General Management Practices and Service Management Practices

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Review

Agenda

General Management Practices

- Architecture management
- Continual improvement
- Information Security Management

Service Management Practices

- Demand Management
- Availability Management
- Capacity Management

Characteristics of ITIL

- ITIL stands for Information Technology Infrastructure Library
- It is a set of good practices that have evolved overtime
- Non-prescriptive – It does not tell you how to do things but suggests what should be done
- Adopted across almost all the IT houses in one way, shape or form e.g. banks, utilities, educational institutes, telecommunications etc
- The good practices suggested are agnostic of any tool

Reasons for ITIL's Success

Vendor Neutral

- Focus on processes and not tools
- Many ITIL tools available in the market

Non-Prescriptive

- Suggested approach on what should be done vs how it should be done
- Adaptable to the need of the organization

Thought Leadership

- Build out of experiences
- Thought Leadership

ITIL Management Practices

In ITIL, a management practice is a set of organizational resources designed for performing work or accomplishing an objective.

- General management practices have been adopted and adapted for service management from general business management domains
- Service management practices have been developed in service management and ITSM industries
- Technical management practices have been adapted from technology management domains for service management purposes by expanding or shifting their focus from technology solutions to IT services

Architecture Management

- The purpose of architecture management practice is to provide an understanding of all the different elements that make up an organization and how those elements interrelate, enabling the organization to effectively achieve its current and future objectives.

- It provides the principles, standards, and tools that enable an organization to manage complex change in a structured and agile way

Architecture Types

Business Architecture

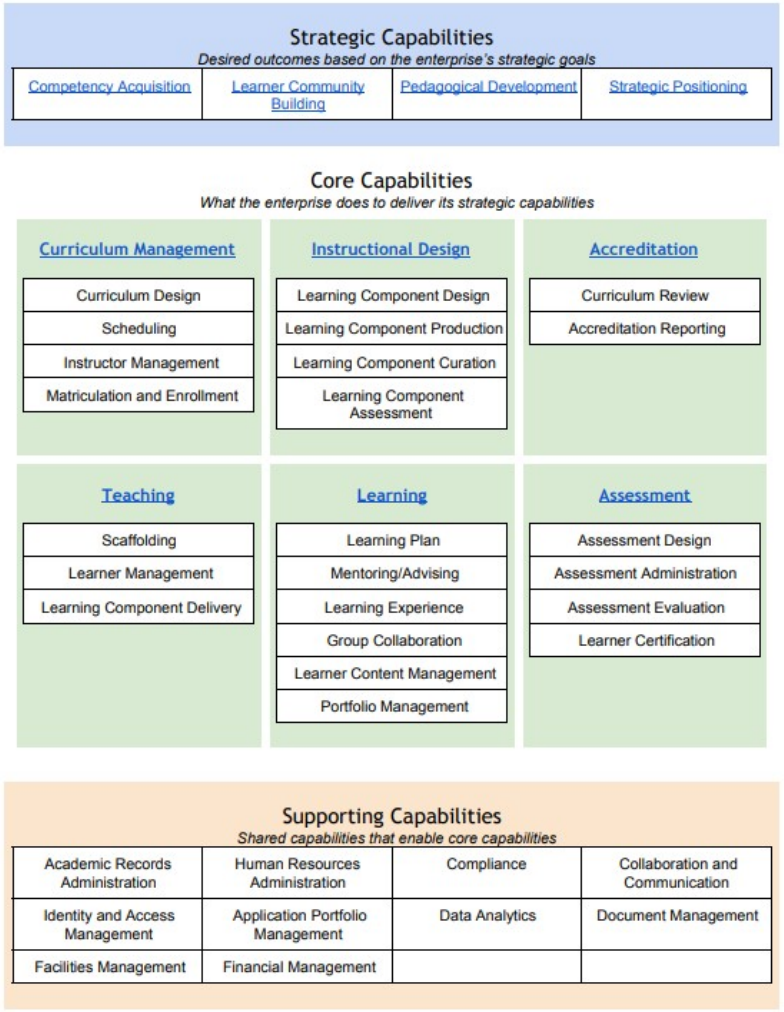
- The business architecture allows the organization to look at its capabilities in terms of how they align with all the detailed activities required to create value for the organization and its customers. These are then compared with the organization's strategy and a gap analysis of the target state against current capabilities is performed. Identified gaps between the baseline and target state are prioritized and these capability gaps are addressed incrementally. A roadmap describes the transformation from current to future state to achieve the organization's strategy

