McGill University Virtualization Service Description and Service Level Agreement

NCS Network and Communications Services

Document Control

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1.0	January 19, 2007	Creation of the document	MH/SL
1.1	January 25, 2007	Modifications & additions to several categories	SL
1.2	January 26, 2007	Overall modifications	MH/SL
1.3	February 8, 2007	Charge model & scope of work	SL
1.4	February 9, 2007	Charge model, emergency service disruption, VM description	MH/SL
1.5	February 12, 2007	Modifications to layout	MH/SL
1.6	February 12, 2007	Logo, footnotes & layout	SL/RP
1.7	March 8, 2007	Additions to conditions	SL
1.8	May 8, 2007	Additional technical information	SL
1.9	May 15, 2007	Chargeback and Pricing	SL
2.0	August 16, 2007	Chargeback and Pricing	SL

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Executive Summary and Agreement

Network and Communications Services provides a service for virtualizing Linux and Windows servers for McGill academic, administrative, and research units.

This Service Level Agreement formally outlines the details, goals, and support and problem resolution procedures for McGill University's virtualization services.

Signed by NCS representative,

Signature	_____
Name	_____
Title	_____
Department	_____
Phone	_____
Date	_____

Understood and Agreed by Client representative

Faculty or Department	_____
Signature	_____
Name	_____
Title	_____
Department	_____
Phone	_____
Date	_____

Service Description

The virtualization service provides:

- Creation of a virtual machine (VM) with either Linux or Windows pre-installed consisting of
  - one virtual CPU (vCPU), 1GB of memory, and 40GB of Tier 2 storage
  - minimum 512MB memory reservation for guest OS
  - monthly full backups with three month retention for full system restore

- Ability for remote console access
- Limited number of prescheduled VM "snap-shots" upon client request
- Increased protection against hardware failure due to cluster architecture, hosts are:
  - in environmentally controlled facilities
  - housed in separate, physical locations

- Flexibility for expansion in the areas of vCPU, memory, and storage
- Host level system updates
- Support for the following may be offered via separate SLAs:
  - guest operating systems
  - application monitoring
  - updates
  - performance tuning

- NCS will not support the following:
  - hardware dongles
  - connection of any physical peripheral devices to the host
  - physical access to the host servers

Eligibility

This service is available for McGill academic, administrative, and research units.
Service Description

Chargeback and Pricing

Standard Package: Maximum 36 month service lease that is prorated to match McGill's fiscal calendar. The duration will be the number of months remaining in the current fiscal year plus two additional fiscal years.

Options: One-time service lease charge(s) that co terminate with the Standard Package lease

Description	Cost
Standard Package	
One virtual CPU (vCPU), 1GB of memory, and 40GB of Tier 2 SAN storage Monthly full backups with three month retention for full system restore	$5,000.00
Options	
vCPU Note: Maximum one additional vCPU for a total of two vCPU's per VM	$500.00
1GB memory Note: Maximum of three additional 1GB increments for a total of 4GB per VM	$250.00
SAN storage	Separate charge

Acceptable Usage Policy

All commercial activities are specifically excluded from participation.

Further governance is provided by the following policies:

- Policy on Intellectual Property, found on the Secretariat website
- Policy on the Responsible Use of McGill IT Resources, found on the Secretariat website

Service Architecture

The service runs VMware's ESX v3.x virtualization software on IBM Xseries servers.

Roles and responsibilities

Role	Responsibility
Administrator	This role is assigned to NCS staff allowing them to fully manage the environment.
Client	Ability to remote access as well as power-on/off their VM.

Maintenance functions

NCS will need to apply security and maintenance patches to the host operating system and/or virtualization server utilities.

Service Level Agreement

Maintenance Window

NCS will require various maintenance windows needed to keep the virtual environment up-to-date or to add new functionality. We will coordinate maintenance windows such that there is minimum interruption of service to the greatest number of guest operating systems and applications. Maintenance windows will be a maximum of 4 hours per month (see Communications Plan in a later section for details).

