Conclusions

Oxford University
Software Engineering Programme
Dec 2013

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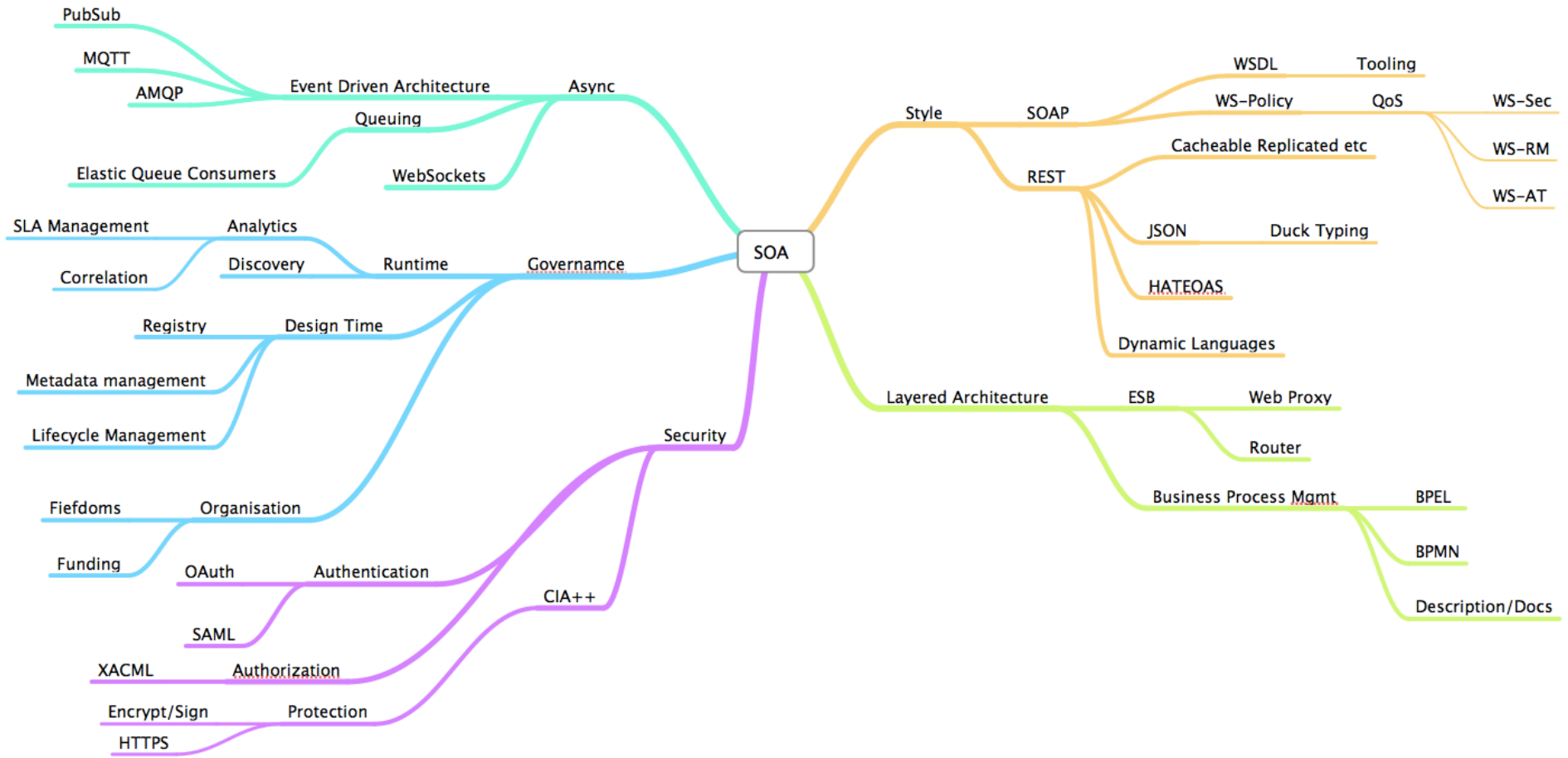

