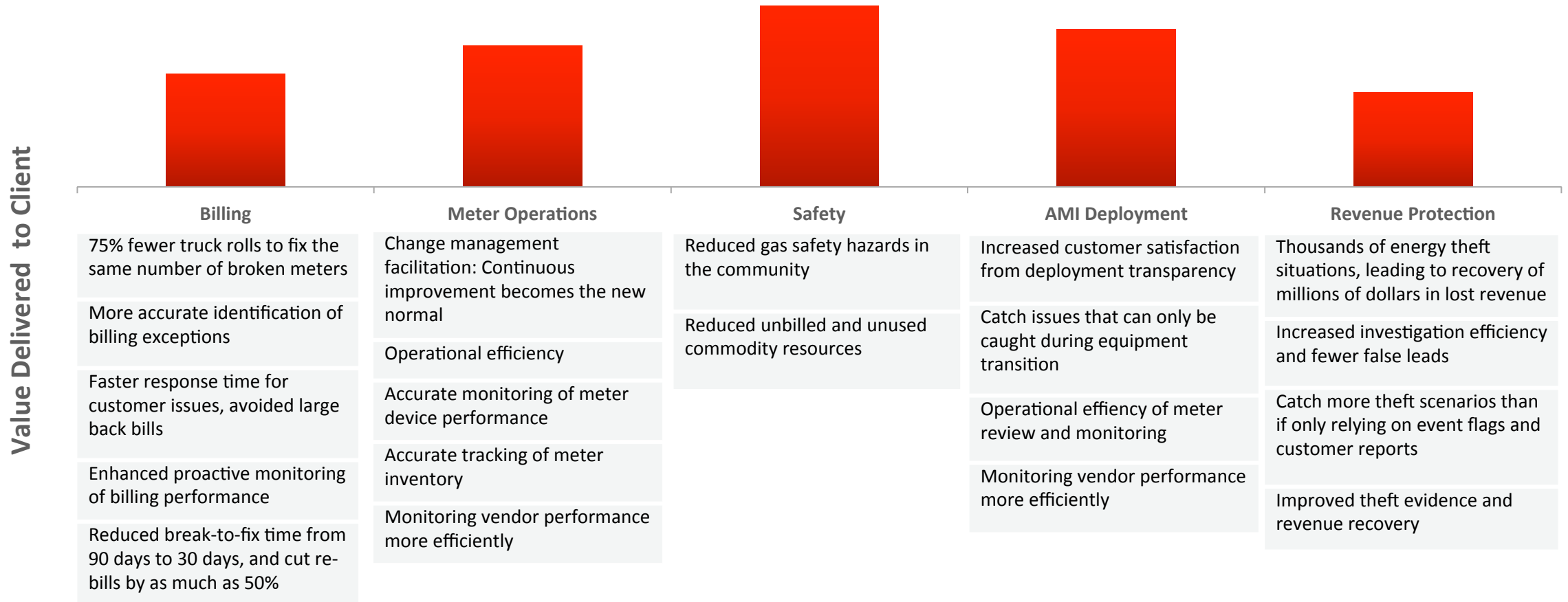
# Needles in Haystacks and Reliable Predictions

## Revenue Protection Example



# Typical Value Returned 5x Investment

## Annual Value Per Meter With Proven Client Deployments

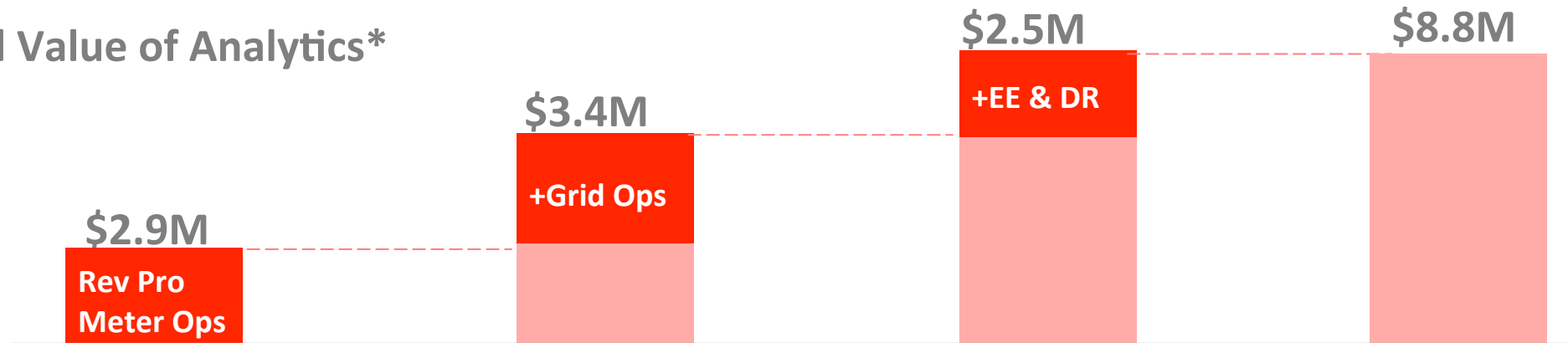




# Utilities Analytics: Customer Adoption

## Value Based on Existing Client Phased Deployments

Annual Value of Analytics\*



### Phase 1 Benefits

- Base suite of revenue protection tests driving value through avoided loss
- Operational efficiency in issues detections for all applications

