

GAP Analysis

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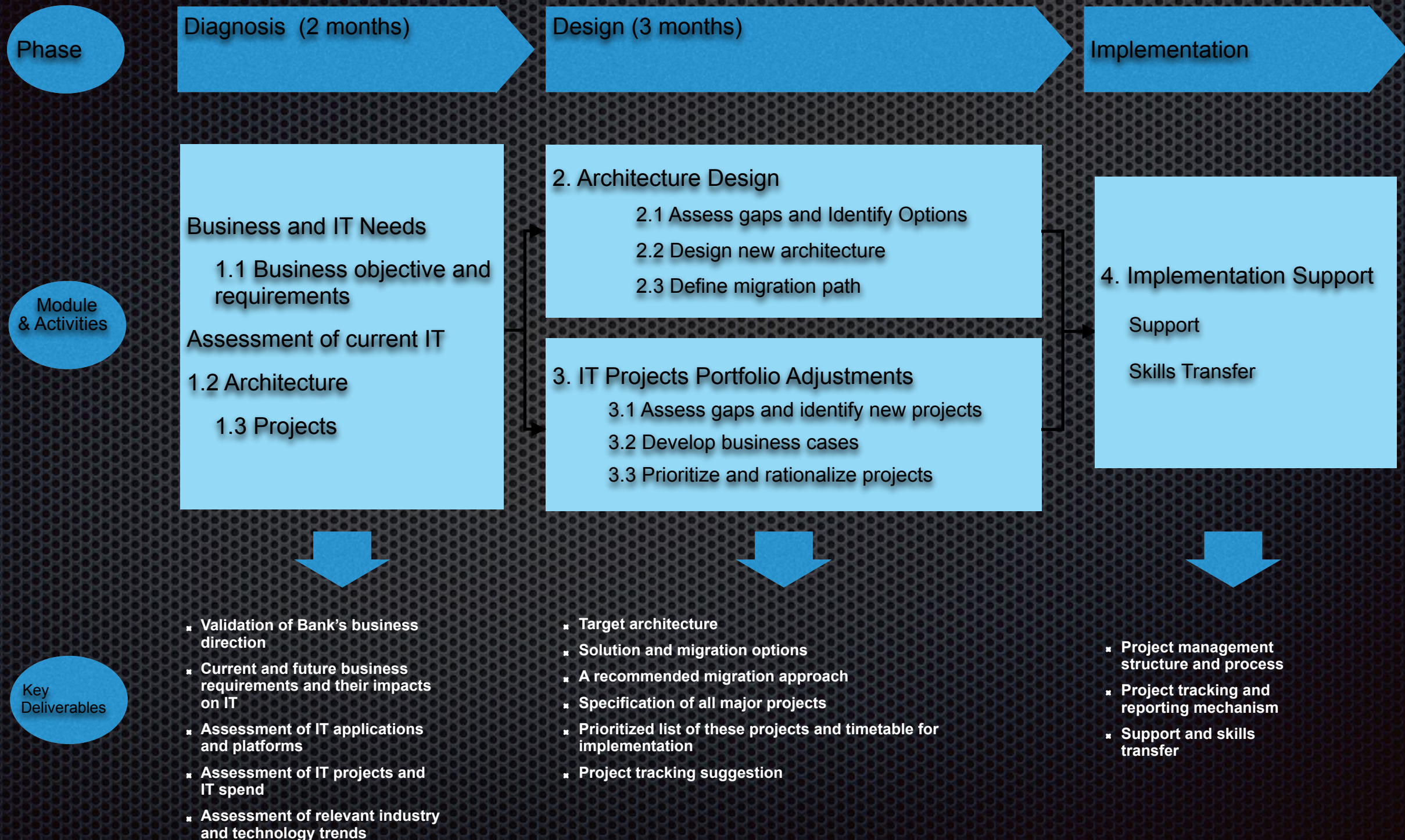
SUPERNAP Thailand

Agenda

- Re-cap IT Strategy
- Deliverable
- Component of GAP Analysis
- Technology Landscape
- Gap Analysis Report
- Architecture
- Big Data Analytic Architecture
- Technology Trend
- Conclusion



Project Approach and Deliverable



Business objective and Requirements

Business Objective and Requirements



Consultant has defined target Business Requirements for the bank based on best practices

The current IT architecture of the bank presents some areas of concerns, but no critical problems

- Good product and channel coverage
- Two key applications require immediate attention

Complex system changes are required to meet the Business Requirements defined

- All areas require changes, but to varying degrees
- Complex issues in information management and application integration

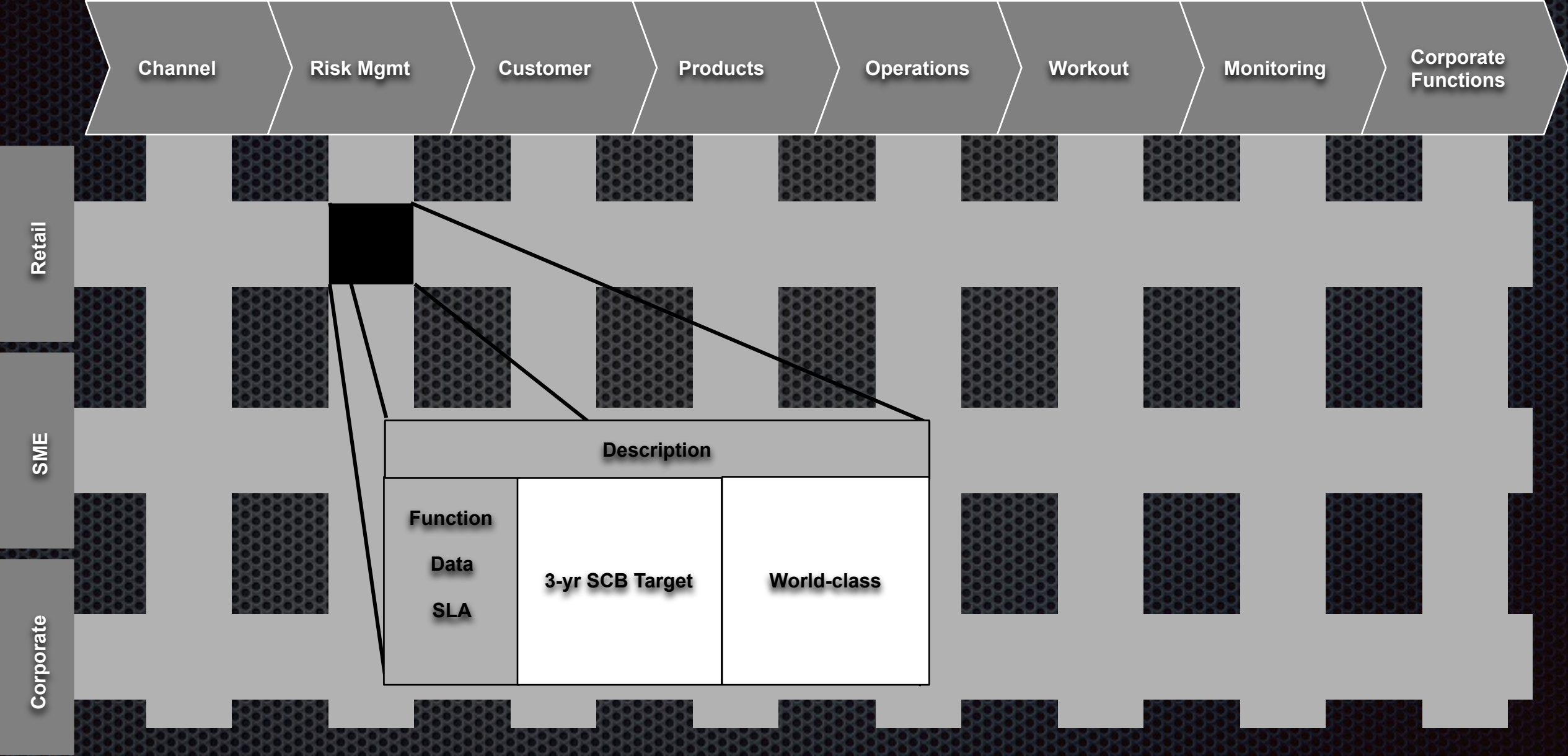
A revolution in project management culture is required to support this complex IT transition

- Current IT budget reflects magnitude of business change
- Current project portfolio is a strong starting point, by and large aligned to the changes required, but
- No project portfolio management tools and processes are in place
- Individual project management skills are very poor



