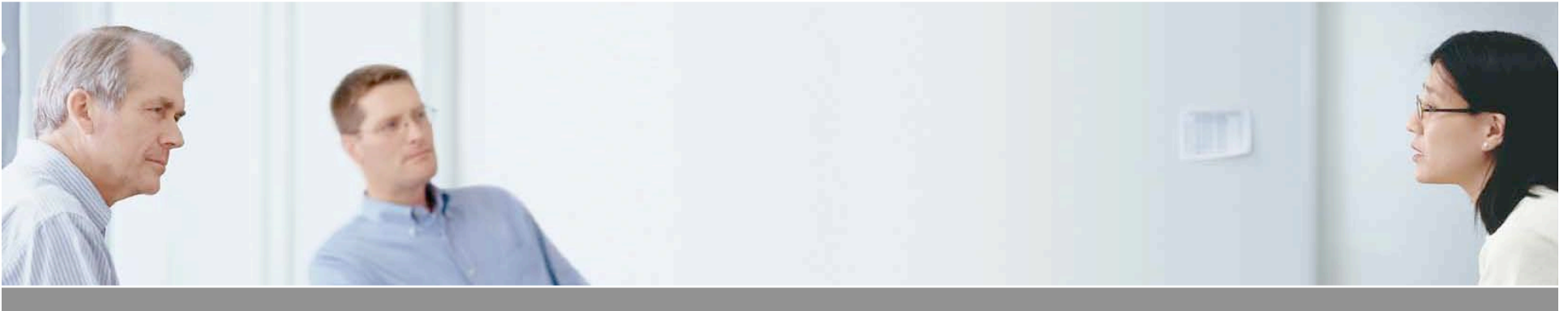


# SOA and the Legacy – A Delicate Balance

## Avis Budget Group

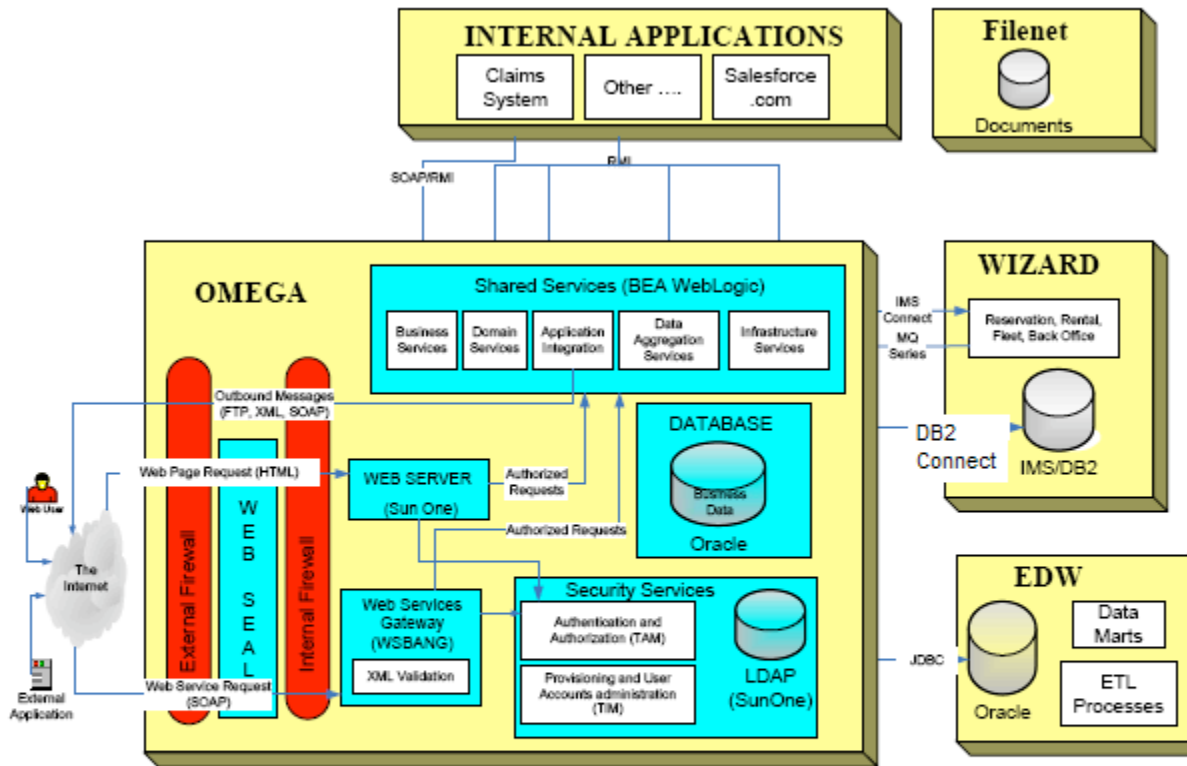


John Turato  
VP Technology  
Chairman, OpenTravel Alliance

# Introduction

- Avis Budget Group
- General Use Car and Truck Rental
- Airport and Suburban Locations
- Mainframe Based Reservation and Rental System
  - Wizard
    - 40% Assembler/60% COBOL
  - OMEGA – SOA
    - UNIX, BEA App Server
    - JAVA
    - MQ