Service Architecture

- Service architecture give the organization a view of all the services it provides, including interactions between the services and service models that describe the structure (how the service components fit together) and the dynamics (activities, flow of resources, and interactions) of each service. A service model can be used as a template or blueprint for multiple services

Capability Map - College

Sample Capability Map of a College



Architecture Types Contd…

Information systems architecture, including data and applications architectures

- The information architecture describes the logical and physical data assets of the organization and the data management resources. It shows how the information resources are managed and shared for the benefit of the organization

Technology architecture

- The technology architecture defines the software and hardware infrastructure needed to support the portfolio of products and services

Environmental architecture

- The environmental architecture describes the external factors impacting the organization and the drivers for change, as well as all aspects, types, and the levels of environmental control and their management

Continual Service Improvement

- Continual Service Improvement (CSI) wraps around all the stages of service lifecycle and makes sure that the services are improvised to meet the needs of the business
- CSI makes sure that the services are aligned with the evolving needs of the business
- The goal is to establish formal feedback loops at each stage of service lifecycle
- It strives to improve the quality of services delivered to business
- It achieves its objective by performing periodic audits, identifying improvement opportunities and making improvement recommendations
- Track and manage improvement ideas through continual improvement register

Continual Service Improvement – Key Concepts

Here are some key concepts that are part of CSI

- **Improvements** – Are defined as outcomes that, when compared to the before state, show a measurable increase in a desirable metric or decrease in an undesirable metric. E.g.: Transaction time has improved from 30 minutes to 20 minutes

- **Benefits** – Are defined as achievements through realization of improvements usually, but not always, expressed in monetary terms. E.g. Because of improvements we can now serve 3 customers instead of 2 in an hour

- **Return on Investment (ROI)** – Is defined as the difference between the benefit achieved and the amount expended to achieve that benefit expressed as a percentage. ROI is calculated purely in monetary terms and it does not include soft benefits such as increased customer satisfaction, increased customer loyalty etc.

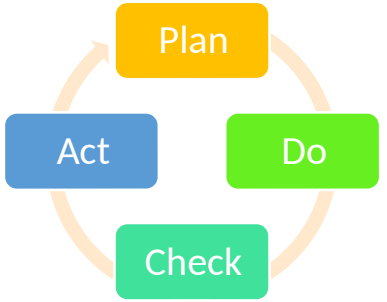
- **Value of Investment (VOI)** – Is defined as the extra value created by establishment of the benefits that include non-monetary or long-term outcomes. This is where you'll calculate your non-monetary benefits such as increased customer satisfaction, brand loyalty etc.

Plan-Do-Check-Act (PDCA)

- PDCA or Deming Cycle is a Six Sigma concept to improve the quality

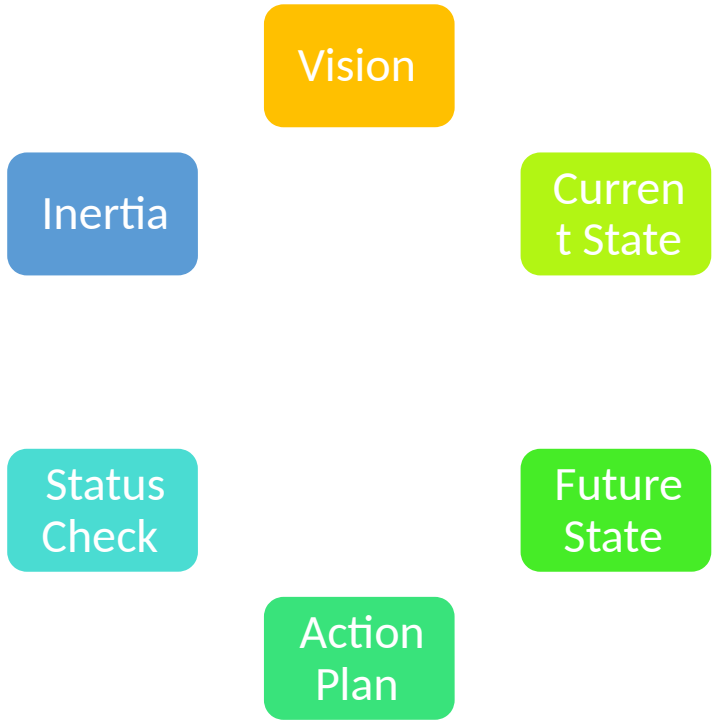
- Deming suggested that to improve any process we need to do the following activities