KEY SUCCESS FACTORS & CAPABILITIES IN UNIVERSAL BANKING

EACH BUSINESS REQUIREMENT HAS BEEN DETAILED
Both World-class And 3-Year Target Achievement



KEY 3-YR TARGET FUNCTIONALITIES / SLA FOR RETAIL

Summary

Channel	Risk Mgmt	Customer	Products	Operations	Workout	Monitoring
<div>Retrieval of customer and contact data cross channels <u>real-time</u></div> <div>Identify sales opportunities cross-channel in <u>real-time</u></div> <div>Support sales with product presentation and triggers <u>real time</u></div> <div>Warm-transfers <u>real-time</u></div> <div>Tiered service standards in <u>real-time</u></div>	<div>Data validation <u>real-time</u></div> <div>Application routing + track <u>real-time</u></div> <div>Conditional decisions in <u>1 minute</u></div> <div><u>Real-time</u> check to credit database</div> <div>Daily alert on trigger events and calendar</div> <div>Daily alert of declining rating (for revolving products)</div>	<div>Validation of data and routing <u>real-time</u></div> <div>Integrate data cross channels + present <u>real-time</u></div> <div>Contact update and usage tracking in <u>real-time</u></div> <div>Verify data consistency in <u>1 day</u></div> <div>Data mining, planning, and assignment updated in <u>1 day</u></div> <div>Summary report <u>daily</u></div>	<div>Develop, bundle, and initiate use of product suite <u>real-time</u></div> <div>Integrate to 3rd party provider <u>real time</u></div> <div>Update decision authority <u>daily</u></div> <div>Bundle profitability estimated real time with costs updated <u>daily</u></div> <div>1-day tracking of campaign success</div>	<div>One-point data input with entry validation in <u>real-time</u></div> <div>75% processes <u>real-time</u> flow</div> <div>Ability to integrate with outside service provider in <u>real-time 24x7</u></div> <div>Back Office SLA tracking report in <u>1 mos</u></div>	<div>Collections planning and contact mgmt <u>real-time</u></div> <div>Daily customer default reports</div> <div>Daily tracking report</div>	<div>MIS query systems with <u>1-day</u> data lag</div> <div>Daily tracking of financial metrics</div> <div>Portfolio profitability analysis at <u>month-end</u></div> <div>Monthly tracking of activity metrics</div>

