

TRANSFORM Cloud Roadmap



Introduction - The CCN offers a team of [Expert Advisors](#), who can help you write your plan for migrating to the Cloud.

TRANSFORM Roadmap for:

Organization name		YOUR COMPANY NAME
No. of employees		500
Web site		website.com
Contact		your@email.com
Other notes		Any other notes

About this document

The TRANSFORM Cloud Roadmap is one component part of central innovation blueprint, the [Canada Cloud Roadmap](#), a product innovation framework for Cloud hosting providers to plan and market next generation solutions.

This template is intended for end-users who are planning to adopt these Cloud services, a companion guide that uses the same foundation resources and tailor them for end users so they can plan their own migration to the Cloud.

Each section below corresponds with our best practices guide, so this can be used literally to help create project plans, supplier procurement agreements and more.

- Section 1) Roadmap Q&A - Begin writing your own Roadmap..
- Section 2) Planning - What sections to write
- Section 3) Pick from a catalogue of Cloud Migration Journeys

Section 1) Transformation Q&A

Describe your organizations roadmap here. You can write as little as 'None', through to a full page or two describing the plan in detail.

Overall business transformation strategy:

- Does your organization have a cloud roadmap today?
- What are the main benefits you are anticipating you can leverage by introducing cloud solutions to your organization?
- Do you have a preference to use any specific technology such as Microsoft 365 or Google Apps?
- How many people are in your IT organization?

Cloud Hosting

- Are you currently leveraging US based Cloud platforms? (like Amazon, Google, or Rackspace).
- Do you or your clients have requirements that mandate that their data needs to reside in Canada or a certain province?
- Has your organization ever leveraged elastic cloud solutions like Amazon (AWS) / Rackspace in the past?
- Are you familiar with the benefits related to automation platforms like Heroku?
- What is your current monthly IT spend on compute resources / infrastructure spend?

Transformation Value Delivery

Managing the project, ensuring deliverables of project stated requirements.

- Do you have internal resources willing and able to help navigate and participate with the introduction of new technology?
- Do you have an internal Project management Office (PMO)?
- Do you have a documented change management process in place today?
- What is your expected timeline to make this kind of a change?
- Do you have an approved budget for this project? If so what do you anticipate this should cost?

Solution Accelerators

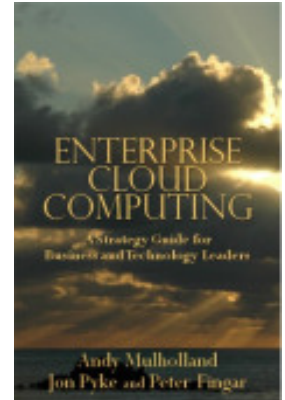
Solution Accelerators provide a complete kit of parts for a number of common business scenarios.

- Do you have an identity management solution in place today? if so please describe it, if not, is that something you are looking for?
- What is your organizations strategy for document management?
- What is your organizations strategy for Mobile Device Management (MDM)?
- What is your organizations strategy for Disaster Recovery (DRP)?

Section 2) Planning Your Cloud Roadmap - Best practices

This document describes a proposal for consulting services to plan and implement a migration to Enterprise Cloud Computing.

Business Transformation through Enterprise Cloud Computing



Cloud Computing can be an ideal solution when customers find themselves faced with a number of pressing issues:

- Long-time delays to secure IT resources, resulting in a growing backlog of service requests.
- Explosive growth of unstructured content driving demand for more and more storage.
- Poor utilization and cost optimization - There is an unnecessarily expensive growth of IT costs due to mismatching the right services.
- The current data centre platform doesn't support the new application architecture and this restricts business agility.
- Lack of budgeting and cost controls - There is no awareness of what IT is costing and how this breaks down.

These issues can be addressed through [Enterprise Cloud Computing](#), and this document stipulates a roadmap plan for achieving these goals.

Cloud for Business Leaders

Enterprise Cloud Computing refers to best practices for larger organizations to adopt Cloud Computing, and how it can be applied to achieve business transformation.

The primary benefit is enhanced business agility. Improving the ability of a complex organization to react more quickly to market opportunity, like launching a new product, is where the impact of new Cloud technologies will be seen more effectively rather than one about a debate over in-house versus outsourcing, public vs private Clouds.



