

IT Modernization Case Studies -- If This Were YOUR Project, What Would You Do?

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Abstract

- Every transformation project is unique, starting from the business or technical justification all the way to the implementation details. Sometimes the outcome is not quite what you expected! In this session, we'll take an in-depth look at two completely different SOA / SaaS proposals, analyze the nuances that drove decisions, and then discuss the resulting implementations. The first project involves an SMB looking to grow its web business, but struggling with a crippled back office process. The second project involves modernizing one single process embedded in a massive CICS program. Compare your personal perspective and professional recommendations against the final results – do you agree with what they did, and can you guess the outcomes?

Agenda

- Two very different IT transformations
 - Examine the business case through the first phase
 - Based on my experiences as a business development executive for an IBM SOA innovation team
- Review, from my perspective
 - Executive decision process
 - Technical features and Business influences
 - Cultural dynamics
 - Success / Failure factors
 - Progress, outcomes and Lessons learned
- *Not a discussion of SOA concepts nor BPM technology nor value propositions nor products nor governance...*

IT Modernization

My job? Make the project successful...

- Thoroughly understand organization's strength and weakness
 - Budget allocations/process, territorial disputes, job roles, departmental boundaries, NIH mentality, DIY hazards
 - Corporate attention span is short
 - Disruptive technologies can derail long term projects
- Risk and Reward are important to the executives
 - Define *Success* early in their terms
 - Know who will win, who will lose and how are they motivated
- Look forward, look backward, absorb the whole picture
 - Talk to technical staff and less-obvious stakeholders

Personal Check List for Risk

- ✓ What is the Catalyst driving the project?
- ✓ Who owns the funding and how wide is sponsor's realm?
- ✓ Can this be successful? Is this a good idea or not?
- ✓ Is it possible to declare success quickly?
- ✓ Are there sufficient technical and business skills?
- ✓ If they attempt this, what are the odds of success?
- ✓ Will the sponsor still be employed after the 1st phase?
- ✓ Is the infrastructure or tooling multi-vendor?
- ✓ Strong Line of Business (LoB) involvement?

Example: SOA Trigger & Measurement

▶ Business Challenges

- Short term: Improve brand loyalty by making it easy to do business
- Long term: Reduce time to market with new products and services to leap-frog the competition

▶ **Solution:** Deliver multiple Service-oriented Business Solutions to enable Straight-through-processing. Enable via Web and Agency Management systems with self-service tools for Agents

▶ **Results:** Achieved multi-fold increase in quote volumes and rolled out to 32 states in 7 months with a 52% reuse of business services from billing inquiry

Beyond the Marketing and Benefits

- Early projects bear a huge burden
 - Design and architecture
 - Tooling of life cycle
 - Training and roles
 - Policies and governance
- Subsequent projects benefit from this foundation, reuse of services and architecture, Cloud, and so on
- *Benefits such as Agility, time to market, blah blah blah*
 - *but... it'll take 5 years, and the budget is what ???*

Using SOA for IT Transformation

www.douglasbachelor.com/douglasbachelor2/?p=294

- “Businesses are overwhelmed with large legacy application portfolios, batch feeds, middleware, and spaghetti architectures. Total cost of ownership is escalating. Businesses are battling complicated portfolios, high maintenance costs, insufficient staffing, and struggling development methodologies.”
- “By leveraging Service-Oriented Architecture (SOA) principles in an incremental and migration-transformation approach, these challenges can be overcome and with a very high success rate. Many businesses are fearful of SOA transformations and rightly so. Failure is a risk if an entire transformation is done all at once. An incremental approach that combines integration to existing systems is low risk and highly effective solution.”

SOA's deadly dozen

- “The common mistakes in adopting a service-oriented architecture (SOA) are now well understood and, with a little effort, can be avoided.”
- “Ignoring (and therefore repeating) such mistakes can derail the entire effort you put into introducing SOA and lose you the benefits. Listed here are the 12 most common mistakes Gartner has observed in SOA implementations.”

Massimo Pezzini

www.computing.co.uk/computing/analysis/2203880/soa-deadly-dozen-3648889



Financial Service Provider *IT Modernization*



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Financial Service Provider

Business aspects

- \$8M revenue, 300+ employees, privately owned
 - Tens of thousands of Mom & Pop storefronts
 - Product is a fat desktop client
 - Handful of corporate customers
 - Sales model relies on heavy customer touch
 - Contracts customized to each customer
 - Growth targeted to growing partnerships, corporate add-ons
- Poor uptake of standards Industry-wide
 - Standards adoption can streamline data movement
 - Eye on Cloud as future direction

Financial Service Provider

Technical Aspects

- IT grew organically, relying on point to point integration and gurus
 - Central Inventory system made to perform unnatural acts
 - No customer intelligence for Sales team
 - Billing and revenue stream incomprehensible
- Inefficiencies frustrated every facet of the company

- Where to start? Business process issues abound
 - Front office stagnation / Back office workflow
 - Pragmatic problems / Strategic actions
- Oddly enough, no data problems since so little was available
 - Never propagated nor mutated

Financial Service Provider

Cultural aspects

- Start-up run by college friends, including former IBMers
- Technical expertise was .net centric
- Sponsor is a very sharp CTO

- First attempt to architect IT for the business
 - Started with Business Pilot workshop over 3 days
 - Deep dive into Business Operations
 - Modeled and simulated the back office process
 - Created architecture guidelines and business recommendations

