FINANCIAL SERVICES MODELS

- *Sari Lafferty, DCIA*
- *Jamie Brenzel, KineticD*
- *Amit Khanna, Virtusa*
- *Scott Swartz, MetraTech*

SaaS-ification of Data Protection

- Value proposition behind cloud-based backup and recovery the same as for cloud computing:
  - Shift away from capex to opex model
  - Predictable, subscription-based, pay-per-use pricing
  - Ease of use and "hands off" management of infrastructure by cloud enablers or their channel partners
  - Reduction/elimination of floor space; staff; power and maintenance expenses.

Historical Barriers of Cloud

- Two biggest barriers to adoption have been performance and security:
  - Performance:
    - Speed of the internet
    - Backing up and restoring large data sets
  - Security:
    - Encryption
    - Loss of control over data and user access to data
    - Compliance – especially in legal, financial and healthcare
    - Aversion to change

SMB & ROBO Adoption

- Advances in internet bandwidth
- Bandwidth optimization technologies such as data compression and de-duplication
- Virtualization + cloud enables low-cost disaster recovery and business continuity
- Advanced encryption – at source; in flight; and at rest
- Improved physical security at cloud locations
- Multi-tenancy
- Granular reporting

Manulife Financial

Challenge: Manulife Financial needed a cloud backup solution for it's distributed workforce of advisors working remotely:

– Reliable

– Easy to use

– Broad support of business applications like Outlook

– *"One of the key components in choosing a cloud backup provider was that they have a very strong track record of data recovery"* said John Cossar, Manulife's Director of Field Technology Services. *"Fortunately, there were already several independent Manulife Financial Advisors that were KineticD customers. KineticD's 100% data recovery track record is what initially attracted these advisors and the main reason they highly recommended KineticD to Manulife Financial".*
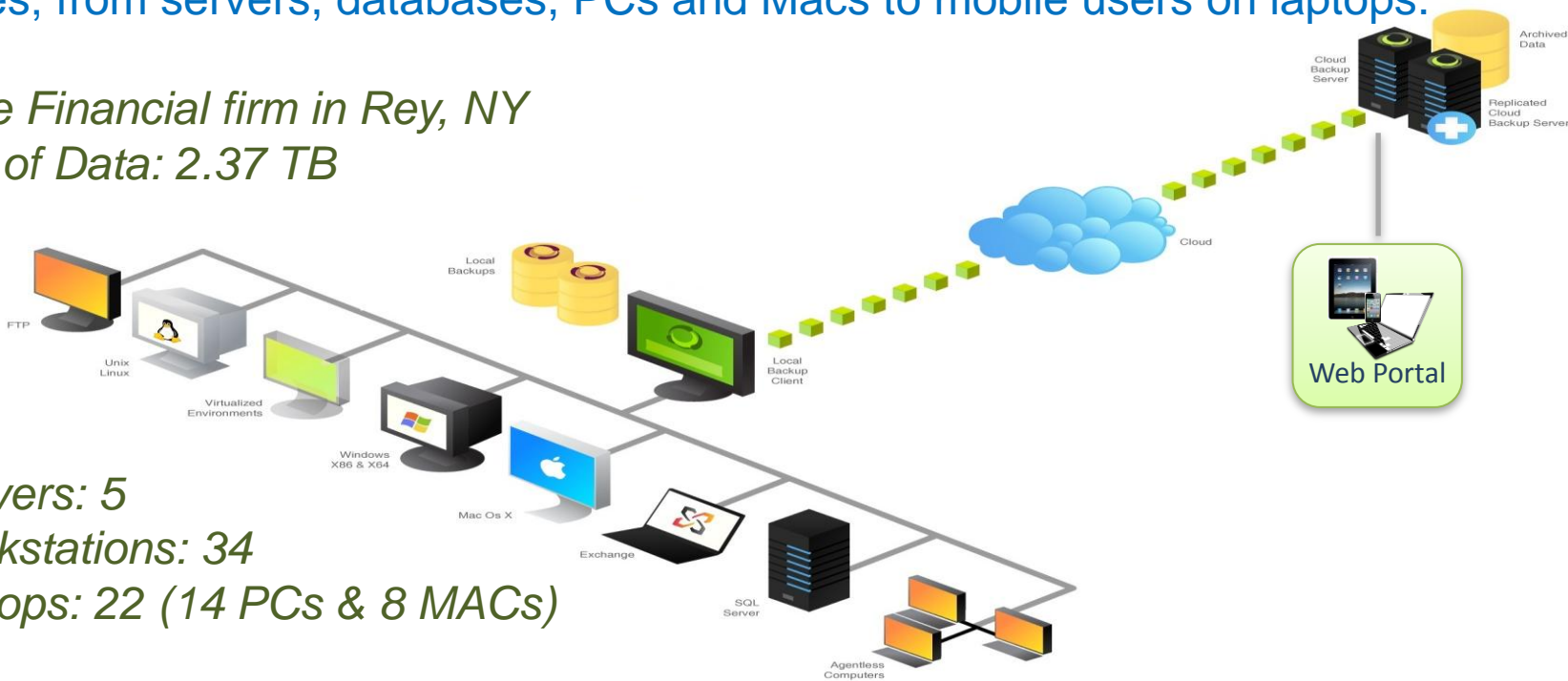
CapRok Capital LLC: Hybrid Cloud Backup

Challenge: Find a backup solution that addresses specialized backup clients for different technologies; from servers, databases, PCs and Macs to mobile users on laptops.

- *Boutique Financial firm in Rey, NY*
- *Amount of Data: 2.37 TB*

- *# or servers: 5*
- *# of workstations: 34*
- *# of laptops: 22 (14 PCs & 8 MACs)*

Conclusion

– *SaaS-ification of traditional stand alone services (like backup/recovery, file sharing/sync, DR & business continuity) are blurring as cloud vendors combine these functions into integrated cloud-based services.*

PaaS Case Study Keynote

- Amit Khanna, Vice President , Technology at Virtusa

Agenda

- **Introduction**
- **PaaS**
  - Overview
  - Considerations
- **Case Study**
  - Application - Wealth Management

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Virtusa is a Global IT Services Provider with 7000 professionals worldwide

Multi-national corporation

- Headquartered in Westborough, MA
- Locations in US, Europe, Asia and Middle East

92 active clients

Listed on NASDAQ (VRTU)
Rapidly growing & profitable

- FY 2013 revenue: $333.2 million
- Operating income: $32.9 million
- 10-year revenue CAGR: 29.72%

