Enterprise Anatomy

Architecture Solutions

- Process automation
- Digital Transformation
- Cloud Solutions
- IoT Solution
- New Disruptions
2017 IT Business Software – current challenges

• New systems becoming legacy faster.
• 'Around 9 out of 10' of key projects simply do not respond to change and complexity within 4-6 months of first release
• Meaning all your time and money spent in developing software using latest and hottest technologies are lost in a sea of unanswered conversations.
• Most of the cases, software development teams are using new buzzwords that promises results by IGNORING engineering steps
• There is growing desire of decision-makers to directly interact with IT workforce to innovate, and create disruption in their market place.
• IT team lacks the necessary skill to communicate and explain how technology can bring business benefits
  – IT team is proficient in explaining DB model, messaging infrastructure, hardware and software components
  – How to link “new asynchronous messaging model” with “increased customer satisfaction”
  – They are not able to explain how does use of new asynchronous messaging model can improve background processing → reduce manual controls→ platform integration→ Claim processing → Policy processing→ Increased productivity → Increased customer satisfaction
New systems becoming legacy faster..? Where is the problem?

In 2017, after evaluating around 300 IT Projects around ICMG IT Architecture Methodology,

It’s interesting to know that

- <10% of projects had business process models,
- System requirements completeness is 40-50%,
- Logical models (Functional, Data, UI, Network, Time, Rules) is 10-20% coverage,
- Technical (Specification) Models (Functional, Data, UI, Network, Time, Rules), 10-20% coverage
- Traceability, impact analysis, are missing.
Companies are still struggling to use Architecture to address one or more of the following issues:

<table>
<thead>
<tr>
<th>Requirement Management, Traceability &amp; Impact Analysis</th>
<th>Software change management</th>
<th>SOA Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Process driven Software Engineering practices Maturity</td>
<td>Reduced Maintenance cost</td>
<td>Regular upgrade and defect management</td>
</tr>
<tr>
<td>Product roadmap and release cycle</td>
<td>Developers attrition</td>
<td>Technology obsolescence</td>
</tr>
</tbody>
</table>

Major issues:

- Technology obsolescence
- New market segments
- Quick prototyping
- Pre-sales support
• The “rationalize, standardize and simplify” IT strategy forms basis of several Banks right now.
• Creating digital facilities such as Interactive games facility, fun financial literacy, interactive financial tools are in thing.
• There is a need for centralized solutions for the components around Master Data, Financial Data, integrated with up-stream and downstream systems across Finance, Regulatory, Risk, Data Integration, Ops & Fund Accounting, Financial Control, Corporate Finance
• Growing interest to reach out to new customers
• Significantly shortens the time-to-market to add new business
In 2017, we looked at the IT Architecture of some of the projects of leading BFSI institutions:

<table>
<thead>
<tr>
<th>PT. Bank DBS Indonesia</th>
<th>TAL Australia</th>
<th>Australia, APAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maybank, Malaysia</td>
<td>ANZ Indonesia</td>
<td>USA</td>
</tr>
<tr>
<td>Credit Suisse USA</td>
<td>S&amp;P Capital IQ, USA</td>
<td>EMEA</td>
</tr>
<tr>
<td>Nationwide, USA</td>
<td>Credit Suisse</td>
<td>India</td>
</tr>
<tr>
<td></td>
<td>Switzerland</td>
<td></td>
</tr>
<tr>
<td>Nedbank, South Africa</td>
<td>ICICI Bank Ltd, India</td>
<td></td>
</tr>
<tr>
<td>ING Bank Belgium</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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BFSI Enterprises and their IT initiatives that is making a difference...