Tell me your Modernization Objectives

- CTO *“Increase departmental productivity, boost overall efficiencies, and simplify our processes”*
- Consistency, repeatability, scalability
 - Focus on right things, not just easy or well understood factors
 - Document and leverage for SOX compliance
 - Move beyond organically growing current sales and operations models
 - Complex business rules and sale variations cause downstream problems
- Efficiency
 - Refocus high value people
 - Reduce learning curve; less expensive resources
 - Management by exception
- Agility
 - Virtualize business models to be independent of the underlying technology
 - Future proof infrastructure to support agility plus NFRs
 - Allow change without breaking what works or forcing endless internal collaboration
 - Address and enable agility and innovation

Interview Feedback

- What you said
- What we heard
- What we didn't hear
- Undercurrents



Look at People, Process and Technology

- Common themes
 - Universal understanding of business information
 - Focused on Process definition
 - Automate to provide consistency and repeatability
 - Streamline operations
 - Tribal knowledge and lore
- Business people
 - Increase revenue and scale the business up
 - Growth not matched by back office capabilities
 - Lack of streamlining and rules close to the decision point
 - Point applications aren't robust or scalable
 - Provide business intelligence
- Technology people
 - Reduce fragile application dependencies
 - Resolve data inaccessibility

Common Requests from Business

- Business intelligence based on customer, invoicing, behavior, etc.
- One version of the truth
 - Define your customer?
 - Define customer satisfaction?
 - How well is the business doing?
- What happens if your orders double next month?
 - So we ran a simulation...



Common themes from Technologists

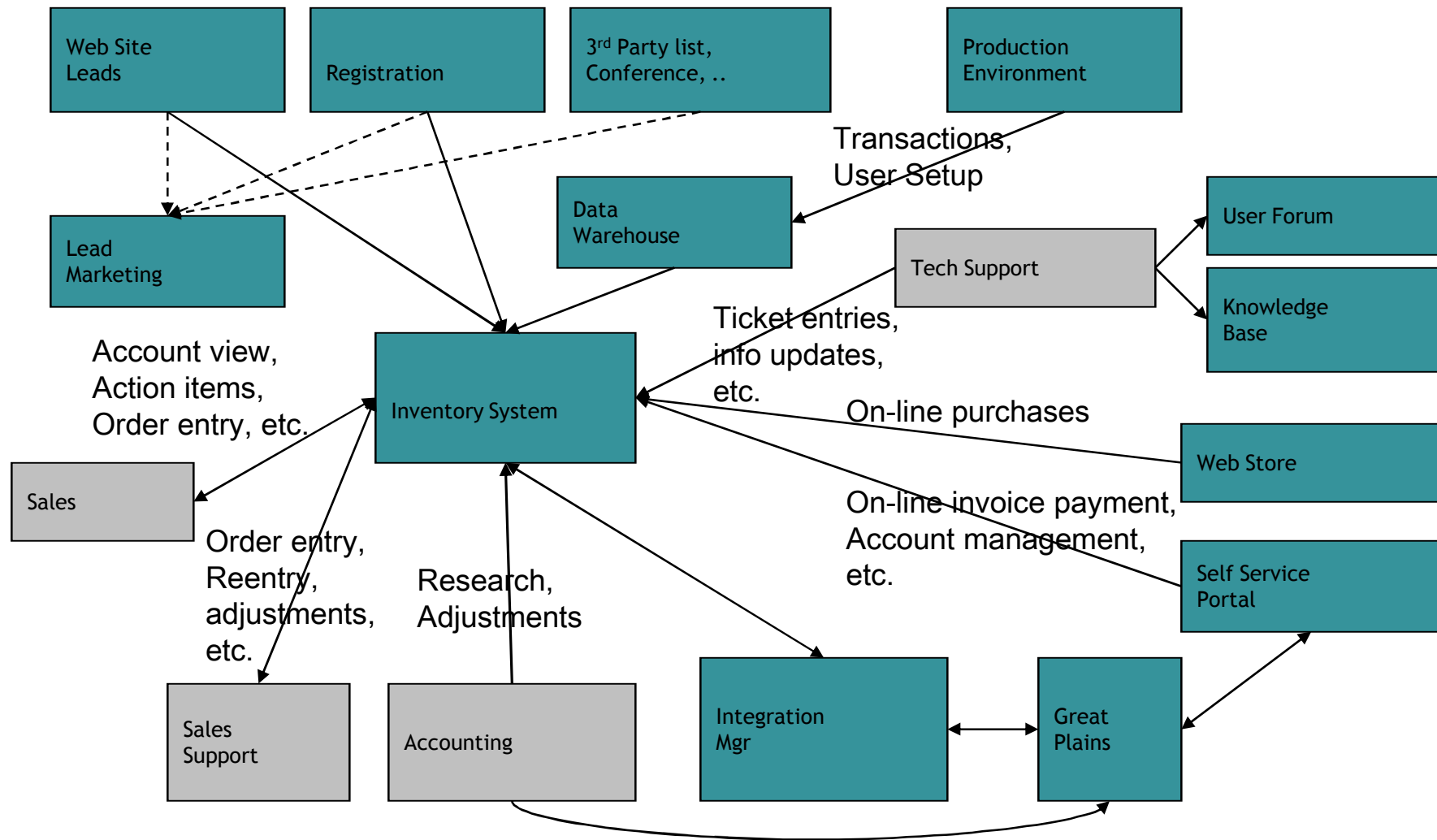
- One version of the truth
 - Data exists
 - High touch to generate reports
- Tribal knowledge
- Point to point application integration is fragile
- High touch for Sales Operations
 - Every order is manually verified several times
- Fix the symptom or fix the problem?