Domain

- BFSI
- Communications & Tech
- Media & Information and Other

13%
27%
60%

top EMPLOYERS 2013 CERTIFIED BY THE CRF INSTITUTE

THE STEVIES THE AMERICAN BUSINESS AWARDS

2012 Forbes Best Small Companies

HRM AWARDS 2012

BEST IT EMPLOYERS

2012 Global Services 100

2012 FINTECH 100

2010 100 The Global Outsourcing IAOP

Deloitte. Technology Fast 500 2010
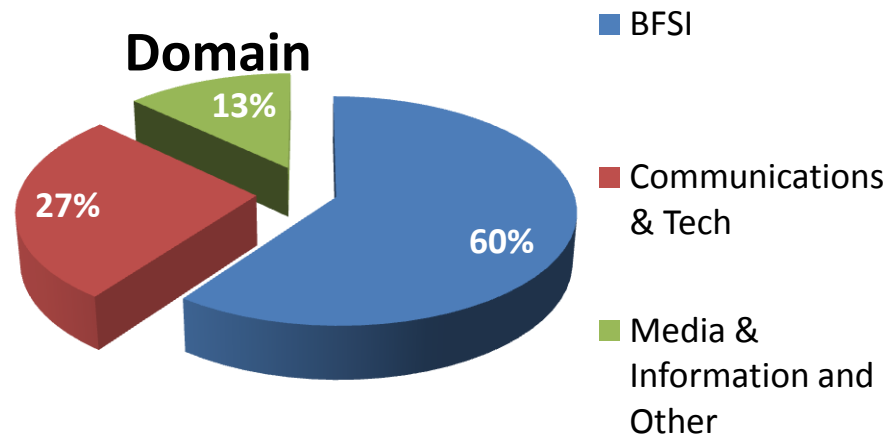
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Virtusa's Cloud based service offerings span the entire software spectrum from assessment, migration, implementation to integration

Cloud Assessment and Strategy	What to move? Where to move? How to move ? Business case and ROI analysis
PaaS Application Development	Force.com, Azure based application development
Cloud Migration	Application fork lifting. Leveraging IaaS platforms such as AWS
Cloud Integration Services	Architect and build a cloud based integration architecture which connects on premise and cloud based enterprise applications
Cloud Managed Services	Cloud based application management and support
Data Center Automation	Cloud self service portal, Cloud orchestrators. Cisco CIAC

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PAAS OVERVIEW

Cloud computing is a pay-per-use model for enabling convenient on-demand network access to a shared pool of configurable computing resources
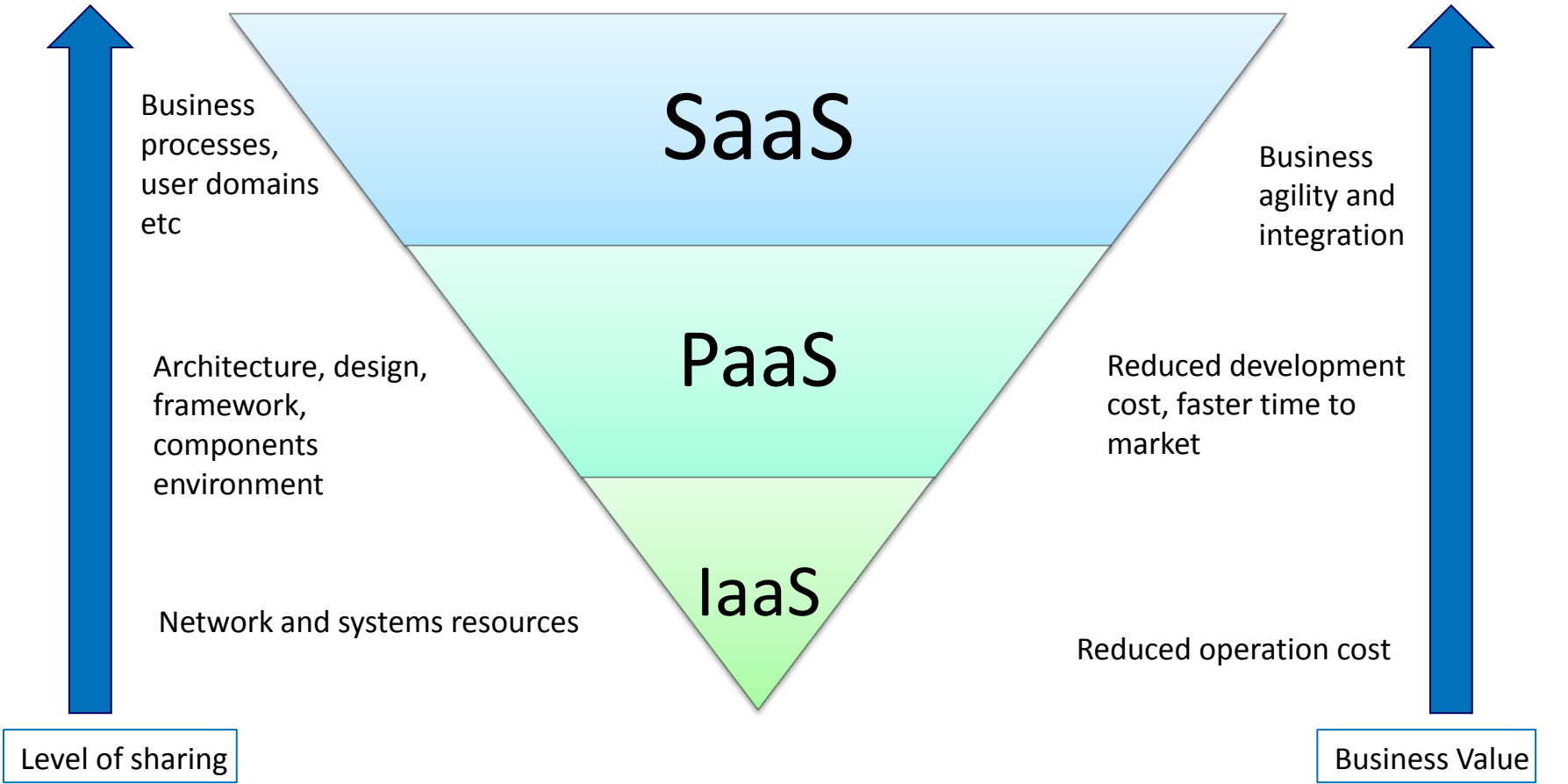

Multitenancy

Scalability

Elasticity

Pay as you go

Self Provisioning

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There are 3 flavors of cloud computing : Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS)