# Wizard – OMEGA Architecture



# SOA and the Legacy – A Delicate Balance

- How do you achieve the right balance?
  - Mainframe vs. Server
  - Tight vs. Loose Coupling
- Legacy Mainframe systems
  - Age
  - Support
  - Flexibility
  - Time to Market – Speed/Agility
  - Embedded rules
  - Cost
- Yet, the Business runs well

# SOA and the Legacy – A Delicate Balance

- How do you migrate?
  - Big Bang vs. Incremental
- Is the Business ready and on-board?
- Is capital available?
- Is the IT staff ready?
  - Mindset
  - Capability
  - Kelly's Heroes

# Our Approach

- “Goldilocks” Approach to System Design
  - Not too much legacy
  - Not too little legacy
  - Just right
- Avis Budget Group
  - Determine the right applications for the mainframe
  - Right-size services
    - Level of abstraction
  - Define funding model and timeframe
  - Define Interfaces
  - Define Governance Model
  - Define Re-usability Approach

# The Roadmap

- The “Island Approach” - Bottom Up
  - Worked for us early on (2000)
    - Started with small islands
  - Allowed architecture to grow
    - Success led to confidence
- Next phase - Top Down
  - Follow roadmap
  - Bigger “islands” of Legacy functionality
  - Put the rules on their own “island”
    - Rules Engine
  - Governance fosters re-usability

# Approach

- Began with cutting edge Web Services Gateway
  - Precursor to today's ESB's
  - Built Direct Connect
    - OpenTravel Alliance (OTA) XML, SOAP
    - Started with a \$40K project
  - Became base approach for other projects
- In 2000/2001 developed Avis Message Specification
  - Defined our message set for partners
  - Drove standards through participation
  - Learned about XML performance early.

# Approach

- Moved to a JAVA Object approach (OMEGA)
  - Driven by performance
    - Synchronous/Asynchronous
  - XML “flavor” became secondary
  - Created Framework
    - SPRING based allows developers to focus on solving business problem
  - Security Services
  - Governance/Re-use
    - Logic Library

# Standards and Organizations

## ■ OpenTravel Alliance (OTA)



- Travel suppliers, distributors, technology providers
- Created XML messages
- Plan architecture
- Website: [www.opentravel.org](http://www.opentravel.org)

## ■ Collision Industry Electronic Commerce Association (CIECA)

- Insurance Replacement specifications
- Website: [www.cieca.com](http://www.cieca.com)



# SOA Consortium



- New SOA Advocacy Group
- SOA Consortium Mission and Strategy
  - SOA adoption is a key enabler for the 21<sup>st</sup> century enterprise
  - SOA benefits require significant change for IT and the Business
  - SOA perceived as IT initiative by Business Executives instead of as a Business agility story
  - SOA Consortium can help drive industry-wide adoption of SOA
- Website: [www.soa-consortium.org](http://www.soa-consortium.org)

# You Win Some and You Lose Some

- On and off mainframe need for CCV Check
  - Dot Com need drove solution to Services
    - Suggested by Mainframe Team
  - Off mainframe apps http remote JAVA - JAVA
  - Legacy places request on Queue
  - POJO (Plain Old Java Object) Service
  - Service places result on Queue for mainframe
  - No need for XML
  - Reusability realized
- Continuation of “Island” Approach

# You Win Some and You Lose Some

- On mainframe need for Credit Check
  - Part of the tightly coupled Car Check-out process
    - Suggested by Architecture Team as a service
  - Legacy controls total process
  - Legacy team concerned about performance
  - Architecture proposed similar approach to CCV
  - No Reusability
- Will be re-visited as part of WAVE
  - Strategic effort to re-architect

# You Win Some and You Lose Some

- On and off mainframe need for Notification Service
  - Business need for e-Receipt via e-mail
    - Debated on vs. off mainframe
  - Architecture made case for server side service
  - Besides E-Mail, Fax and SMS added
  - Reusability realized
- Buy-in achieved across IT
- Broad use of Notification Service
  - Partner interfaces
  - Customer Interfaces
  - Internal troubleshooting
- Preferred method for communication

# You Win Some and You Lose Some

- Services continue to proliferate
  - Location
  - Reservations
  - Rentals
  - Claims
  - Loyalty
  - Credit
  - Security
  - Customer
  - Communication
- “Island” approach continues – WAVE is coming fast!

# Critical Success Factors: Lessons Learned

- It's not the Technology
  - Never has been – It's the politics
- Business is getting it
  - Understands the power of services
- Service Approach matured
  - Initial approach was external XML focused
  - Evolved to internal focus for performance (Java objects)
- We made the mistakes early – well positioned today
- Strong team
- Industry involvement in standards was key
- Block and tackle in the data center was sometimes a challenge
- Don't forget the monitoring needed
- Don't be afraid to roll your own
  - Develops your expertise in evaluating off-the-shelf
- Prefer Off-the-shelf if available as long as it performs