




Cloud Computing – Key Models and Integration Perspectives

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Agenda

- 
- ▶ Introduction
 - ▶ Canada and Cloud Hype
 - ▶ Models and SOA Fit
 - ▶ SOA and PaaS Integration
 - ▶ Final Descent Through the Clouds

Objective Today

- ▶ Provide Canadian context
- ▶ Provide interesting analogies
- ▶ Provide cloud model examples
- ▶ Identify SOA fit and perspectives
- ▶ Preliminary cloud benefits/ results with PaaS
- ▶ Encourage SOA cloud collaboration

Cloud Perspectives

- ▶ NIST – RA, Metrics, Carrier, Broker, Security
- ▶ OMG CSCC – SLA, Reference Architecture
- ▶ IEEE – Reviewer and Keynote at SoSE
- ▶ ITU-T (UN) – JCA
- ▶ TM Forum – Cloud SLA and Metrics
- ▶ CSA – Canada Chapter Founding Exec
- ▶ ISO – Director, International Software Measurement Association – IFPUG
- ▶ Collaboration between cloud SDOs
- ▶ Canadian Gov't Advisor and Industry Leader

Accelerate time-to-value and manage risks for cloud computing



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Cautious Canada

- ▶ Risk Adverse
- ▶ Government Late to the Cloud Table
- ▶ Private Sector Leading and Partnering
- ▶ Cloud Technology Leaders
- ▶ Telecommunication Challenges
- ▶ US Patriot Act



Canadian Coast Guard – Deployment



Fisheries and Oceans
Canada

Canadian
Coast Guard

Pêches et Océans
Canada

Garde côtière
canadienne

Canada



Canadian Coast Guard

www.ccg-gcc.gc.ca

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canada.gc.ca

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Career Opportunities

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[Shore-based](#)

[CCG College](#)

[Students](#)

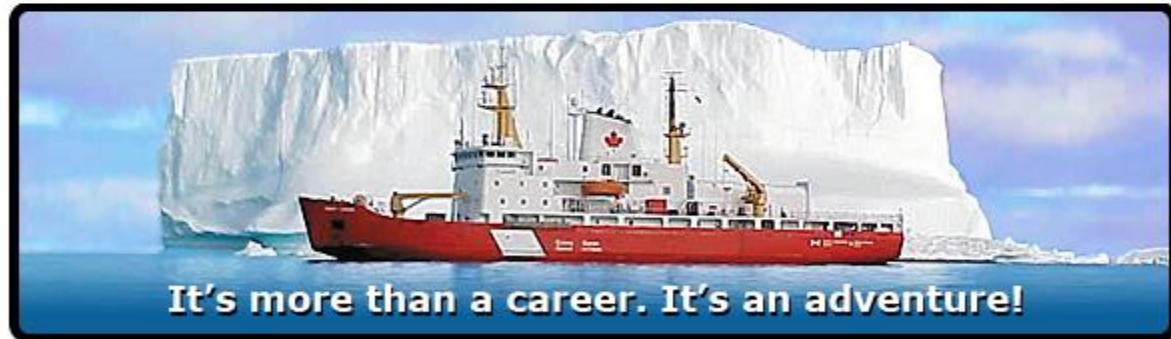
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Media

[Photo Gallery](#)

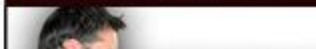
[360 Virtual Tours](#)

[Coast Guard Videos](#)



Careers with the Canadian Coast Guard

Featured Jobs



Oh Canada!

- ▶ Shared Services Canada
- ▶ Consolidate Services and Data Centres
- ▶ 43 Departments and Agencies
- ▶ Over 7000 IT Related Positions
- ▶ Budgets Allocated
- ▶ Community Cloud Provider, Consumer and Broker



US Cloud Washing



Consumer Side “Shadow IT”

- ▶ Unresponsive IT?
- ▶ Not Innovative IT?
- ▶ I can use my credit card!...problem solved!



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NIST – Cloud Essentials

- ▶ National Institute of Standards and Technology (www.nist.gov)
- ▶ Model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (networks, servers, storage, applications, services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

