BCNET

Shared IT Services for Higher Education & Research

Conference 2018

From Denial to Strategic Enabler: The Five Stages of Cloud Adoption at UVic

Presented by: Ivan Petrovic and Wency Lum

Your Presenters

Wency Lum

Chief Information Officer

(August 2016)

Ivan Petrovic

Development Services Manager

(September 2017)

Agenda

- **UVic's Cloud Journey & Current State**

- **Five Stages of Cloud Adoption and Key Lessons Learned:**
  - Focus on needs, not products
  - Understand Total Cost of Ownership
  - Manage the risks
  - Negotiate a good contract
  - Understand integrations
  - Maintain adequate control of project
  - Plan for operations

- **Future Directions**

Has this happened to you?

- Business units are buying and deploying their own SaaS solutions?
- SaaS contract has been signed by a client without technical or contract review?
- SaaS contract comes to you after it has already been negotiated by client, it is almost ready to sign, and client is pressuring you to agree?

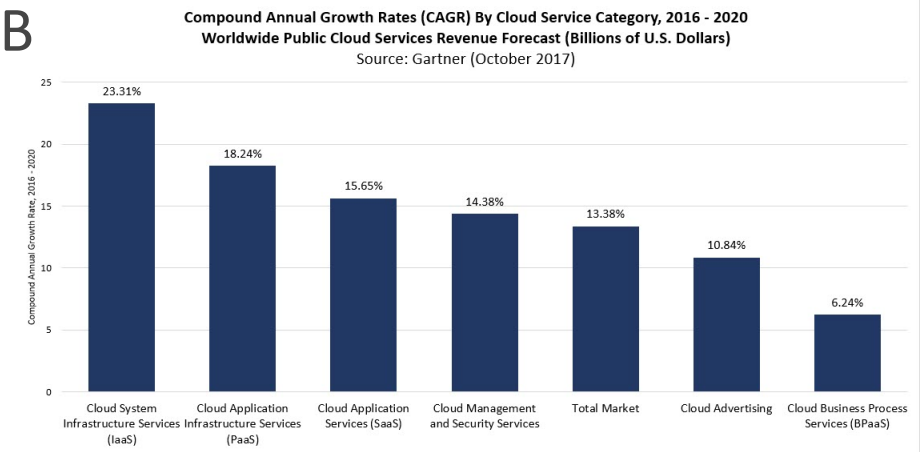
Cloud Applications at UVic

Growth of Cloud Adoption

- Cloud computing adoption is increasing at UVic. Why? Market and industry direction for:
  - Upgrades to existing systems
  - Acquisition of new systems

- Gartner estimates overall cloud market size in 2018 to be $246B, and SaaS market size $46B

- Growing at 18-20% per year



Petrovic-Lum Grief Cycle

Information and Communication

Leadership
Support

Guidance and Direction

** Not a real model!*

UVic's Approach to Cloud Applications

Cloud first?

Cloud last?

Opportunistic Cloud?