  - **Plan** – Plan for the improvement that you are going to bring about
  - **Do** – Implement your improvement plan starting with a small trial
  - **Check** – Get the feedback and see what went right and what went wrong
  - **Act** – Act on the feedback and take corrective action and repeat the cycle again



CSI - Process

- **Vision** (What do we aspire to be) – Addresses the fundamental question about the business vision, mission and objectives of the business
- **Current State** (Where we are now) – Reflects on the current state of services
- **Future State** (Where do we want to be) – Details the future state of services
- **Action Plan** (How do we get there) – Detail execution plan on how do we reach the future state
- **Status Check** (Did we reached future state) – Assesses the new state to check if we've reached the future state
- **Inertia** (Keep the momentum going) – Enter the PDCA cycle again and improvise on the current state



Service Measurement

- All the metrics that are tracked and measured should be meaningful. There is no point in measuring something if people are not going to use it to derive meaningful conclusions out of it. There is no fun in measuring for the sake of measuring

- Few things that you need to consider when thinking about measurement are
  - Why are we measuring what we are measuring (What is the end goal)
  - What should we measure and what we shouldn’t measure
  - How do we measure (manual or automatic through tools)
  - When do we measure
  - For how long do we measure
  - What is the measurement error

Types of Metrics

- There are three types of metrics namely:
  - **Technology Metrics** – Measures the attributes associated with technology components. E.g. Availability, reliability of CI
  - **Process Metrics** – Are associated with process and are used to improve process efficiency & effectiveness. E.g. value added time, non value added time
  - **Service Metrics** – Are related with end-to-end service performance. E.g. Transaction time for online transaction. End-to-end transaction requires different processes to execute such as user validation and authentication, processing by payment gateway, updating records in bank account etc.

7 Step Improvement Process

The 7 step improvement process has the following activities

- **Define goals** – Identify what you are going to improve and more importantly why you are going to improve
- **Measurement Plan** – Define what you are going to measure and how you are going to measure
- **Gather Data** – Collect data according to your measurement plan
- **Contextualize Data** – Bring the data together from multiple sources to develop some context around it
- **Analyze Trends** – Based upon the context, when you'll look at the data you'll start to observe certain trends
- **Present Information** – To the stakeholders so that they can identify and agree upon improvement opportunities, develop service improvement plan (SIP)
- **Implement Service Improvement Plan** – And take corrective action as needed. Improvise the services further by entering 7 step process again

Data Breach

Worker loses USB stick with personal data of entire city's residents after night out drinking

By Kathryn Mannie · Global News
Posted June 24, 2022 11:10 am · Updated June 25, 2022 8:00 am

IKEA Canada confirms data breach involving personal information of approximately 95,000 customers

Average cost of a data breach to Canadian firms studied hit $7 million, says IBM

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Information Security Management

- The purpose of information security management process it to “Align IT security with business security and ensure that the confidentiality, integrity and availability of the organization’s assets, information, data and IT services always matches the agreed needs of the business”

- Companies frame their security policies with regards to the needs of the business and sometimes for legal and regulatory compliance

- T

Use of information	Access to information	Password
Email	Internet	Remote access/work from home
Anti-virus	Information classification	Asset disposal etc.

- Organizations wants to make sure that the right people have the access to right kind of information for the right reason

- A lot of companies these days comply with PCI regulations and privacy laws. As a matter of fact, big merchants are required to comply with PCI regulations otherwise they cannot process credit and debit card transactions

Information Security Management

Important Notice: Apple FaceTime Vulnerability

Humber ITS Notifications

Tue 1/29/2019 2:24 PM

Inbox

Important Notice: Apple FaceTime Vulnerability

Apple has confirmed a vulnerability affecting FaceTime and Group FaceTime

The vulnerability affects iPhones and iPads running iOS 12.1 and Mac OS Mojave.

https://9to5mac.com/2019/01/28/facetime-calling-bug-fix/

Information Technology Services recommends turning off FaceTime until Apple releases a patch. Instructions are provided below.