These sentiments are reflected by industry experts, and coincides with the evolution of the role of the CIO to become more strategic, closing the gap between business and IT that [ZDNet](#)

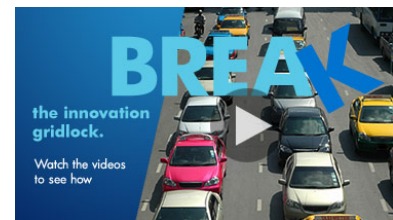
[describes here.](#)

How this increased acumen can be achieved is explained through examples such as this one on how the role of the CIO can expand to include [Business Process Optimization](#), citing an example of CIO's charged with leading business improvements and being skilled in organizational practices like Six Sigma to drive continual process improvement.

HBR suggests the CIO could become the [Chief Digital Officer](#) to better lead the use of technology for strategic customer programs, and Cloud computing can be the platform needed for accelerating these types of initiatives.



Therefore we can first see that an evolutionary adoption of Cloud computing goes hand in hand with a journey for the CIO as well - From operational manager of a cost centre with poor value for money perceptions, through to a boardroom-level change agent who is directly driving new profit-making initiatives.



Harnessing aPaaS - Breaking Innovation Gridlock

Adopting Cloud computing services can be a simple, tactical exercise to meet some immediate infrastructure needs, or it can be the catalyst to embracing an entirely new strategy for IT as a whole.

This can drive an entire transformation of how the organization works thanks to how it deploys technology. In particular we will see the term 'PaaS' emerge to be central to this more strategic scope and impact, or as Gartner describes [aPaaS](#) - Application Platform as a Service.

Innovation Gridlock

This part of the 'Cloud stack', rather than the others, will push to the fore of the enterprise IT debate as it represents the most important aspect of the shift that is occurring, a shift that will enable organizations to break the "Innovation Gridlock" they experience.

[Innovation Gridlock research from HP](#) describes “a situation where the IT organization is blocked from driving new business innovation because the majority of funding is consumed in operating the current environment.”

This bottleneck can actually be quantified.

For example in the '[Business Technology Plan 2014](#)' for the City of Ottawa, the CIO's

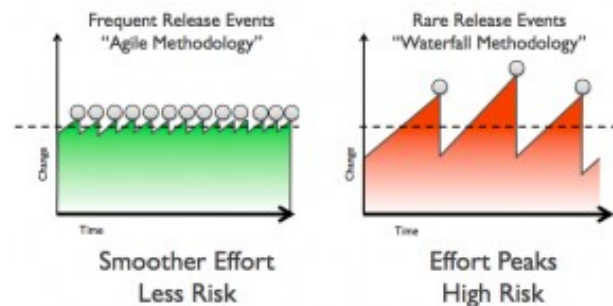
introduction is exactly about this topic, concluding with the statement that the city operates with a 70% IGF - Innovation Gridlock Factor.

A 70/30 ration, where 70% of their IT budget is consumed in maintenance of their existing "legacy" IT estate, leaving just 30% for new transformational initiatives, those identified as having an impact to improve service while also reducing operating costs, particularly through modernizing projects like empowering a Mobile Field Force.

In short the city doesn't spend the majority of its budget on citizen innovation, when it should, and so how to reverse this ration is the primary goal of a Cloud transformation exercise of this nature.

aPaaS and the Cloud Strategy Map

Recently Gartner introduced the term [aPaaS](#) to add a slight twist to the core Cloud definition of PaaS: Platform as a Service, by adding the a for Application, and they explain this market segment in detail in [this Magic Quadrant report](#).



It is central to unlocking this Innovation Gridlock mystery because we can identify the blockage point being the 'IT acquisition cycle', i.e. from when a business person says "We need a better CRM system" to them getting one.

For many organizations especially governments this can require the dreaded RFP 'funeral march' process that can take months and years to complete, and absorb considerable resources even to write responses; all this before implementation, which for these complexities have a notoriously high failure rate.

In contrast the new Cloud approach is modular, agile and iterative, a la "[DevOps](#)", and a PaaS is key because it literally provides the modular platform required for that style of software development.

One example is Uhuru and their [AppCloud environment](#). This enables developers to work much faster while also following pre-defined corporate standards for common building blocks, like OS, middleware etc..

This kind of evolution can be charted in maturity model terms, most notably the 'Strategy Map'. Robert Gold documents a repeatable maturity model for this in his article [Enabling the Strategy-Focused IT Organization](#). This covers the issues that arise that cause business management to perceive IT to be overly expensive and failing to align these costs with benefit to their business units.

Fundamentally Gold defines a scale where at one end IT is perceived and managed as a cost and at the other end where it is integral to the strategy of the organization and treated as a high priority board level topic, with a maturity model to grow the IT organization from one to the other.