### Phase 2 Benefits

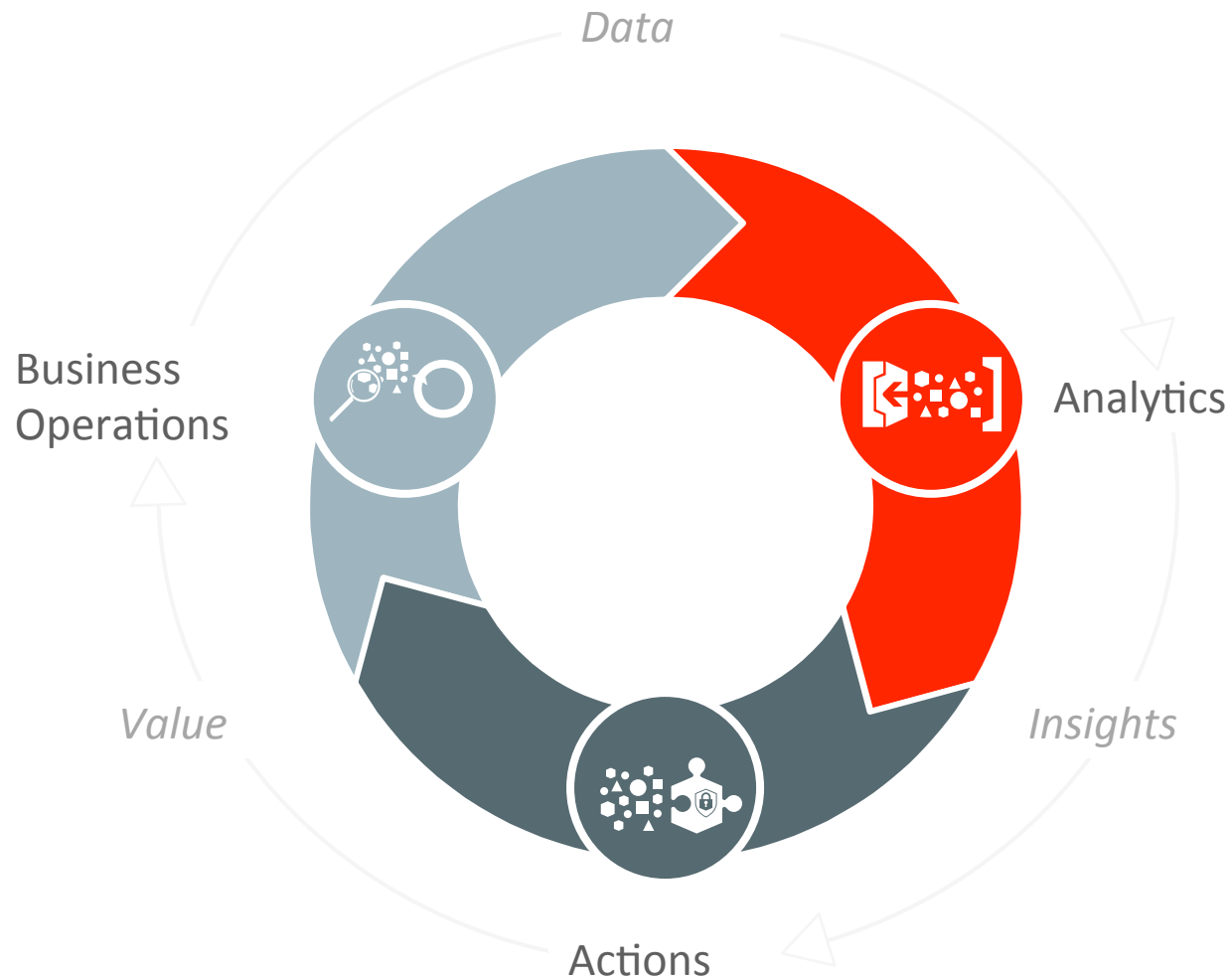
- Deeper savings in rev pro from integrated field feedback
- Continued operational efficiency in analytics replacing manual review
- Beginning to recognize distribution operations analytic benefits

### Phase 3 Benefits

- Sustained value from ongoing deployed analytic applications
- Aggregated customer good will from analytics driven enhanced service