- Infrastructure Rejuvenation
- Mobile Banking
- Comprehensive Capital Analysis & Review (CCAR) requirements
- Debt processing function
  - Virtual Database Platform Initiative
  - SOA Implementation
  - Centralized repository
  - CAPS - Collection Activities Processing System
- Digital Interactive Facilities
- Private Banking (PB) Risk systems
- Risk Design Authority (Risk DA)'
- Application Simplification
  - moves from 220 to 60 core systems
BFSI Enterprises and their business goals that is making a difference:

- Support the future growth of banking business
- Orientation to digitize the banking service for customers.
- Deliver Customer Excellence
- Promotion based on merchant category
- Real time interbank fund transfer and some unique credit card features
- Integrating Private Banking & Wealth Management services
- Reduce the amount of time it takes to gather information, understand, strategize, & create technology changes.
- Reduce the amount of time and domain experts required for impact assessment
- Reduction in project costs, better insight into scope of proposed changes
BFSI Enterprises and their business goals that is making a difference...

- New functionality can be delivered quickly and with fewer resources
- Brought down maintenance costs
- Significant improvement in productivity
- Bank able to respond with agility to market pressure and client demand
- Increase in Business volumes
- Improving banking penetration in rural area
- Better debt servicing touch points
- Increased operational efficiency
- Best product to be offered to customer with the high accuracy level
Multiple projects, multiple banks

- Infrastructure Rejuvenation
- Mobile Banking
- Comprehensive Capital Analysis & Review (CCAR) requirements
- Debt processing function

- Digital Interactive Facilities
  - Private Banking (PB) Risk systems
- Risk Design Authority (Risk DA)
- Application Simplification
  - Moves from 220 to 60 core systems

- Virtual Database Platform Initiative
  - SOA Implementation
  - A centralized repository
- CAPS - Collection Activities Processing System

Projects:
- Project 1
- Project 2
- Project 3
- Project 4
- Project 5
- Project 6
- Project 7
- Project 8
- Project 9
- Project 10
- Project 11
- Project 12

Banks:
- Bank 1
- Bank 2
- Bank 3
- Bank 4
- Bank 5
- Bank 6
- Bank 7
- Bank 8
- Bank 9
- Bank 10
- Bank 11
- Bank 12
- Bank 13
- Bank 14
- Bank 15
Imagine all the projects for a single bank, (parallel projects, often projects are done in isolation)

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Virtual Database Platform Initiative
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Imagine all the issues for a single bank, the solution is multiple projects (parallel projects, often projects are done in isolation).

- Infrastructure Rejuvenation
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**Digital Interactive Facilities**
- Private Banking (PB) Risk systems
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**Application Simplification** moves from 220 to 60 core systems

**Virtual Database Platform Initiative**
- SOA Implementation
- a centralized repository
- CAPS - Collection Activities Processing System

**Assumption:** absence of a single, common IT anatomy or Enterprise Anatomy

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Assumption: absence of a common IT anatomy or Enterprise Anatomy

Reality: presence of a common IT anatomy, Enterprise Anatomy
Reality: presence of a common IT anatomy, Enterprise Anatomy
ICMG Enterprise Anatomy – a definite way to address multiple solutions

Infrastructure Rejuvenation

Mobile Banking

Comprehensive Capital Analysis & Review (CCAR) requirements

Debt processing function

Digital Interactive Facilities

Private Banking (PB) Risk systems

Risk Design Authority

Application Simplification moves from 220 to 60 core systems

Virtual Database Platform Initiative: SOA Implementation

a centralized repository

Collection Activities Processing System
How it works?

Anatomy Driven Solution
Case I – Review the architecture of SOA Implementation

Current Architecture Focus

: SOA Implementation

Architecture Model (Diagrams)
Case I – Review the architecture of SOA
Implementation: sample artifacts, diagrams

Current Architecture Focus

SOA Implementation

Architecture Models (Diagrams)

System requirements
- Some use cases
- Process models,
- Data models,
- UI models,
- Component model
- Service descriptions
- Code implementation
Case I – Review the architecture of SOA
Implementation: gap analysis

Current models

System requirements
Some use cases
Process models, Data models,
UI models,
Component model
Service descriptions
Code implementation

Models which are typically created in a project

Only a limited set of models are created,
very small set of anatomy model
Case I – SOA Implementation: Transformation to Enterprise Anatomy Model

Current Architecture Focus

: SOA Implementation

New Focus: Enterprise Anatomy Driven Solution

: SOA Implementation

Architecture Model
New Architecture Focus
Elements based on variables and perspective