What we didn't hear

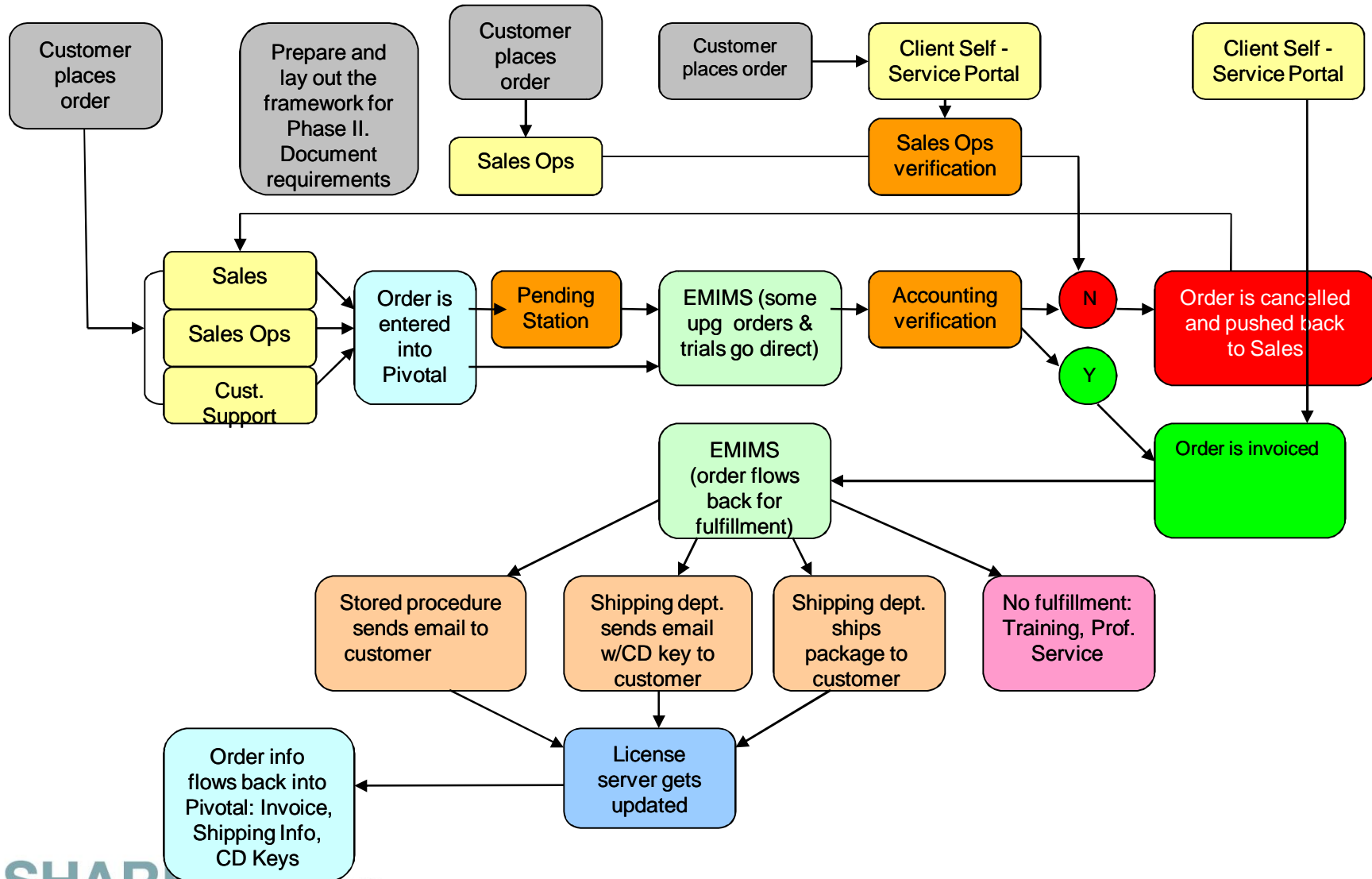
- Think beyond current pain points
 - New sales processes and entry points
 - Enable a new strategy
- Capture the market
 - Where is your innovation strategy?
 - Think about business reengineering
- Metrics that tell you where to focus
 - Baseline info on process, people and technology
 - Measure Business benefit
 - Measure back office optimization
 - Understand and prioritize improvements, measure the success