Business processes, user domains etc

SaaS

Business agility and integration

Architecture, design, framework, components environment

PaaS

Reduced development cost, faster time to market

Network and systems resources

IaaS

Reduced operation cost

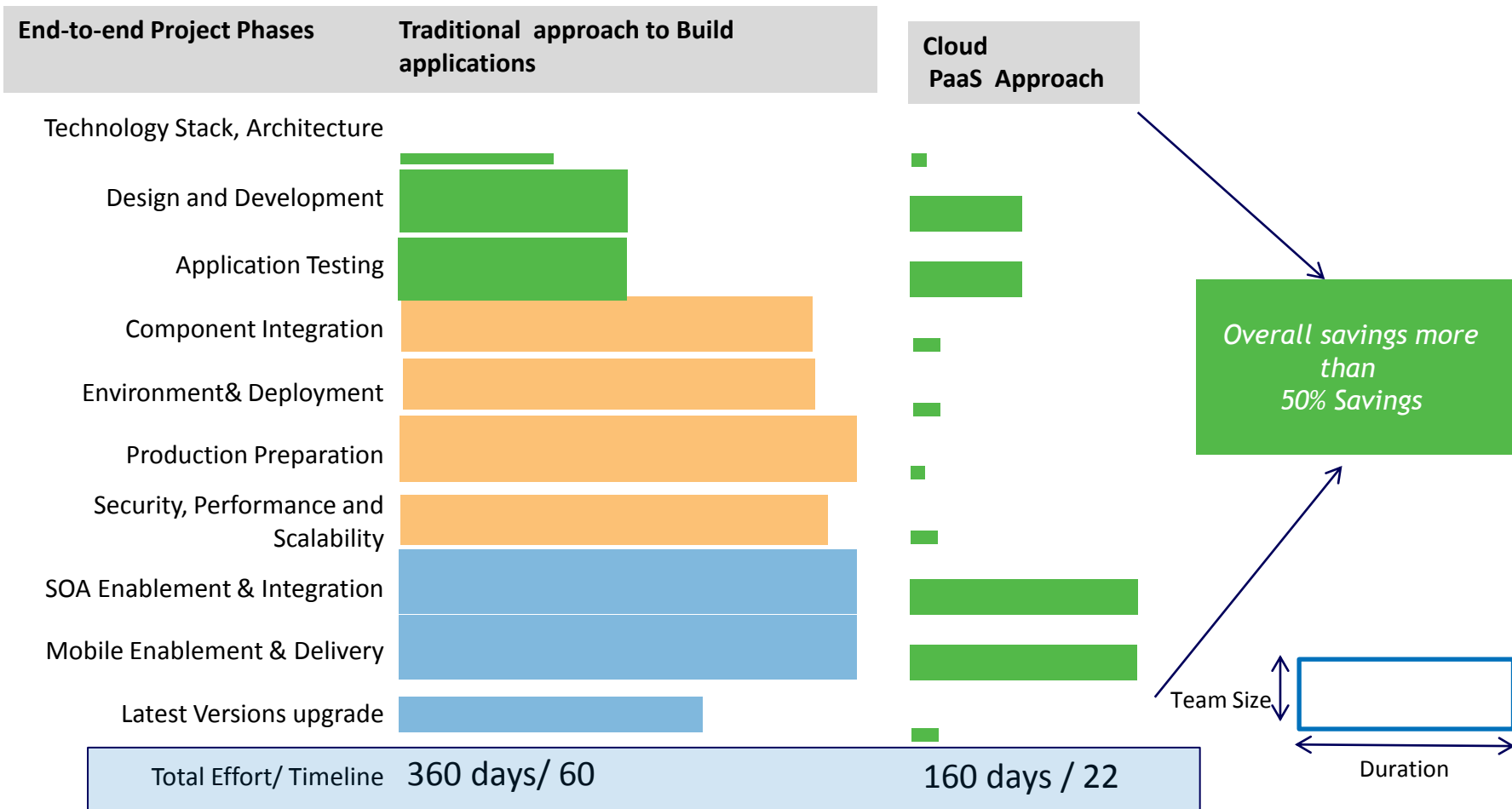Level of sharing

Business Value

The level of sharing and the business value increases as we move up the cloud value chain (from IaaS to PaaS and SaaS)

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PaaS platforms not only provide elastic compute and network capabilities; they also provide enterprise frameworks , development environment and tools and governance
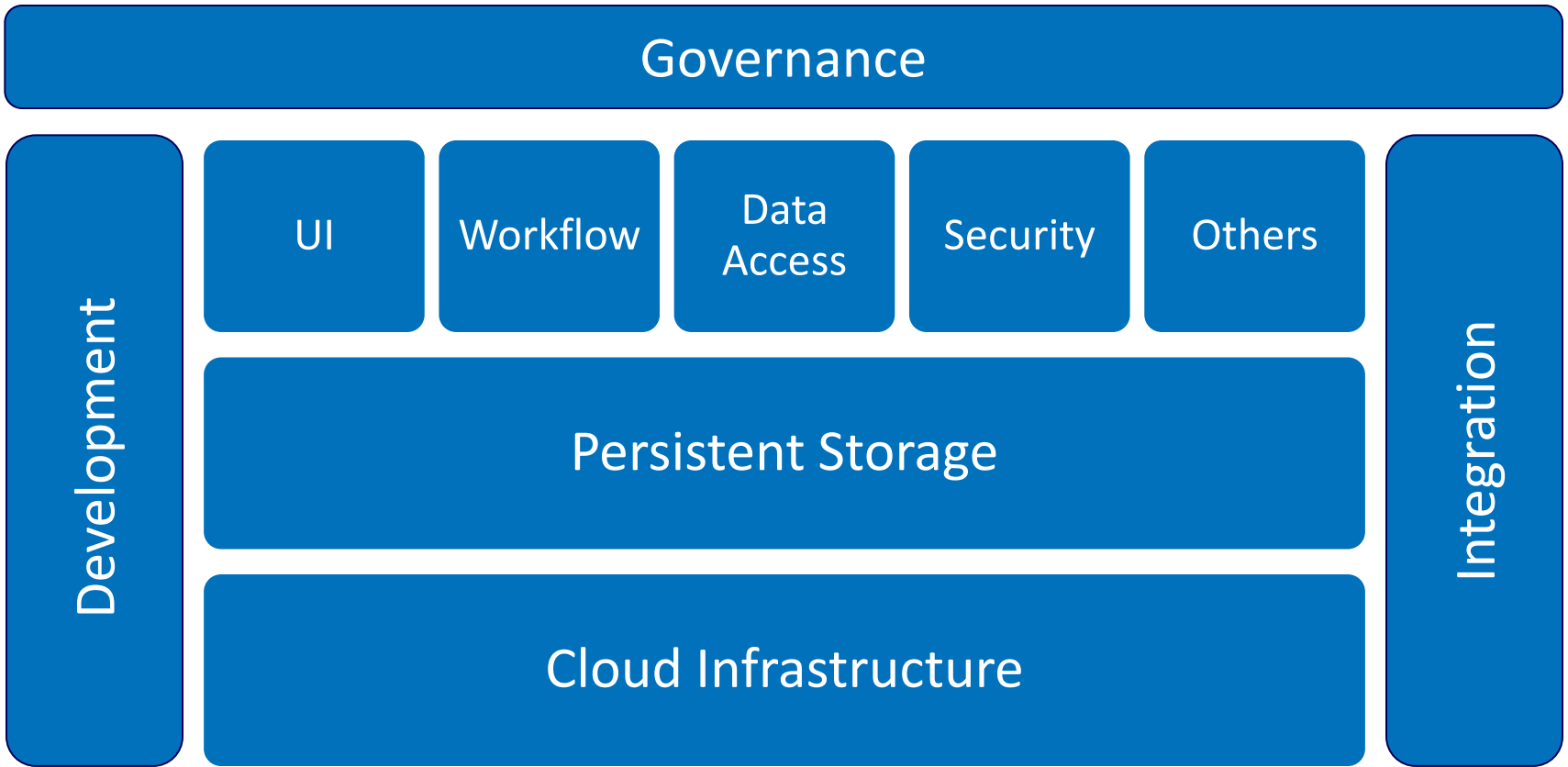
PaaS platform implementations require less time and cost as compared to traditional development