If you require assistance please contact the I.T. Support Centre

Telephone: 416-675-6622 x8888
Email: supportcentre@humber.ca
Webchat: humber.ca/techtalk

How to turn off FaceTime on iPhone or iPad

To disable the feature on your iPhone and iPad, do the following:

1. Open the Settings application
2. Scroll down and look for the FaceTime icon
3. Switch the toggle to gray

How to disable FaceTime on your Mac

To disable Face on your Mac, following the below steps:

1. Open the FaceTime app on your Mac
2. Click "FaceTime" in the Menu bar
3. Click "Turn off FaceTime"

Information Security Management

- Following activities are performed as part of information security management
  - Plan – Detailed plans are created around security requirements and specific plans are formulated for each service based on its need
  - Implement – Once the plans are formulated they are implemented in the design so as to stop unauthorized access to information
  - Evaluate – Evaluation of the security landscape is done by measures such as internal security audit, threat assessment etc. are put in place to make sure that the policies are actually being followed
  - Control – control is put back into the situation by creating new security policies and modifying the existing ones
  - Maintenance – Regular maintenance such as patching and minor tweaks are required so that the security is not breached

Information Security Management

- Remember ‘Heartbleed’ security bug???

Picture Source: www.thestar.com

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Demand Management

- Demand Management process tries to anticipate the demand patters and tries to provision the services according to demand patterns in the most cost effective way

- There are a few characteristics of Services that effect Demand Management

  - Unlike physical products, services cannot be stored in inventory to be used later on

  - Value is realised only when service is consumed

  - Value of service changes overtime

  - Demand for services varies throughout the year or when the big events are going on. E.g. generally speaking demand for services peaks near Christmas season or during major events such as FIFA, NHL or other major events

Tactical & Strategic Demand Management

- **Tactical Demand Management** :- Companies influence demand by charging differential pricing for the same service. E.g. Cell phone services and utilities rates are typically low if they are consumed late in the evening or at night

- **Strategic Demand Management**:- It is a proactive and long term demand management technique which is based on studying the patterns of business activity (PBA). Companies plan well in advance for such changes in demand.

- E.g. cell phone companies sell lots of student plans late in summer or early fall just before and during the start of new school year

- Canada Revenue Agency experiences peak load on their systems during March-April every year

Demand Management – Interacting Processes

- Demand management works closely with Capacity Management, Availability Management and Financial Management

- The goal of demand management is to service the needs of the customer in the **most cost effective manner**

- This is achieved by appropriately allocating the resources. E.g. many companies hire for temporary positions during the Christmas season.

Availability Management

- The purpose of availability management is to “Ensure that the level of availability delivered in all IT services meets the **agreed availability needs and/or service level targets** in a **cost-effective** and timely manner”

- Availability management works closely with service level management to understand the requirements of business

- Availability management is both proactive and reactive in nature. Proactive active activities includes understanding the needs of the business and making provisions for the availability of services accordingly. Being reactive means addressing a the situation after an event or an incident has occurred

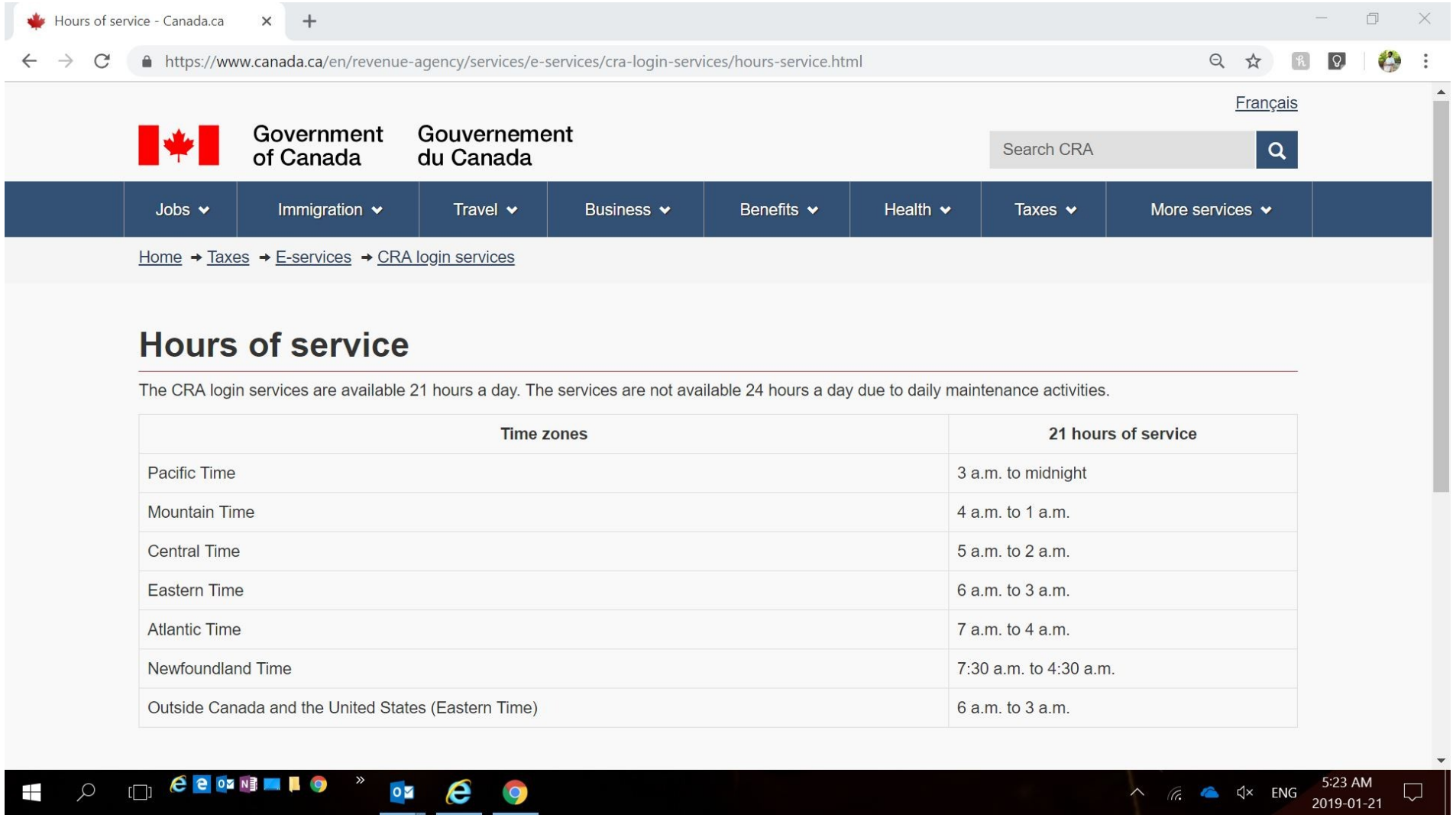
- Availability of services are agreed with the business. All the services are not available 24x7. E.g. Service Ontario’s offices are open during the business hours and you can avail full services during those time. However, you can also access their website and avail service 24x7 but all the services are not offered through their website

