



ORACLE®

ORACLE



Safe Harbor Statement

THE FOLLOWING IS INTENDED TO OUTLINE OUR GENERAL PRODUCT DIRECTION. IT IS INTENDED FOR INFORMATION PURPOSES ONLY, AND MAY NOT BE INCORPORATED INTO ANY CONTRACT. IT IS NOT A COMMITMENT TO DELIVER ANY MATERIAL, CODE, OR FUNCTIONALITY, AND SHOULD NOT BE RELIED UPON IN MAKING PURCHASING DECISION. THE DEVELOPMENT, RELEASE, AND TIMING OF ANY FEATURES OR FUNCTIONALITY DESCRIBED FOR ORACLE'S PRODUCTS REMAINS AT THE SOLE DISCRETION OF ORACLE.



ORACLE[®]

Streamlining the Financial Messaging Infrastructure with SOA

Darshan Chandarana
Oracle Financial Services

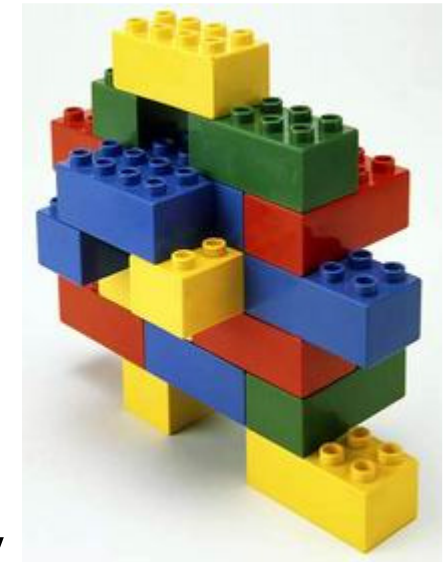


Agenda

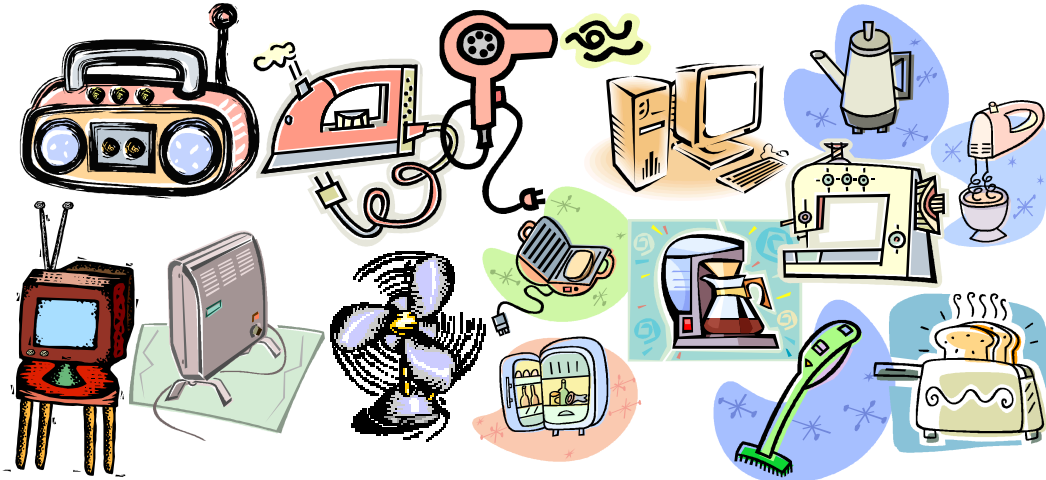
- Manage the costs of the payments business to mitigate the decline in margins
- Scale the business to address rapidly increasing payment volumes
- Adapt quickly to changing payment standards and imminent regulatory requirements

What is SOA?

- We want to build our IT functionality from standard building blocks
- Applications can be built more easily, cheaply and quickly by re-purposing these building blocks as required by business needs
- SOA is the strategy that makes that possible
- In SOA those building blocks are called services



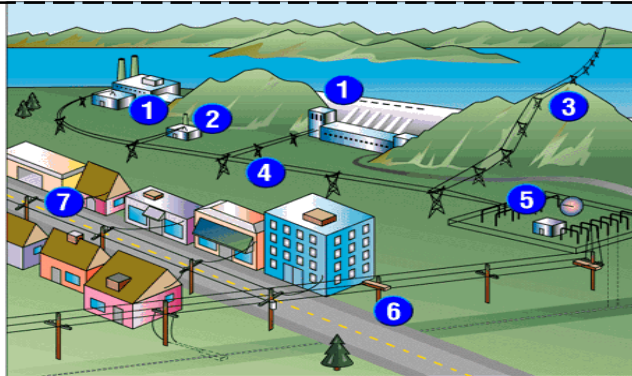
An Analogy with Electricity Utility



- Many uncoordinated entities
- Unstructured, chaotic
- Single task focus
- Agile, temporary time focus