Effort and time line comparison for a Traditional and Cloud PaaS Developments

End-to-end Project Phases	Traditional approach to Build applications	Cloud PaaS Approach
Technology Stack, Architecture		
Design and Development		
Application Testing		
Component Integration		
Environment& Deployment		
Production Preparation		
Security, Performance and Scalability		
SOA Enablement & Integration		
Mobile Enablement & Delivery		
Latest Versions upgrade		
Total Effort/ Timeline	360 days/ 60	160 days / 22

Overall savings more than 50% Savings

Team Size

Duration

Over 66% reduction in overall duration and 55% reduction in effort was observed for the Deal Review POC

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PaaS platforms can be classified as instance, framework or meta data

Instance Microsoft Azure, AppCloud, Beanstalk

- Developers deploy application code to instances of virtual machines

Framework Google App Engine, Heroku

- Developers deploy code conforming to the framework and let the platform worry about deploying it onto compute nodes

Metadata Force.com, Cordys

- Developers create metadata in visual programming environments that is interpreted by the PaaS at runtime.

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Private PaaS is nothing but PaaS within the enterprise

Benefits of Private PaaS

- Choice of Infrastructure provider (internally hosted or public)
- No vendor lock in (if open source)
- Choice of multiple frameworks and languages (sometimes)
- Flexibility to extend at will and according to the enterprise needs
- Data Residency and compliance

Deciding on a PaaS platform is a very important decision and has long term implications

Business

- [ ] Total Cost of Ownership
- [ ] Pricing Models
- [ ] Business Agility
- [ ] Regulatory and Compliance
- [ ] Data Security
- [ ] Liability
- [ ] SLA
- [ ] Vendor Stability

Technical

- [ ] Non Functional Characteristics
- [ ] Users and Throughput
- [ ] PaaS Style
- [ ] SDLC Support
- [ ] Governance
- [ ] Languages Supported
- [ ] Frameworks Supported

Others

- [ ] Scope – application or platform
- [ ] Lock In
- [ ] Vendor Maturity
- [ ] Eco Systems

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CASE STUDY

Wealth Management Application on a PaaS platform – Force.com

Client Acquisition and Management	• A complete, 360-degree view of clients and prospects that combines a robust client profile built specifically for advisors with best-in-class activity management capabilities.
Financial Accounts, Holdings, and Interests	• Financial information can be made available in the interface of a single application and in context with relationship and activity information.
Know Your Client Capture and Workflow	• With compliance processes more important than ever, firms can be confident that the right information is captured securely using the built-in workflow and approvals engine
Relationship Groups and Households	• Aggregate view of households so that on one screen, an advisor can see what is going on with a family or group, along with supporting roles like accountants or attorneys
Advisor Team Collaboration	• Advisors are increasingly partnering and collaborating with specialists and other advisors to provide superior client service.
Easy Analytics with Reports and Dashboards	• More than 30 reports and 8 dashboards specifically designed for advisors, branch managers, and senior management

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Force.com was chosen as the PaaS platform as it provided a business agility, lower total cost of ownership and data security through an encryption gateway

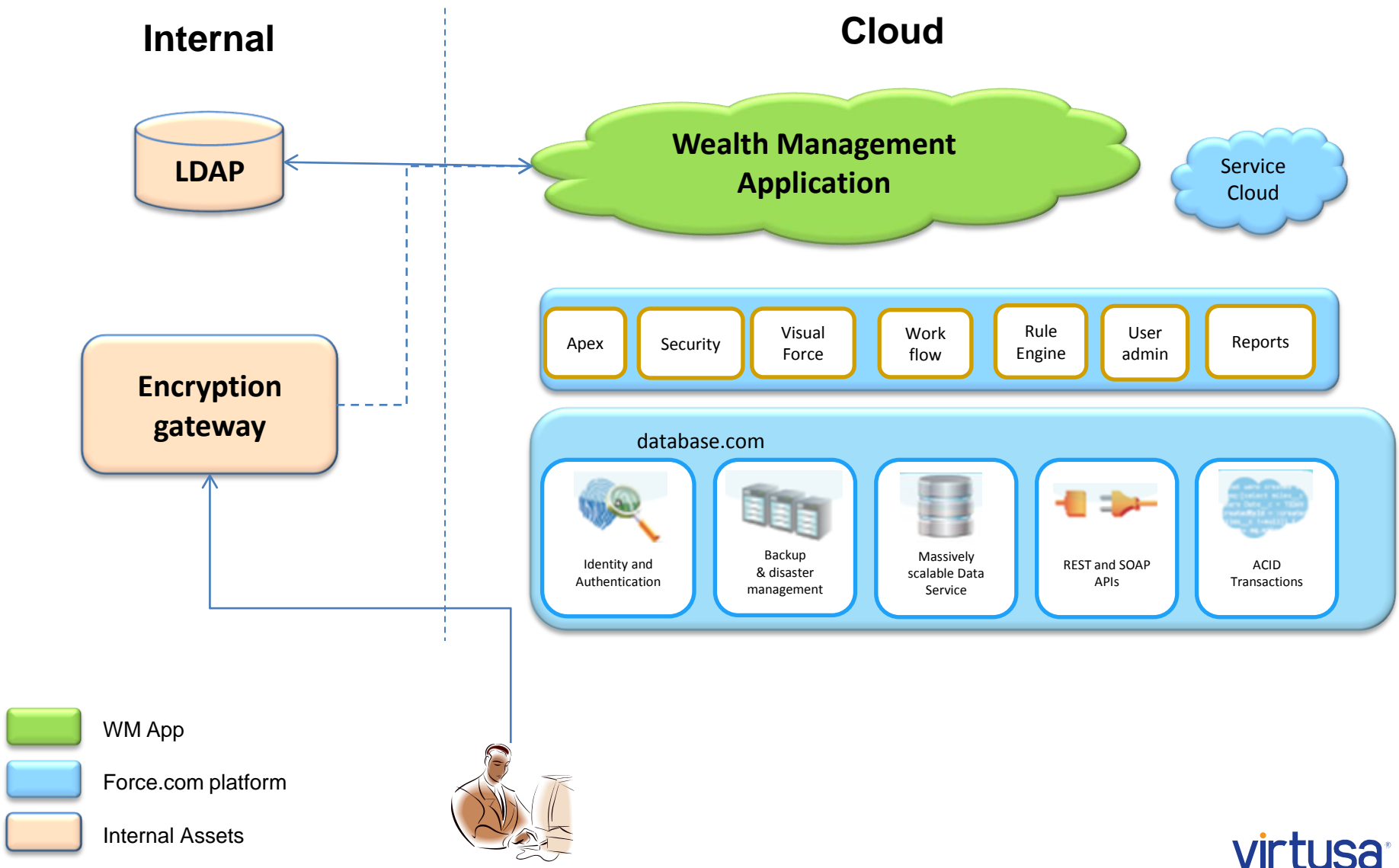|	
Business Agility	• The platform should empower business users
Vendor Stability	• Large client base
Non Functional	• Internal application with limited number of users
SDLC Support	• Comprehensive SDLC support including IDE
Vendor Maturity	• Leaders in SaaS and PaaS
Cost	• Leverage existing license
Data Security	• Encryption Gateways for Data Residency

