IT Transformation

Conceptual Overview

June 2009
Drivers for Change

Reasons to change the way information technology is delivered at UBC are both preventative and enabling in nature.

- Financial pressures demand greater transparency and control of IT costs across UBC
  - opportunity for bulk purchases (e.g. PCs, licenses), and resource sharing (people and systems)

- Constant technology innovation creates opportunities for differentiation that require coordination across the institution to take advantage of

- Increasing sophistication, size and complexity of international research collaborations require innovative information sharing capabilities
  - data management challenges, multi-site conferencing

- Risk to information integrity through lack of control (see also External Review)
  - security breaches, internal connectivity breakdown, aging equipment failure

- Current generation of students and faculty expect a rich, robust IT environment
  - ubiquitous access, mobility, social networking tools

- Growth in on-line and lifelong learning models is driving innovative delivery of learning materials outside the traditional classroom setting

- Increased challenges of managing a growing university with multiple campuses
Overall Vision of How We Deliver IT

The fundamental vision is to integrate IT delivery where this leads to benefits, without reducing the flexibility required by academic work.

• Define a single IT service model
  – Consistency in fundamental IT practices, such as life-cycle management, demand control, project management disciplines
  – Opportunity to size the total IT staff to match demand
  – Effective communication with academic and administrative customers
  – Easier introduction and spread of information management innovation to the university

• Establish integrated IT governance
  – Set priorities and align strategic investments with business needs
  – Give visibility and guidance to total IT costs at UBC
  – Enable effective big-picture thinking and consistent direction to IT decision makers

• Established integrated IT operations where this delivers the benefits
  – Exploit opportunity for scale benefit, e.g. pooled licensing, reduced duplication
  – Reduce system stability risk, e.g. security management
  – Offer a broader range of career opportunities to IT professionals on UBC staff

• Establish a workable IT funding model to help ensure essential equipment maintenance and cost effective service expansion
What is an IT Service Model?

An IT Service Model describes the **elements that make up an organization’s IT service** in several different dimensions.

1. **Functions**—this dimension defines the **scope** of IT services, for example:
   - network services (voice & data equipment, installations)
   - data storage services (e.g., dedicated storage, virtual/cloud storage, data replication)
   - application support services (e.g., PeopleSoft maintenance)

2. **Services**—defines discrete **IT solutions** which customers can obtain:
   - **Base Services** embedded in standard and custom services, (e.g. Service Desk, Campus Network)
   - **Standard Services**, offered the same way to all customers (e.g. PC Life Cycle Mgmt, System Hosting)
   - **Custom Services**, defined uniquely for each department (e.g. PeopleSoft application support)
   - **Project Services**, each defined with specific scope and requirements, (e.g. Office relocation Project)

3. **Capabilities**—the **processes, people and tools** that the IT services use to deliver their services and support their services, e.g.
   - Incident Management
   - Capacity Management
   - Release Management

4. **Organizational units**—by which the **accountability** for IT delivery is structured, e.g.:
   - Finance applications support
   - Housing, Conference & Food systems support
The IT governance **model must be simple** and focused on directing IT policy, IT strategy and GPO funding for IT.

There are only two bodies that participate in developing IT policy, strategy and GPO funding:

- The **Executive Steering Committee**, which directs IT at UBC from the institution’s leadership positions
- The **IT Advisory Committee**, which provides customer input to IT thinking at UBC
## IT Governance Structure

Technology decisions specific to a department or faculty will always be the authority of the Dean or AVP responsible for the area.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Sample Technology Decisions</th>
<th>Deans/AVPs</th>
<th>Faculty IT Leads</th>
<th>ITAC</th>
<th>UBC IT Staff</th>
<th>CIO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Services</strong></td>
<td>Hardware upgrade in computer lab</td>
<td>A</td>
<td>R</td>
<td>I</td>
<td>C</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>Addition of PeopleSoft Budgeting module</td>
<td>A</td>
<td>R</td>
<td>I</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td><strong>Custom Services</strong></td>
<td>Maintenance upgrade of Vista Blackboard</td>
<td>A</td>
<td>R</td>
<td>C</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>Hardware increases for ERP performance</td>
<td>A</td>
<td>R</td>
<td>C</td>
<td>R</td>
<td>A</td>
</tr>
<tr>
<td><strong>Standard Services</strong></td>
<td>Change in standard desktop vendor</td>
<td>I</td>
<td>C</td>
<td>C</td>
<td>R</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Upgrade in virtualization tool standards</td>
<td>n/a</td>
<td>C</td>
<td>I</td>
<td>R</td>
<td>A</td>
</tr>
<tr>
<td><strong>Base Service</strong></td>
<td>Increase in network switch capacity</td>
<td>n/a</td>
<td>I</td>
<td>C</td>
<td>R</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Upgrade of Service Desk ticketing tool</td>
<td>n/a</td>
<td>I</td>
<td>C</td>
<td>R</td>
<td>A</td>
</tr>
</tbody>
</table>

R = Recommends, A = Approves, C = Consulted, I = Informed
IT Governance Structure

How will departments and faculties communicate their needs and concerns to the IT department?