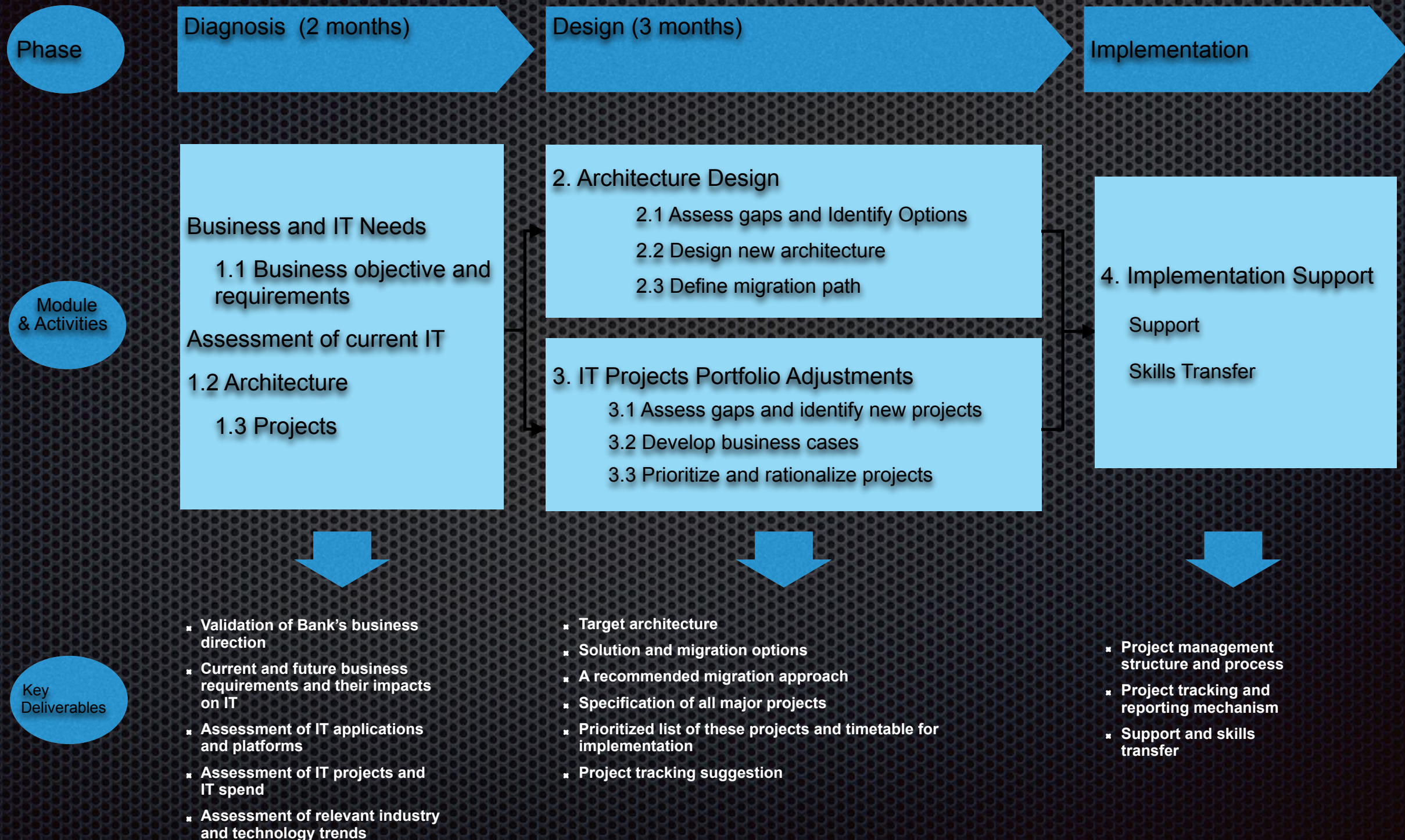
Real-time

1 Day

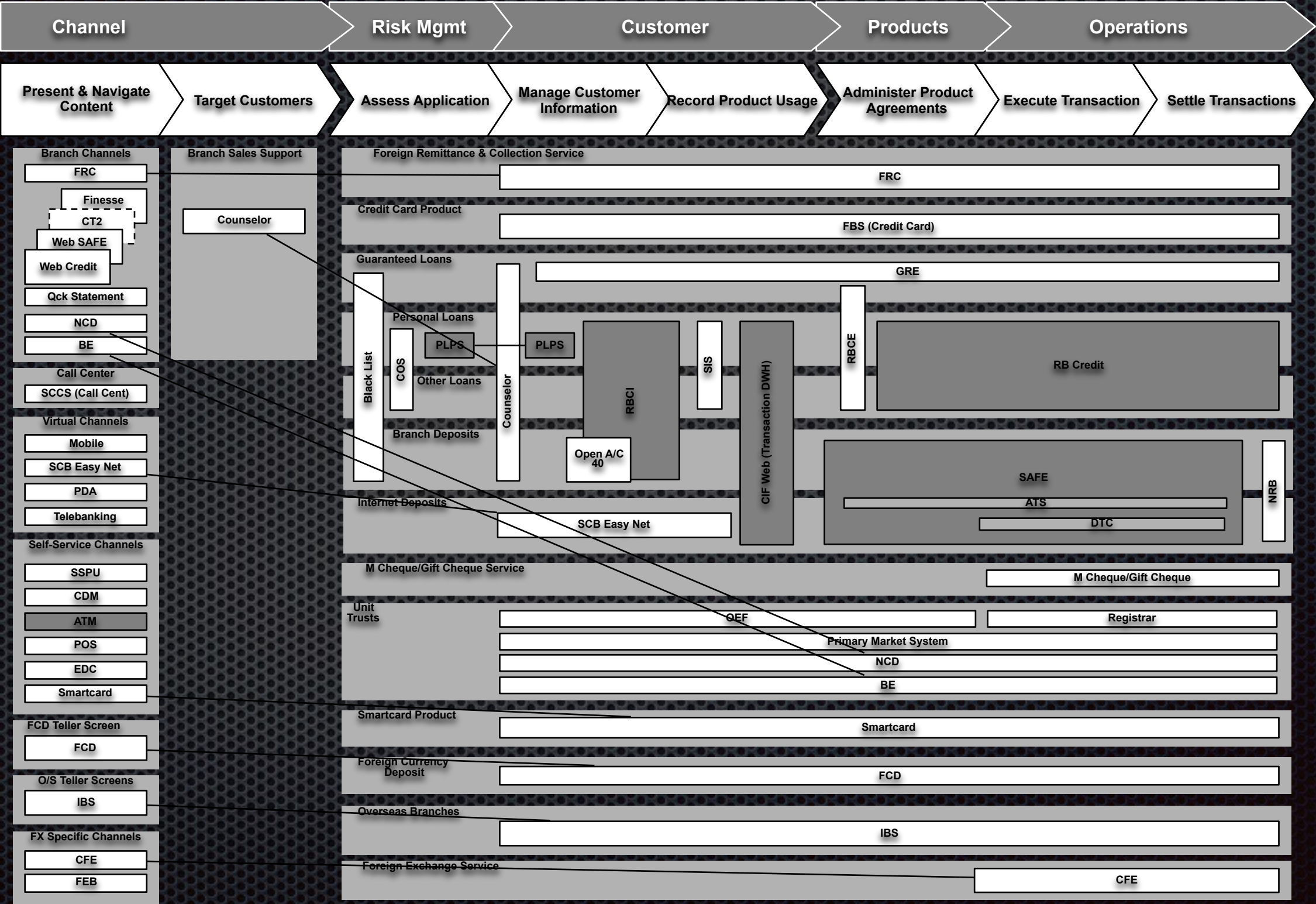
1 Month

Existing Architecture

Project Approach and Deliverable



CURRENT RETAIL APPLICATION ARCHITECTURE



Components of GAPS Analysis

- ✦ Identify Target Architecture
 - ✦ Technology Trend
 - ✦ Business Requirement
 - ✦ Current Architecture
- ✦ Design new architecture
- ✦ Identify Options (Replace (Cloud, package, build), Upgrade, outsource, share with others)
- ✦ Define migration paths

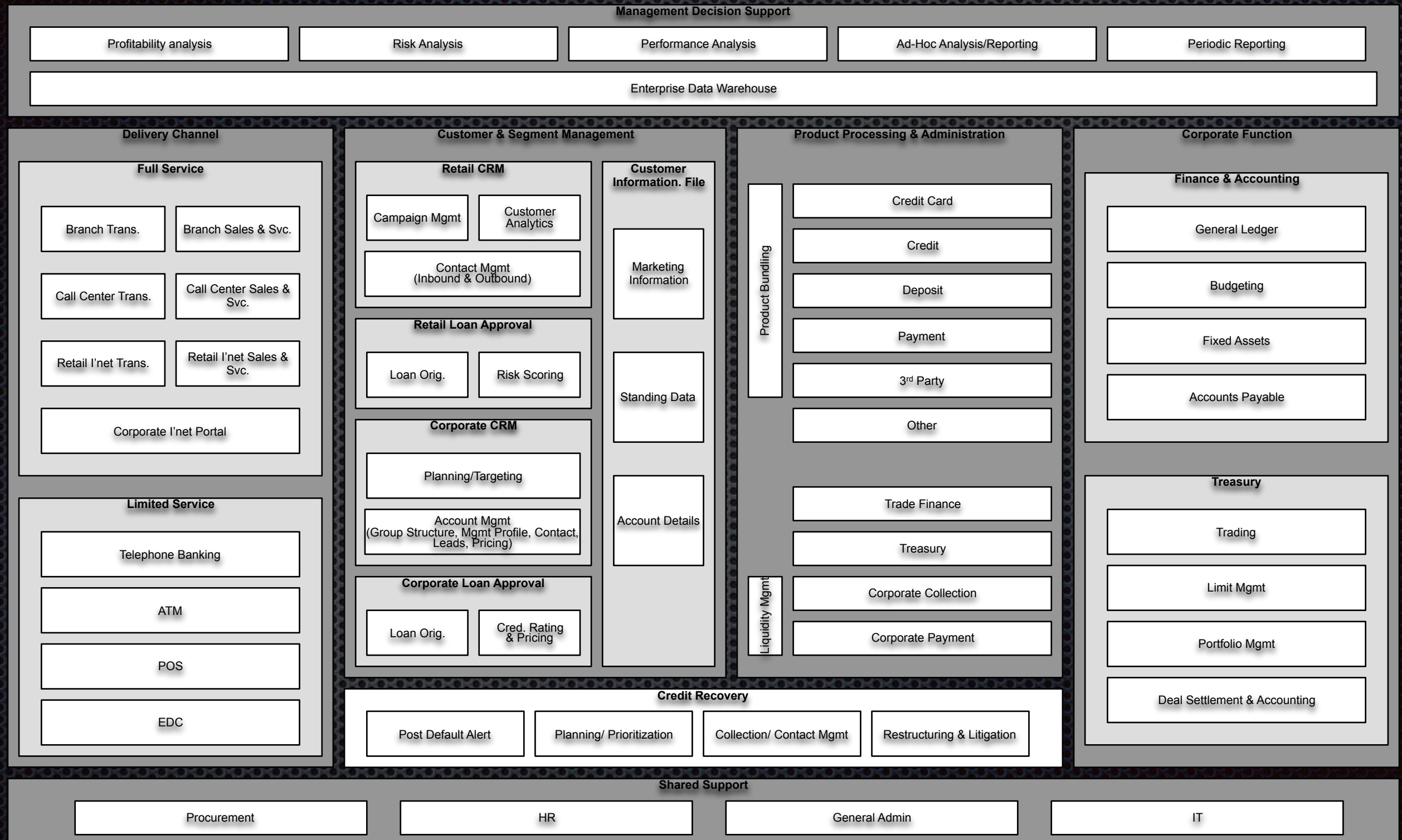
Technology Trend

GAPS Analysis Reports

Architecture

Assess gaps and Identify Options

BANK-WIDE TARGET FUNCTIONAL ARCHITECTURE



Management decision support

Profitability analysis - OFSA

Risk analysis

Sales and marketing analysis

Performance analysis

Ad-hoc analysis / report -
Cognos(?), Excel

Periodic report – DW, Excel, host
batch

Metadata repository

Enterprise data warehouse - DW

Delivery Channel

Bank Operated

Branch - Finesse

SME Center

Call Center - SCCS

Self-services

POS

ATM – ATM/Tandem

EDC

Telephone Banking - Telebanking

Retail Internet – SCB Easy Net

Corporate Internet – SCB Biz Net,
SCB Cash

Common Service Delivery

Customer & Segment Management

Retail CRM

Targeting

Campaign mgmt -
Counselor

Service request
mgmt

Lead mgmt -
Counselor

Retail Loan Approval

Process Flow -
PLPS

Credit Scoring - PLPS

Corporate CRM

Planning / targeting

Account mgmt
(lead mgmt, pricing)

Corporate Loan Approval

Process Flow - CBS

Credit Rating - CBS

Customer Information File – RB CI

Product Processing & Administration

Credit card - FBS

Saving/Deposit - SAFE

Credit/Lending – RB Credit

Payment – SIPS, EBPP, ATS

Other products – M/G-Cheque, FCD, LG, Aval,
etc.

3rd party product
(e.g. investment, insurance)

Trade finance - Eximbill

Treasury – PD, MMF, ATB, TRB

Corporate collection – ATS, BC,
Media Cl., etc.

Corporate payment – ATS, BahtNet,
SWIFT, RTGS, etc.