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Application leveraged Force.com platform for the bulk of the functionality, implemented federated authentication and an internally hosted encryption gateway

Internal

Cloud

LDAP

Wealth Management Application

Service Cloud

Encryption gateway

| Apex | Security | Visual Force | Work flow | Rule Engine | User admin | Reports |

database.com

| Identity and Authentication | Backup & disaster management | Massively scalable Data Service | REST and SOAP APIs | ACID Transactions |

WM App

Force.com platform

Internal Assets

The CipherCloud Gateway is deployed between your users and your cloud applications and acts as a reverse proxy server that monitors all incoming and outgoing traffic

1. The Gateway examines all outgoing cloud requests, in real time, to identify sensitive data, encrypt or tokenize that data, and then forward the modified request to the cloud application.

2. Similarly, encrypted or tokenized data returning from the cloud application is converted, again in real time, into cleartext (i.e., text that can be read) prior to being displayed to the end user.
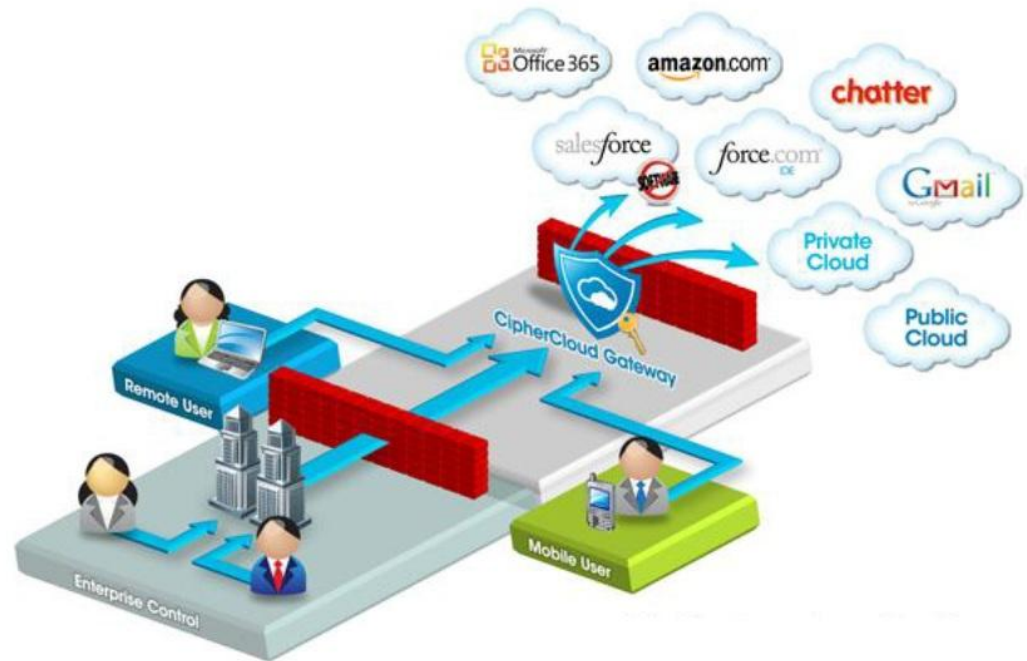
Data residency + *Data Security*

The CipherCloud Gateway is deployed between your users and your cloud applications and acts as a reverse proxy server that monitors all incoming and outgoing traffic

Summary

1. PaaS platforms can provide enhanced business capability, operational efficiency and cost benefits

2. It is very important to consider business and technical factors when deciding on the PaaS platform

3. Understanding of licensing with respect to users, compute and network requirements is important

4. Focus on overall cloud strategy and not only PaaS strategy

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Accelerating Business Outcomes

www.virtusa.com

Monetization

Billing — Customers

Service Provider

Compensation — Suppliers and Distributers

What Does $20b/Year Buy?

Horizontal bar chart showing responses from CSP CIOs:
- Impedes launch of new offers: ~92
- 2+ months to develop billing capability: ~85
- Delays time-to-market: ~70
- Not effectively integrated w/ CRM,...: ~70
- Accuracy: ~67
- Issues bundling digital services: ~60
- Major barrier to new products &...: ~47

(x-axis: 0 to 100)

Source: Accenture Study of CSP CIOs (February 2012)

Microsoft Online: Order-to-Cash
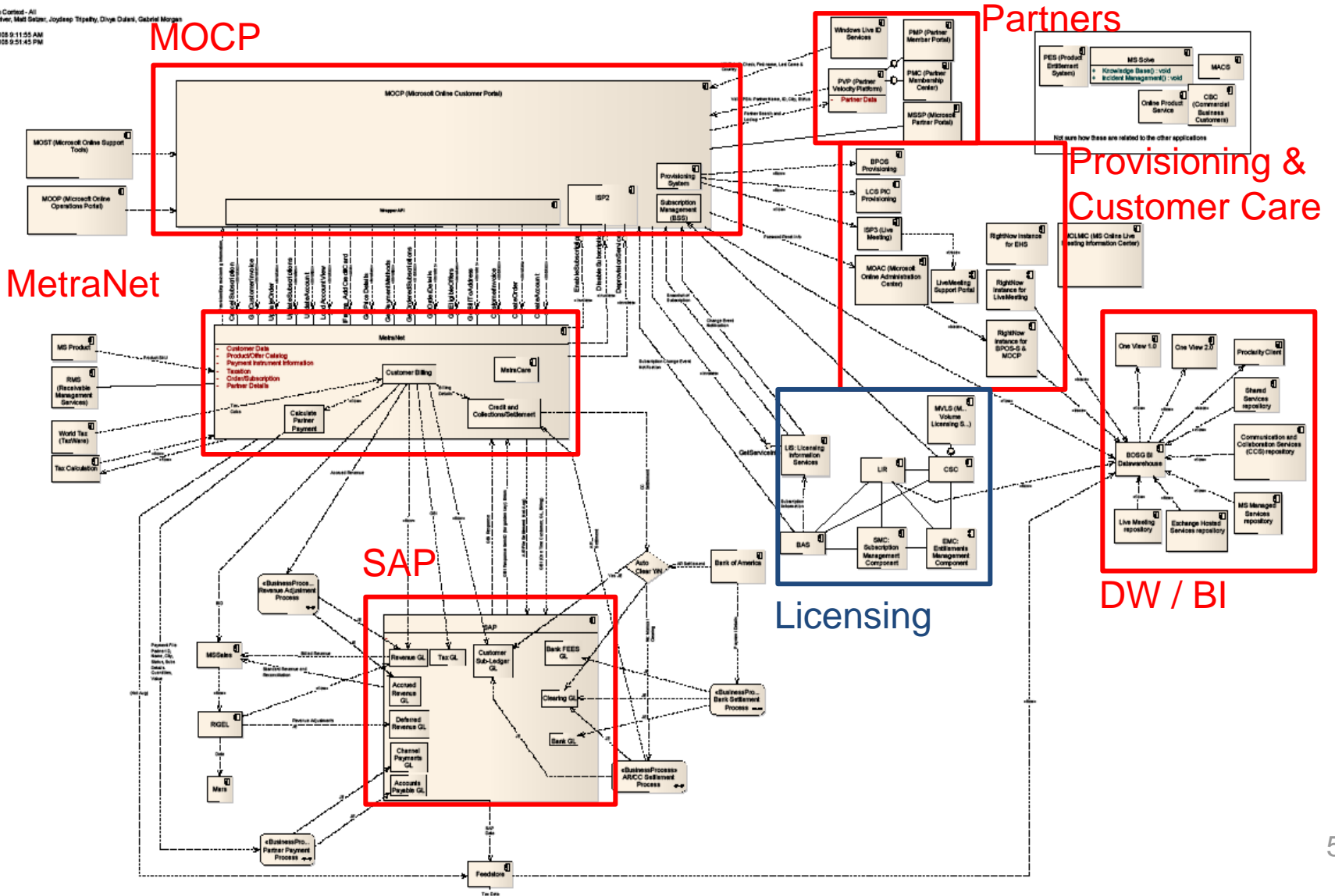
Microsoft Online: Billing

