Using Oracle Service Bus and Javascript to Modernize your Integrations

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Enterprise SOA Architect – Wyndham Vacation Ownership

October 27, 2015
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Program Agenda

1. Service Bus 12.2.1, JavaScript and Native REST
2. Customer’s Perspective: Wyndham Vacation Ownership
3. Questions, Answers and Discussion
Program Agenda

1. Service Bus 12.2.1, JavaScript and Native REST
2. Customer’s Perspective: Wyndham Vacation Ownership
3. Questions, Answers and Discussion
Service Integration Strategy

- Applications
  - Files
  - Mainframes
  - Databases
- Service Orchestration
- Business Rules
- Virtualization, Transformation, Routing
- Service Bus and API Management
- SOA Suite
- Analytics & Events
- Cloud
- Mobile
- Trading Partners
- Things
Oracle Service Bus

• Deploy your Services
  – **Virtualize**
    • One consumer end-point per service
  – **Throttle** requests
  – **Cache** for performance

• Monitor your Services
  – Service Level Agreement **Alerts**
  – Business and System Alerts
  – Performance **Statistics**

• Protect your Services
Wide Connectivity
Cloud, Mobile and On-Premises
Security for Services

• Oracle Web Services Manager
  – Assign policies at design-time
  – Policy enforcement at runtime
  – Eliminates the need to code for security
  – Allows security to be applied to unsecure services
Robust Performance

• Load-balancing
  – Load balances among multiple back-end systems for scalability

• Throttling
  – Managed demand spikes to protect back-end systems

• Result Caching
  – Caches relatively static results to reduce calls to back-end systems
  – Coherence adapter for more complex caching cases
In-depth Visibility

• “Single-pane-of-glass”
  – Overview of Service Bus services and SOA composites

• Service Level Agreement Alerts
  – Min/Max/Avg Response time
  – %/Count Errors

• Pipeline Alerts
  – Errors
  – Significant Events
New Features in Service Bus 12.2.1

- Native REST Support
  - Conversion to SOAP/XML eliminated
  - REST Branch allows routing based on HTTP Verb, URI, and/or content-type in the Pipeline

- Cloud Deployment from JDeveloper
  - Deploy your projects to your servers or to SOA Cloud Service

- Web-based XSLT mapper

- Automatic Service Migration

- JavaScript Support
  - Manipulate JSON or XML payloads using JavaScript
  - Use JavaScript for other expressions and conditionals

- Conditional Break-points in Debugger

- HTTP Compression

- FIPS Compliance
Native REST and JavaScript

- Harness the Power of **JavaScript** in your BPEL process & Service Bus Pipelines!
- Handle/route any **REST** content type
- Access XML elements easily
- **Native REST/JSON** support for connecting JSON to JSON
- Used for expressions/conditions
- Converted, Typed and Un-typed REST Supported
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3. Questions, Answers and Discussion
Oracle Service Bus as an accelerator for API Strategy at Wyndham Vacation Ownership

Jagan Mohan Jayachandran,  
Enterprise SOA Architect, WVO  
October 2015
Wyndham Vacation Ownership develops, markets and sells vacation ownership interests and provides consumer financing to owners through its seven primary consumer brands, CLUB WYNDHAM®, WorldMark by Wyndham, CLUB WYNDHAM ASIA®, WorldMark South Pacific Club by Wyndham, Shell Vacations Club, Margaritaville Vacation Club® by Wyndham and WYNDHAM CLUB BRASIL SM.

Jagan M Jayachandran is an Enterprise SOA Architect at WVO, where he runs the organization's SOA and API Practice.
API-Micro Services motivations and challenges

“Make things as simple as possible, but not simpler” – Albert Einstein.

Today, API Gateway Pattern in combination with Micro Services Architecture is being looked at as an effective replacement for SOA.

Micro Services Architecture (MSA), a “Linear SOA” (The way I call it) or a simplified SOA, takes the principles of SOA and flattens it to one single dimension i.e. Micro Services. While it is a highly efficient pattern to solve the problem of incomplete realization of some SOA principles like service autonomy, it fails to address some of the most important dimensions of SOA such as Business Process Orientation.

Some of the areas API-MSA adds value:
- Massive horizontal scalability
- True Service Autonomy
- Experience orientation (SPA) and resource orientation (ROA)
- Built-in Service Discoverability (HATEOAS)
- Multi form-factor support (REST/JSON)
- Simplistic schemaless contract negotiation (end-to-end Javascript & JSON based model)

Some of the areas ignored by API-MSA:
- Lack of Business Process Orientation and Visibility
- Transaction Management complexity
- Mediation & Orchestration Complexity
Standard API and Micro Services Architecture

Consumers

- Composite and Rich Internet Applications
- Mobile Devices

API Gateway Services

- API Gateway/Spring framework

Micro Services

- Spring Boot/Dockers

Data

Dedicated Databases

Legacy

Business Process Management disposition:

- Flexibility
- Efficiency
- Visibility
- Agility* 
- Manageability

* Agility lost due to lack of Process Oriented Collaboration between business and IT
WVO’s motivations for using OSB as API-MSA Accelerator

Some businesses have an inherent need to:

- focus on the underlying technical capabilities to support explosive growth of their platform’s users and usage.
- adopt a BASE transaction management approach resorting to eventual data consistency.