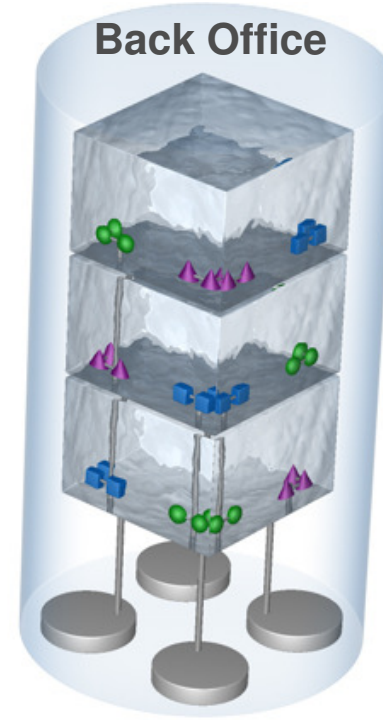
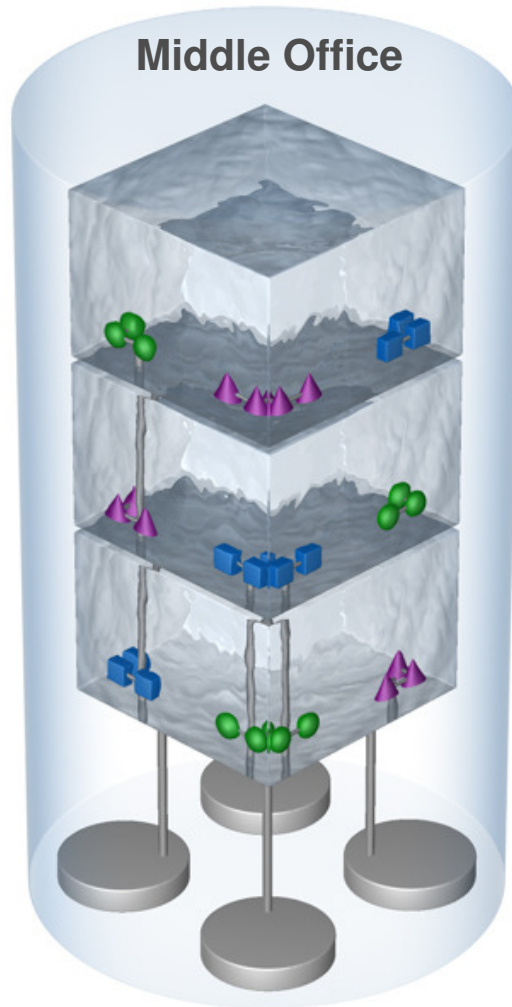
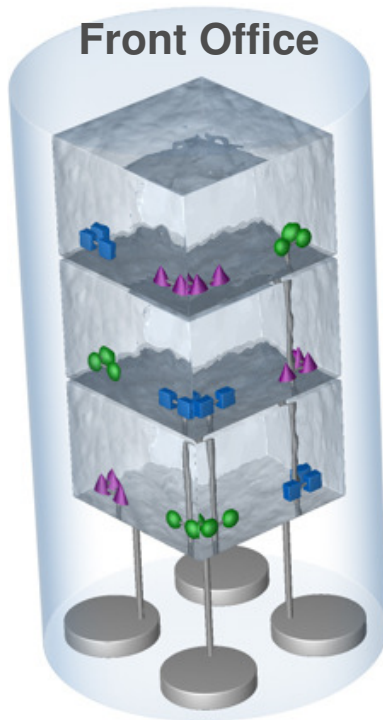