The Rental Model



My Rental

Buy

Rent



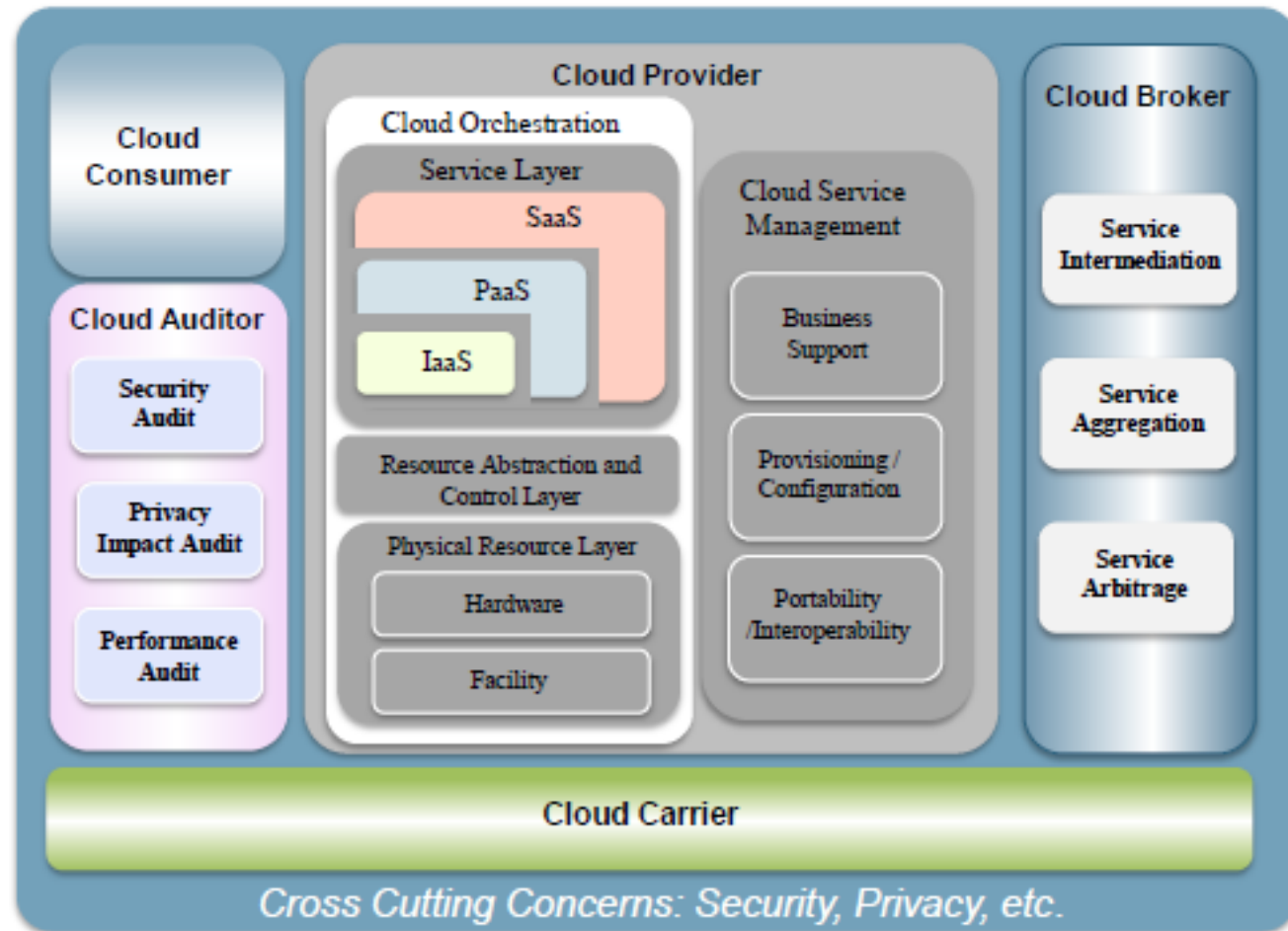
Lease

Public Transit

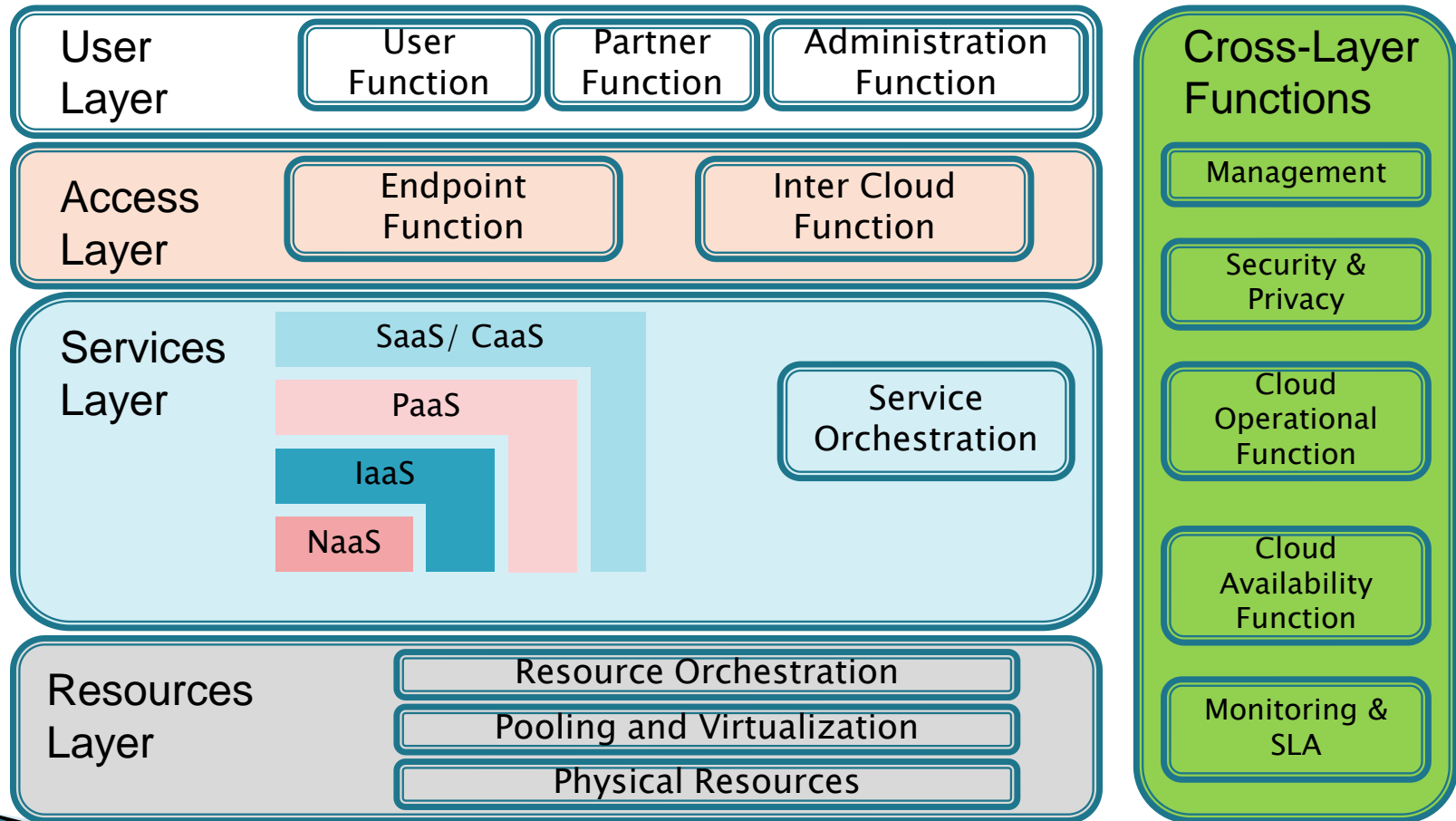
My Rental Experience

- ▶ Economy Car
 - ▶ Without Air
 - ▶ Unlimited Mileage
 - ▶ Automatic
 - €21.74/ Day
 - 4 Days
 - Taxes Fees €43.52
 - Total €130.48
- €21.74/ Day
 - 4 Days
 - Taxes Fees €43.52
 - “Total” €130.48
 - Ireland Insurance
 - N. Ireland Insurance
 - Airport Fee
 - Actual Total €323

NIST Combined Conceptual Reference Diagram – 2013



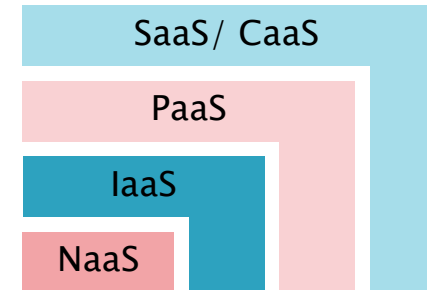
ITU-T Function Reference Architecture



SOA Fit

- ▶ Service mentality
- ▶ Building for Reuse
- ▶ Improve efficiency
- ▶ Improve delivery on commitments
- ▶ Improve time-to-market
- ▶ Improve effectiveness