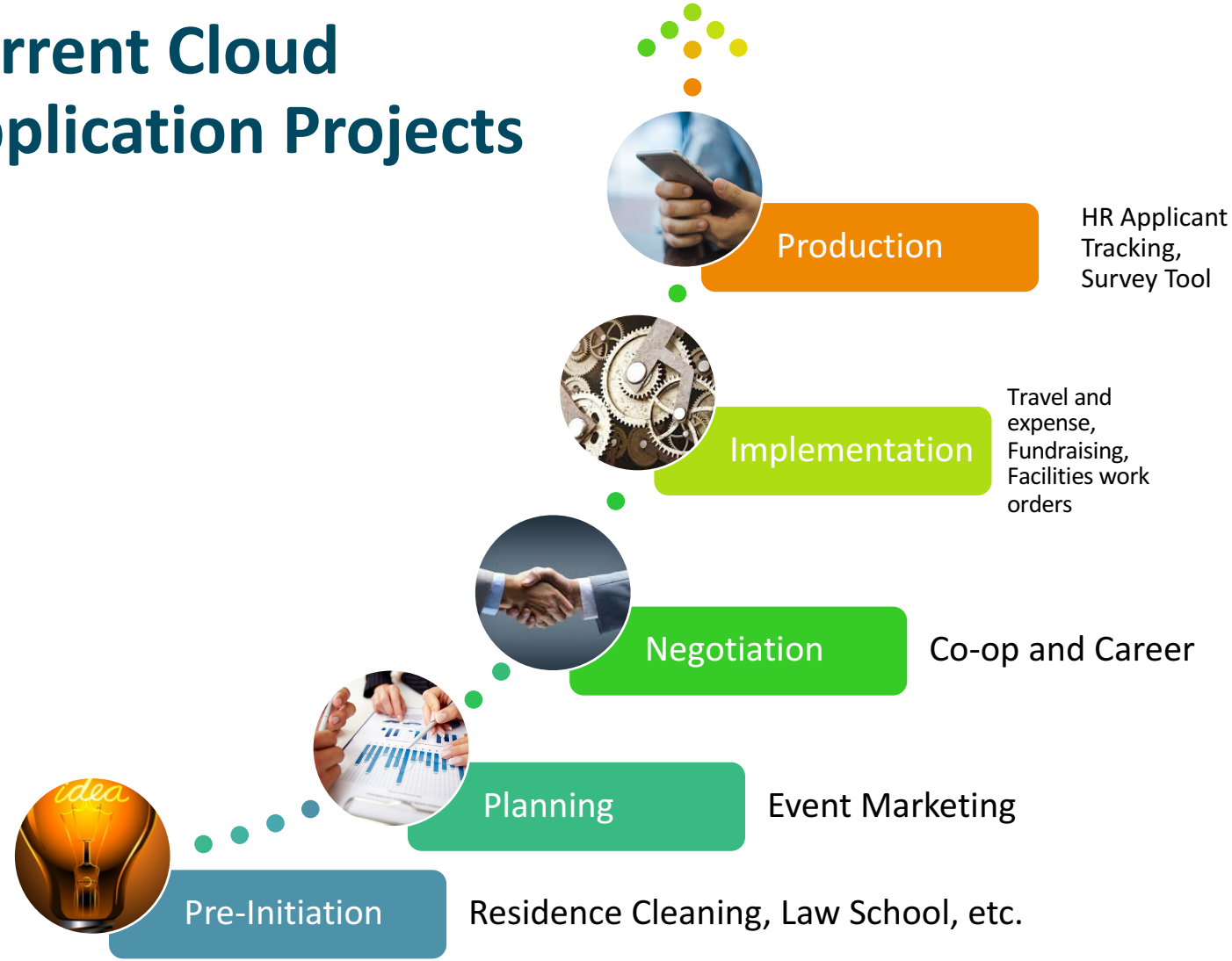
Challenges with:

- how cloud applications are implemented at UVic
- who implements them

What we found: major challenges with cloud adoption

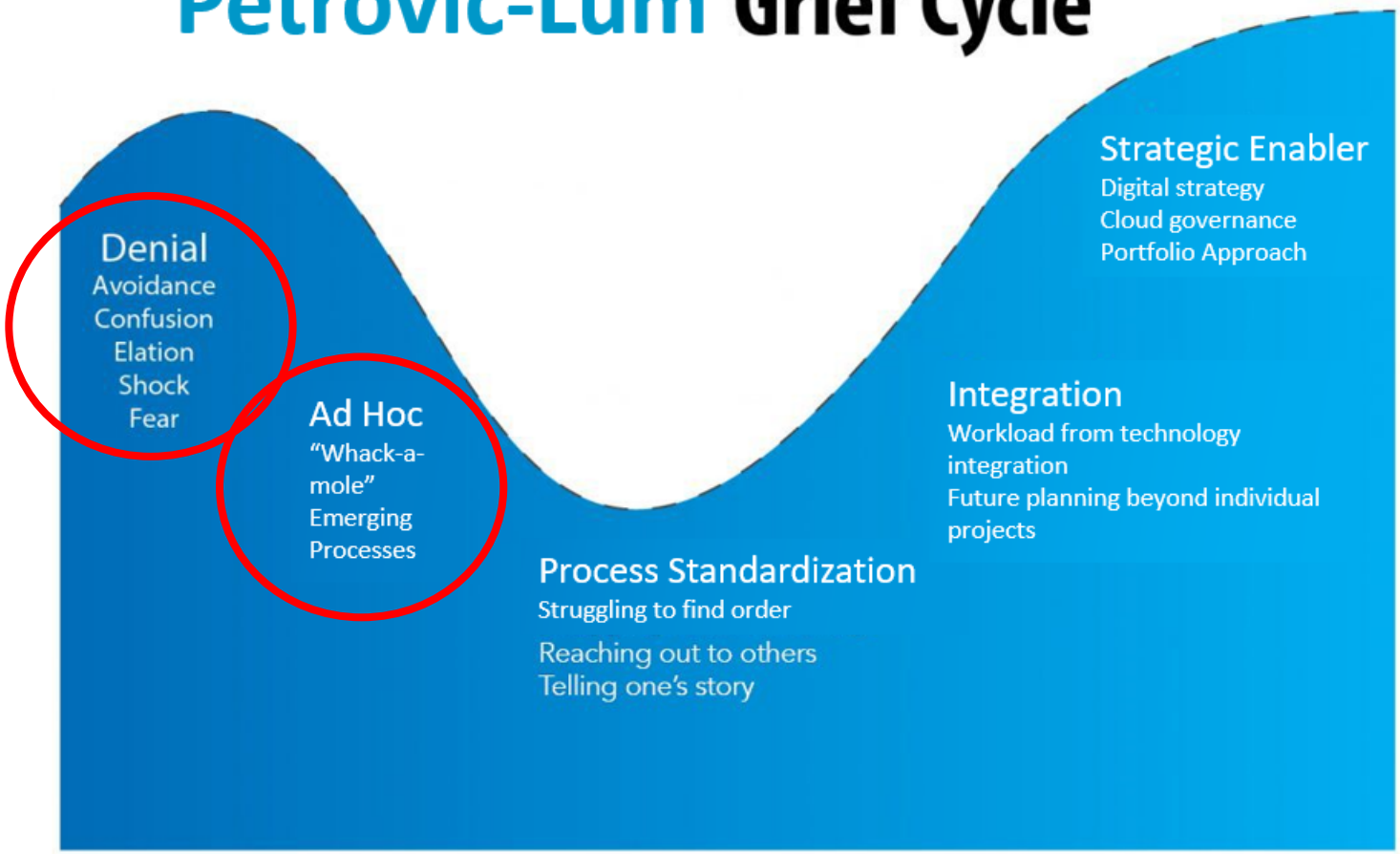
- Contract terms
- Maturity of cloud vendors
- No pre-existing cloud strategy – put us into reactive mode
- Inadequate governance for cloud projects
- Enabler of decentralized computing
- UVic investment in data centre

Current Cloud Application Projects



Key Lessons Learned

Petrovic-Lum Grief Cycle



Information and Communication

Leadership
Support

Guidance and Direction

** Not a real model!*

Lesson #1: Focus on requirements rather than a specific product or solution

Finding the Right Solution

- Cloud as a fix for business problems
- What problem are you trying to solve?
- Build or buy? Cloud or on premise?
- Steps to consider:
  - Requirements gathering
  - Business workflow mapping
  - Environmental scan
  - Consultant review
  - Request for information (RFI, RFEOI)

Lesson #2: Understand Total Cost of Ownership before you commit to a solution

What is the Total Cost of Ownership?

- Capital costs to procure and implement
- Data conversion costs (or cost to archive data from old system)
- Ongoing subscription costs
- Decommissioning the old system
- Change management and training
- Switching costs
- Migration costs
- Future exit costs

Petrovic-Lum Grief Cycle

Information and Communication

Leadership
Support

Guidance and Direction

** Not a real model!*

Lesson #3: Understand and communicate cloud-related risks and determine appropriate mitigations

Cloud Computing Affects Institutional Risk

- Understand the risk areas impacted: Privacy, Security, Project, and Business/Services
- ***"If it's not documented, it doesn't exist"***
- Key ability to influence outcomes and manage risk is to **manage the contract negotiations and vendor performance**