Figure 1—Evolutionary Stages in the Development of IT Organizations

Stage	Basic Competency Focus		Strategic Contribution Focus	
	Costs	Quality	Agility	Innovation
I. Defensive	• IT expenditures are externally budgeted, often as share of revenue.	• Quality focus is exclusively on system availability.	• Delivery schedules are constrained by resources and internal priorities.	• Creative budgeting and accounting are used to defend against outsourcing.
II. Reactive	• Service level agreements and charge-back systems are employed.	• Quality focus is on system availability and response time.	• Resource allocation is driven by politics.	• Technologies are used in innovative ways to reduce IT cost.
III. Responsive	• Unit costs and demand are quantified and managed.	• Quality is managed to negotiated service level agreements.	• Methods are applied to reduce development cycle time.	• The role of technology in business strategy is considered.
IV. Strategy-focused	• Technology investment decisions are informed by business strategy.	• Availability and reliability are no longer an issue.	• Broad focus is on time to market and competitive advantage for the business.	• Technology is embedded in the firm's value proposition.

Relevant to DevOps-enabled PaaS, we can see the key capability area is Agility, where levels 3 and 4 are described as:

- *“Methods are applied to reduce development cycle time.”*
- *“Broad focus is on time to market and competitive advantage for the business”*

The PaaS-enabled DevOps in this article caters for these methods and enables this transition.

Employing a PaaS platform to transform your software development function will break Innovation Gridlock in your organization, reverse stats like a 70/30 overhead and empower a developer-led innovation revolution for your company.

The nature of the enterprise IT challenges that PaaS addresses is succinctly capture in this VMware article: [Introducing a New Reference Architecture](#), where they describe the goals for the team being:

- “How do I quickly deploy and scale different types of applications including big data, analytics, mobile, SaaS, and Social?”
- How do I plan, manage, and move data for faster response times and greater scale?
- How do I set up development environments quickly and predictably?
- How do I deploy applications to production systems quickly and avoid errors?
- How do I keep my fast-changing application under management?
- How do I set up active-active architectures and geographically distributed systems?”

Being able to improve your capabilities in these areas, and also how quickly and cost effectively you can achieve them, is the essence of the business improvements this will bring to your organization.

Cloud Operating Model - Building a Cloud Centre of Excellence

Of course technology alone won't drive transformation, the IT organization will also need to modernize, in terms of skills and operating procedures.

In VMware's white paper '[Organizing for the Cloud](#)' (30-page PDF) they say the key to this transformation of IT is the implementation of a 'Cloud Operating Model', a blueprint that encompasses new staff skills and reporting responsibilities as well, and that leads to the implementation of a 'Cloud Centre of Excellence', an online knowledge base of best practices including job roles and responsibilities, such as Cloud Leader, Architect, Analyst, Administrator and Developer and a Service Catalog Manager among others.

Having implemented this matrix of new capabilities the IT team can then seek to identify and achieve the organizational improvements that will be of value to their business, such as:

- Faster response to business needs
- Faster incident resolution
- Improved infrastructure deployment coordination
- Improved ability to meet SLAs

Fundamentally what VMware recommend that is the headline message of Enterprise Cloud is that it will achieve an increased focus on higher value initiatives.

For the enterprise market the critical question is how will this mode of work impact upon their legacy IT estate, all the mainframes, Unix machines and other varieties that most large organizations have.

Cloud Readiness Assessment

To help plan their adoption of Cloud computing a business can undertake a 'Cloud Readiness Assessment'.

The Cloud Readiness Assessment (CRA) helps organizations identify which combination of these scenarios best describe their business needs, and from there define what projects they take on next to start towards their goals.

These "Roadmap Journeys" define a matrix for an organization to plan what, and why, they plan to migrate to a Cloud design and service model:

- Assessing the readiness of your applications to be virtualized
- Looking for opportunity areas like increased business continuity through leveraging VM hosting services
- Auditing your data centre and building inventory lists for migration
- Scanning your storage drives to classify the files for migration to a Cloud store
- Development of information security policies that address encryption and tokenization
- Automated auditing of your Microsoft licencing to highlight unnecessary overspends

Change Management

There is also the people and organizational change management aspects. Telus offer a good example of one in [this press news](#) they published earlier this year, highlighting how Canadian innovation is being held back through various fears related to Cloud adoption.