Product Development and Bundling Platform

Liquidity mgmt

Credit recovery

Post default alert - CLS

Planning / Prioritization -
CLS

Collection/ Contact
Management - CLS

Restructuring and
Litigation

Corporate Function

Treasury

Trading – PD, MMF

Limit Management

Portfolio Management

Deal settlement
& Accounting – ATB, TRB

Financials – FIS

General Ledger

Account Payable

Fixed Asset

Budgeting

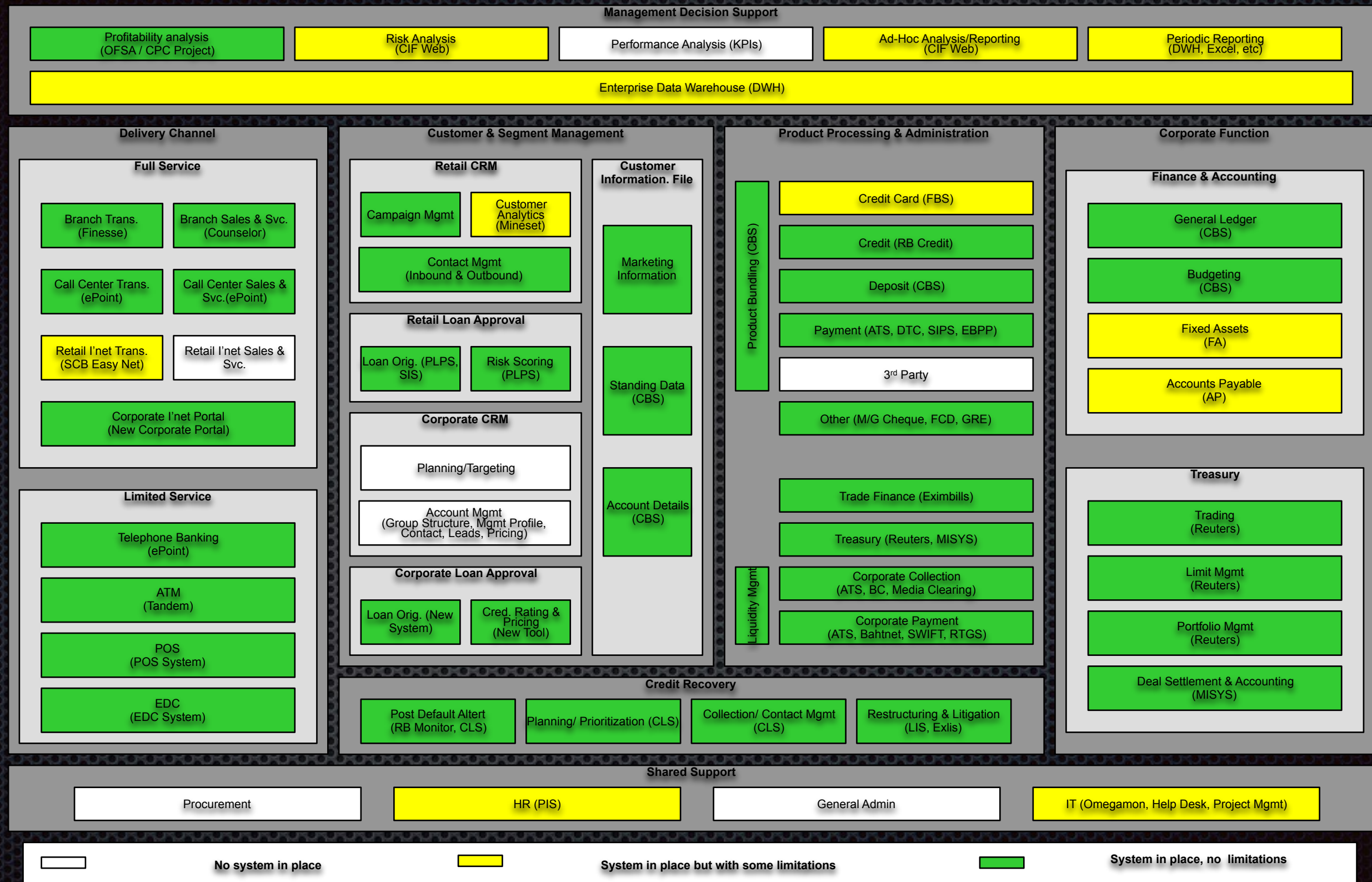
Shared support

Procurement

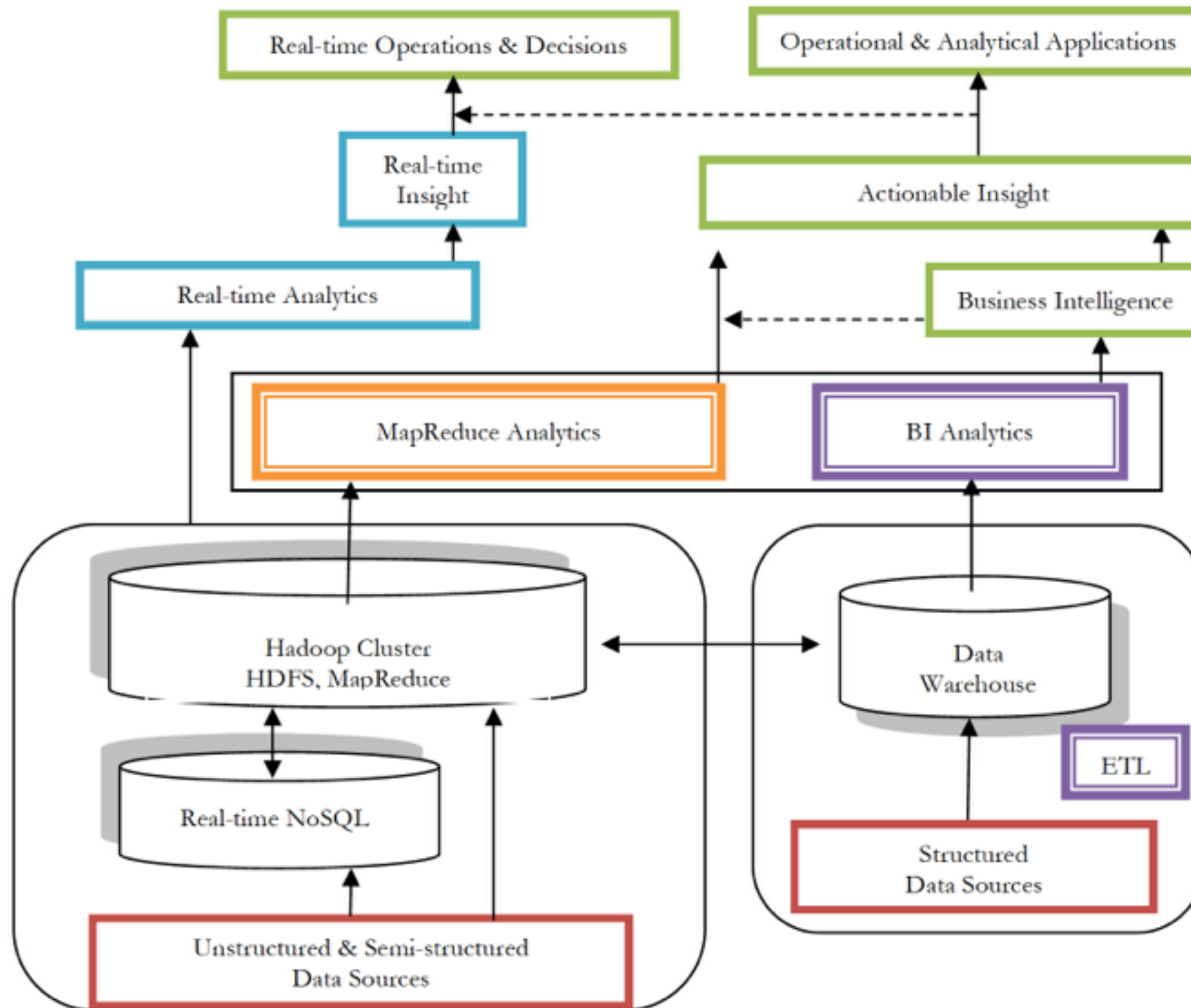
HR - PIS

General admin

IT – Omegamon, System View, etc.