IT Project Risk Assessment

Business Risks	Project Risks
Problems that can hurt your organization if something goes wrong	*Things that can go wrong during the course of the project.* ***Can be the cause of business risks.***
• Schedule delays • Bad functionality • Poor usability • Data quality problems • Unreliable performance or performance slowdowns • Unhappy users/stakeholders • Reputational hit • Unable to conduct business	• Size • **Requirements clarity** • **Technology familiarity** • **Organizational readiness** • Schedule pressures • **System interdependence**

Cloud Application Risk

Risks

Compliance risk
Information security
Immature vendors
Ephemeral service offerings
Vendor mergers and acquisitions
"Vendor metastasis"
Service availability and reliability
Vendor lock-in and future cost (cost escalations)
Insufficient exit strategy

Mitigations

Depends on:

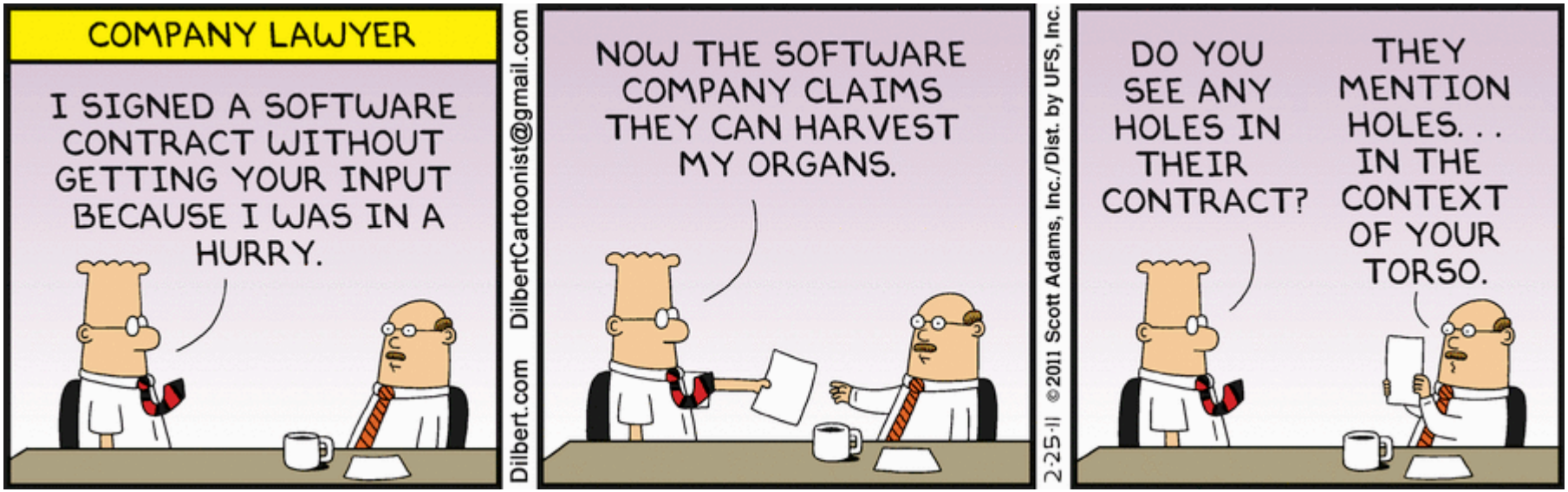
- Data classification
- Risk tolerance
- $ available
- Business impacts

Privacy and Security

- Cloud in BC vs. everywhere else
- Institutional policies and standards
- Tools/Processes
  - Privacy Threshold Analysis
  - Privacy Impact Analysis
  - Security Threat and Risk Assessment
  - Information Security Consultation/Assessment prior to go live
- Know your deal breakers and be prepared to stand by them

Lesson #4: Negotiate a good contract that covers cloud data management, privacy, security, termination clauses, service levels, costs

Read The Fine Print:
Don't Sign the Vendor Boilerplate Contract!



Real-Life SaaS Contract Clauses

- **"ABC Company reserves the right to withhold, remove and/or discard Customer Data, without notice, upon any breach of this Agreement by Customer."**

- **"ABC Company shall have the right**, but not the obligation, **to monitor Customer Data**, including chat rooms and forums, and Customer's use of the Hosted Service to determine compliance with this Agreement and any operating rules established by ABC Company, to provide support to Customer and to satisfy the law, regulation or authorized government request."