IT leads will have two principal channels to influence the IT department through standard processes:

- The Service Management function, which provides a process and individuals for ongoing dialogue about IT needs and concerns.
- Standing working parties and ad-hoc project teams, which provide either general or outcome-specific forums on specific topics, such as infrastructure capacity or Exchange integration.

In addition, IT leads will be able to escalate urgent issues along a defined escalation path to the CIO.
Funding Model

Cost and funding models are two separate elements of IT Management

- IT should be a cost centre that recovers costs, not makes revenue
- The principal purpose of end-user consumption pricing is to *incent the right behaviour* NOT to recover costs
- Most costs should be centrally funded to minimize administrative overhead

**Total IT Cost Base**

**Overhead** costs, e.g.:
- Finance management
- HR management
- Contract management

**Variable delivery** costs, e.g.:
- End-user licenses
- PC purchase costs
- Data storage purchase cost
- Project delivery costs

**Fixed delivery** costs, e.g.:
- Support staff cost
- Facilities cost
- Network maintenance
- Site licenses

**End-user consumption funding**

**Project funding**

**Central funding**

**IT Funding Units**

**PC monthly charge**

**GB/TB monthly charge**

**Virtual server charge**

**Bandwidth charge**

**Consumption Pricing Units**

**Fixed-price projects**

**Time & Materials projects**

**Gain-share projects**

**Project Pricing Units**
Service Level & Reporting Framework

IT Service Delivery quality is based on mutual commitments made between IT and its customers, and regular performance reporting against Key Performance Indicators.

**IT Service Types**

- **Project Services**
  Each defined with specific scope and requirements (e.g. Office relocation, PeopleSoft upgrade, video conferencing installation)

- **Custom Services**
  Defined uniquely for individual departments (e.g. PeopleSoft application support, Student Information System support)

- **Standard Services**
  Offered in the same way to all customers (e.g. PC Life Cycle, System Hosting, Virtual Network)

- **Base Services**
  Not offered stand-alone, but embedded in standard and custom services (e.g. Service Desk, Campus Network)

**Customer Groups**

- Entire Institution
- Faculties & School
- Departments
- Individuals

Mutual Responsibilities
# Implementation Approach

Key to the proposed implementation approach is to establish a pilot with a sub-set of UBC’s faculties and administrative departments.

<table>
<thead>
<tr>
<th><strong>Phase I: Outline</strong></th>
<th><strong>Phase II: Pilot Planning</strong></th>
<th><strong>Phase III: Pilot</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>May – early July</td>
<td>July – October</td>
<td>November +</td>
</tr>
</tbody>
</table>

- Service Catalogue (‘what we do’)
- Governance Structure (‘how we control it’)
- Stakeholder Engagement
- High-Level Pilot Plan

- Pilot scope and service level expectations
- Pilot Cost Base (‘how much it costs to do’)
- Pilot Funding Model (‘how we afford it’)
- Pilot Operating Model (‘how we do it’)
- Pilot deployment plan

- Pilot deployment and operation
- Pilot performance monitoring
- Model adjustment
- Further deployment planning

## IT Transformation Program

- Common ITIL Implementation
- PC Life-Cycle Management
- SLA Definition
- Integrated Security Management
Next Steps

• **Agree in principle** to participate in the pilot
• Develop a **scope definition** with faculty/department IT Lead
• Define and commence the **governance process** with the Executive Steering Committee
• Start the development of the pilot **implementation plan**
1. What is an IT Service Model?
2. IT Governance Structure
3. Service Level Agreements and Reporting Framework
**What is an IT Service Model?**

**Functions** define the **scope of work** that the IT department is responsible for in any given organization.

![Diagram of IT Service Model]

**Faculty Leadership/Management**

**Faculty Service Users**

**IT Service Management**

- **Application Mgmt**
- **Application Mgmt**
- **Application Mgmt**
- **Application Mgmt**

**End-User Technology Support**

**Voice & Data Network Support**

**Server & Storage Support**

**UBC Facilities Management/Outside Service Partners**
What is an IT Service Model?

The IT department’s **scope is defined jointly** with each department and faculty and may vary from case to case.
What is an IT Service Model?

**Services** (a.k.a. “Solutions” or “Offerings”) define the discrete consumables that end-users can obtain from the IT department, typically for a usage fee.