Standards-based interface

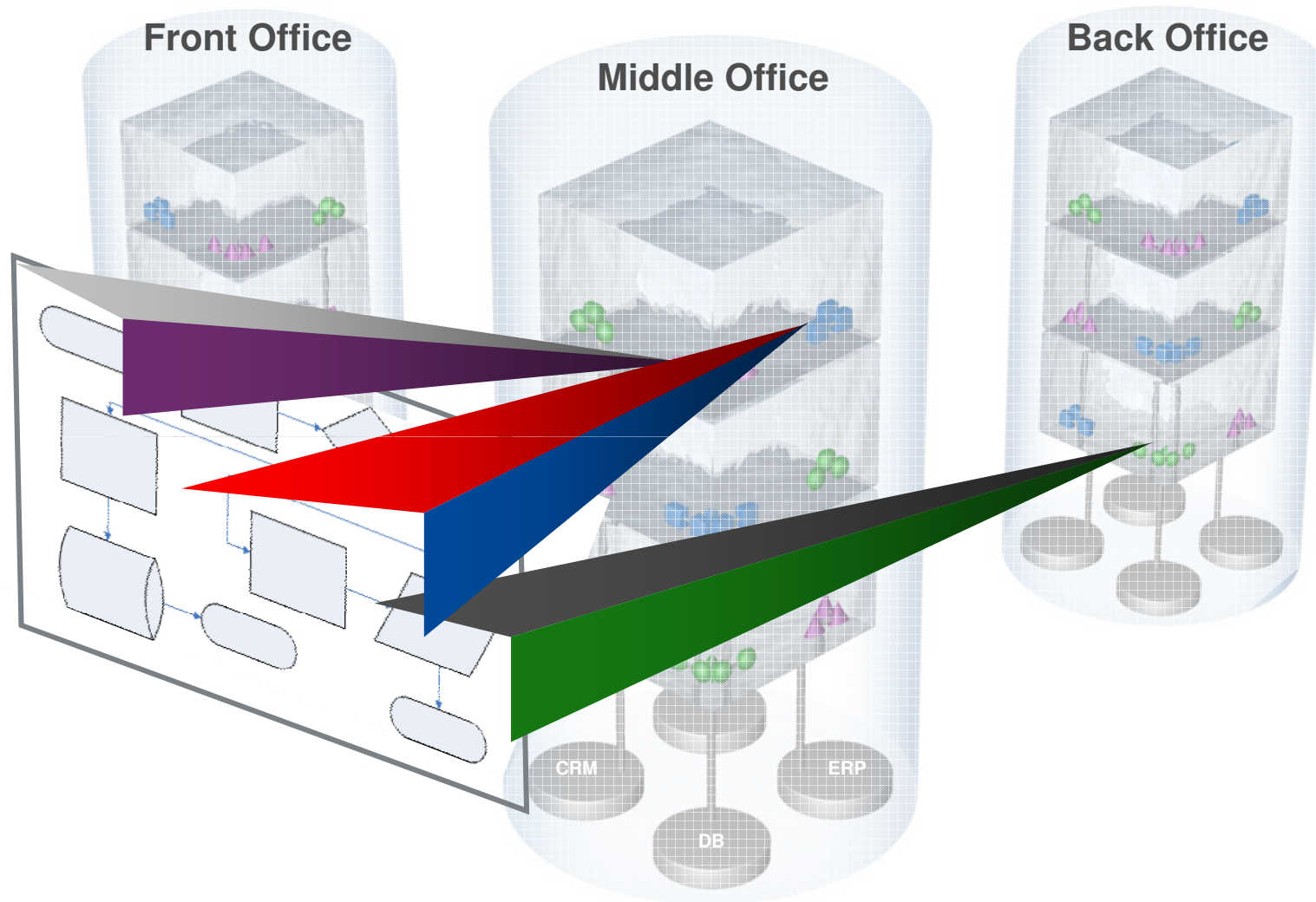


- Single or few coordinated entities
- Structured, Managed, Governed, Planned
- Shared by many unknown consumers
- “Always on”
- Reliability, Availability, Scalability, Performance, Failover

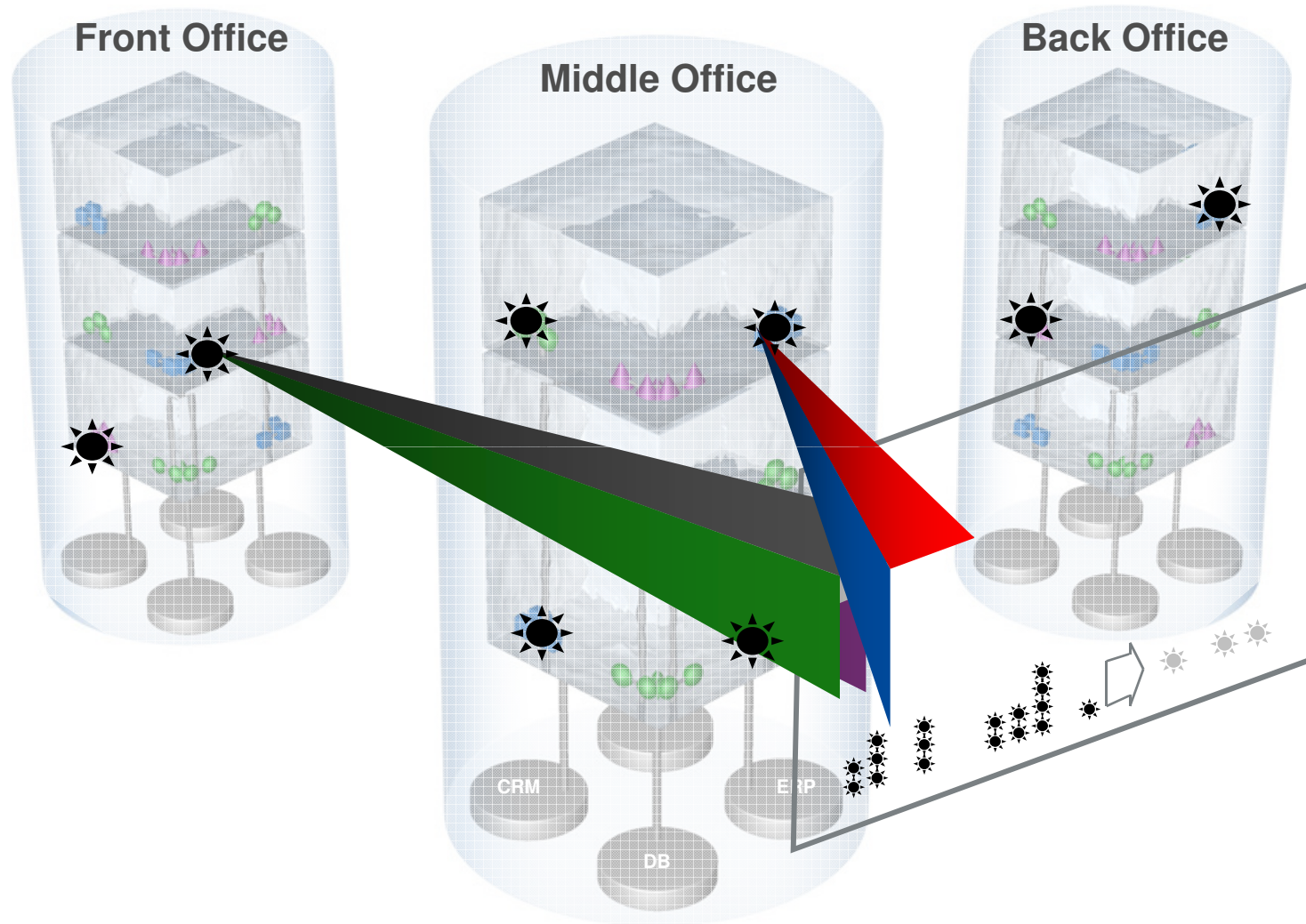
Current State



Interactions Across Lines of Business



Interactions “flow” back and forth



Drivers for SOA in Messaging



Customer Retention

- Product and Service (SLA) offerings
- Increased customer satisfaction
- Improved exception management