Negotiation and Contract

- Data Management
  - Where is data stored?
  - Who owns it?
  - Who can access it?
  - How is data protected?
  - What happens to the data at the end of the contract or if service is discontinued?
- Privacy Protection Schedule

Negotiation and Contract

- Security Schedule
  - Cloud security standards
  - Third party attestation
  - Cooperation with investigations
  - Logging and log retention
  - Access controls
  - Vulnerability management
  - Use of SSO
  - This is an evolving area
- Subcontractors
  - Applicability of contract terms
  - Notification/approval of new subcontractors

SaaS Negotiation Process High Level

- Data classification
- High level risk assessment
- Terms and preferred language
- Security and Privacy Schedule – to the vendor
- Assess vendor boilerplate
- Form the “Jedi Council”: IT, Privacy, General Counsel, Business, Procurement
- Negotiate and finalize contract
- Assess and document any residual risk
- Formally accept risk at the right level
- Sign contract
- Finalize STRA, PIA

Lesson #5: Who is managing the project – the vendor or you?

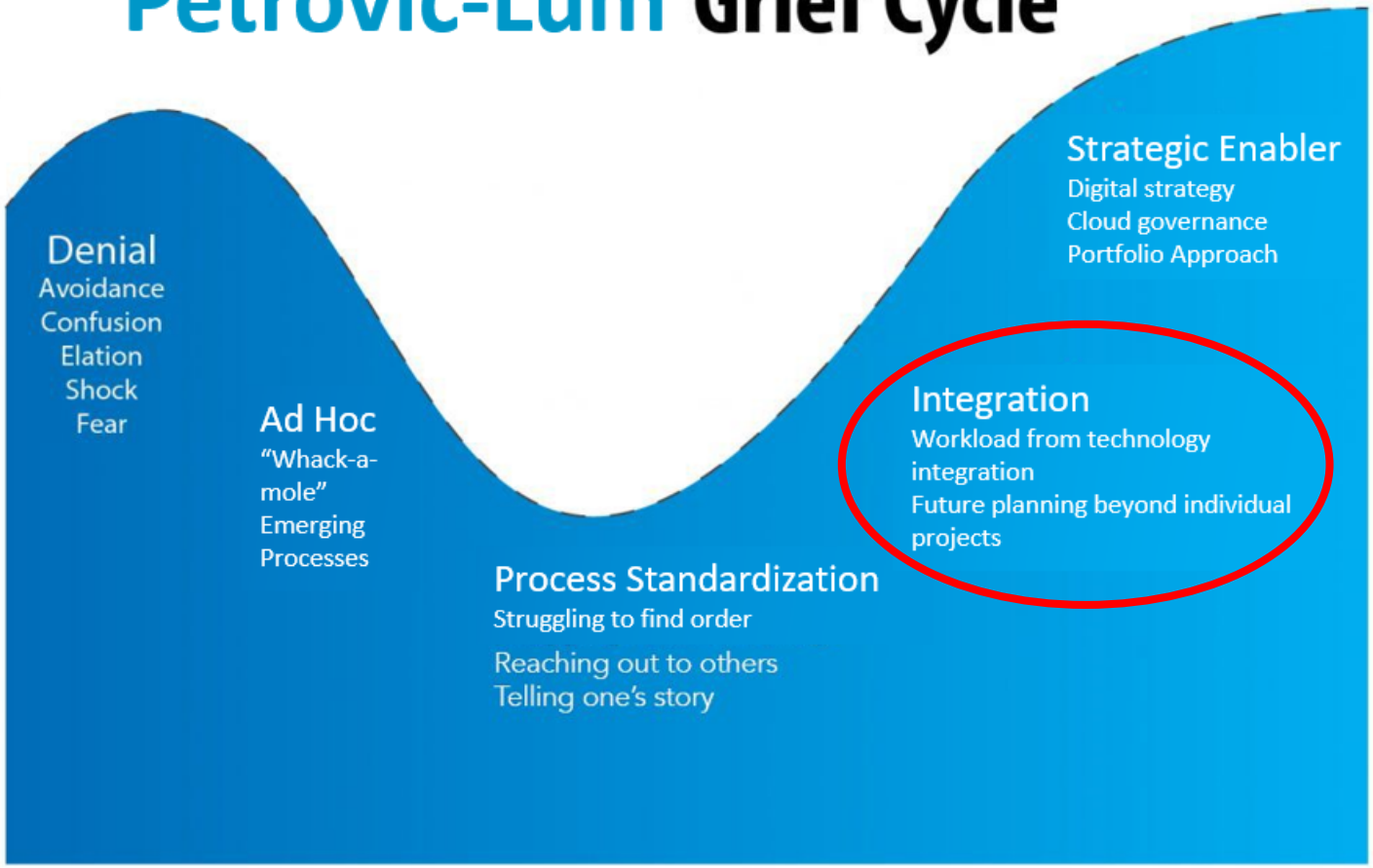
	Task Mode	Task Name
0		U-Vic FAMIS Cloud Implementation
1		1 Project Management
8		2 Procurement and Finances
12		3 Privacy and Security
22		4 Communication
29		5 Change Management (FMGT)
35		6 Planning, Setup, Discovery
57		7 Accruent AutoCAD Interface - ACAD Plus
61		8 UAT Planning
64		9 UAT - Migration
103		10 Training - WebEx Sessions
122		11 API Implementation
152		12 SSO Integration
157		13 UVic Front End Tasks
162		14 UVic Staff Training
179		15 Mobile Devices (FMGT)
185		16 Production - Migration
210		17 Go Live
242		18 Post Go Live Tasks
253		19 Transition to Operations
259		20 Close Out