- All levels – IaaS, PaaS and SaaS

- Retail, wholesale, B2B and B2C billing

- Think global, act local
  - 1 global instance
  - 21 languages, 15 currencies and 43 countries

Microsoft Online: Compensation

Advisor

Contract, billing, credit, collections, IT Pro Support

MSFT	VAR	Customers

Advisor Fee
12% net add
6% residual

Influence

Channel Developer

Contract, billing, credit, collections, IT Pro Support

MSFT	Disti/LAR	VAR	Customers

Channel Developer Fee
2% net add
0.5% residual

Influence
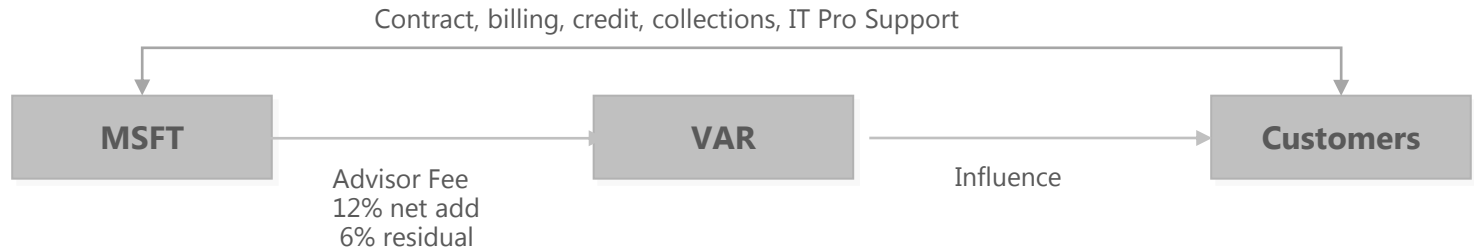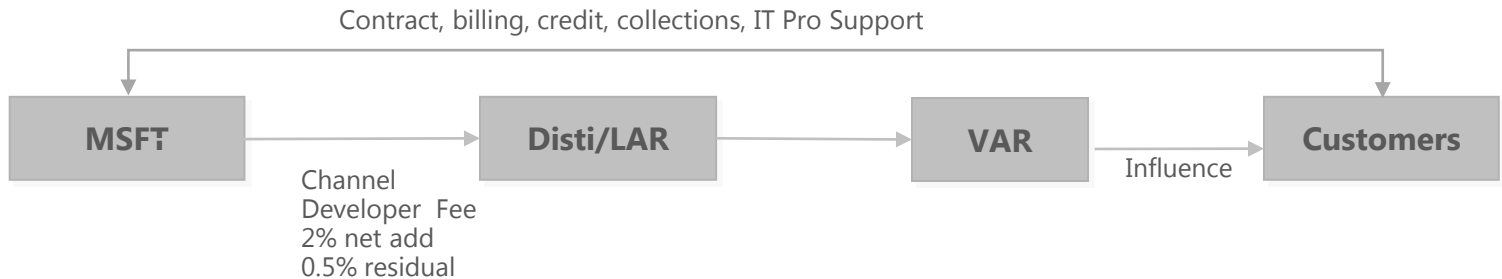
Syndication Partner (Reseller)

Contract

MSFT	Service Provider	Customers

Order Payment

Order, Payment

Billing Information

Billing, Credit collections
Tier 1 IT Pro support

Tier 2 IT Pro support

Driving Customer Behavior: Peak

Now

Then

Driving Customer Behavior

Peak and Off Peak	Promotions	Discounts
Volume	Bundling	Cash Flow
Co-Pay	Surcharges	SLAs