<table>
<thead>
<tr>
<th>Individual Consumer Services</th>
<th>Departmental Services</th>
<th>Collaboration Services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>End-User Enablement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desk Phone</td>
<td>Email Identify</td>
<td>Teleconferencing</td>
</tr>
<tr>
<td>Network Access</td>
<td>Virtual Network</td>
<td>Virtual Network</td>
</tr>
<tr>
<td>PC Kit</td>
<td>PBX Service</td>
<td>File Sharing</td>
</tr>
<tr>
<td>Office Software</td>
<td>Virtual Desktop</td>
<td></td>
</tr>
</tbody>
</table>

| **Computing Capacity**       |                       |                        |
| Data Backup                  | CPU Capacity          | CPU Capacity           |
| Web Site Hosting             | System Hosting        | System Hosting         |
|                              | Data Storage          | Data Storage           |
|                              | Application Support   | Backup/recovery        |
|                              |                        |                        |

| **Project Delivery**         |                       |                        |
| Software Upgrades            | Relocations           | Set-up                 |
| Hardware Upgrades            | Application Development| Expansion              |
|                              |                        | Wrap-up                |

...
What is an IT Service Model?

Capabilities are the combination of process, people and technical tools by which the IT department knows how to deliver its Services.
What is an IT Service Model?

Every capability is defined using a swim-line **workflow** that identifies tasks and which team has responsibility.

![Diagram of IT Service Model workflow](image)

- **Admin/Faculties**
  - Call Service Desk to open ticket

- **Service Desk**
  - Can Service Desk resolve?
    - Yes: Resolve issue
    - No: Assign ticket to appropriate Delivery Team to resolve

- **Solutions/Infrastructure Teams**
  - Identify root cause of issue
  - Resolve issue

- **Incident Team**
  - Is response satisfactory / fast enough?
    - No: Escalate as necessary
      - A. If problem requires further attention, escalate to Incident Analyst
      - B. If problem is of overriding priority, escalate to CIO
  - Resolve issue

- **CIO**
  - Resolve issue
What is an IT Service Model?

**Organization Units** reflect the flow of management accountability within the IT department ...
What is an IT Service Model?

... as well as to and from customer groups. For some processes accountabilities follow a standard allocation, while others may be mixed.

**Standard Allocation Process**

- **Demand Management**
  - Finance IT Lead
  - HCFO IT Lead
  - Sauder IT Lead
  - Physics IT Lead
  - ... (omitted)

- **UBC IT Customer Service Team**

**Mixed Allocation Process**

- **Server Management**
  - Finance
  - HCFO
  - Sauder
  - Physics
  - ... (omitted)

**UBC IT Server Management Team**

Illustrative
The Executive Steering Committee (ESC) relates to UBC IT the way a corporate Board relates to a business executive management team.

**Purpose:**
- Articulates the strategies and policies of the institution to UBC IT
- Sets long-term objectives for UBC IT and approves IT’s policies and the strategic plan to achieve objectives
- Sets funding constraints and approves GPO funding for UBC IT annually

**Constitution:**
- Permanent members:
  - Provost & VP Academic
  - VP Finance, Resources & Operations
  - UBC Chief Information Officer
- Additionally, up to four Deans or Principals will be asked to join the ESC on a three-year rotational basis.

**Frequency:**
- Meets quarterly

**Inputs to IT:**
- UBC strategies, policies, funding limitations, strategic & tactical priorities

**Outputs from IT:**
- UBC IT Strategy, IT policies, IT technology roadmap, core IT budget
The IT Advisory Committee (ITAC) represents UBC IT’s customers through their leadership.

**Purpose:**
- Provides a forum to discuss IT needs of the faculties and schools
- Engages with UBC IT at the senior management level to provide customer input
- Validates appropriateness of strategic directions

**Constitution:**
- Representatives from all faculties and administrative units at the Assistant Dean level or equivalent
- One representative per faculty or school
- Assigned by the faculty or school
- Maximum suggested tenure is 3 years, but faculties and schools decide

**Frequency:**
- Meets bi-monthly

**Inputs to IT:**
- Faculty business directions, desired technology enablements, common issues and concerns

**Outputs from IT:**
- UBC IT Strategy, IT policies, IT technology roadmap, core IT budget
IT Governance Structure

How will departments and faculties be able to prioritize their work?

- **Production incidents** (e.g., network issues, email issues, application flaws) will be resolved through incident management processes based on severity and SLA commitments to resolve issues.

- Change **requests** serviced from a **shared resource** pool out of GPO funding (e.g., exchange account creation, application access authorizations, network port activations, phone replacements) are completed according to fulfillment guidelines on a first-come-first-serve basis.
  - Fulfillment guidelines are developed with input from IT Advisory Committee and IT Liaison Leads

- Change **requests/projects** serviced with **dedicated resources** out of GPO funding (e.g., finance system upgrade, HR system module extension) are completed according to an annual schedule
  - Schedule is defined based on IT Advisory Group priorities within the GPO budget constraints and approved by the Executive Steering Committee.