Operational Efficiency

- Increased value chain visibility
- Improved operational excellence
- Reduced messaging cost



Customer Acquisition

- Faster Time to Market
- Increased Agility
- Competitive Advantage

Transforming business through IT

What we offer

- Financial Messaging Support
 - ▶ Address SEPA, Faster Payments & STP related challenges such as formats, performance, ...
 - ▶ Eliminate payments interface congestion, extend cut-off time
 - ▶ Enabling Hub solutions for financial messaging and SWIFT connectivity
 - ▶ Isolate the delivery & payment channels from the complexity of the underlying processing systems
- Enabling value added services
 - ▶ Cash Reporting through integration
 - ▶ Liquidity Mgmt through single account
 - ▶ Support financial supply chain, such as reconciling payments / receivables
 - ▶ Better service corporate payments
 - ▶ Improve fraud management & AML through transparency
 - ▶ Exception management & STP

Our Basis

- Evolutionary, flexible & scaleable approach
 - ▶ Service-Oriented Architecture
- Unique combination of products
 - ▶ **OSB-FSE** for reliable & very performant message handling & routing, including streaming XML
 - ▶ **OBPM** for automating & managing processes (STP)
 - ▶ Fully integrated with Portal to include stakeholders across various channels
 - ▶ Reliable, scalable infrastructure with **WebLogic Server & Tuxedo**
- Proven, best-of-breed tools
 - ▶ More than 10 years experience in financial messaging
 - ▶ Supporting major existing financial infrastructures

Meeting SEPA, Faster Payments & STP challenges without Rip & Replace

① Configurable routing of financial messages

- ▶ Provides connectivity to national & international clearing networks
 - Cross border payments routed via SWIFT or Bank WAN
- ▶ Provides transparency of payment cost, by offering routing on:
 - Lowest cost
 - Time to settle
 - Other (lowest risk, highest security etc.)
- ▶ Provides flexibility to offset uncertainty around future ACH / PEACH providers
- ▶ Provides dynamic configuration of routing rules
 - Low cost Vs Priority
- Avoids replacing existing systems
- ▶ Provides “end 2 end” monitoring for real time monitoring & reporting
- ▶ Provides customisable SLA's & Quality of Service guarantees
 - Cost transparency for customer service offerings

② Supports multiple messaging formats

- ▶ Provides pluggable message libraries
 - Message validation
 - Message transformation
 - Message routing decisions
- ▶ Provides modelling & validation services for bespoke formats
- ▶ Provides support for new XML message formats , including UNIFI / ISO 20022 & TWIST
- ▶ Provides transformation services for XML ← → legacy / 8583 / SWIFT FIN
- ▶ Provides pluggable message auditing & data warehousing
- ▶ Provides framework for message bulking & unbulking
- ▶ Provides advanced XML compression & streaming technology
 - Reduces bandwidth & storage requirements for XML
- ▶ Tested with leading Financial Messaging Vendors:
 - Volante, Sterci, C24 & jPos

③ Non invasive, flexible integration

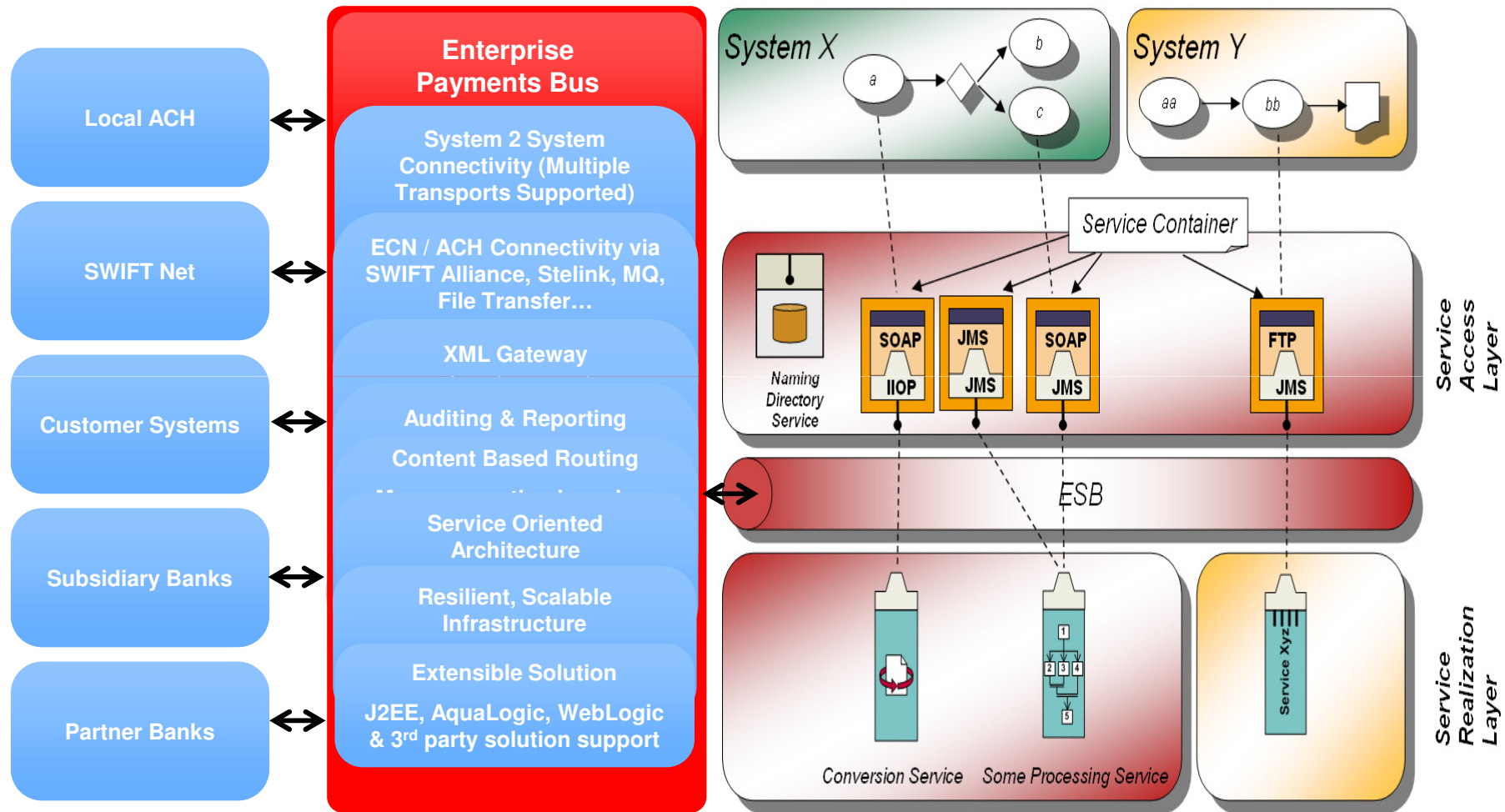
- ▶ Provides a seamless integration point with existing systems, business processes & messaging buses
- ▶ Provides decoupled integration between new & existing systems
 - Allows the isolation technology investment lifecycles
 - Increased ROI on existing investment through reuse of existing functionality
- ▶ Provides the Service Infrastructure foundation of a Service Oriented Architecture
- ▶ Provides extensibility through Tuxedo, J2EE, WebLogic Platforms
- ▶ Provides integration to 3rd payments gateways
 - Including SWIFT, Sterci, CheckFree, i-Flex, Logica, Clear2Pay, Trax, TietoEnator, FundTech...