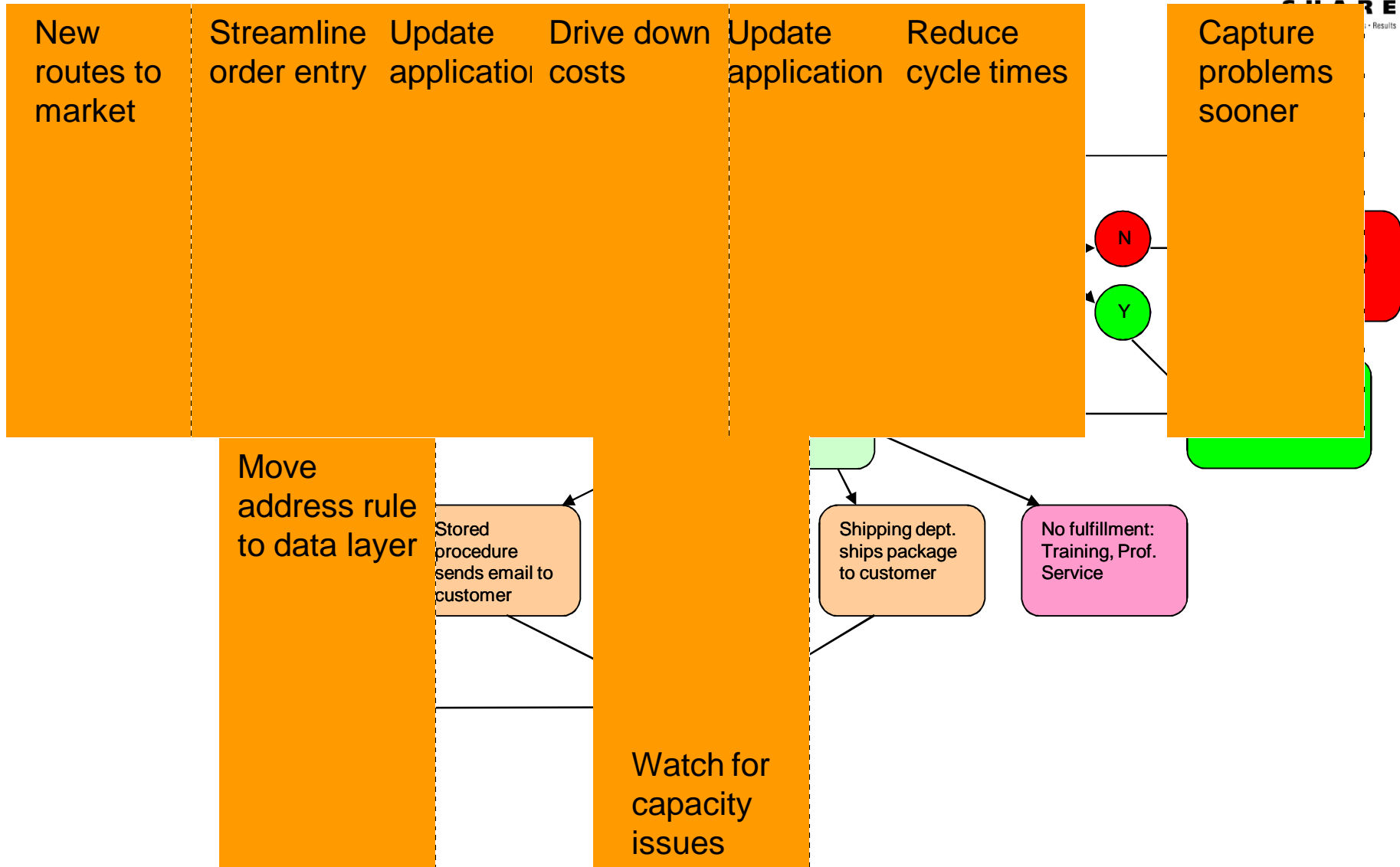
Today's Back Office view



Modeled view of Process

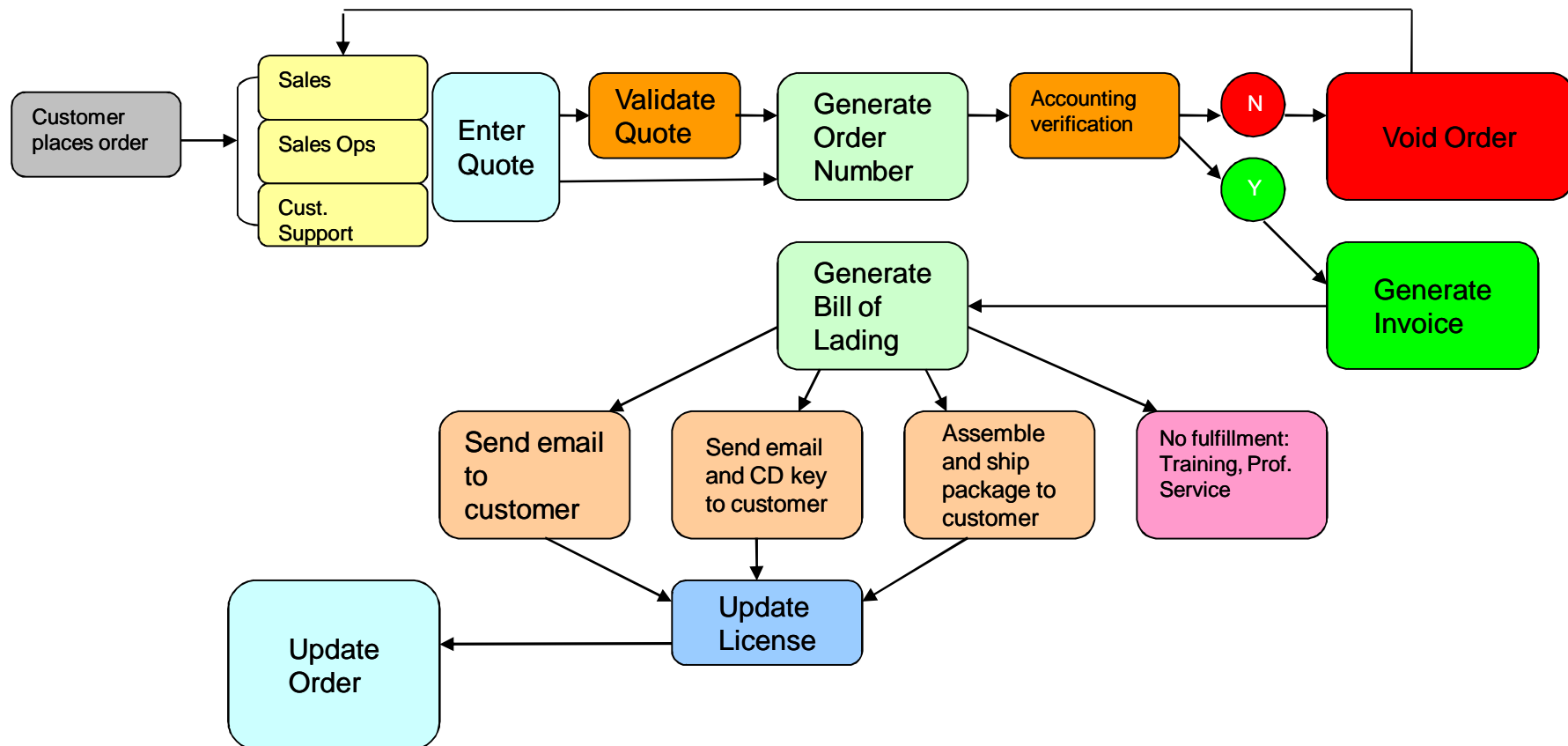


Apply the Business to the Model



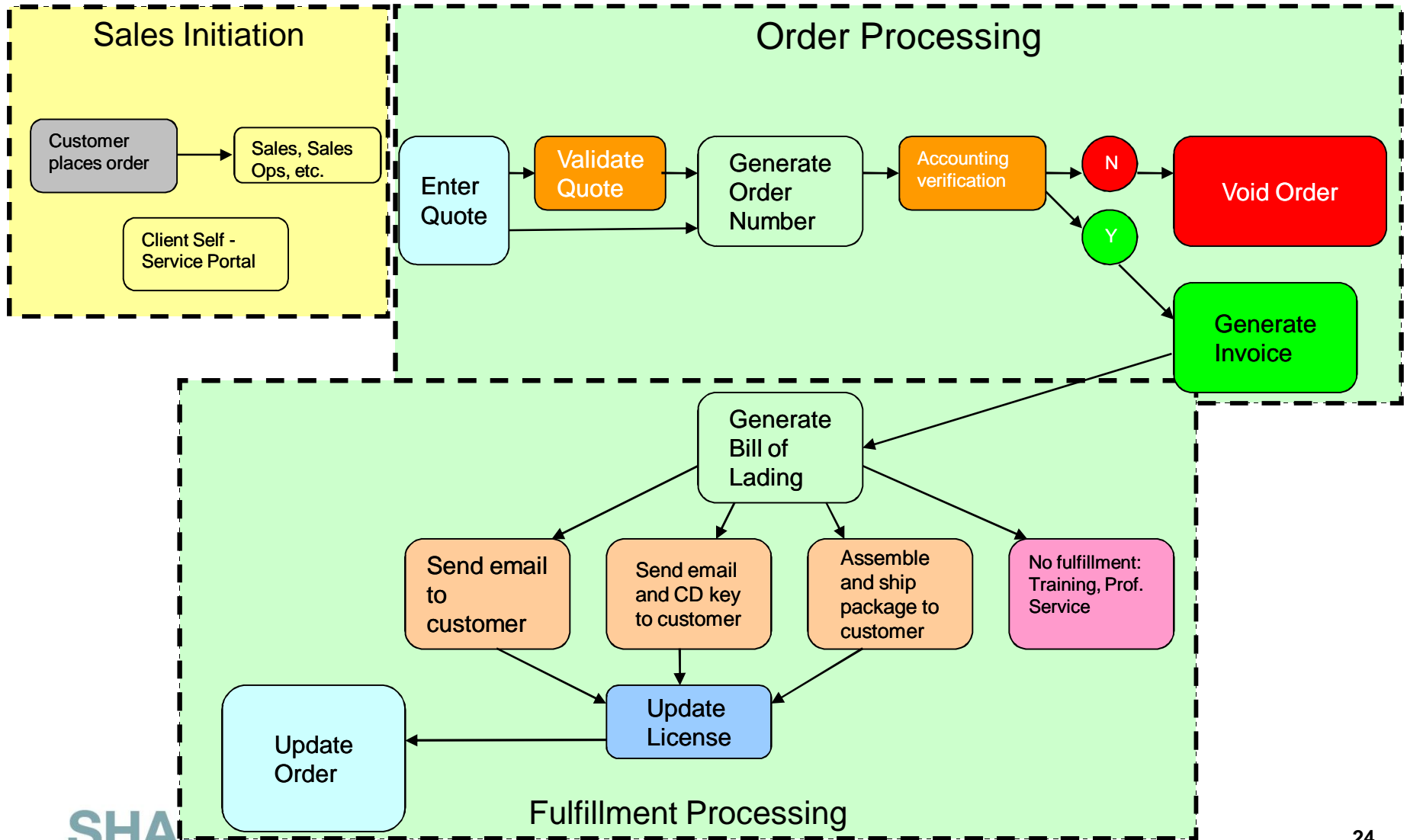
Think of tasks, not apps or technology

and flexible choreography of those services



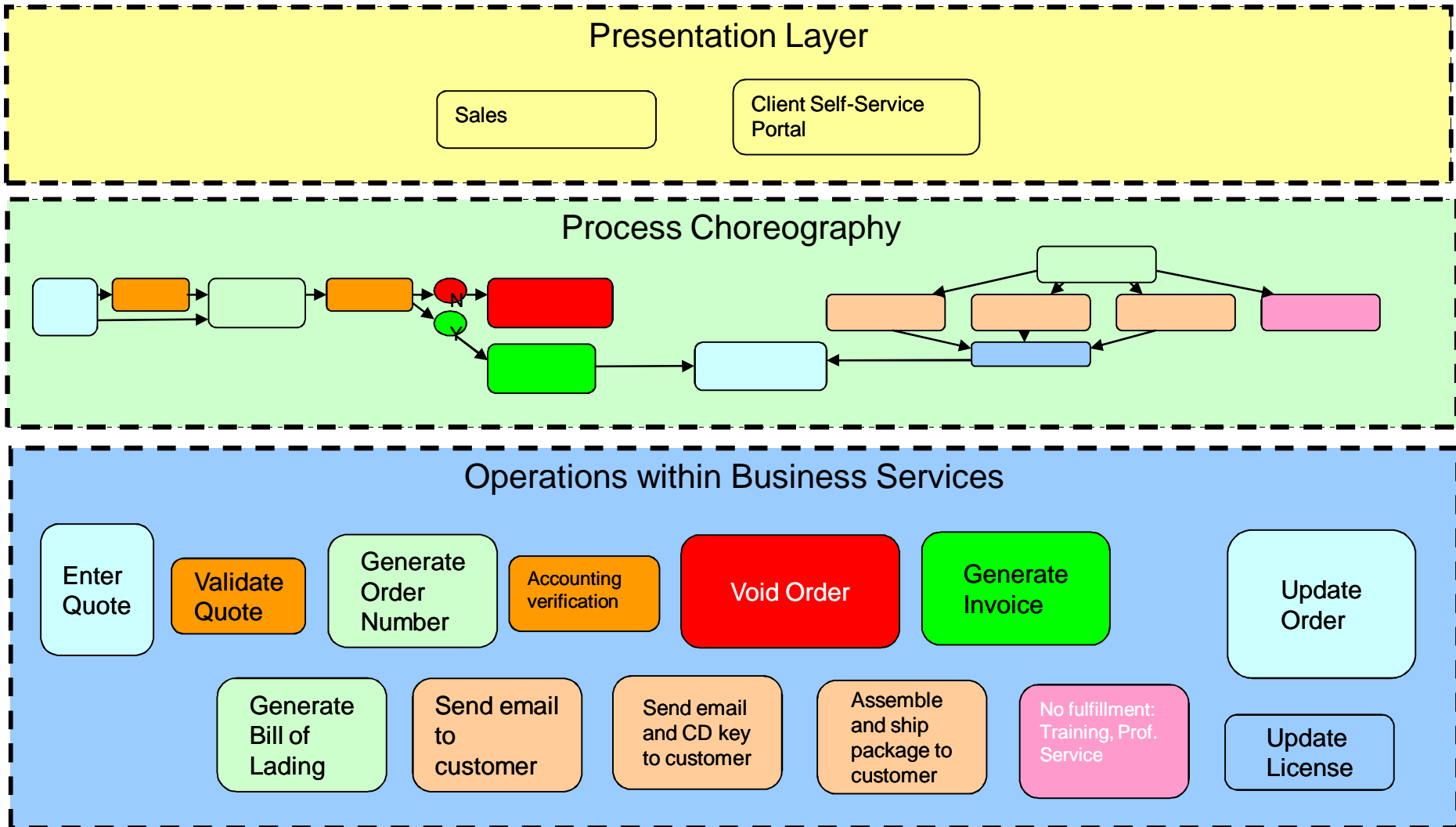
these can become loosely-coupled business service components

Abstract to functional descriptions



Choreography as a Consumer of Business Services

independent of underlying technology, quick to change



Think outside the Box

- In a perfect world, what do they want?
 - New markets
 - Industry leadership
 - Leverage your B2B partners
- Look for early entry points for strategic initiatives
- Communicate to take advantage of ripple effects
- Not everything is technology or process
- Balance evolution vs. revolution