Services
Layer

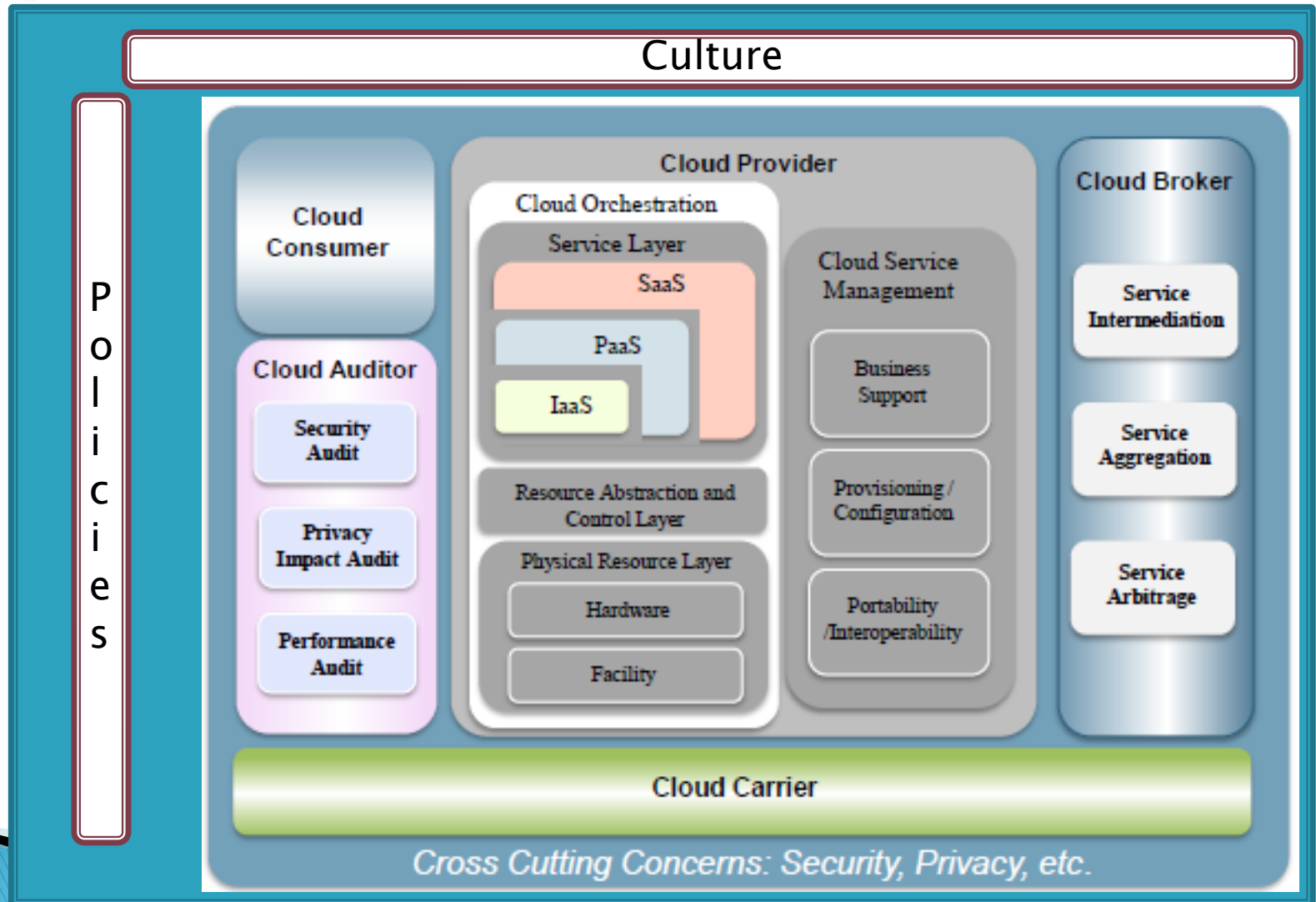


SOA approaches can be applied to Service Models in the Cloud

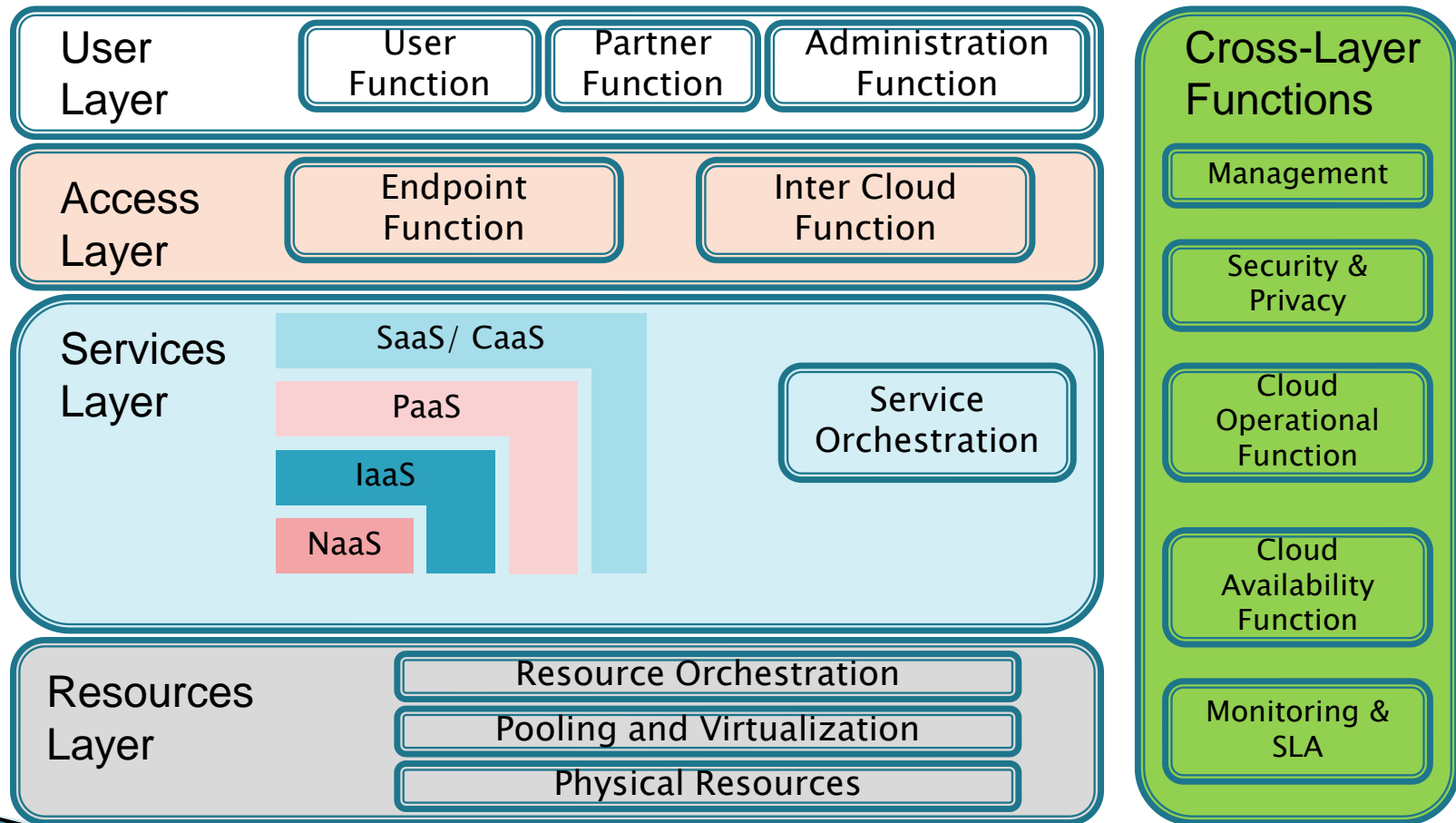