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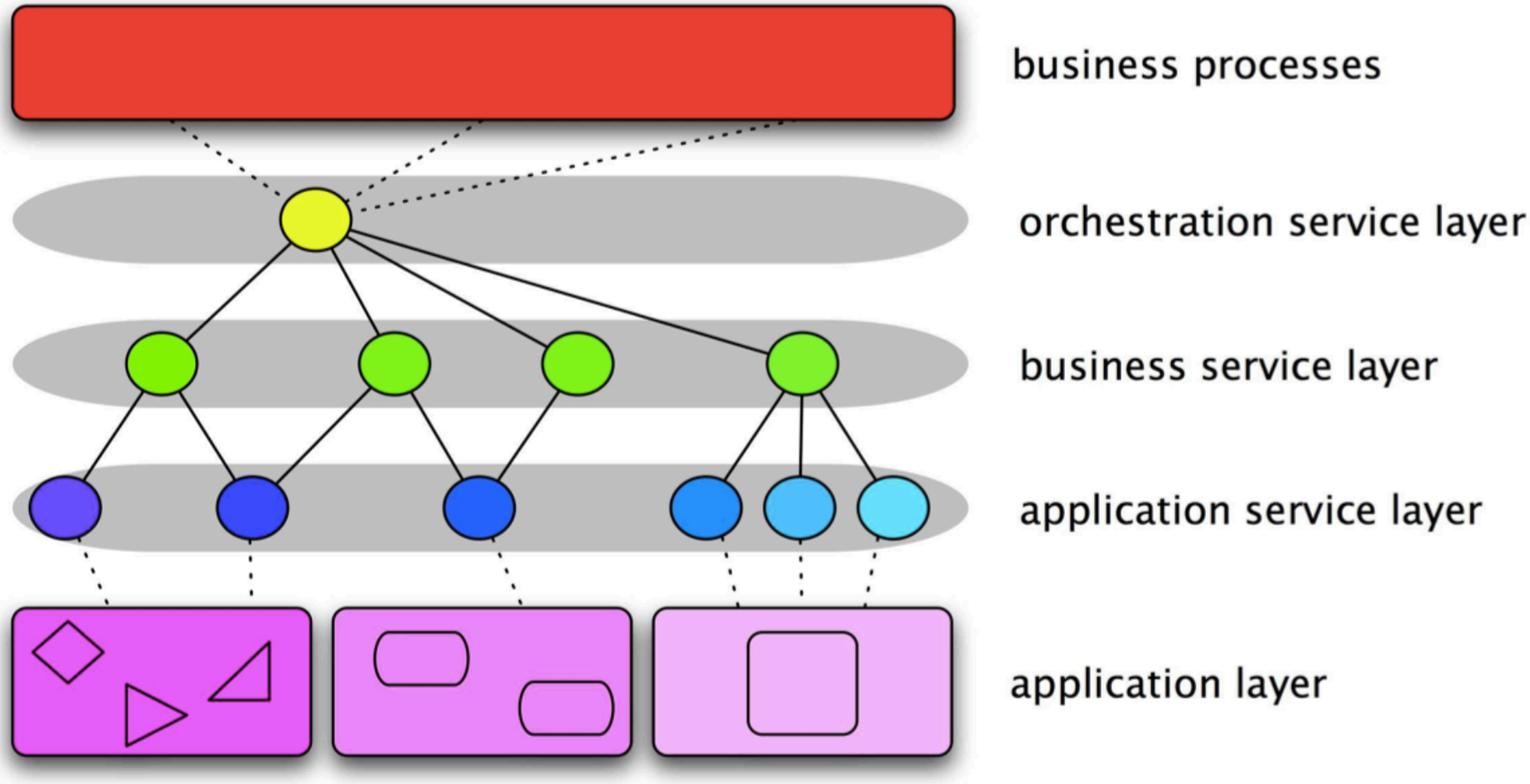
SOA