- Change **requests/projects** serviced with **faculty/department-owned** funding (e.g., new building cabling, research server farm installations, contact database upgrade) are scheduled as requests are received and resources identified, according to fulfillment guidelines
  - Fulfillment guidelines are developed with input from IT Advisory Committee and IT Liaison Leads
# Service Level & Reporting Framework

Service Levels are standardized where possible but customized where needed.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Examples</th>
<th>Scope</th>
<th>SLA Type</th>
<th>KPIs (example)</th>
</tr>
</thead>
</table>
| **Base Services**  | • Service Desk  
                   • Campus Network  
                   • CWL                               | Fixed definition for everyone                              | Single service level for the institution | • Average call wait time  
                                        • Network availability  
                                        • System availability |
| **Standard Services** | • PC Lifecycle management  
                     • Application hosting                              | Quantified for each customer based on needs, e.g., number of PCs, size of application | Standard service levels measured and reported for each customer | • New PC deployment lead time  
                                        • Hosting environment availability |
| **Custom Services** | • Specific application management                 | Custom-defined for the business needs of specific systems, e.g. SIS, PeopleSoft, CRM | Custom-made service level based on business needs | • System availability  
                                        • Available support hours  
                                        • Call-back times |
| **Project Services** | • Office relocation  
                        • Application upgrade                               | Defined uniquely for each project in a standard format, based on project size | Standard measures with custom-defined values for each project | • Estimating timeframe  
                                        • Launch lead-times  
                                        • On-time  
                                        • On-budget  
                                        • Defect rate |
Importantly, Service Level include mutual commitments between IT and it’s customers.

<table>
<thead>
<tr>
<th>Service</th>
<th>Service Level</th>
<th>IT Commitment</th>
<th>Customer Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PC Life-Cycle Management</strong></td>
<td>Fulfill a new PC request within 5 business days of receiving it.</td>
<td>• Provide up-to-date model options on service web site</td>
<td>• Provide all information requested by IT accurately and immediately upon making the request</td>
</tr>
<tr>
<td>- New PC Request</td>
<td></td>
<td>• Acknowledge request receipt within 24 hours</td>
<td>• Notify IT immediately if any details of the request change</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Immediately notify customer of any delays</td>
<td></td>
</tr>
<tr>
<td><strong>PeopleSoft Application Management</strong></td>
<td>Respond within 15 minutes Start resolution process within 30 minutes Update hourly</td>
<td>• Prioritize resourcing to address this incident</td>
<td>• Follow standard incident reporting process to declare the severity</td>
</tr>
<tr>
<td>- Severity 1 Incident response</td>
<td></td>
<td>• Follow incident escalation procedures to engage IT management and customer management as required</td>
<td>• Provide all available details of the incident at the time of reporting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Follow standard communication procedure to notify affected system users</td>
<td>• Be available for resolution activities requiring business information or business decisions</td>
</tr>
</tbody>
</table>

...  ...  ...  ...
Service Level & Reporting Framework

Regular Service Level Reporting will provide KPI information to all customers.

**Base Services**
- **Help Desk Call Wait Time**
- **Help Desk Call Volumes**
- **Network Availability**
- **Network Performance**

**Standard Services**
- **PC Deployment**
- **Exchange**
- **Virtual Network**
- **Virtual Servers**
- **Virtual Desktop**
- **Video Conference**
- **Web Hosting**
- **Voice over IP**
- **Archiving**

**Custom Services**
- **CRM Database**
- **Contract Database**
- **Lab Results DB**
- **Student Sandbox**
- **Case Mgmt App**
- **Publications DB**

**Project Services**

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Project Manager</th>
<th>Work Type</th>
<th>Work Request Number</th>
<th>Project Current</th>
<th>Project Previous Week</th>
<th>Time</th>
<th>Cost</th>
<th>Resource</th>
<th>Scope</th>
<th>Benefits</th>
<th>Deployment Date</th>
<th>Deployed?</th>
<th>Work Request Closed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Lab Enhancements</td>
<td>Stephen Hawking</td>
<td>A1</td>
<td>35318</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TBD</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Grant Forecasting Module</td>
<td>Martin Reese</td>
<td>A1</td>
<td>35876</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Estimate 19-Feb-10</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Building Expansion Phase 2</td>
<td>John Bexell</td>
<td>B1</td>
<td>38105</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Planning 23-Mar-07</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Application re-hosting</td>
<td>Stephen Chu</td>
<td>B2</td>
<td>39105</td>
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<td></td>
<td></td>
<td></td>
<td>Analyze 21-Feb-10</td>
<td>No</td>
<td>No</td>
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