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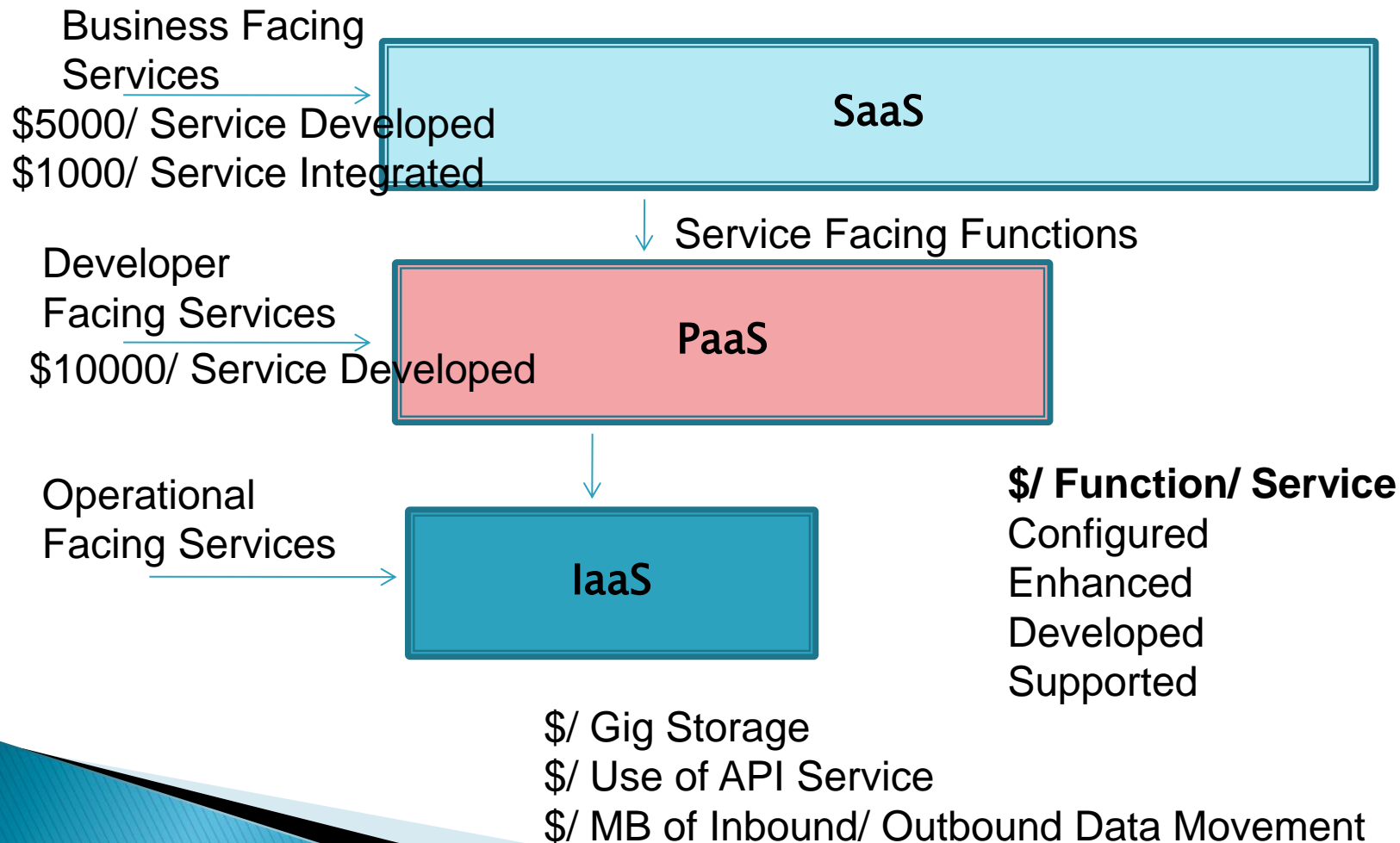
Combined Conceptual Reference Diagram – Critical Considerations