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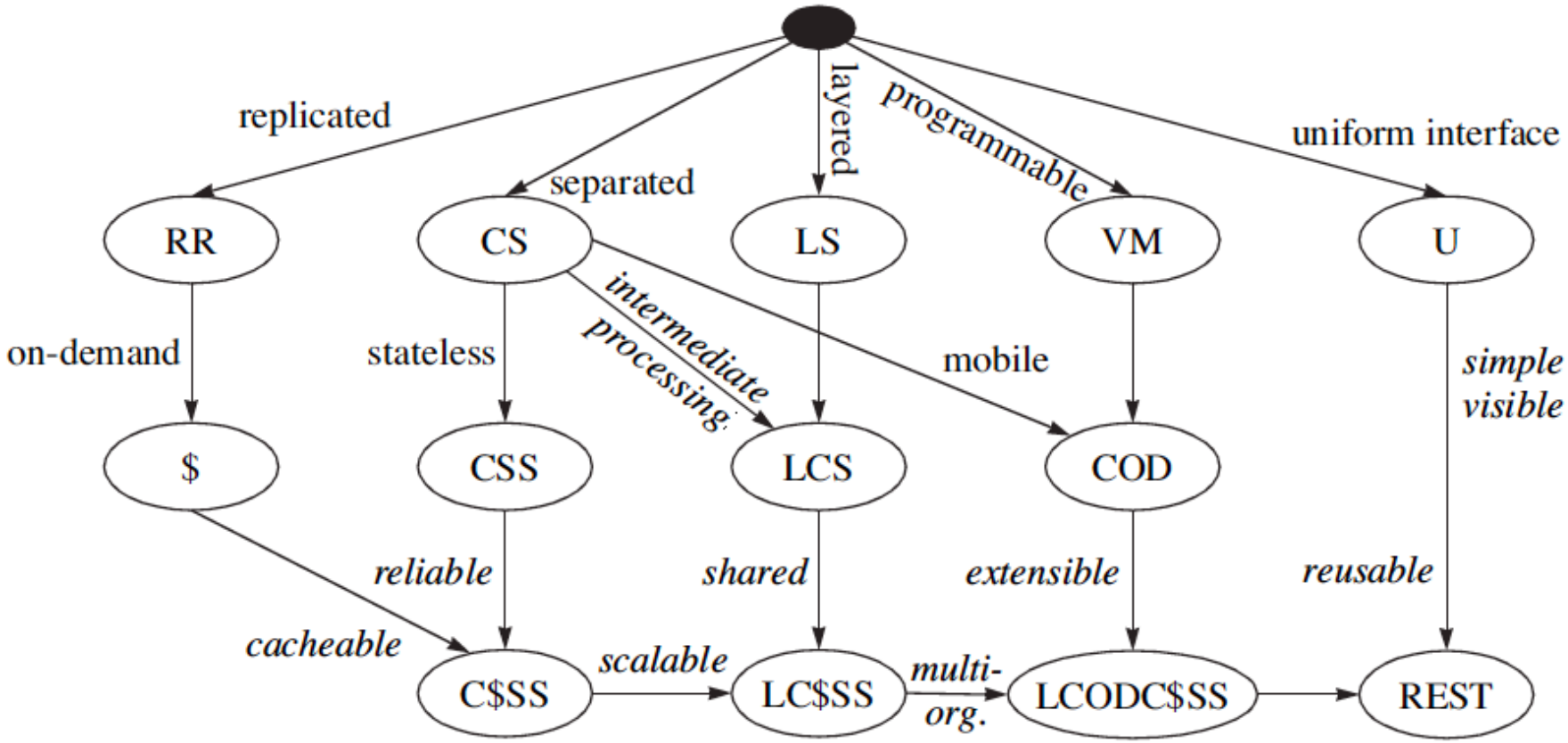
REST



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HATEOAS

```
201 Created
Location: http://starbucks.example.org/order/1234
Content-Type: application/xml
Content-Length: ...

<order xmlns="http://starbucks.example.org/">
  <drink>latte</drink>
  <cost>3.00</cost>
  <next xmlns="http://example.org/state-machine"
    rel="http://starbucks.example.org/payment"
    uri="https://starbucks.example.com/payment/order/1234"
    type="application/xml"/>
</order>
```

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SOAP and WS-*

- Composable
  - WS-Security, ReliableMessaging, etc
- Transport independent
- Tooling
- Schemas and WSDLs
  - Governance

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SOAP vs REST?