Architecture for Big Data Analytics

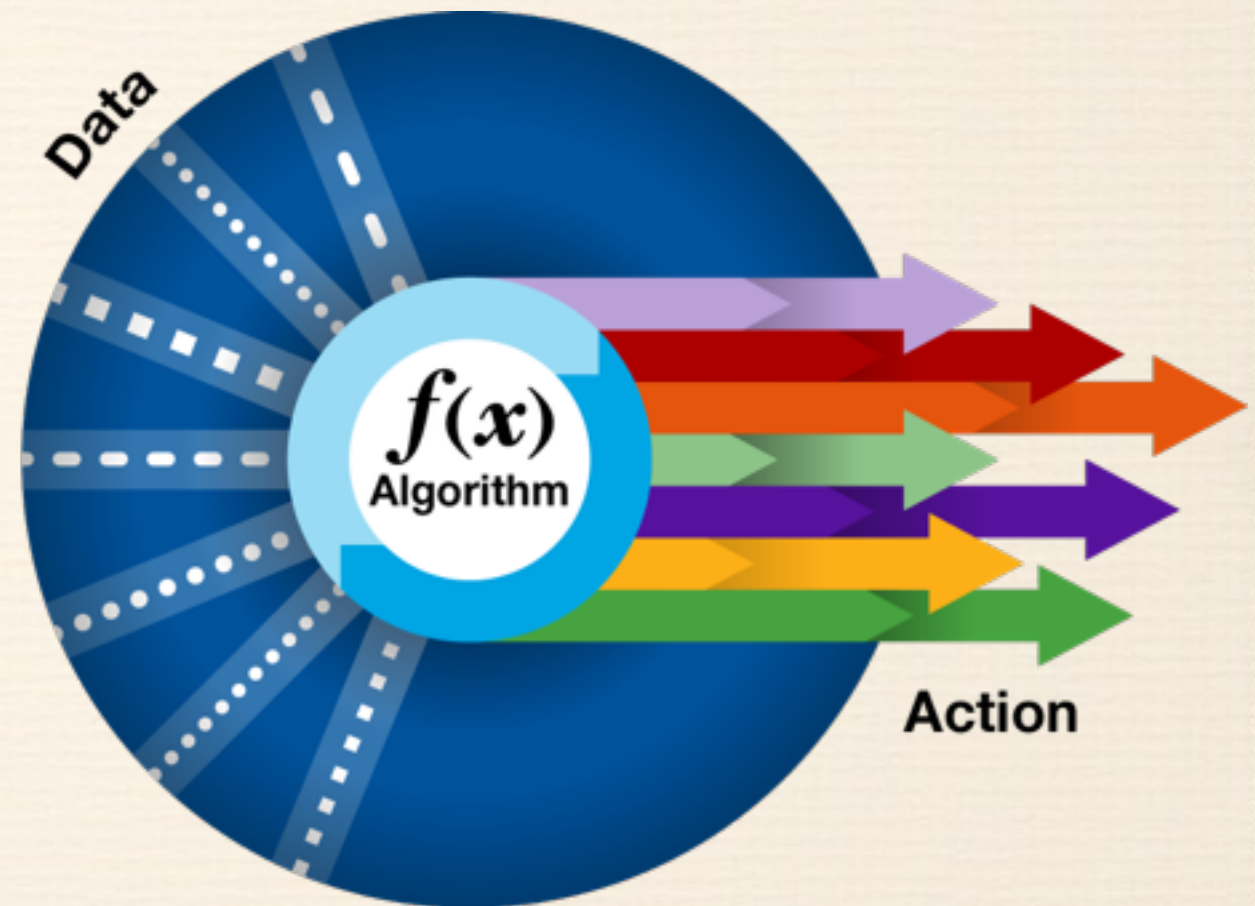


Technology Landscape

Digital Business



Algorithmic Business



Analog and Digital leaders

Analog leaders are executives who apply IT to create online versions of current business concepts, resulting in e-commerce, e-stores, e-markets, e-book, etc. Their digital transactions merely optimize existing business models that are based on aging technologies



Analog and Digital leaders

Digital leaders, in contrast, are technology-savvy executives who create new value and revenue using digital technology to build digital business that transform value, revenue and performance. The digital business goes beyond advertising and “freemium”-based business models, to transform business based on the emerging “Internet of things”



Digitalizing the Business

Enterprises are experienced in applying technology to operations, but in general they are novices in using digital technology to generate new sources of value and revenue, a process we call digitalization



Technology Trend

- Digital Mesh

1. Device Mesh
2. Ambient User Experience
3. 3D Printing Materials

- Smart Machines

4. Information of Everything
5. Advanced Machine Learning
6. Autonomous Agents & Things

- New IT Reality

7. Adaptive Security Architecture
8. Advanced Systems Architecture
9. Mesh App & Service Architecture
10. IOT Architecture & Platforms



1. Device Mesh is Dynamic and Pervasive



2. Ambient User Experience



Contextual Apps
& Services

Personalised for Each
Task and Behaviour

Across the Dynamic
Device Mesh



App Design Focus Shifts to the Mesh

- Multiple devices
- Responsive Devices
- Expanded I/O Channels
- Wireless Ubiquity
- Trusted Feeds
- Cloud Services
- Sensored Spaces
- Ensemble Flows



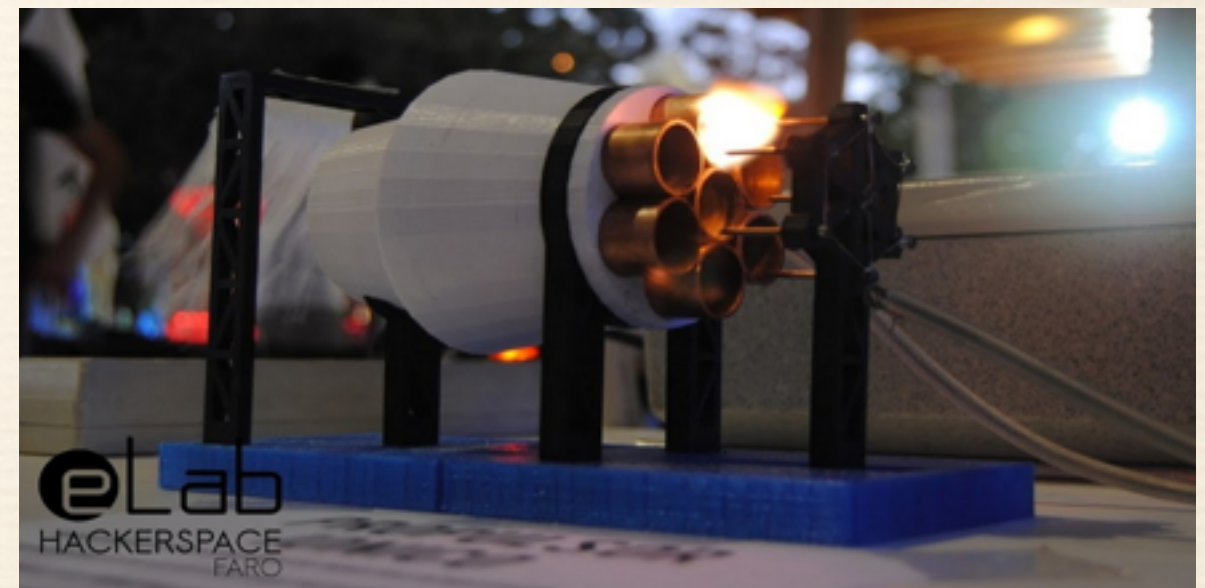
3. 3D Printing Materials

Advanced Materials Create High-Value Innovation Opportunities

- Calcium Phosphate
- Graphene
- Conductive Ink
- Advanced Nickel Alloys
- Glass
- Electronics
- Food
- Bioinks
- Pharmaceuticals
- Carbon Fiber
- Kevlar
- Fiberglass