\* Based on 1M meter count

# Opportunities for Partners to deliver Services around DataRaker



## WORKING WITH A PARTNER

- Strategic Consulting
  - Analytics business case development
  - Leveraging analytics results as a “funding” source for other investments
- Analytics Program management
- Involvement in Analytics Development
- Analytics-driven change management
- Systems Integration
  - 2-way data flows with operational systems
    - Analytic insights into operational systems
    - Work queue prioritization (CIS billing queues, work management, etc.)
  - On premise data warehouse

# Enabling Technology

Pinakin Patel  
UK Technology Pre-Sales

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# Enterprise Computing Trends

## GLOBALIZATION



**9 Billion**  
Internet Devices  
in 2012

**50 Billion**  
by 2020

## DATA EXPLOSION



**90%**  
Created within  
Last Two Years

**50X Growth**  
by 2020

## RISE OF MOBILITY



**6 Billion**  
Mobile Subscribers

**87%**  
of World's  
Population

Mobile Data  
Growing **78%**  
CAGR

## CLOUD



**90%**  
of new software  
delivery for public  
cloud

Public IT cloud  
services will grow to  
**\$107B** in 2017

## MODERNIZE TO SURVIVE



Lots of  
**20 year-old**  
Legacy  
Applications

# Strategic Investment, uniquely co-engineered

Simplify I.T, with more than \$34B in R&D since 2004

## Complete Stack

- Best-of-Breed
- Vertical Integration
- Industry Applications
- Cloud



## Complete Choice

- On-Premise
- Private Cloud
- Public Cloud
- Hybrid Cloud



# Enabling Technology for Business



## Foundation for...

**Enabling Business Transformation**

**Delivering Service Levels for Digital Business**

**Changing Economics of IT**

# At the core of this foundation is DATA

**Oracle Database - continuous evolution to meet the needs of each new Computing Era**



**Client - Server**

Market  
Share

1993  
#1  
36%

Stored Procedures  
Partitioning  
Unstructured Data  
Object Relational



**Internet**

2003  
#1  
33%

Resource Management  
Real Application Clusters  
Data Guard  
XML



**Big Data & Cloud**

2013  
#1  
44%

Exadata  
Multitenant  
In-Memory  
Big Data SQL  
JSON

Source: IDC - Annual Worldwide RDBMS Vendor Shares from 1993 to 2013 by Carl W Olofson

# In-Memory Data Management Across Applications

Revalue Your Entire Supply Chain  
1000x Faster Than Ever Before

**ORACLE®**

**PEOPLESOFT**

**ORACLE®**

**TRANSPORTATION  
MANAGEMENT**

Maximizing Financial Positions

**ORACLE®**

**E-BUSINESS SUITE**

**ORACLE®**

**JD EDWARDS**

**ORACLE®**

**VALUE CHAIN  
PLANNING**

Journals  
under an  
hour

“What If”  
use cases

100+ million  
transactions  
in “What If”  
case


$$1 + 1 = 3\frac{1}{2}$$

- Blurring boundaries between systems and software
- Re-using innovations across Engineered Systems
- Combining Engineered Systems to multiply benefits



# Business value

of integrated  
systems



# Unleashing the business performance of existing applications

## ORACLE UTILITIES

Smart Meters  
**250M meters**  
**4 consumption/hr**

Utilities Billing  
**77M**  
**Determinants/hr**

## ORACLE COMMUNICATIONS

Rating & Discounting  
**100M subs**  
**50K CDRs/Sec**

Comms Biling  
**100M Subs**  
**< 12hrs**

## ORACLE FINANCIAL SERVICES

End of Month  
**100M Account**  
**< 5 Hrs**

## ORACLE RETAIL

RMS Replenishment  
**3 Times Faster**  
**5.4M**  
**Item | Locations**

RPM Price Event  
**17 Times Faster**  
**3M**  
**Item | Locations**

# Value Of Enabling Technologies In Utilities



- Re-platform Oracle Utilities & Billing System on Oracle Engineered System based private cloud
- Application performance improvements helped to lower on average customer calls by 30 secs
- Cut overnight batch processing by 70%
- Improve productivity of application lifecycle management by 30%

