Payment Engines as Business Process [$\mu$]Services

Towards a new normal?

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What we’ll be discussing today

as observed in the world of payments...

The tragedy thy name is SOA - really?

Microservices - Where are we in the Hype cycle?

Payment Engines - Can the Distributed Monolith be transitioned to Microservices?

Why/How Business Process [Micro]services?

Q&A
Did SOA ever make it out of the “Trough of Disillusionment*”?

- **SOA - Standards Obsessed Activities**
  Too many standards, too less implementation

- **SOA Architects - State of Armchair Architects**
  That dreaded world of Governance gatekeepers

- **SOA - Salt over Agony**
  Transition to SOA was supposed to deliver on a promised ROI

- **SOA - SOA on Attic**
  “We’ve implemented SOA; but that’s legacy. Let’s modernize”

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Microservices - Where are we in the “Hype cycle”?

“We’ve tabled our Microservices journey”
Not modernization; but greenfield evaluations - yes.

“We have more than nnn Microservices. We’re evaluating between Istio and linkerd”
Trying the best way possible to manage Service proliferation

“Containerization - Yes. Microservices - Not yet”
We’ve piloted using OpenShift, Mesosphere, Tectonic, PCF and others. We will decide soon.

“Microservices - Yes. Containerization - Not yet”
“We’re fairly mature with our Microservices implementation; but it’s all on VMs”

Payment Engines - Can the ‘Distributed Monolith’ be transitioned to Microservices?

<table>
<thead>
<tr>
<th>Developers/Actors</th>
<th>Clients</th>
<th>Access Channels &amp; Message Formats</th>
<th>Presentation Layer</th>
<th>Business Process Composition Layer</th>
<th>Services Layer</th>
<th>Components Layer</th>
<th>Data Access/Integration Layer</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issuer</td>
<td>Mobile Developer</td>
<td>Merchant</td>
<td>Acquirer</td>
<td>Partner</td>
<td>Other Onboarding Entities</td>
<td>Admin (Internal) User</td>
<td>Web Browsers</td>
<td>Persuasive devices (Smart Phones, Tablets, Phablets)</td>
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</tbody>
</table>

- Candidate layer for a WCM/CMS based presentation framework
- Social Feeds
- Blogs/Community
- Web Analytics
- Content Delivery
- Personalization
- Developer Console
- Content Streaming
- Web
- Workflows
- Content Authoring
- Approval and Rework Workflow
- Content Staging and Publication
- Content Replication
- Rules
- Content Scheduling
- Content Archiving
- i18n

Essentially a realization layer (to integrate with the API Gateway)
Why Business Process Services?

Management Layer
- Product Configuration
- Process Modeling
- Business Rule Modeling

Business Service Layer
- Reconciliation
- Mandate Management
- Liquidity Management
- FX Handling & Payment Init.
- Sanctions
- Advice & Settlement
- Exception Handling
- Billing and Reporting

Business Process Layer

Payment Processing Layer
- Validation
- Authorization
- Credit/Debit Party Ident.
- CBR, Special instr. checks
- Payment Warehousing
- Sanctions
- Fees & Charges
- Payment Cover Match
- Balance Check
- Foreign Exchange
- Liquidity
- Cut-off Checks
- Send outward Message
- Account Entries Generation
- Refunds & Cancellations
- Settlements
- Reporting
- Routing
“How” as Business Process [Micro]services?

DevOps Ready
Business Process SDLC has now matured to be pluggable in highly mature DevOps CI/CD Pipelines

Containerized Ecosystem
Business Process Services can be deployed as containers, allowing you to reap the benefits of Containerization

Elastic Scalability
With containerization also come the benefits of Elastic scalability - powered by the Red Hat OpenShift PaaS/CaaS
Thank you

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Red Hat Process Automation Manager

**DEPLOYMENT OPTIONS**
- Embedded
  - Java/JavaEE
  - Spring
- Deployed on an Application Server

**ON PREMISE OR CLOUD**
- public
- hybrid
- private
- OpenShift
- Azure
- AWS

*provided by our partner, Trisotech*