ITU-T Function Reference Architecture



Functionality Discussions with Other Commodities



Cloud Modeling Helps Clarify Boundaries

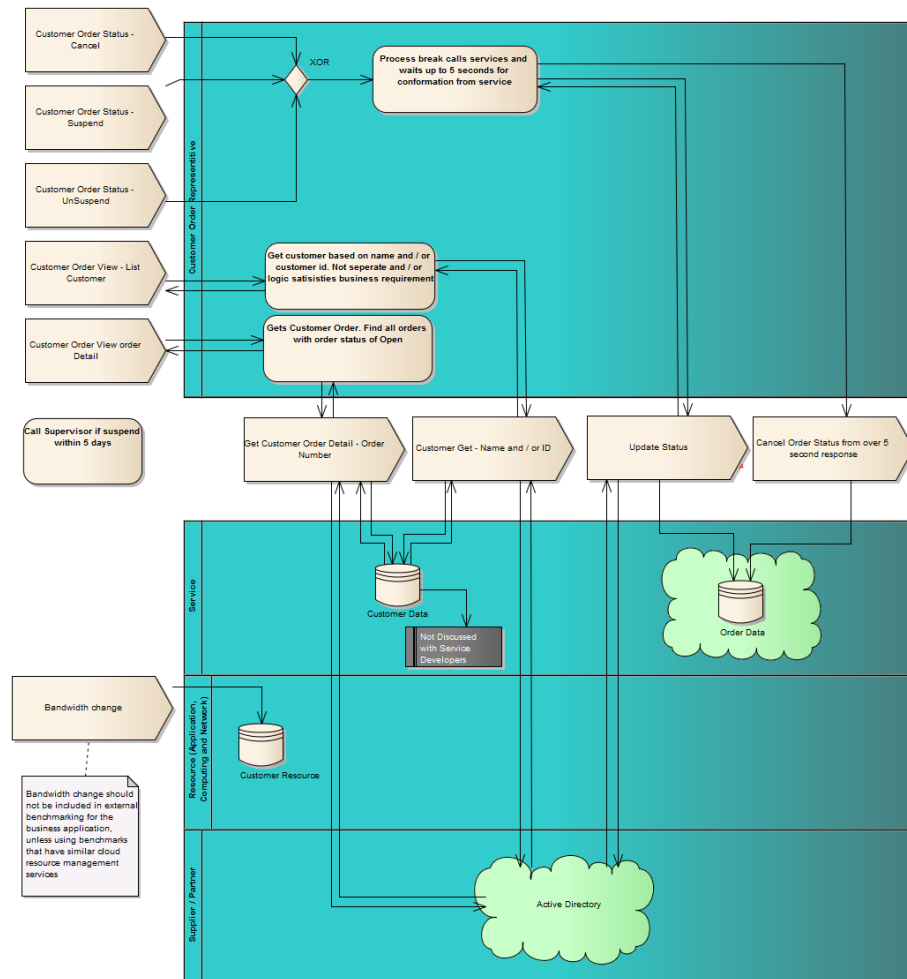
Highlights
SOA Reuse
Opportunities

Cloud Models
& Other
Considerations

SaaS