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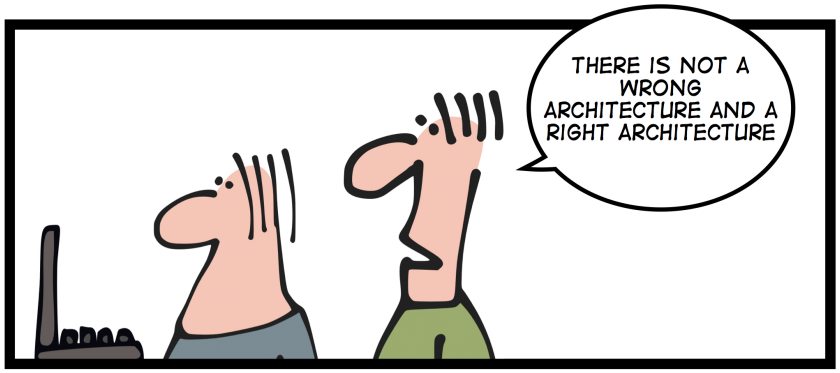
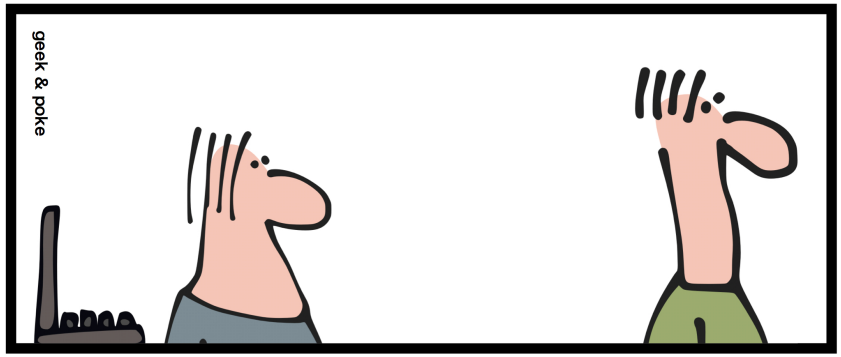
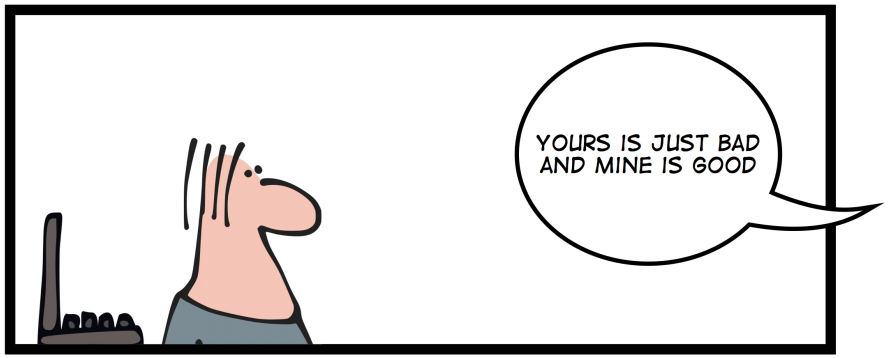


IT ARCHITECTURE IS NOT ALWAYS SIMPLE



FORTUNATELY...



... MOST OF THE TIME IT IS

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uthor(s).

Design Governance

- Interfacing SOA into the build/test/ production
- Encouraging Service Re-Use
- Lifecycle and Dependency Management
- Notification

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Runtime Governance

- Monitoring
- SLA management
- Correlation of activities into flows

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Services vs APIs

- Focus on the consumer
  - Self-signup and subscription
  - Tracking and usage
  - Developer portals and ease-of-use
  - Monetization

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ESBs and Intermediaries

- ESB Patterns
  - Façade
  - Hub
  - Federated
  - Monitoring point
  - Transformation
- ESB vs Registry or both?

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Orchestration and Composition

- BPMN, BPEL
- Executable Documentation?
- Visibility and Monitoring

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Design Considerations

- Granularity of Services
- Ensuring that SOA is being used for a good reason:
  - Scale
  - Organizational boundaries
  - Evolvability
- Where to draw the boundaries?
  - Between services
  - Between ESB and BPM
  - Between organizations
- Are your layers right?