Key Oracle Technologies

- Technology selection will depend on:
 - Your preference & requirements (build Vs buy, Tuxedo Vs J2EE...)
 - Choice of technology partner
- 3 key categories of technology:
 - Flexible, reliable, scalable infrastructure
 - WebLogic Server & Tuxedo
 - WebLogic Event Server for “contactless payments”
 - Service based integration & middleware
 - Oracle Service Bus – Financial Services Edition
 - Business Process Management
 - Oracle BPM

Flexible Messaging & Connectivity

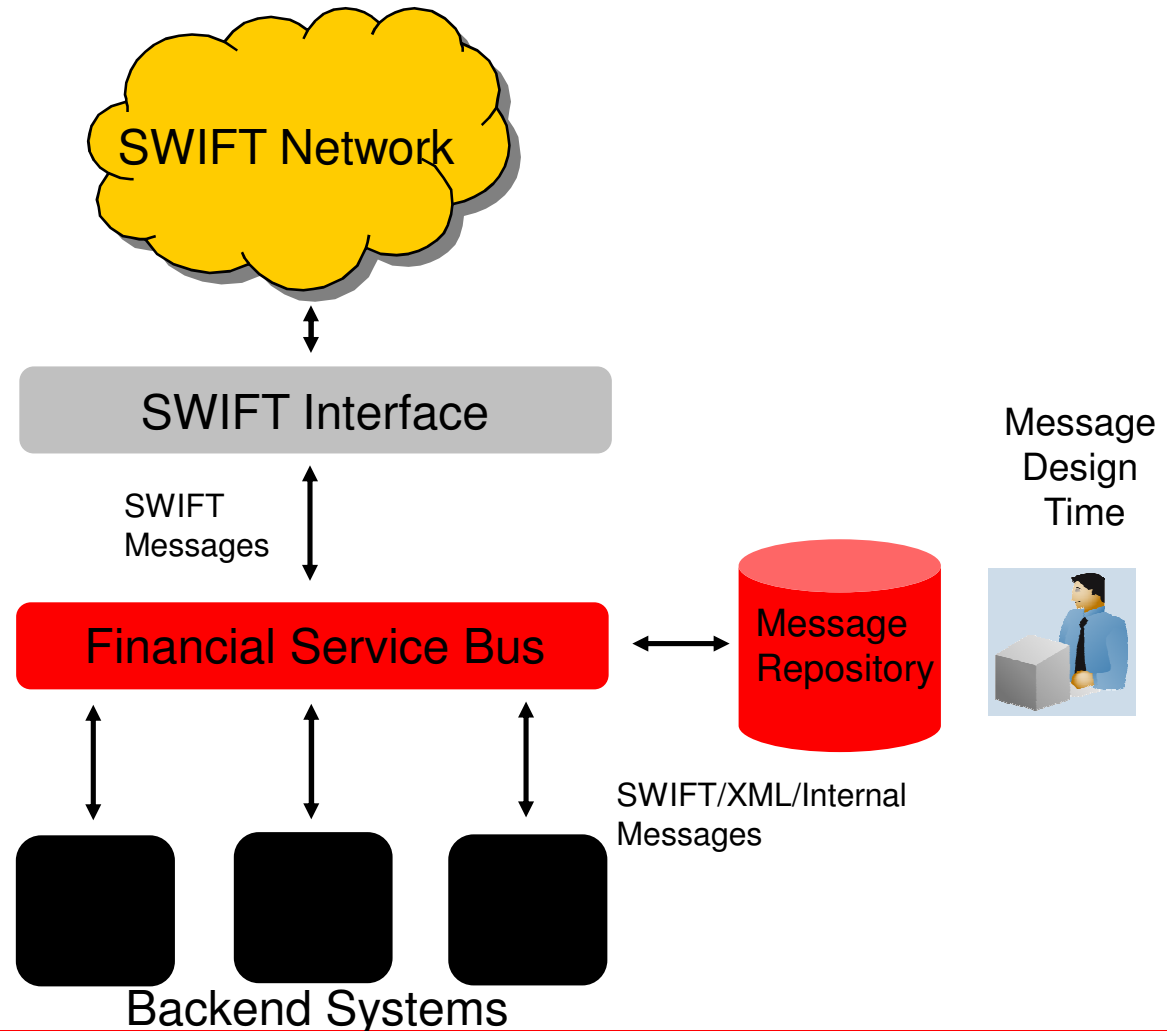


The Financial Service Bus

Delivers a SOA-based shared service access to SWIFT networks, providing cost-of-access and manageability benefits