UVic

	Task Mode		Task Name
0			U-Vic FAMIS Cloud Implementation
1			1 UAT SSO
7			2 Training - WebEx Sessions
19			3 Production - Migration
46			4 Go Live
49			5 Post Go Live Trainings
57			6 Close Out

Vendor

Petrovic-Lum Grief Cycle



Information and Communication

Leadership
Support

Guidance and Direction

** Not a real model!*

Lesson #6: Cloud Applications at UVic do not stand alone – they form part of a broader ecosystem

Cloud Ecosystem

- Identity Authorization Management
- Enterprise system/data integrations
- User Experience
- Cybersecurity, log management, provisioning/deprovisioning

Identity Authorization Management

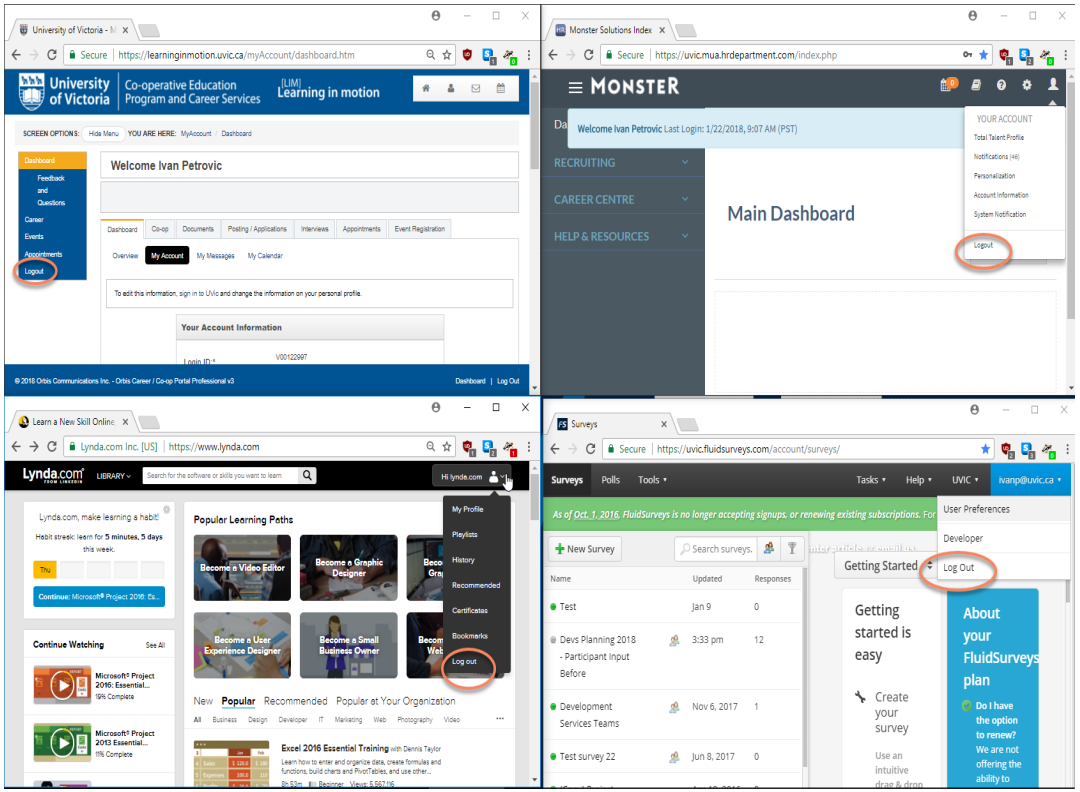
- Single Sign-On (SSO) – allows users to access multiple services with a single set of credentials/single sign-on
- What authentication mechanisms are supported and are they compatible with UVic offerings? (SAML, CAS, LDAP, etc.)
- What is the approach for authentication, authorization, provisioning, deprovisioning