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Organizational issues

- Funding models
- Fiefdoms
- Ecosystems / Value Webs
- Shadow IT / Cloud

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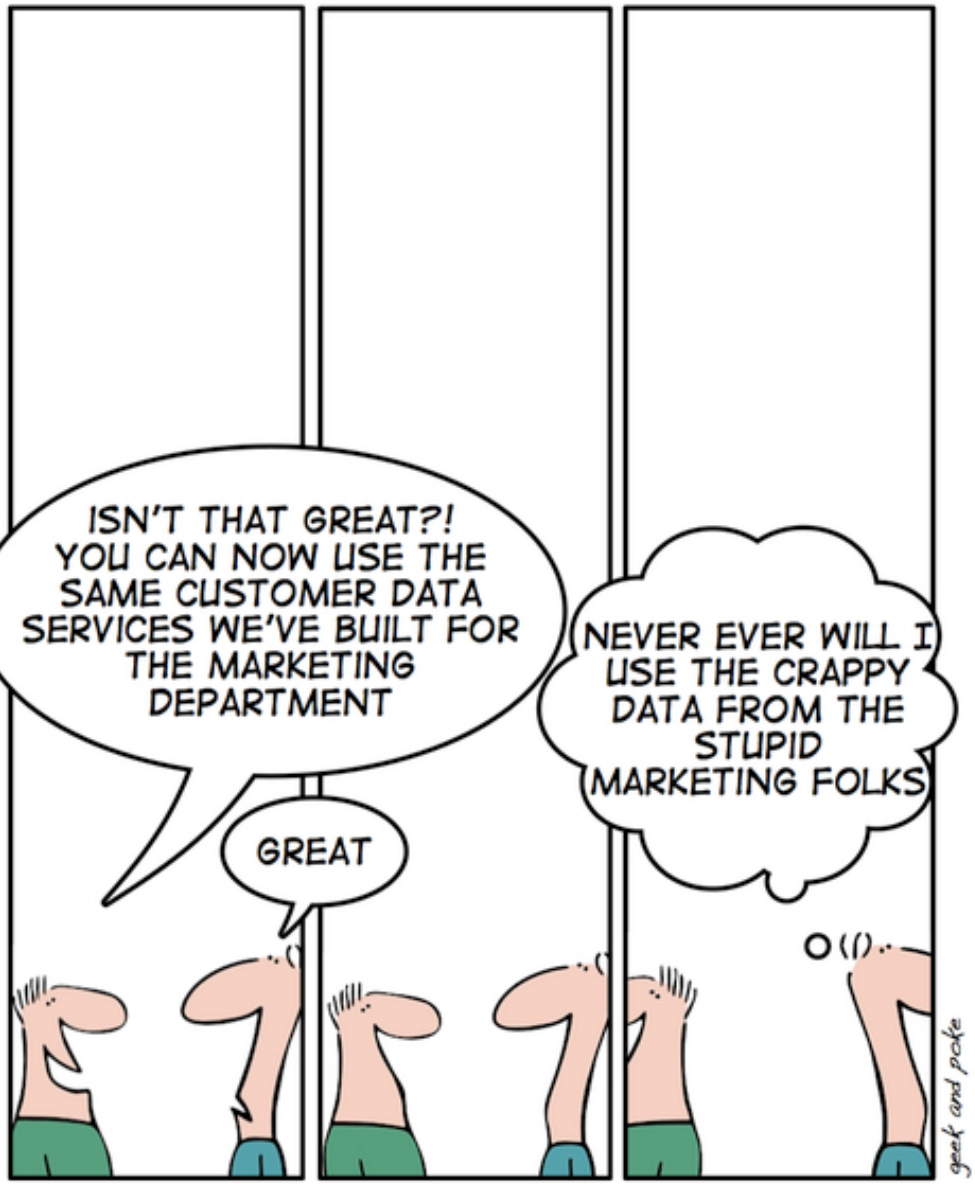

THE BENEFITS OF A SOA

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SOA and Cloud

- SOA is loose-coupling between applications and applications
- Cloud is loose-coupling between applications and infrastructure

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What else?

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Thanks!

paul@fremantle.org
paul@wso2.com
@pzfreo
LinkedIn/Facebook/Slideshare/Github

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