- Think BIG: Small company culture and methodologies can't scale
- Enable end-to-end collaboration from business objectives to technical implementation



Recommendations

- Low hanging fruit
 - Replace bastardized inventory software with Salesforce.com
- Pragmatic
 - Automate the back office and document decision points
- Strategic
 - Become appealing to corporations and partners by leveraging an SOA design and implementation
 - Prepare for Cloud
- Cultural
 - Standardize and Govern the sales process
 - Think BIG: Small company mentality doesn't scale

Back to My Check List

- ✓ Do they have both technical and business skills?
 - ✓ No experience with SOA or process improvement
 - ✓ Hired a business analyst to model processes
- ✓ If they do this alone, what are the odds of success?
 - ✓ Low , due to highly stressed environment
- ✓ Will the sponsor still be employed after the 1st phase?
 - ✓ Likely, since the senior management team is tight
- ✓ Is the tooling multi-vendor?
 - ✓ Disconnect, as they are traditionally a .net shop
- ✓ LoB involvement?
 - ✓ Small shop, good communication and agreement on objectives

Back to My Check List

- ✓ What is the Catalyst driving the SOA effort?
 - ✓ Can't grow the business
- ✓ Who owns the funding and how wide is sponsor's realm?
 - ✓ CTO owns everything across the company
 - ✓ Afraid to ask for funding without an early success
- ✓ Is it possible to declare success quickly?
 - ✓ Even small improvements will have impact
- ✓ Can this be successful? Is this a good idea or not?
 - ✓ Yes, but... Hazards !

What actually happened ?

- CTO and his business case
 - Early wins
- IT department
- First phase of design and implementation
 - Development, tooling and skills
- Long term goals
- What would YOU have done?