<table>
<thead>
<tr>
<th>The Zachman Framework</th>
<th>DATA (What)</th>
<th>FUNCTION (How)</th>
<th>NETWORK (Where)</th>
<th>PEOPLE (Who)</th>
<th>TIME (When)</th>
<th>MOTIVATION (Motivation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCOPE (Contextual)</td>
<td>+Inventory Identification</td>
<td>+Process Identification</td>
<td>+Distribution Identification</td>
<td>+Responsibility Identification</td>
<td>+Timing Identification</td>
<td>+Motivation Identification</td>
</tr>
<tr>
<td>Planner</td>
<td>+Customer</td>
<td>+Business Products1 + Service1 + EquipmentAsset1 + Asset + Business Entities</td>
<td>+Customer</td>
<td>+Process + Process2 + Process3 + Process4 + Process5 + Business UseCase Model</td>
<td>+BOD + External Organization + Organization Unit + SupplierLocation1 + BranchOffice1 + BranchOffice2 + Customer</td>
<td>+Mission1 + Goal1 + Goal4 + Goal12 + Goal19</td>
</tr>
<tr>
<td>(from Executive Perspective)</td>
<td>(from Executive Perspective)</td>
<td>(from Executive Perspective)</td>
<td>(from Executive Perspective)</td>
<td>(from Executive Perspective)</td>
<td>(from Executive Perspective)</td>
<td>(from Executive Perspective)</td>
</tr>
<tr>
<td>BUSINESS MODEL (Conceptual)</td>
<td>+Inventory Definition</td>
<td>+Process Definition</td>
<td>+Distribution Definition</td>
<td>+Responsibility Definition</td>
<td>+Timing Definition</td>
<td>+Motivation Definition</td>
</tr>
<tr>
<td>Docker</td>
<td>+IntersectingEntity1 + IntersectingEntity2 + PrincipalEntity1 + PrincipalEntity2 + PrincipalEntity3</td>
<td>+Activity1 + Activity2 + Activity3</td>
<td>+Customer Network + Delivery Network + Employee Network + Office Network + Service Network + Supplier Network</td>
<td>+Department1 + Department2 + Customer roles + customer</td>
<td>+BusinessCycle1 + BusinessEvent1 + BusinessEvent2 + BusinessEvent3</td>
<td></td>
</tr>
<tr>
<td>SYSTEM MODEL (Logical)</td>
<td>+Inventory Representation</td>
<td>+Distribution Representation</td>
<td>+Responsibility Representation</td>
<td>+Timing Representation</td>
<td>+Motivation Representation</td>
<td></td>
</tr>
<tr>
<td>Designer</td>
<td>+Table1 + Table2</td>
<td>+Elements + NetworkElements + ApplicationServers + HTTPServers + LANComponents + LoadBalancers</td>
<td>+Role1 + Role2 + UseCaseModel + responsibility1 + responsibility2 + responsibility3</td>
<td>+TimeLine1 + TimeLine2</td>
<td>+Business Rules + Requirements Model + BusinessRule2 + RED005 - System easily extendable + Rule1</td>
<td></td>
</tr>
<tr>
<td>(from System Perspective)</td>
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</tr>
<tr>
<td>Builder</td>
<td>+Table1 + Table2 + DDL</td>
<td>+Component1 + Component2 + Class libraries + Component View</td>
<td>+NetworkInfrastructure + networkaccess + networkProtocols + device + processor1</td>
<td>+Object1 + State1 + State2 + State3</td>
<td>+FormalRule1 + FormalRule2</td>
<td></td>
</tr>
<tr>
<td>(from Technology Perspective)</td>
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Case I – SOA Implementation: How to migrate and transform?

Current Architecture Focus

: SOA Implementation

- System requirements
- Some use cases
- Process models, Data models, UI models, Component model
- Service descriptions
- Code implementation

New Architecture Focus
We apply anatomy driven methodology to create elements and composites

Current Architecture Models

System requirements
Some use cases
Process models,
Data models,
UI models,
Component model
Service descriptions
Code implementation