PaaS

IaaS



Made with Sparx Systems Enterprise Architect
www.sparxsystems.com

Reusable Services Enabling APIs

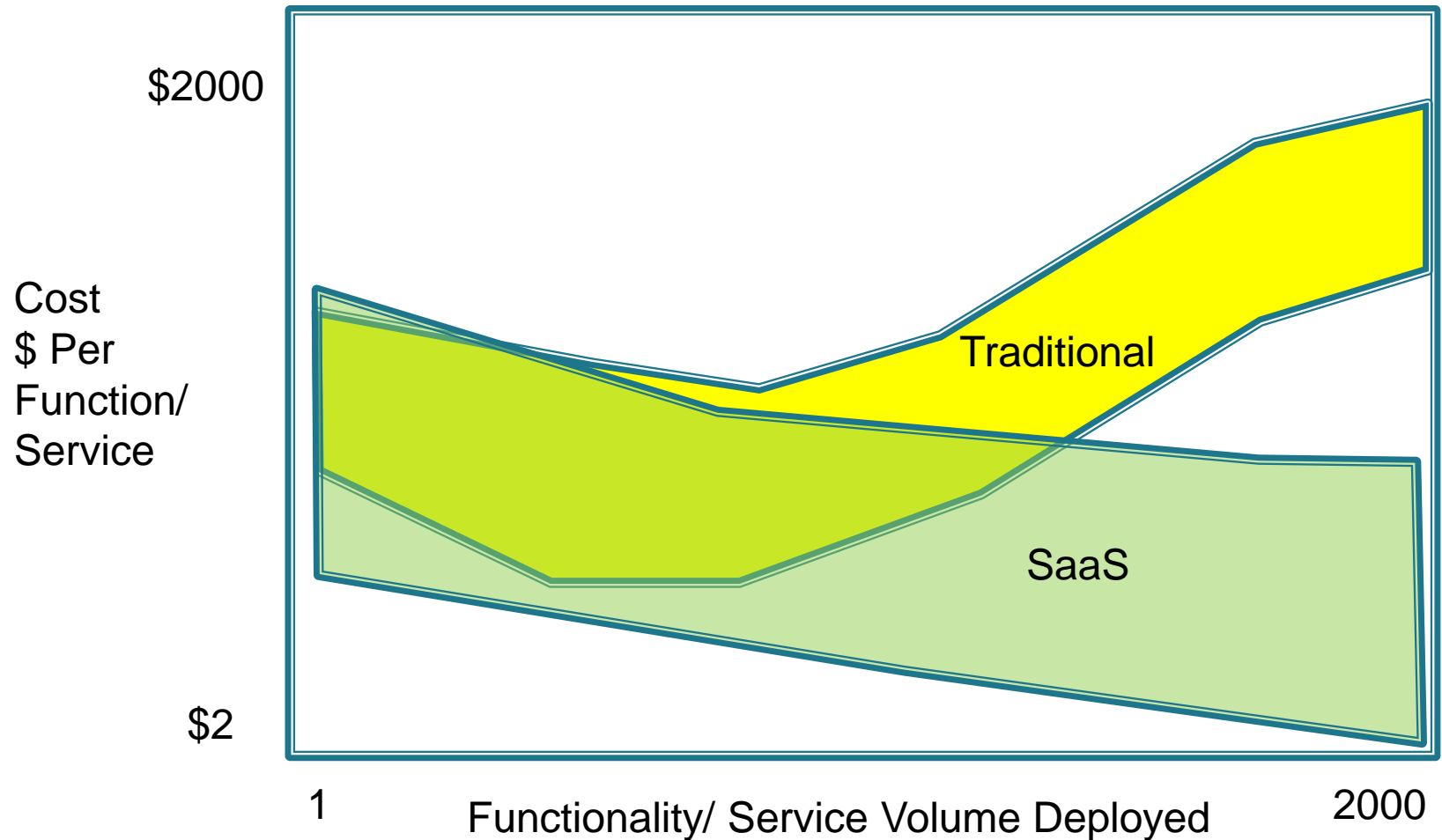


Understand what is in the layer
What are the consequences?
Does it look too good to be true?