Large UK-based Financial Services Company

*“IT wants **evolution**, but the Business wants **revolution**”*
CIO



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Large Financial Services Company

Business aspects

- Multiple LoBs in a well established business
 - Wanted to be more profitable and gain market share
 - Increase speed to market
- Extremely frustrated with pace of change
- Executive decision to overhaul the LoB via SOA
 - Create an enterprise architecture and enterprise mentality

Large Financial Services Company

Technical Aspects

- IT composed of functional, enforced territories
- Project is focused on modernizing a single LoB
 - Massive CICS application shared by several LoB
 - 8 year old application written by external contractor, now in-house
 - Poorly structured for the future with endless ad hoc mutations
 - Updates applied 2-3 times a year, and require huge efforts
 - 2 ½ year old team to justify modernization effort and expense
 - Repetitive manual processes
 - Often very long running workflows, maybe years
 - Processes generated many exceptions, often 20%
 - Exceptions may take months to resolve

Large Financial Services Company

Cultural aspects

- Well established, well staffed functional teams
- Everyone understood that IT was a choke point
 - Lack of agility forced high touch, manual processes
 - Frustration with the ponderous and expensive change cycle
 - No BI nor metrics
- Lack modern, forward looking mentality
- Two camps
 - Mainframe supporters
 - Anti-IBM MS supporters

Manual Process

Corporate Customer electronic request

```
- <fund_to_be_purchased sequence_
  <fund>HADQ</fund>
  <fund_percentage>75.00</fund_
</fund_to_be_purchased>
</account_instruction>
```

Initiate request

Switch and redirect

Repeat for all valid accounts
Perform accounting check

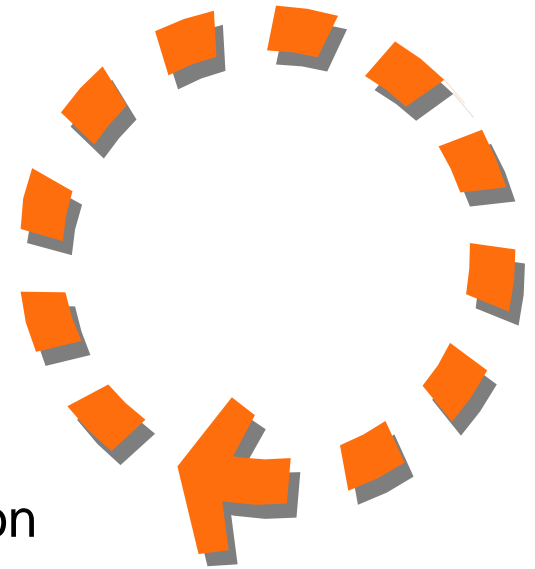
List of accounts

Update

CICS Application

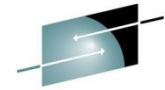
Modernization Objectives

- **Improve Efficiency of Administration**
- Automate the bulk of normal and exception efforts
 - Reduce completion time and handling costs
 - Execute ‘fire and forget’
 - Reduce or eliminate repetitive efforts
 - Allow staff to handle more volume
 - Create consistency in workflow handling
- Add visibility to process execution and work distribution
 - Interrogate in meaningful way to target high priority work
- Provide both real-time and historical Management Info
 - Support analysis and evolution



Sample Process Scenario

- Bulk Switch and Redirect is the most comprehensive scenario
 1. Retrieve all valid accounts in scheme
 2. Switch current investments into specified fund
 3. Redirect future investments to specified fund
- Proof points shown
 - ✓ Automation of bulk requests
 - ✓ Demonstrate embedded Human tasks and business exceptions
 - ✓ Dynamic business rule change
 - ✓ Display role-based Management Information

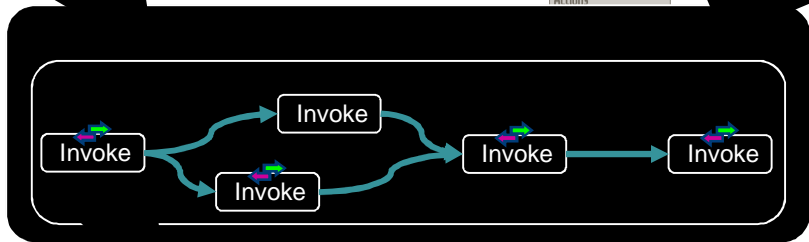
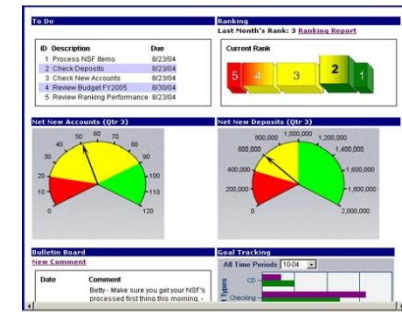


Target Functionality

User Interface

Business rules

Conditions			
input.creditScore	>500	>300	>=0
input.requestAccountAmount		output.responseCode	output.responseCode
>50000		"REQ"	"REQ"
>10000		"APP"	"REQ"
>=0		"APP"	"APP"
			Actions



Corporate Customer bulk request

```

- <fund_to_be_purchased sequence_
  <fund>HADQ</fund>
  <fund_percentage>75.00</fund_
</fund_to_be_purchased>
</account_instruction>
<account_instruction>
  <account_number>2468000002</a
  <request_type>Balance</request_
  
```

Exception Monitor %

Total(16 - 21%)