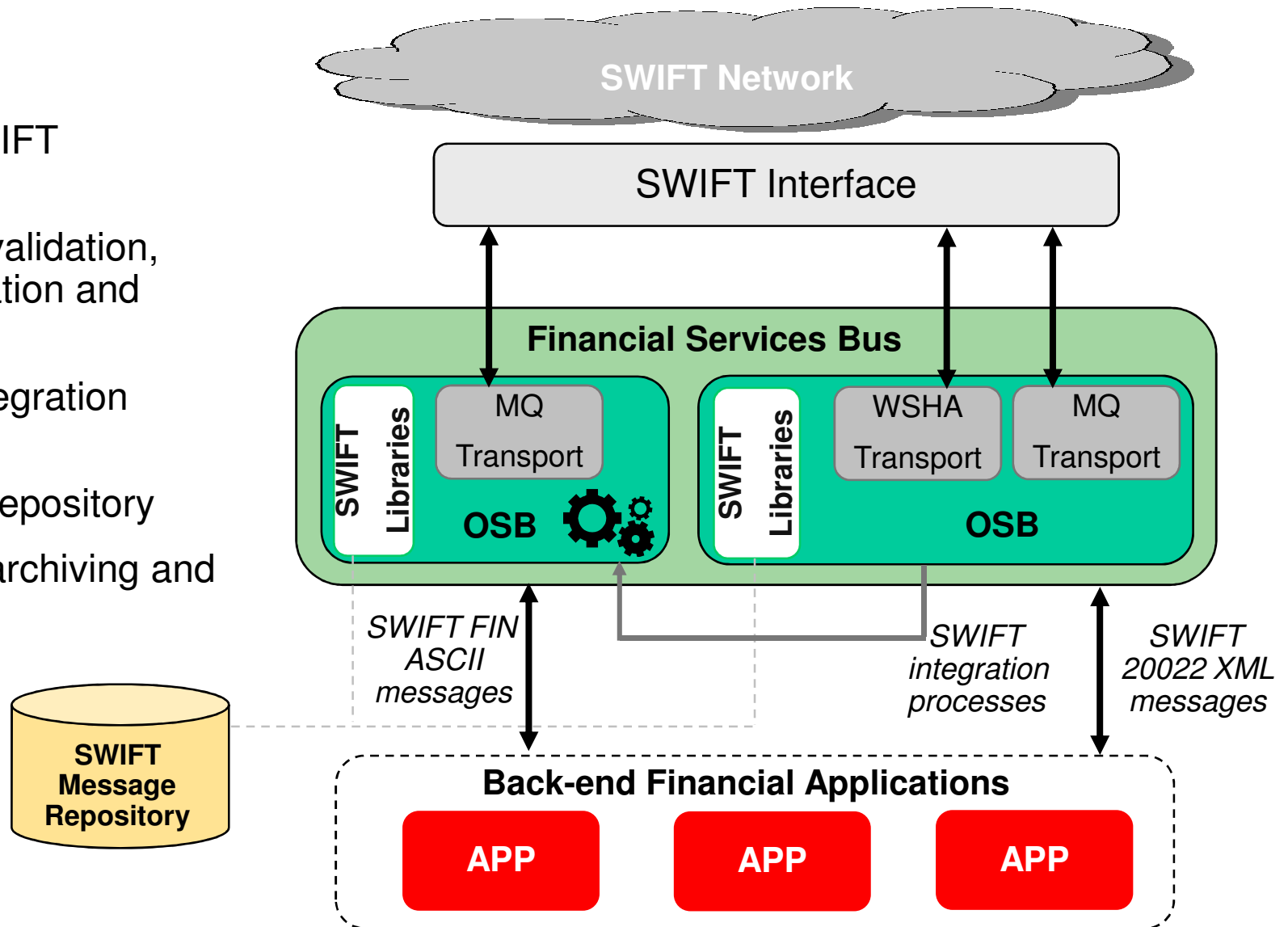
Oracle solution:

- Ideal for custom build solutions / integration projects
- Native SWIFT transports in OSB
- Message validation, transformation and routing
- SWIFT integration processes modeling
- Design-time and message repository
- SOA based: Eliminates point-to-point from back-end financial applications
- Access can be managed: security, throttling, SLA, etc.
- Centralization allows SWIFT network cost management and allocation
- Large message handling, batching, splitting support
- Flexible XML or binary integration, depending on financial application need