3. 3D Printing in Aerospace



3. 3D Printing and Assembling Entire Products

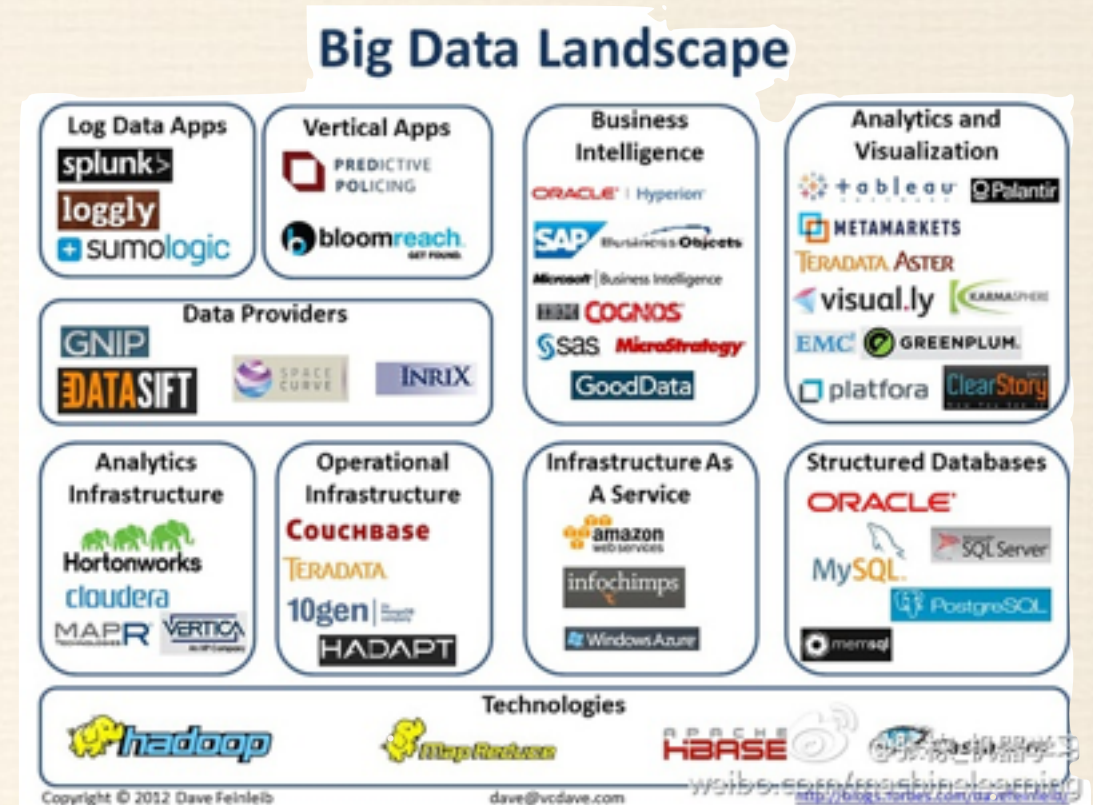


3. 3D Printing in Life Sciences



4. Information of Everything

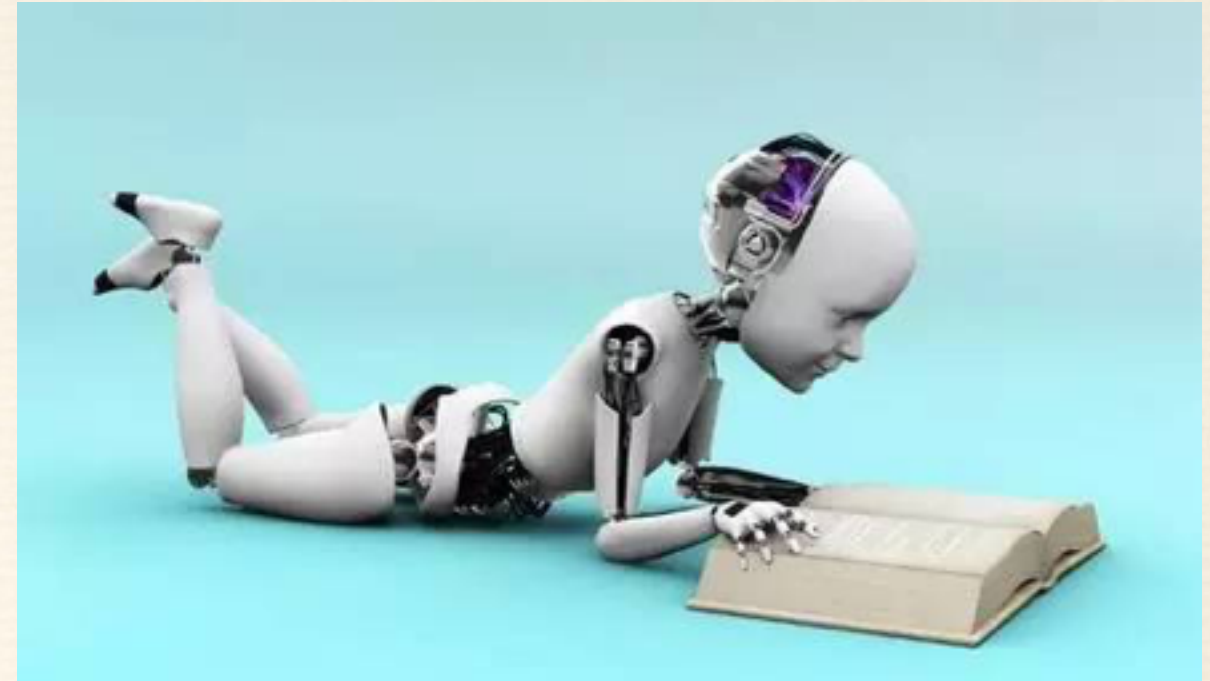
- Information is the “Life Blood” of the digital business
 - IOT 25B Things by 2020
 - Internet of People: 1.35 B Active users
- Turning Information Into Actions With Algorithms
 - Source information from across the business ecosystem
 - Consider all types of information
 - Identify the information needed for actions that matter
 - Open access via APIs and manage information risk
 - Leverage advanced analytics, ontologies and graphs
 - Prepare to feed your learning machine



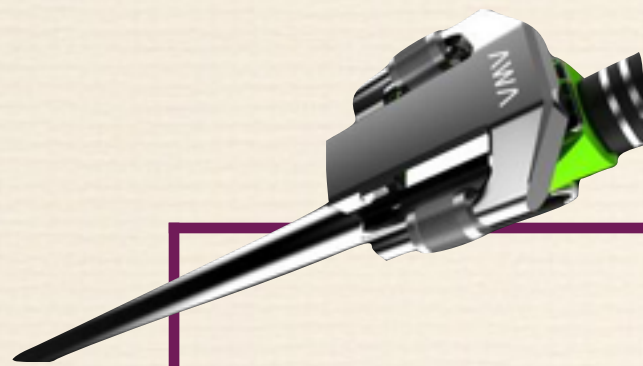
5. Advance Machine Learning

Smart Machines Enabled By Machine Learning

- Deal With Complexity
- Make Probabilistic Predictions
- Actively Adapt
- Passively Learn
- Act Autonomously
- Appear to Understand
- Reflect a Well-Scoped Purpose