TRANSPARENCY
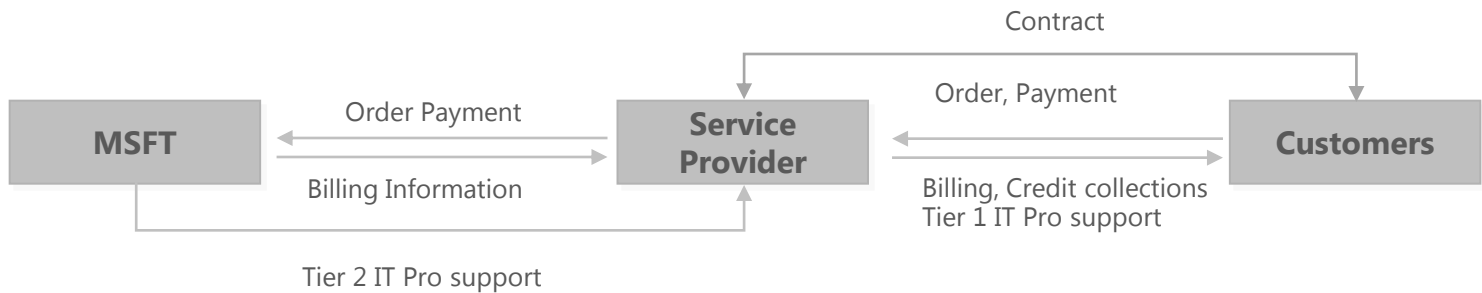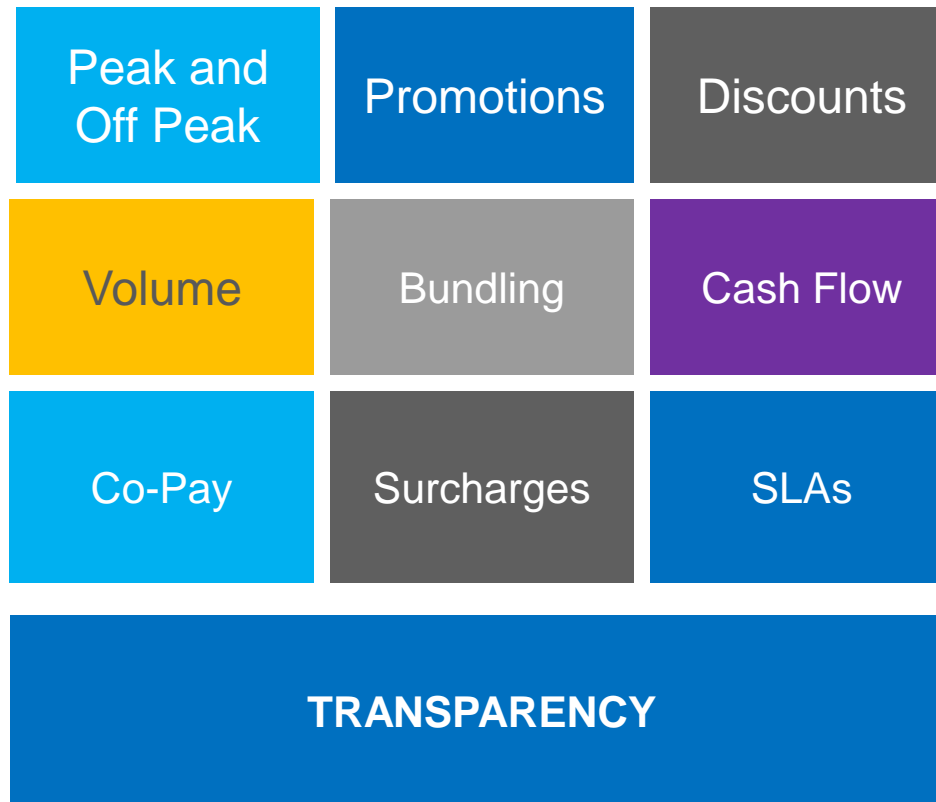
Single vs. Multi-Bucket Pricing
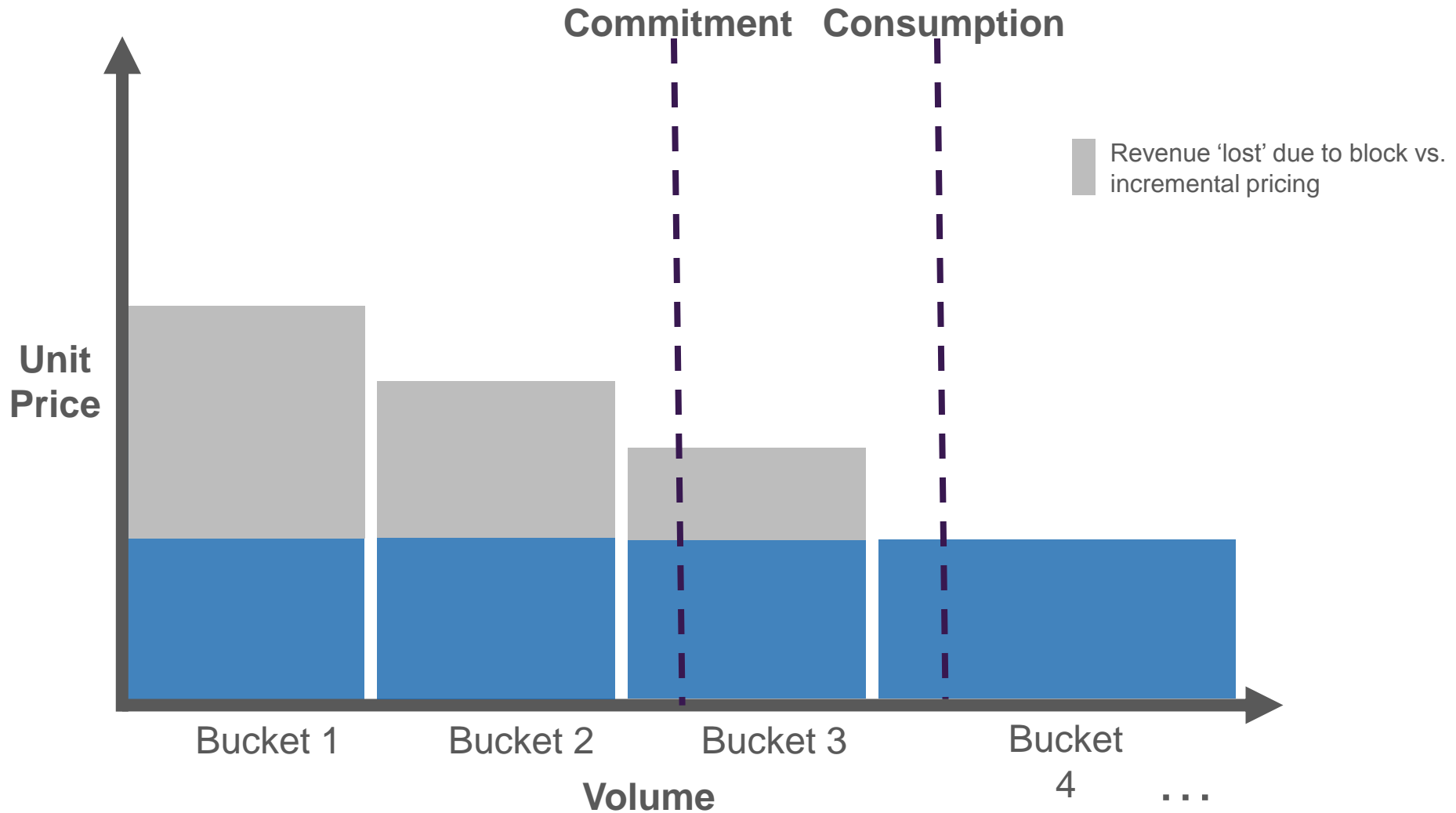
Multinational: Global Meets Local

Enterprise HQ (£)

- % Discount (service A)
- **N** Quarterly £ commitment service B
- **N** Monthly £ commitment (all services)
- Multi-bucket pricing on service D
- Incremental price service C for Engineering (Provided by 3rd Party Partner)
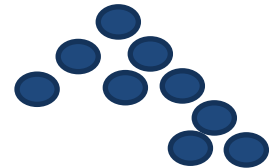
Fees calculated on world wide consumption

London (£)

- Block price service A
- Included service C
- **N** Monthly number of Service D events
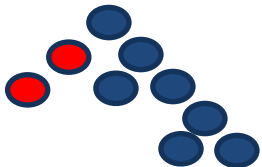
Frankfurt (€)

- Incremental price service D
- Single-bucket price service A
- % Discount (service F)
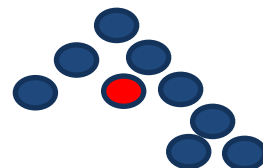
Tokyo (¥)