Other businesses have an inherent need to:

- focus on their business capabilities and to commoditize their technical capabilities to avoid cost schedule and skill overhead.
- support ACID transactions for core business capabilities.
WVO’s hybrid approach to API and Micro Services Strategy

Agility – through “Just In Time” (JIT) Micro Services

Use of visual declarative model & deploy paradigm to gain speed in delivering business capabilities - Micro services
Development should be as simple as 1,2,3....

1. Select Source
2. Select the data
3. Expose
WVO’s hybrid approach to API & Micro Services Strategy

- **Consumers**
  - Composite and Rich Internet Applications
  - Mobile Devices

- **API Gateway Services**

- **Micro Services**

- **Data**

- **Legacy**

- **Accelerators**
  - HTML5/CSS /JavaScript
  - Oracle API Gateway/Oracle Service Bus/SOA Suite
  - ADF BC/Oracle Service Bus/DB Adapter
  - BPMN/BPEL/ BPM Suite

Business Process Management disposition:

- Flexibility
- Efficiency
- Visibility
- Agility
- Manageability
The hybrid model (business process orientation and time to market focus) takes advantage of matured technical capabilities provided by time-tested containers while still meeting most, if not all of the API-MSA principles.

This model still positions existing investments to take advantage of full API-MSA capabilities, as these containers/platforms quickly evolve to provide such capabilities out of the box.
Program Agenda

1. Service Bus 12.2.1, JavaScript and Native REST
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3. Questions, Answers and Discussion
Integrated Cloud Applications and Platform Services
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<thead>
<tr>
<th>Session ID</th>
<th>Title</th>
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<tbody>
<tr>
<td>CON9635</td>
<td>Oracle API Management Vision—Building, Promoting, and Managing APIs for Success</td>
<td>11:00 AM - 11:45 AM</td>
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<td>CON6359</td>
<td>Oracle Managed File Transfer Bulk/Batch Integration with Fusion Applications</td>
<td>4:00 PM - 4:45 PM</td>
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<td>CON7947</td>
<td>Using Oracle Service Bus and JavaScript to Modernize Your Integrations</td>
<td>5:15 PM - 6:00 PM</td>
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<td>CON7965</td>
<td>Mission-Critical Oracle B2B Customer Implementations</td>
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<td>MTE10097</td>
<td>Oracle Service Bus for Microservices Architecture</td>
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Oracle Service (SOA) & Cloud Integration Sessions @ OpenWorld 2015 – **Wednesday, Oct 28:**

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<td>CON7967</td>
<td>Oracle’s API Management Roadmap</td>
<td>11:00 AM - 11:45 AM</td>
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<td>CON7975</td>
<td>Gain Insight into Integration and Improve Operational Intelligence</td>
<td>12:15 PM - 1:00 PM</td>
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<td>CON6271</td>
<td>Accelerate Your SaaS Integration with Oracle Integration Cloud Service</td>
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Oracle Service (SOA) & Cloud Integration Sessions @ OpenWorld 2015 – **Wednesday, Oct 28 - Continued:**

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<td>CON7996</td>
<td>Oracle SOA Suite 12c Success Stories</td>
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<td>CON6377</td>
<td>Oracle SOA Suite Cloud Service and Hybrid Integration—Customer Panel</td>
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Oracle Service (SOA) & Cloud Integration Sessions @ OpenWorld 2015 - Thursday, Oct 29:

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<td>Oracle Integration Cloud Service—Catalyst for Success in the Cloud</td>
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<td>CON6373</td>
<td>Cloud Integration Best Practices—Customer Panel</td>
<td>10:45 AM - 11:30 AM</td>
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<td>CON7942</td>
<td>Introduction to Oracle SOA Suite 12.2.1 Operations</td>
<td>10:45 AM - 11:30 AM</td>
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<td>CON7993</td>
<td>Boost SaaS and On-Premises Connectivity: Leverage Oracle Cloud Adapters</td>
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<td>CON10096</td>
<td>Oracle SOA Suite for Healthcare Integration: the Path to Large-Scale Production Deployment</td>
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## Oracle Service (SOA) & Cloud Integration Hand-On Labs:

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<th>HOL10440</th>
<th>Secure Managed File Exchange for the Hybrid Cloud</th>
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<td>HOL10756</td>
<td>Oracle API Manager Cloud Service Plus Oracle SOA Cloud Service—Developer Speed and Innovation</td>
<td>Monday, Oct 26: 11:00 AM - 12:00 PM</td>
<td>Hotel Nikko—Mendocino I/II</td>
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<td>HOL10759</td>
<td>Integration of SaaS and On-Premises Applications with Oracle Integration Cloud Service</td>
<td>Tues, Oct 27 11:45 AM - 12:45 PM</td>
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<td>Using Oracle Service Bus to Power Your Integration Today and into the Future</td>
<td>Thurs, Oct 29 2:00 PM - 3:00 PM</td>
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<td>Oracle B2B, Oracle Healthcare, and Oracle Managed File Transfer</td>
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<td>Oracle Business Activity Monitoring and Oracle Real-Time Integration Business Insight</td>
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<td>SLM</td>
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<td>Oracle Integration Adapters: Rich and Comprehensive Connectivity to SaaS, On-Premises, and More</td>
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<td>Oracle Integration Cloud Service</td>
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Moscone South, Lower Left, Middleware

Moscone South, Oracle Cloud Platform and Infrastructure Showcase
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Oracle Cloud Platform: Integration Services

INTEGRATION

- Integration
- SOA
- API Manager
- Internet of Things
- GoldenGate