Enterprise Systems Integrations

- Data classification and ownership
- Single Source of Truth in the cloud
- Risk tolerance
- Enterprise integrations
  - ERP
  - Reporting stack
  - Business Application
  - Web presence
- How are integrations created, managed, maintained, and monitored?

UVic Experience

- Consistency of navigation, look and feel
- Trust
- UVic brand
- Accessibility



Lesson #7: Put governance and operational support structures into place to ensure healthy service beyond implementation

Transition to Operations

- Where do users go for support and assistance?
- How does your support team escalate tickets?
- What is the role of IT vs. the role of the business area?
- How are updates and enhancements tested, approved, and deployed?
- What is the update cycle for the SaaS solution and how does this align to your business and other update cycles?
- How are requests and customizations initiated?
- How are new users trained?
- Who maintains help and support documentation?

Petrovic-Lum Grief Cycle

Information and Communication

Leadership
Support

Guidance and Direction

** Not a real model!*

Future Directions for Cloud Applications at UVic

Where are we going?

- Digital Strategy and Cloud
- Managing SaaS as part of our application portfolio, with a portfolio approach
- Cloud governance

Gaps:

- Security solutions
- Managing vendor performance
- Decommissioning process
- Contract obligations review
- Faculty and researcher awareness

How Does Cloud Governance Align to IT Governance Model?

IT Principles	We will use cloud when it makes sense from a risk and business perspective.
IT Architecture	We will develop IT architecture principles to guide where we will focus (reduce effort on "fire fighting" new projects and point solutions)
IT Infrastructure Strategies	We will use cloud to solve our pain points on: 1) operational workload, 2) technical currency, 3) patching, 4) simplification/modernization
Business Application Needs	■ What are the market and business process opportunities for new business applications? ■ How are strategic experiments designed to assess success? ■ How can business needs be addressed within architectural standards? When does a business need justify an exception to a standard? ■ Who will own the outcomes of each project and institute organizational changes to ensure the value?
IT Investment and Prioritization	■ What process changes or enhancements are strategically most important to the enterprise? ■ What is the distribution in the current IT portfolio? Is this portfolio consistent with the enterprise's strategic objectives? ■ What is the relative importance of enterprisewide versus business unit investments? Do actual investment practices reflect their relative importance? ■ How is the business value of IT projects determined following their implementation?

From Weill and Ross (2005)

How Does Cloud Align to Digital Strategy?

Cloud as an enabler of:

- **Customer** – how do we better connect with students and other customer groups? How can we improve student enrollment and retention?
- **Innovation** – how do we iterate solutions faster? How can we test ideas in a way that is cheap/fast/easy?
- **Data** – how do we better use the data that we have and connect it across silos? How can we use data, including unstructured data, to improve student/UVic outcomes?

Wrap Up

- Cloud applications can present a unique set of challenges, especially if you do not have a pre-existing strategy or process for them
- If you remember to:
  - Focus on needs, not products
  - Understand Total Cost of Ownership
  - Manage the risks
  - Negotiate a good contract
  - Understand integrations
  - Maintain adequate control of project
  - Plan for operations
- …then you will improve chances of success and be able to use cloud as a strategic enabler