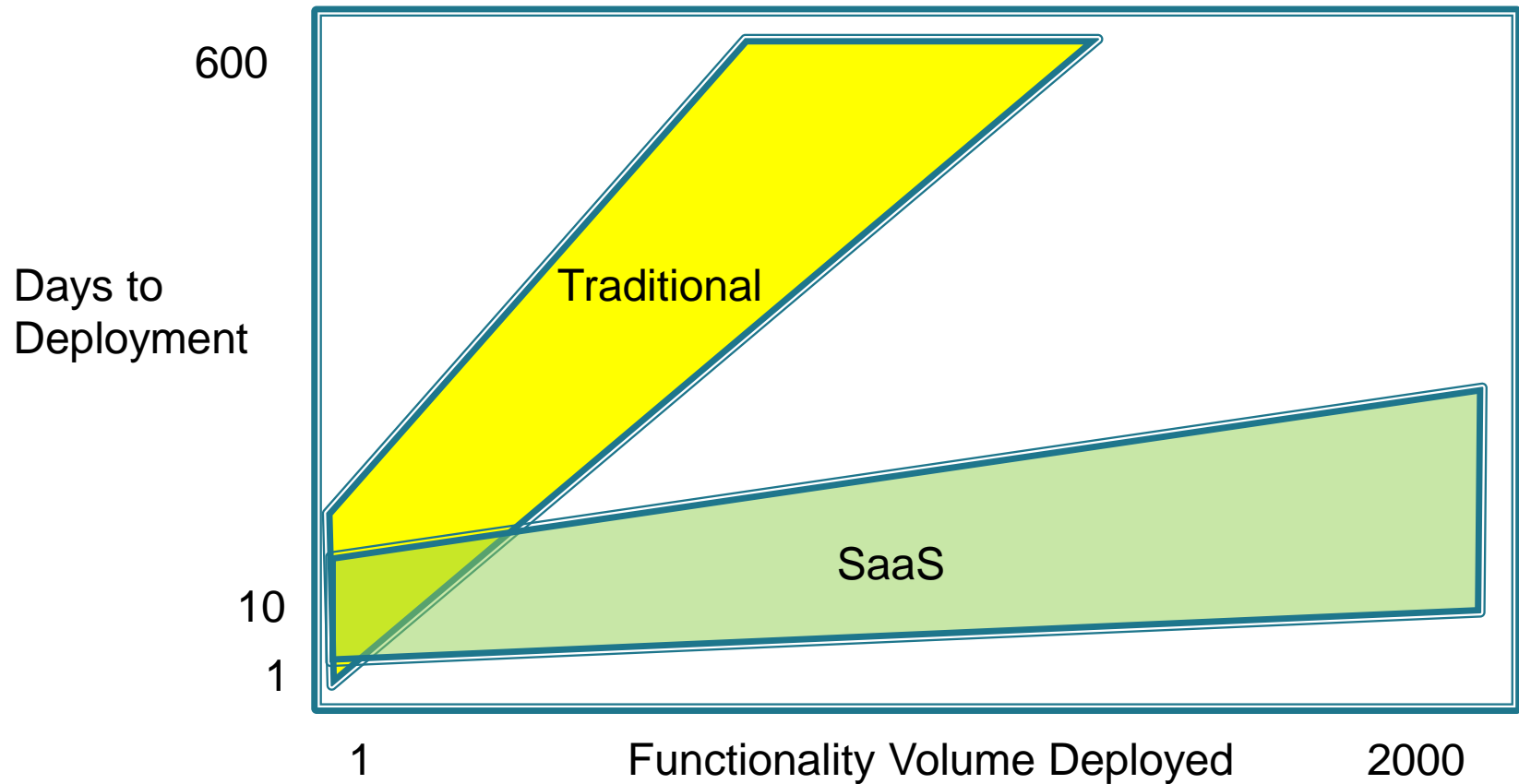
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Cost vs Functionality New Deployment (Enterprise App)



Schedule vs Functionality New Deployment (Enterprise App)



Modeling the Costs to Get There and Demonstrate Results

- ▶ Migration
 - Average Costs by Appropriate Categorization
- ▶ New Development
 - Average Costs by Appropriate Categorization
 - Premiums (Schedule and Quality)
- ▶ Conversion
- ▶ Integration and Configuration
- ▶ Training/ Education
- ▶ Business Impact (Regulations, Policies)

Categorization Costing Examples

- ▶ Configuration \$700/ Business Function
- ▶ Development \$4000/ Business Function
- ▶ Migration to cloud \$3500/ Business Function
- ▶ SaaS development leveraging reusable SOA Services \$1000/ Business Function
- ▶ SaaS deployed product with minor configuration and integration \$300/ Business Function
- ▶ SaaS Total Cost of Ownership for 10 Years \$3 million vs \$10 million from traditional IT

SOA Approaches and Cloud Help Realize “Real Business Benefits”



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