6. Autonomous Agents & Things



Smart Camera Systems
Intelligent Sensors
Smart Appliances

Robots
Drones
Driverless Vehicles



Translation & Speech to Text
Smart Security & Operations
Smart Enterprise Apps

Virtual Customer Assistants
Virtual Personal Assistants
Smart Advisors



SmartAdvisor

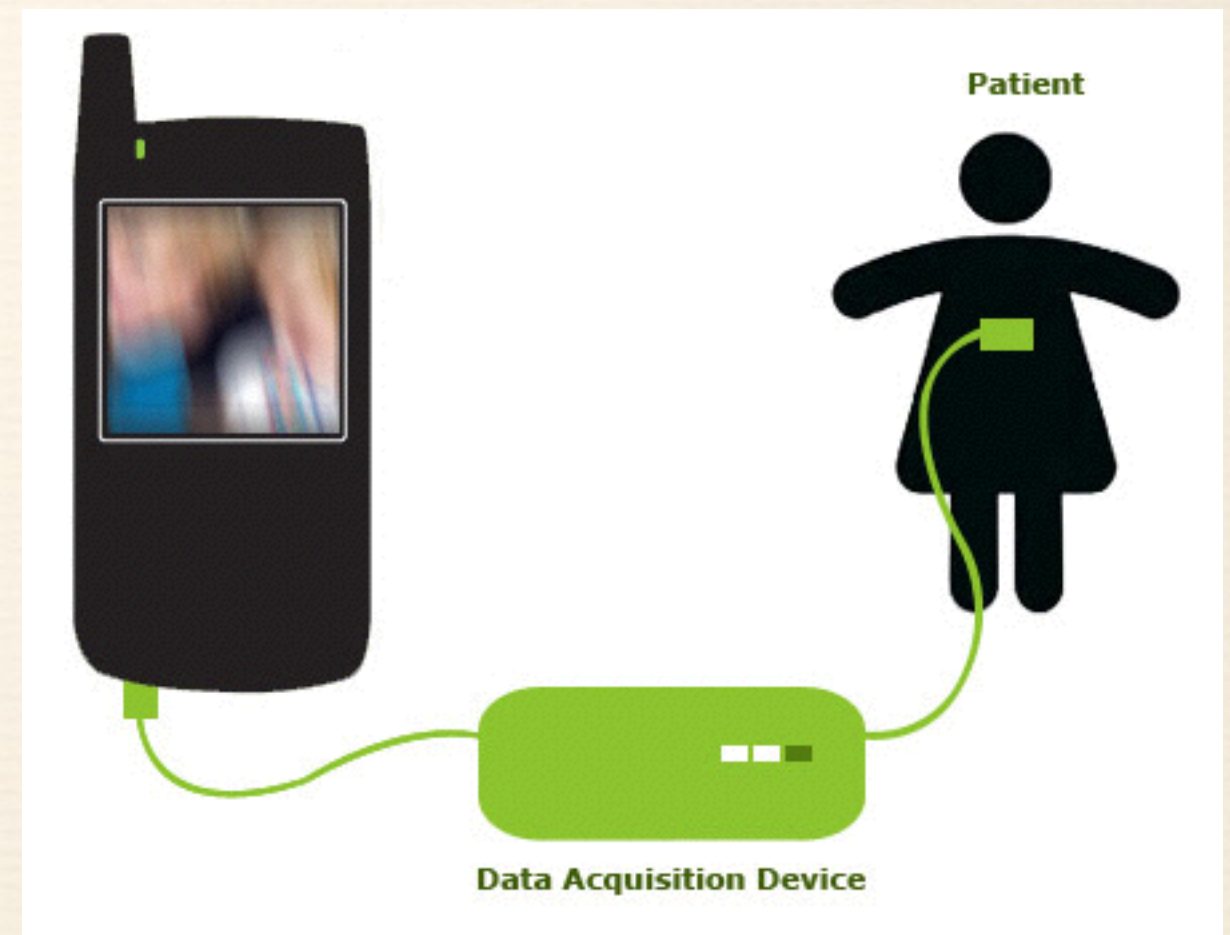
6. Pilot from Waverly Lab



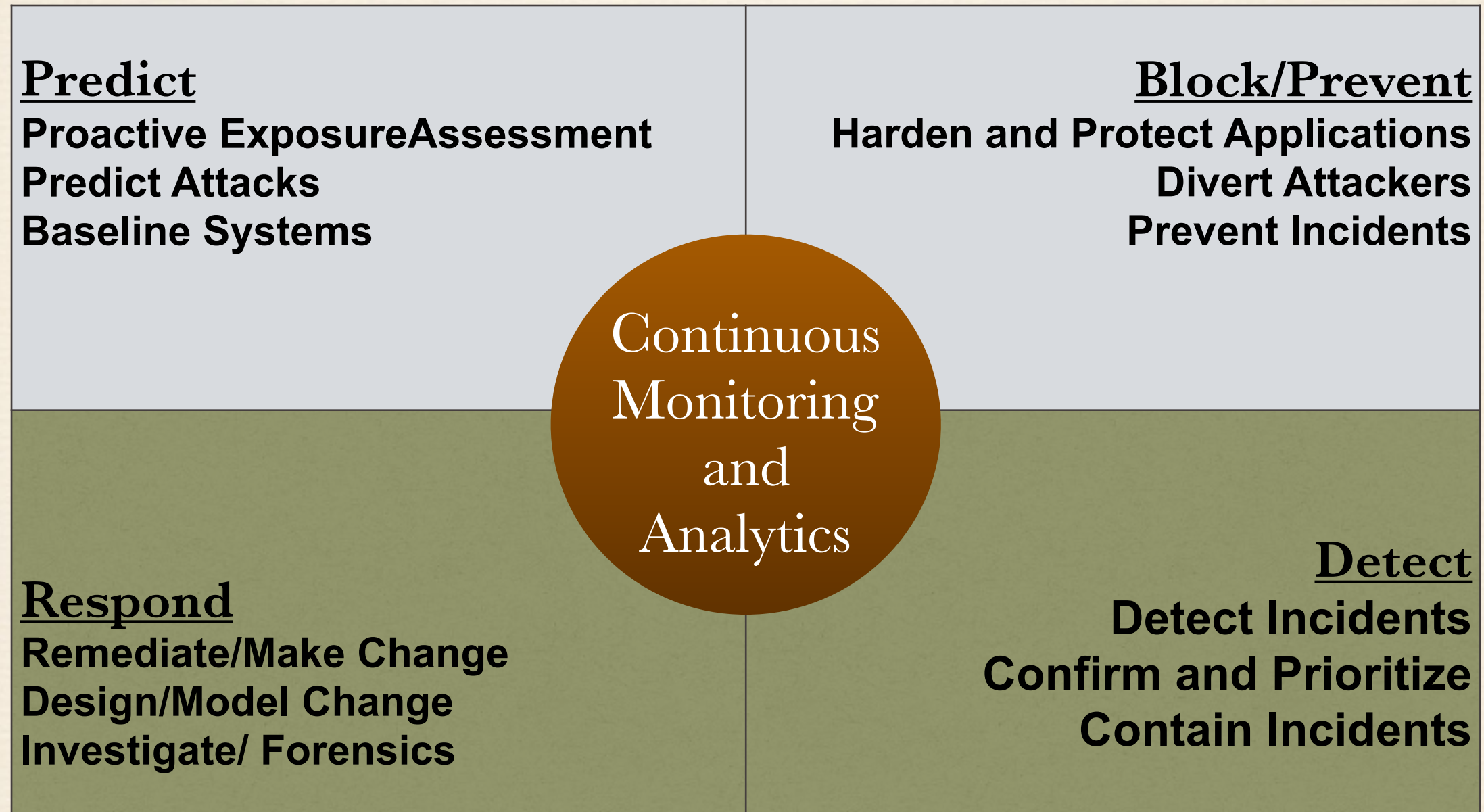
6. Autonomous Vehicles



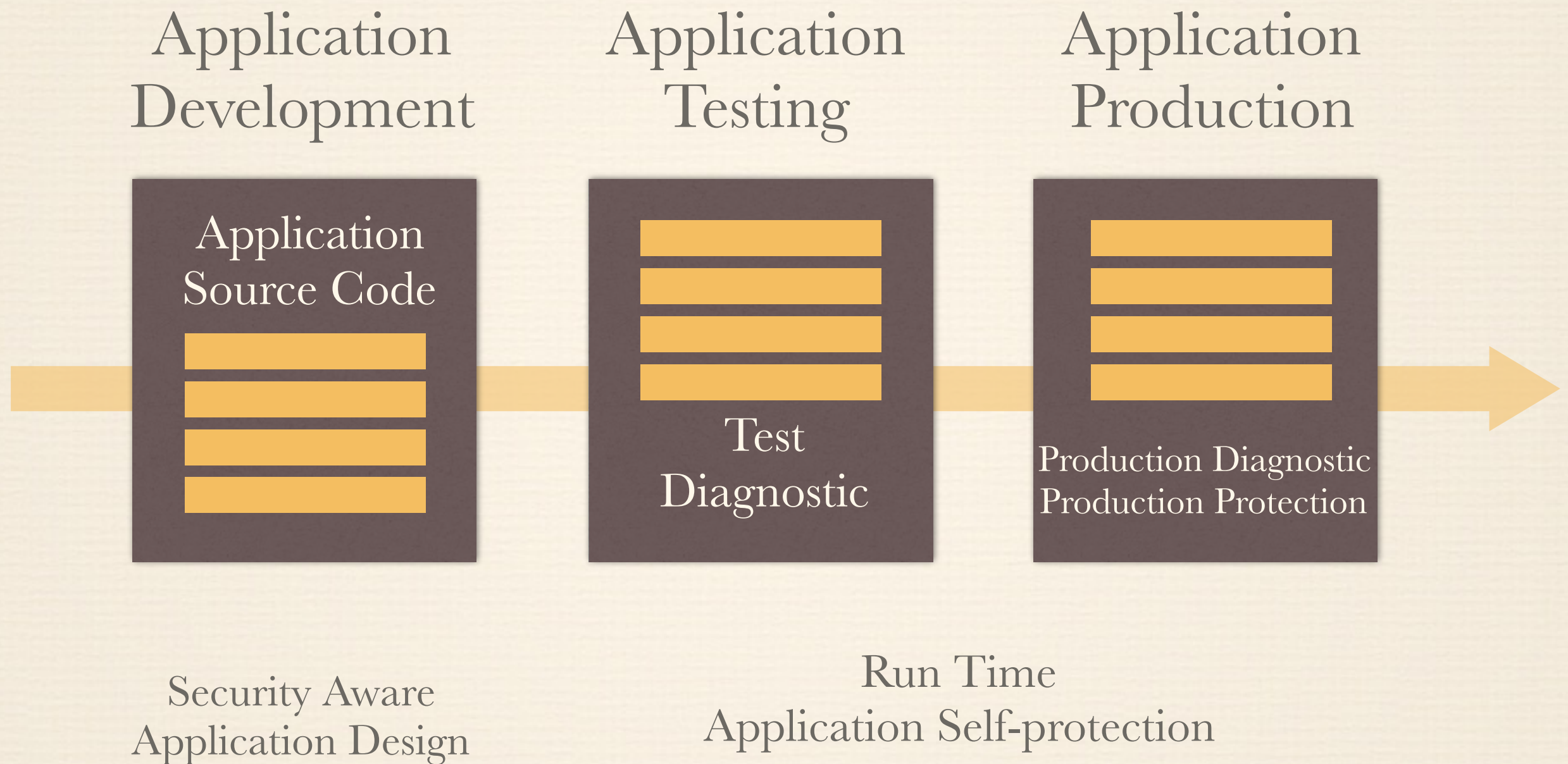
6. The Smart Autonomous and Invisible User Experience