Availability Management - Objectives

The objectives of availability management is to:

- Develop and maintain availability management plan to meet the current and future needs of the business
- Implement the changes to availability management plan to meet the needs of the business in a cost justifiable manner
- Assist with the resolution of issues related with availability management

Availability Management



Availability Management – Key Concepts

- **Availability** is defined as “The ability of a service, component or configuration item (CI) to perform its agreed function when required”
- It is commonly known as uptime which is calculated using the following the formula

- Availability = $\frac{\text{Time the service was available}}{\text{Agreed upon availability time}} * 100$
- E.g. since all the services are not available for 24x7. Let us assume that Agreed upon availability time is 20hrs. Out of this the service was not available for 2 hrs. Now we’ll calculate availability as follows

- Availability = $\frac{18}{20} * 100$

Which comes out to be 90%

Availability Management – Key Concepts

- **Reliability** is a measure of how long a service, component or CI can perform its agreed function without interruption

- It is measured as mean time between service interruptions (MTBSI) which is calculated by dividing time the service was available by the number of breaks. This gives the average time service was running without any failure

- Another measure of reliability is mean time between failures (MTBF) which is calculated by subtracting the total downtime from available time and dividing by number of breaks. This gives average time between failures

Availability Management – Key Concepts

- **Maintainability** refers to how quickly a CI can be put back into service after it has failed
- It is measured as Mean Time to Restore Service (MTRS)
- It is calculated by dividing total downtime by number of breaks
- This gives you the average time to restore service after its failure

Availability Management – Key Concepts

- Vital Business Functions (VBFs) – are the critical business functions of the business processes that must almost always be available to customers

- E.g. For telecommunication companies, the ability of the user to pay bill on their website is more important than their ability to have an online chat with a customer service representative (CSR) because CSR can be contacted via phone as well

- Similarly for hospitals, their ability to run emergency department is more important than performing cataract surgeries that can wait a couple of days

- VBF are defined by business and they require high availability and fault tolerance mechanisms to be put in place

Classroom Discussion

- Describe a process and a vital business function that you think is important for your educational institute. Also, describe what you think are the mechanisms that are put in place for it’s high availability and fault tolerance

Capacity Management

- The primary goal of capacity management is to “Ensure that the capacity of IT services and the IT infrastructure meets the agreed capacity and performance related requirements in a **cost effective** and timely manner.”