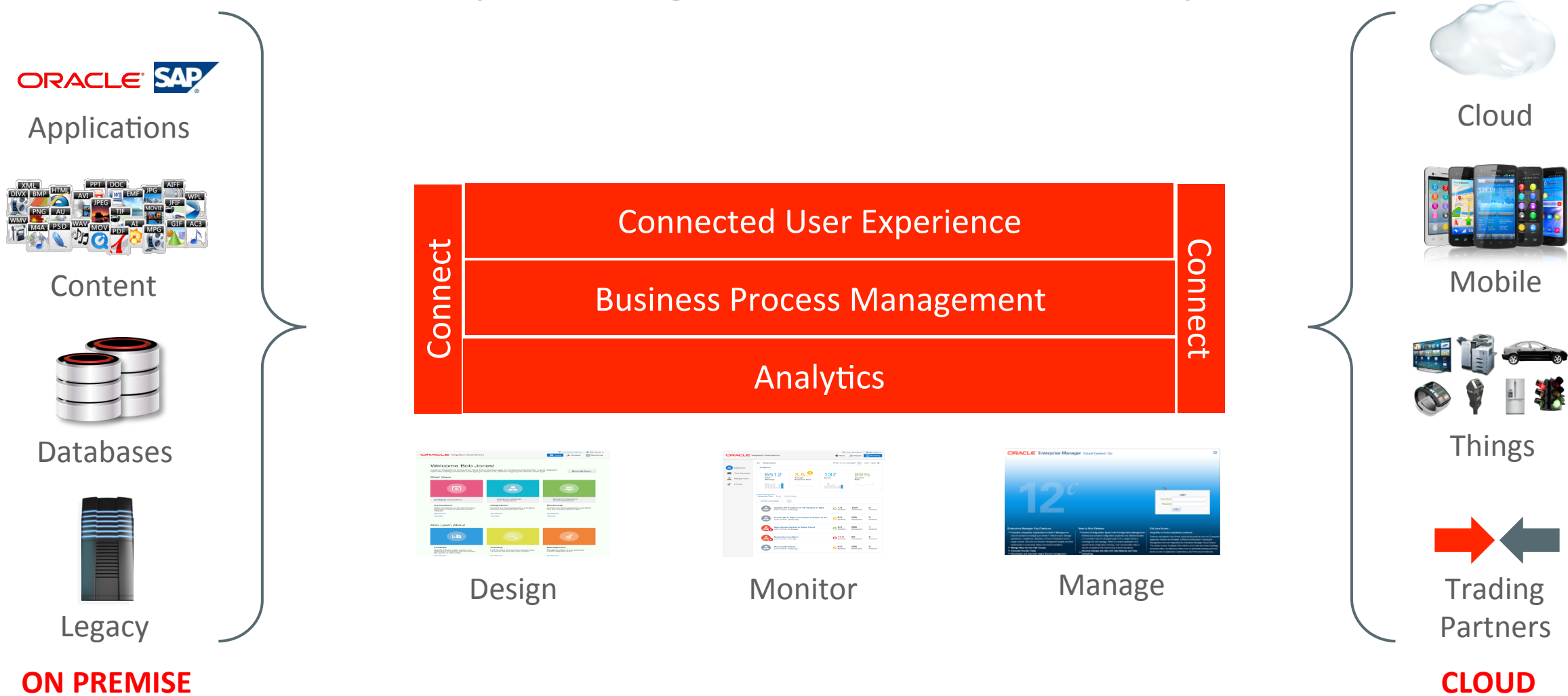


- Re-platformed CRM system to Oracle Engineered System
- Online transactions times reduced by up to 10 times
- Some batch processes times reduced by up to 60%
- Only 3 months from Initial deployment to go live
- Effectively manage data integration between transactional systems & 'big data lake'



- Avoid unnecessary delays in field operations
- Managers able to easily review and approve requisition requests on the move
- Mobile enabled existing application
- Leverage existing infrastructure & application setup

# Need to effectively manage & deliver new capabilities



# What does it mean for Oracle partners?

## Enabling Technology for Business



### Enabling Business Transformation

- Common platform, 'tried & tested' for modernising applications
- Extending existing applications

### Delivering Service Levels for Digital Business

- Real-time enterprise platform
- Packaged services for the enabling technology

### Changing Economics of IT

- Unlock the embedded costs from existing platforms
- Private; Hybrid; Public Cloud Roadmaps

# Oracle OpenWorld Announcements

## Enabling Technology



- Oracle Platform as a Service (PaaS) & Infrastructure as a Service (IaaS)
- Cloud Manageability to easily move between on-premise & public cloud
- M7 (SPARC) Software on Silicon



# Utilities Break Out Agenda

- 1 ➤ Global Trends - **Martin Dunlea** - Global Industry Lead  
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- 2 ➤ Solutions for Utilities - **Julian Green** - Solution Consulting, UKI  
[Julian.green@oracle.com](mailto:Julian.green@oracle.com)
- 3 ➤ DataRaker - Transforming Complex Data into Business Value  
- **David Fernandez** - Business Development DataRaker, EMEA  
[david.l.fernandez@oracle.com](mailto:david.l.fernandez@oracle.com)
- 4 ➤ Enabling Technology – **Pinakin Patel** – UK Technology  
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# Oracle Industry Day for Business Partners - Utilities

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