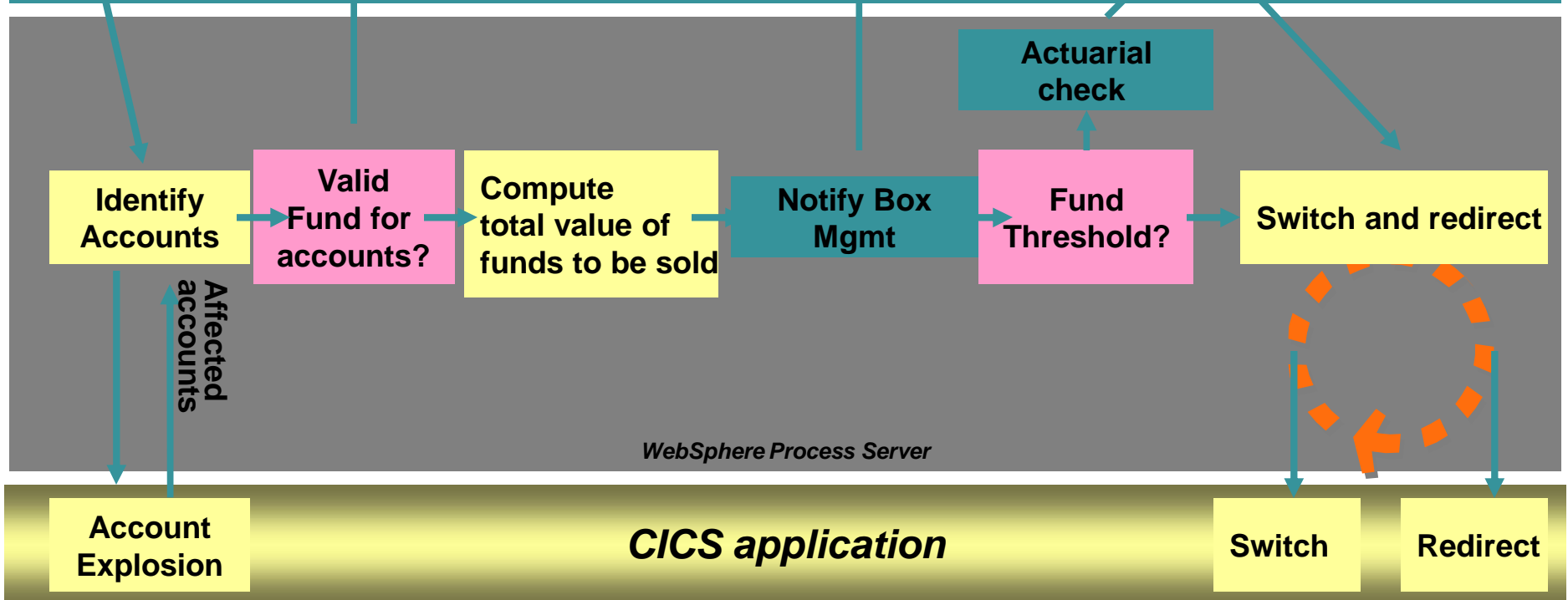
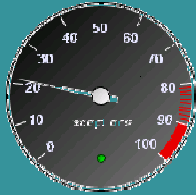
Human tasks



Bulk Switch and Redirect

```

- <fund_to_be_purchased
  <fund>HADQ</fund>
  <fund_percentage>75.
</fund_to_be_purchased
</account_instruction>
  
```



Proposed Solution per Customer

- Manual tasks migrate to fully automated process with business rules
- Custom monitoring application visualizes progress thru the process
 - Ultimately to add agility and efficiency
- Caveats
 - No plans to replace or retire CICS application
 - All entry points, e.g. web, were outside of sponsor's realm
 - IBM's Proof of Technology established basis for funding

Back to My Check List

- ✓ What is the Catalyst driving the SOA effort?
 - ✓ LOB is profitable, but could be much more by automating bulk requests
- ✓ Who owns the funding and how wide is sponsor's realm?
 - ✓ CIO owns LoB and is aggressively pursuing funding
- ✓ Is it possible to declare success quickly?
 - ✓ CICS application limits turnaround, but other advances can be done to the manual processes, if...
 - ✓ Team bogged down with exception processing
- ✓ Can this be successful? Is this a good idea or not?
 - ✓ Yes, excellent choice for an SOA project

Back to My Check List

- ✓ Do they have both technical and business skills?
 - ✓ One contractor with SOA experience, and business analysis team
- ✓ Is the tooling multi-vendor?
 - ✓ Technical team bipolar in their loyalties - reflected across the community
- ✓ LoB involvement?
 - ✓ Excellent communication and cooperation

- ✓ If they do this alone, what are the odds of success?
 - ✓ Low, by their own admission
 - ✓ Lack of experience skewed the funding allocations
- ✓ Will the sponsor still be employed after the 1st phase?
 - ✓ Let's review a discussion with the VP of SOA

Down the Rabbit Hole

- Scenario: as the PoC progressed, the technical team sincerely expressed fears about their ability to deliver on the commitments to the L.E.
 - E.g. Testing team wanted to do waterfall tests on each web service throughout its lifecycle
 - VP was aware of their concerns, but did nothing
 - They asked me to talk to them on their behalf
- Here's how that discussion went...

What actually happened to this Project?

- Funding decision
- Architecture and design phase
 - IBM participation
- Custom monitoring program
- VP of SOA
 - Would you work for him?
- Business results a year and half later
 - Look at their timeline

Gartner's Mistake No. 7: Assuming everyone thinks like you

- “To a programmer, SOA is a form of distributed computing in which building blocks may be offered to other applications.
- To a software architect, SOA translates as the disappearance of fences between applications.
- For chief information officers, however, service orientation is an investment in the future. Code reuse is a means to reduce the cost and time of new application development.
- But for chief executives, SOA is expected to help IT become more responsive to business needs and to facilitate competitive business change.”
- *DD's Corollary: Culture overrides best technical intentions*

Thank You !



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