7. The Adaptive Security Architecture

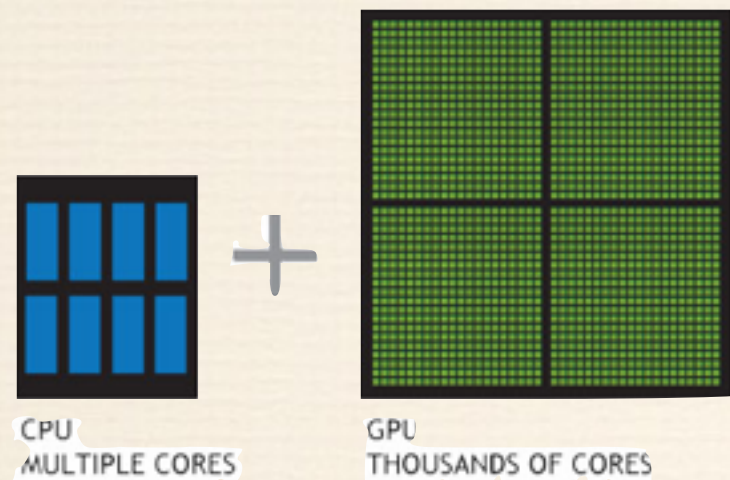


7. Enable Applications to Protect Themselves



8. Advanced Systems Architecture

GPUs Provide Scaling ... and Not Just for Graphics



Million of Connections

2007

2008

2011

2015

1

10

1,000

100,000

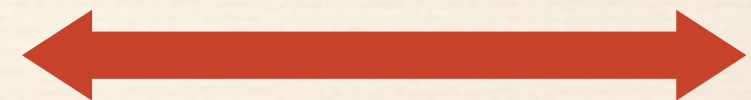
Platform

CPU

GPU

GPU

FPGA



10,000x GPU Improvement

8. Field Programmable Gate Arrays



Microsoft : Bing & Deep Learning



IBM : Watson, Netezza, Data
Power Gateway



Facebook : Facial Recognition



9. Mesh App & Service Architecture

Containers: New Target for Virtualization

- **Improved platform configuration consistency and faster image loading**
 - Increased workload density
- **Shared repository of platform stacks and code**
 - Immature runtime isolation issues
- **Container orchestration battles and ecosystem volatility**



9. Mesh App & Service Architecture

App and Service Architecture for the Digital Mesh

Cloud computing and microservices are the foundation

- Cloud is the coordination point and system of record
- User experience is delivered across a mesh of devices
- Synchronization and device shifting
- Complimentary apps and ensemble apps
- The experience flows to the user in context
- The environment is the computer



10. IoT Architecture & Platforms

IoT Platforms Face Maturity Challenges

Through 2018, there will be no dominant IoT ecosystem platform; IT leaders will still need to compose IoT solutions from multiple providers

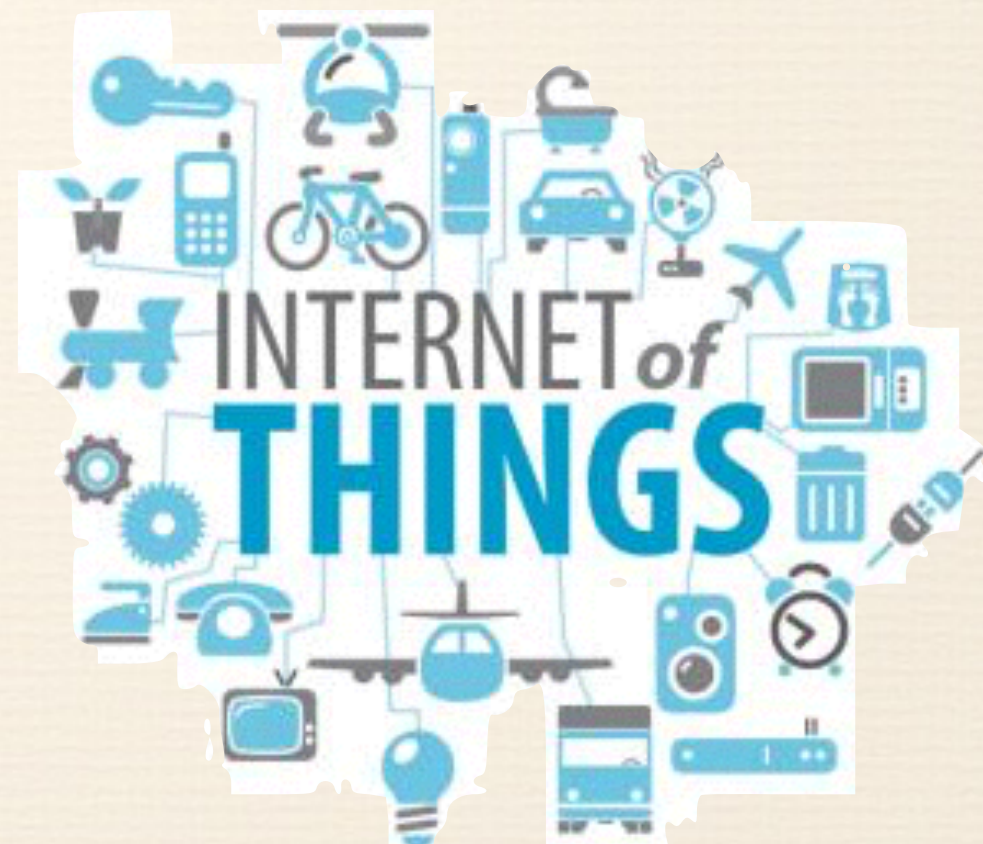
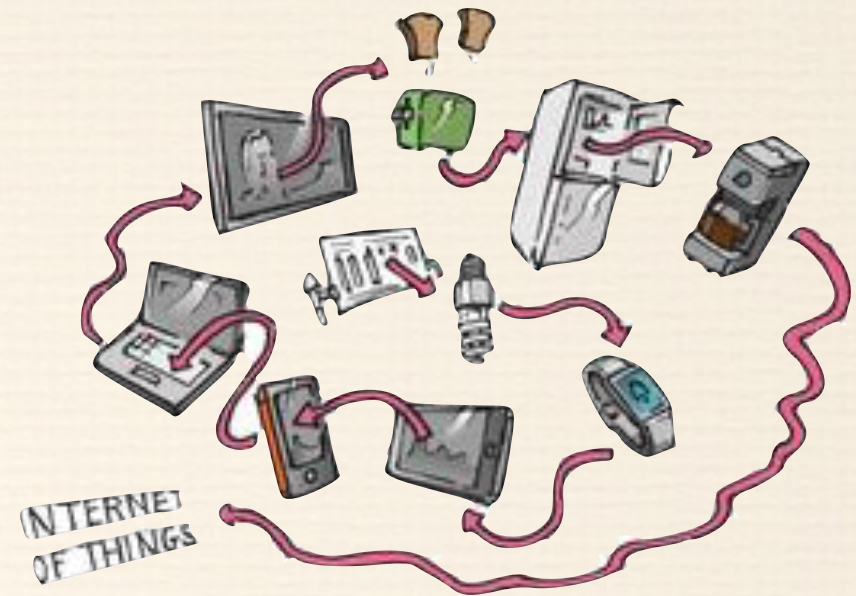
- Secure to ensure policy compliance
- Configure for specific implementations
- Augment to meet functional requirements
- Integrate into back-end systems



10. IoT Architecture & Platforms

Manage IoT Platform(s) Adoption Across the Enterprise

Plan now to minimize architectural debt!



Conclusion



- Digital technologies and new business models are driving a fundamental transformation of the entire economy, shifting demographics, rising customer expectations and changing regulations is a key of changed
- IT is one of a competitive advantage for all industry
- Analytical and big data is one of the competitive advantage for all companies to grow
- FinTech will drive innovation in Banking and payment systems

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