The Financial Services Bus

- Native SWIFT transports
- Message validation, transformation and routing
- SWIFT integration processes
- Message repository
- Message archiving and audit trails



Technology to Meet the Challenges

Connectivity to financial networks	<ul style="list-style-type: none"> •Connectivity to SWIFT Alliance Access / Gateway •Connectivity to Stelink (links to most national infrastructures)
Connectivity between systems	<ul style="list-style-type: none"> •Open Web Services & JMS interfaces •JCA connectivity to packaged applications, e.g. SAP •Email, Tuxedo, MQ, Tibco, Oracle AQ, .net & FTP support •Security & authentication for messages, transport & users
Changing messaging standards	<ul style="list-style-type: none"> •Flexible architecture allows choice of messaging libraries •Integrated with leading messaging libraries & data models •SWIFT FIN, CREST, OMGEO, FpML, TRAX, FIX, TWIST •ISO: 7775, 8583, 15022, 20022, EDIFACT (9735) •XML schemas, support & translation
Automation / STP	<ul style="list-style-type: none"> •Graphical modelling tool for business processes •Graphical transformation tools to define data conversions •Business Analyst tools ensure process efficiency •Management tools to view business process state
Exception management	<ul style="list-style-type: none"> •Automated exception management for predictable problems •Worklist functionality to assign tasks to users & groups •Web based message repair •Flexible Portal framework for presentation of information

Technology to Meet the Challenges

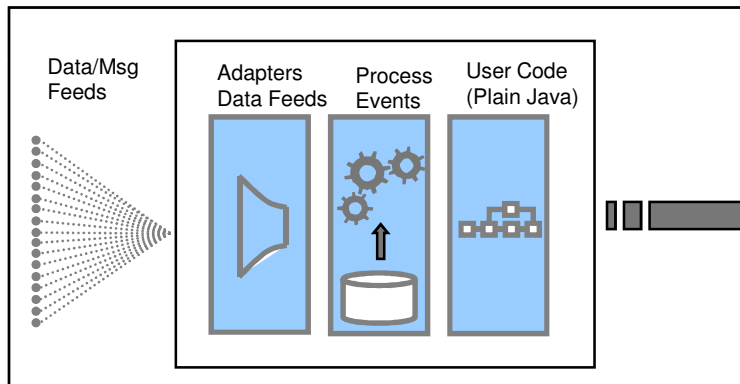
Message Routing	<ul style="list-style-type: none"> • Messages routed based on their contents & meta data • Avoids unnecessarily routing messages via SWIFT Net • Messages can be enriched & transformed in-flight
Auditing	<ul style="list-style-type: none"> • Messages copied to dedicated auditing systems • Data Services provide a single view of archive, reporting & audit systems • Workflows provide message tracking & reconciliation
Settlement & routing data integration	<ul style="list-style-type: none"> • Data Services provide a simple interface to complex settlement instructions & reference data • Data consumers are decoupled from data stores • Single, unified data view
System / infrastructure resilience	<ul style="list-style-type: none"> • Disruption free application upgrades • WAN clustering for a continuous service / DR • Failed servers are automatically “reincarnated” • Service Bus defines & enforces “app to app” SLAs
System / infrastructure scalability	<ul style="list-style-type: none"> • WebLogic Server is the fastest J2EE application server • Industry leading JMS performance • Federated Service Bus for Enterprise wide connectivity • JRockit optimized for large data sets & low latency

The Real-time Financial Service Bus

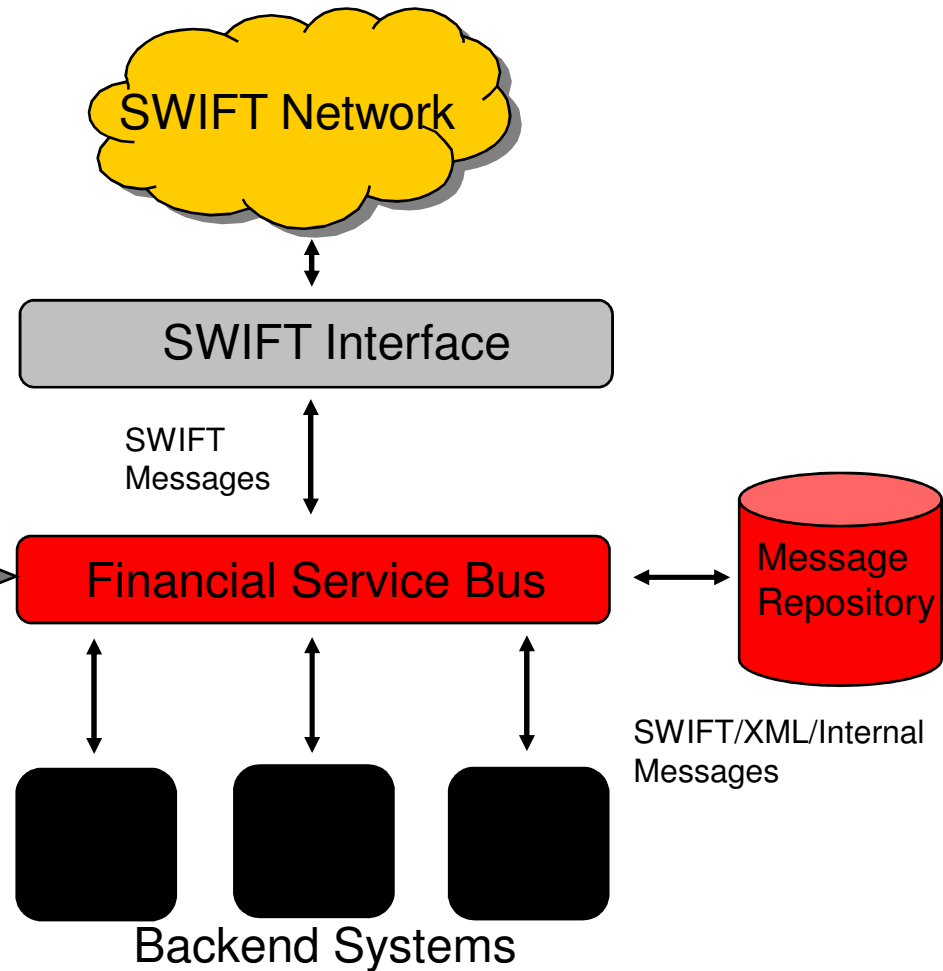
Provides real-time capabilities with Financial Messaging