Their "**Canadian Cloud Scorecard**" questioned CIOs in the following ways:

- Openness to new models of IT service delivery
- Being ahead of your competition for new technology adoption
- Having a strong grasp of the different cost models for different IT scenarios
- Ability of stakeholders to influence and receive the IT they want
- The role of IT within the organization as a whole
- Data security abilities

These are indeed all very good questions that will yield insight into the dynamics of the challenges your organization might face when planning for Cloud adoption.

Section 3 - Cloud Migration Journeys

With this framework established the IT organization can plan and implement migrations of apps and IT services to the Cloud.

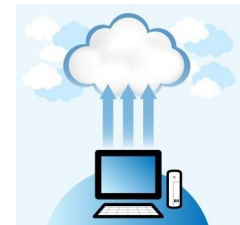
Cloud Solution Design

As the name suggests Cloud Solution Design is our core process for working with customers to understand their needs, and then translate those requirements into solutions delivered via Cloud Providers.



This will define best practices for 'Cloud Migration Management', the full suite of procedures for helping customers transition legacy IT applications to a modernized Cloud version, ranging from simple IaaS 'lift and shift' to complex portfolio migrations.

Cloud Migration Management (CMM) refers to the best practices for planning and managing migration of IT systems from a legacy platform to a Cloud Provider through a combination professional services consulting and software tools, a CMM engagement delivers:



Control how cloud services are being purchased and consumed with the IT organization

Establishing a data center consolidation plan and measurements for effective transformation and governance, including cost tracking model, enabling new data centre services to be delivered on time and on budget

- Audit and assessment of your current IT landscape - Quickly identify areas with highest ROI and value to the IT organization
- Target architecture testing - Simulate your planned Cloud architecture
- Enable successful sourcing strategies to support cloud initiatives and goals - Identify and baseline cost, capability and risk metrics for each cloud initiative, quickly size & price each cloud service from a vendor for a given solution requirement; Organize and structure cloud services to match business service and application portfolio
- Model and map services across multiple Cloud providers - One for Dev Test, another for BCP and Amazon for storage.

Hybrid Service design - IaaS /

Servers and Storage

As businesses master virtualization they increase their options for using external VM hosting services.

, with ideal early use cases including Business Continuity, creating ready to use templates of their applications that can be used in the event of emergency or as a burstable service for applications that experience spikes in traffic, like call centres and web sites.

IaaS Migration Tools

There are a range of tools and templates for pre-defined migrations of certain legacy applications, converted to portable IaaS VMs.

Service	Scope and Deliverables	Vendors
Plan for Migration	Visualize the deployment and plan the apps. Estimate costs and one click provision.	Xervmon
IaaS Migration	Automatically create VMs for Cloud Migration from existing legacy apps	Cloud Scraper
Legacy Notes Migration	Migrates your Notes databases, document libraries and Workflow apps to the cloud.	CIMTrek

Solution Accelerators

aPaaS - Breaking Innovation Gridlock - Leverage a PaaS - Platform as a Service strategy for unleashing more innovation in your organization.

Legacy IT Modernization - Modernization of legacy applications through new middleware and device interfaces.

Media Hosting and Streaming - High capacity services for hosting and streaming video and

other multimedia.

Mobile Enterprise Computing - Deployment of tablets and smart phones as part of the corporate workforce toolset, encompassing VDI and BYOD - Bring Your Own Device, as well as MDM best practices(Mobile Device Management).

Unified Cloud Collaboration - Using the Cloud for email, messaging, video calls, ..., as well as collaborative tools for projects, and also driving cost savings through eliminating fax machines and moving to softphones.

ECM - Enterprise Content Management - Using social media style tools for social intranets and social media e-learning.

Forecasting Total Economic Impact

The framework for planning the Cloud migration business case can be defined in terms that Forrester Consulting calls 'Total Economic Impact' (TEI).

Recently Google commissioned Forrester Research to identify the TEI of moving to Google Apps, polling around 600 mid-sized firms about their messaging and collaboration plans.

Download the report here: The [Google Apps TEI Report](#) from Forrester Research, used to to plan the ROI of moving from a legacy messaging and collaboration platform to Google Apps. They describe how organizations have enjoyed a business improvement including:

- Break even within 1.4 months
- 329% risk-adjusted ROI
- A Net Present Value of over \$10m following an investment of \$400k

App to App Synergy - Forrester identifies the sweet spot of "App to App Synergy", integrating different Cloud services together, like Salesforce.com, Netsuite and Google Apps. They describe how these integrations can create the tools for considerable improvements in staff and therefore business process productivity.