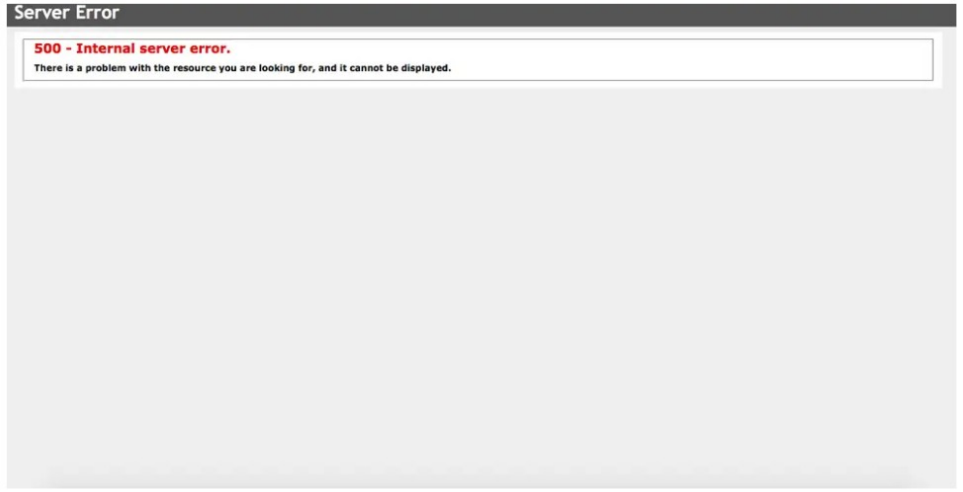
- Capacity management performs the balancing act of managing capacity against planned and unplanned demand vs managing cost at a reasonable level

- One of the main activities that it performs is to produce and manage capacity plan which reflects current and future needs of the business

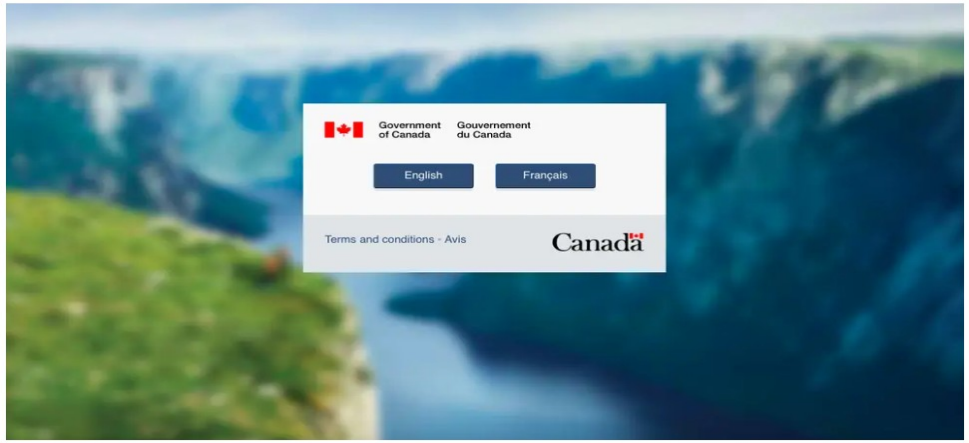
- It ensures that enough capacity is available so that performance of the service meets it’s agreed upon target

- It is also proactive and reactive in nature

Capacity Management



Screenshot/Government of Canada



Government of Canada

elias toufexis @EliasToufexis

The Canadian immigration site crashed. That's not a joke, it actually crashed.

8,121 10:40 PM - Nov 8, 2016

7,724 people are talking about this

Emily Andras @emtothea

The Canadian Immigration website has now actually crashed. #ElectionNight

1,605 10:57 PM - Nov 8, 2016

1,300 people are talking about this

Kristian Sturt @FootieWriter

Sounds like a joke, but the Canadian Immigration site - cic.gc.ca/english is down due to overloading server issues. #ElectionNight

1,002 10:42 PM - Nov 8, 2016

1,283 people are talking about this

Key Concepts

- Business Capacity Management – The primary goal of business capacity management is to plan and manage business capacity for the current and future needs of the business. E.g. if the business wants to expand in a new geographical region, then business capacity management will determine the requirements based on this strategy and act on it

- Service Capacity Management – Ensures that services have enough capacity to meet the current and future needs of the business. E.g. of a poorly managed service capacity is Canadian Immigration website which collapsed during the 2016 presidential election

- Component Capacity Management – Is focused on managing the capacity at component level. These components supports the services. Examples of component capacity management includes monitoring disk space, CPU usage, network load balancing

Recap