Time and Event Driven Computing

Financial Messaging and Systems Integration



- Uses the same FSB message parser to validate, transform and route Market Data, FIX and FpML messages



ORACLE

Credit Card Transaction Processing across China

Opportunities & Challenges

- Standardize & improve the reliability of credit card transaction processing in China (volume is 3000 transactions per second & growing)

Solution Powered by Oracle

- Oracle Tuxedo is the hub of a SOA; Tuxedo acts as a service-request broker
- System routes & manages all message flows to ensure timely delivery & accurate approval/denial decisions
- Handles peak load of 13,000 trans/sec

Results

- 100 percent application availability
- Modernization of China's bank card infrastructure
- Reduced cost structure for transaction processing
- Flexibility in the development of new card products



Liquid e-banking services in the Nordics

Opportunities & Challenges

- Legacy systems needed to be connected via an integration layer, for Nordea to support its innovative e-banking strategy.
- E-banking solution & the middle layer needed to be flexible, robust & scalable.

Solution Powered by Oracle

- Open, service-centric infrastructure enables Nordea to support e-invoicing, e-salary, real-time e-commerce payments e-authentication & e-signatures in retail banking.

Results

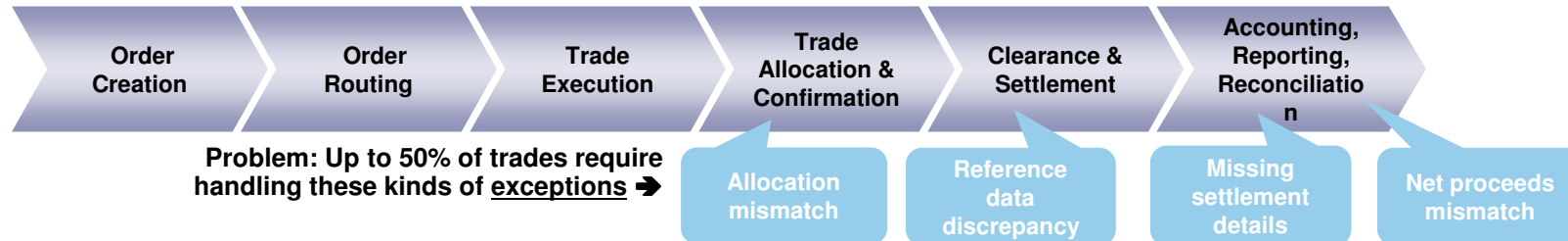
- Will process €200 million payments annually across four Nordic countries.
- Processing more than 350,000 e-id & e-signature transactions every month.
- Common applications infrastructure reduces the cost of operating its production environment & reduces the cost of servicing customers.

Customer Viewpoint

“Service-Oriented Architecture has been our goal for many years—and now we are realizing it. The Oracle applications infrastructure provides a flexible, robust & extensible framework for deploying browser-based applications quickly & cost effectively. Oracle doesn’t just talk about liquid computing—it is delivering it within a real-world production environment.”

**Bo Harald, Executive Vice-President,
Head of Payments & e-Services, Nordea**

Straight-Through Equities Processing



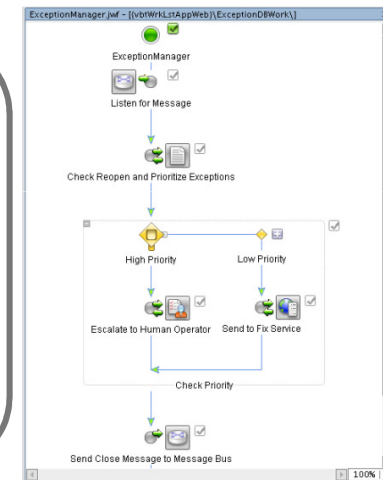
Opportunity

- Decrease cost of exception processing to improve trade margins

Solution Powered by Oracle

Exception Manager:

- Enable dynamically-assembled processes to automate exception allocation & resolution procedures
- Integrate both enterprise systems & human operations managers into process
- Piloted on WebLogic Integration, deployed on WebLogic Server



Results

- Reduced cost & risk by reducing failed trades, streamlining exception handling
- Increased trade processing transparency
- Increased speed of trade processing



Summary

- Manage the costs of the payments business to mitigate the decline in margins
 - Thru increasing use of technology and constant reporting
- Scale the business to address rapidly increasing payment volumes
 - Future proofed platforms that grow as you do
- Adapt quickly to changing payment standards and imminent regulatory requirements
 - Decoupled, SOA infrastructure which facilitates agility



Questions