Regular operational maintenance of the virtual environment that does not interrupt service of a client VM (e.g. VMotion of a VM from one host to another) may occur at any time without client notification

Emergency Disruption/Shutdown

Unscheduled events (e.g. loss of power or cooling within the datacenter) may require NCS to disrupt/shutdown VM services without prior notification.

Amendment and Distribution Policy

This Service Level Agreement can be amended at any time when both NCS and the client agree to the amendment.

This Service Level Agreement must be signed by both NCS and system administrators of the guest operating system (the client).

Agreement Duration and Termination

This agreement is adjusted to match McGill's fiscal calendar. The duration will be the number of months remaining in the current fiscal year plus two additional fiscal years for a maximum of 36 months.

Either NCS or the client may terminate this agreement by providing a sixty (60) day written notice.

Communications Plan

- The client will contact NCS Server Infrastructure and Integration via email at ncssii@campus.mcgill.ca for any inquiries or requests.

- The client must provide NCS, 24x7x365 contact information.

- The client must also provide escalation contact information.

- NCS will keep the client informed of any updates or changes. Any planned changes that affect service will be communicated to all client contacts on-file at least two business days prior to the change.

Monitoring Services

NCS continuously monitors the hosts' software and hardware components. NCS Operations is alerted to error conditions and will notify the NCS support person on-call.

Problem Support Services

All problems must be reported to NCS Operations by phone at 514-398-3699. The client initially establishes the problem severity.

All change requests will be submitted to NCS SII by email at ncssii@campus.mcgill.ca

Nature of the request	Severity level	Description
Problem	1 – High	System down, data loss
Problem	2 - Medium	Poor performance
Change request	3 - Low	Reconfiguration or addition

Support Severity Levels

NCS support personnel response time to problem after client contact with NCS:

Period	Severity level 1	Severity level 2	Severity level 3
Business hours (9:00-17:00 Mon-Fri)	1 hour	4 hours	Next business day
Off hours	2 hours	Next business day	Next business day

Support Response Time

Escalation

NCS Operations may be called 24x7x365 at 514-398-3699. The Operator on-duty will have up-to-date instructions on how to reach support staff which includes an escalation process.

Escalation process:

- Level 1 Virtualization support staff – SII on-call
- Level 2 Virtualization support staff – ES on-call
- Level 3 Both SII and ES Managers
- Level 4 NCS Associate Director Systems Engineering
- Level 5 NCS Director

Appendix A – Scope of Work and Contact Information

Administrative Contact	
Contact Name	
Title	
Address	
Telephone	
Pager	
Cell	
E-mail address	

Technical Contact	
Contact Name	
Title	
Address	
Telephone	
Pager	
Cell	
E-mail address	

Technical Contact	
Contact Name	
Title	
Address	
Telephone	
Pager	
Cell	
E-mail address	

VM Description & Requirements	
Short description of the project	
Intended target(s) for your service (check all that apply)	☐ **Academic** ☐ **Administrative** ☐ **Research** ☐ **Student**

Operating system platform and version	☐ **Red Hat Enterprise Linux – Advanced Server**
	    ☐ **32bit** ☐ **64bit**
	    ☐ **Version 3** ☐ **Version 4**
	
	☐ **Microsoft Windows 2003**
	    ☐ **32bit** ☐ **64bit**
	    ☐ **Enterprise** ☐ **Standard**

Operating system proof of purchase	
VM (server) name	
VLAN and IP addresses	
Windows Active Directory (AD) Organizational Unit (OU)	
Windows patch service (WSUS) auto reboot time	
Additional vCPU, memory or SAN storage required	
Database used	☐ **Microsoft SQL** ☐ **Oracle** ☐ **Other_____** ☐ **None**
Web services	☐ **Apache** ☐ **IIS** ☐ **Other_____** ☐ **None**
Additional information	