- **N** Monthly ¥ commitment (all services)
- Included Service C
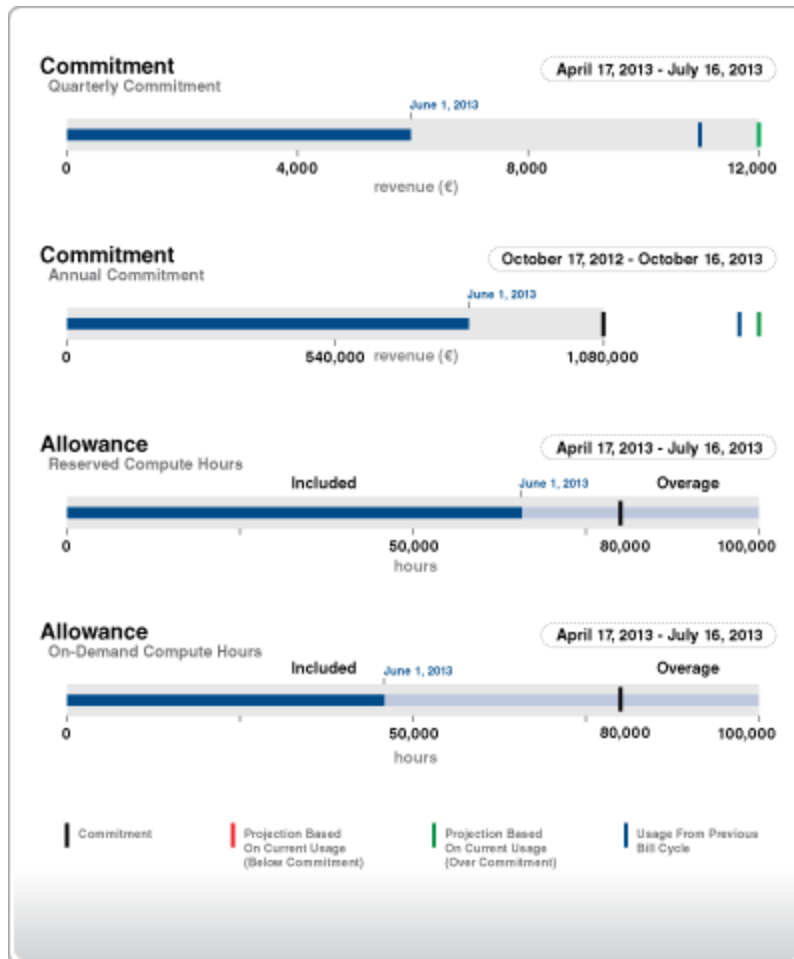- Single price service A
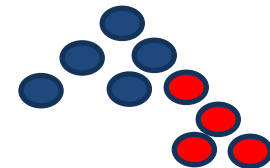
Consumption: Ying and Yang

**AT&T Wireless
Unlimited Bandwidth**
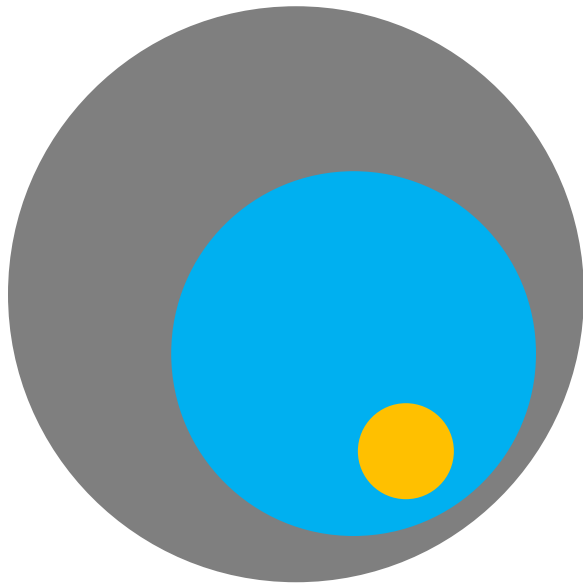
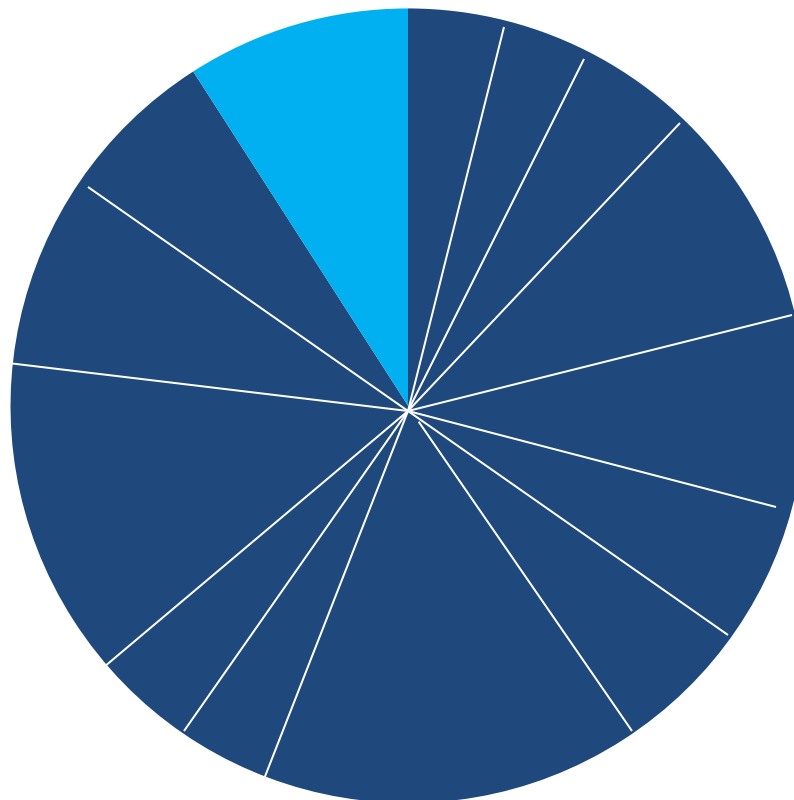**Common Data Roaming
Experience**

Transparency: Now Cast

- Customer Behavior

- Corporate Spending

- Revenue Projections

'Zero-Sum' Infrastructure Models
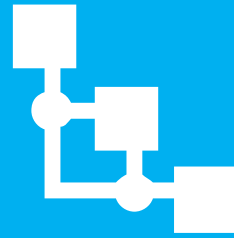

- DTCC
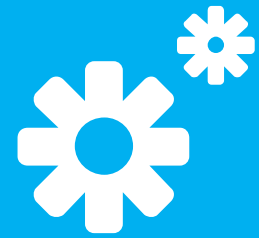- O'Hare
- Private Cloud
- Cloud Consortium

Summary

Monetization = Billing + Compensation

Pricing, rewards and offers to drive customer & partner behavior

Transparency for all

The one constant is change