McGill University Data Centre Hosting Service Description and Service Level Agreement

NCS Network and Communications Services

Revision History

Version	Date	Summary of changes	Approved by
1.0	November 7, 2006	Creation of the document	QN
1.0a	November 8, 2006	Minor wording changes	QN
1.0b	December 8, 2006	Inclusion of Macdonald campus data centre and update to Chargeback and Pricing	QN
1.0c	January 24, 2007	Clarify charge for space rental: Clarify that Physical Server Installation prices Clarify escalation procedure	QN
1.1	February 2, 2007	Incorporation of suggestions resulting from meeting of January 29th, 2007	PL
1.1a	February 5, 2007	Minor adjustments done to changes of Feb 2/07	
1.1b	February 16, 2007	Grammatical corrections. Clarification of the cabinet space rental	ED
1.1c	February 21, 2007	Small ambiguities corrected	PL
1.2	May 2, 2007	Replaced appendix B with improved form	PL
1.2a	August 20, 2007	Reference Ferrier data centre	PL
2.0	October 3, 2007	Reworked the forms and added more information requests	PL
2.1	January 16, 2008	Changed name from Server Hosting to Data Centre Hosting	PL

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Executive Summary and Agreement

Network and Communications Services (NCS) manages 3 modern high-end data centres.

1. Burnside Hall Data Centre occupies 5,500 sq.ft. in a high security area, manned 24x7x365. The area is equipped with sophisticated air-conditioning, Uninterruptible Power Supplies (UPS) and an emergency backup generator system. NCS utilizes several monitoring tools to proactively detect anomalies and apply necessary corrective measures. Up to date contact lists are used in the event of an emergency.

2. NCS also manages a second data centre occupying 450 sq.ft. located in Laird Hall on the Macdonald Campus. The area is manned during business hours however it is monitored 24x7x365 by NCS Operations. Air-conditioning, UPS and emergency generator are also in place.

3. In an effort to separate our resources away from one central location NCS has created a third data centre in Ferrier building. Clustered servers hosting top level production services a well as key dual-routing switches will have one or more nodes to this new site to promote business continuity and the start of disaster recovery initiatives.

NCS is making the sharing of the data centre space free of charge to all McGill departments or research groups. Only "out-of-pocket" expenses will be charged back for its use (e.g. running additional electrical circuits, sharing of racks and cabinets, and KVM (Keyboard-Video-Mouse) equipment.

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

Signature Page

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THIS AGREEMENT is effective as of the date of mutual signing, by and between Network and Communications Services, hereinafter referred to as "NCS" and, _____, hereinafter referred to as the "Client".

NCS representative,

Name	_____
Title	_____
Phone	_____
Signed	_____ Date _____

Understood and Agreed by Client representative(s)

Faculty and/or Department	_____
Name(s)	_____
Title(s)	_____
Phone	_____
Signed	_____ Date _____
Signed	_____ Date _____
Signed	_____ Date _____

Service Description

McGill Network and Communications Services (NCS) will provide, based on Client need, a range of services for computer equipment housed in the data centres. These may include:

- Providing floor space (measured in square feet) or rack space (measured in rack-units (RU)).

  - All clients pay a one-time fee for a share of the rack cabinet and monitoring electronics.

  - Non-McGill units also pay for floor space and a yearly rental fee.

- Providing required electrical power. Standard connections have a one-time fee.

  - The Client pays for all additional/special electrical parts and labour beyond the standard connectivity to the cabinet (from an existing distribution panel).

- Providing adequate cooling and ventilation to the hosted equipment. This applies to typical server arrangements. Additional out-of-pocket expenses will be charged to the Client if the equipment has larger than normal power and cooling requirements.

- Providing remote access to server consoles via KVM (Keyboard-Video-Mouse) switches. NCS has provided office areas outside the perimeter of the data centres for this service.

- Providing controlled access within the perimeter of the data centres as outlined in the procedure "Guidelines for servers hosted in NCS data centres" (Appendix A)

- Connectivity to the McGill backbone. The Client will be responsible for the network jack(s) installation fee along with all monthly billings.

- Providing TCP/IP and/or application health monitoring on a 24x7x365 basis

- Alerting the Client contact in cases of problems detected with the hosted equipment. The Client will provide a 24x7x365 contact and proper escalation instructions at the time of signing this document.

- Performing occasional manual intervention such as power-on reset of the equipment. Any additional labor will be charged back to the Client.

In addition, NCS can also provide other services (not directly covered in this SLA document) for a fee. Companion SLA documents describe each of the following services in detail.

- Purchase and installation of servers.

- The creation and hosting of Virtual servers

- Provide centrally located Storage Area Network (SAN) disk space.

- Provide backup services of data.

- Provide basic system administration.

NCS will also provide system architecture and design advice free of charge. We can help you select the right hardware and software components to meet your needs. Please contact us.

Eligibility

This service is available to all McGill University faculties, departments, and affiliated research units.

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

Chargeback and Pricing

Here is the list of typical costs at the time of writing:

Services	McGill units		Non-McGill units	
	One-time	**Yearly**	**One-time**	**Yearly**
Floor space rental per cabinet or	No charge			$ 3150.00
Floor space rental per RU [1]	No charge			$ 96.00/RU
Rack space	$60.00/RU		$60.00/RU	
Electrical preparation work	$50.00 / plug		$50.00 / plug	
Sharing KVM switch	$380.00		$380.00	
Network jack installation	$120.00 / data jack		$120.00 / data jack	
Network jack monthly fee	As per current network jack tariff/month			
Monitoring	No charge		No charge	
Client problem notification	No charge		No charge	
Occasional manual intervention	No charge		No charge	
Server physical installation [2] labour	$50.00/hour		$50.00/hour	
Server purchase fee	No charge		No charge	
Storage Area Network disks (SAN)	Separate charge	Separate charge	Separate charge	Separate charge
Backup services	Separate charge	Separate charge	Separate charge	Separate charge
Basic system administration services	Separate charge	Separate charge	Separate charge	Separate charge
Standard cooling and ventilation	No charge		No charge	No charge
Controlled access to the physical space	No charge		No charge	No charge

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[1] RU: Rack-unit space is a unit of measure of the height of usable space for a rack-mount server or equipment. 1RU is equal to 1.75 inches
[2] To minimize risks of failure of damage during server installation, NCS requires that all installations are done by NCS certified staff

Service Level Agreement

Policies

The "Guidelines for servers hosted in the NCS data centres" (Appendix A) describes the rules governing access to the hosted equipment.

Payment Schedule

All fees are requested to be paid in full before the hosting starts. Acceptable methods of payment include:

- Operating fund FOAPALS (not research funds)
- Certified Checks upon receipt of McGill invoice issued against a formal McGill client ID.

Amendment and Distribution Policy

This Service Level Agreement can be amended at any time upon mutual agreement between NCS and the Client.

Two copies of this Service Level Agreement must bear original signatures of the Client's representative(s). Distribution of signed originals (including completed appendix form B and C) as follows: one file copy for NCS and one copy for the Client.

Agreement Renewal and Termination

This agreement is valid for a period of one year from the date of mutual signing. Three months prior to the anniversary of signing, NCS will notify the client requesting a written "declaration of intent".

Either party may prematurely terminate the agreement if NCS is unable to provide the level of service expected or required by the Client's ongoing needs, or in the event the service has been replaced by another, more beneficial service.

Client's computing equipment will be removed from the data centre within 30 days of shutdown. The cost of moving equipment will be borne by NCS only in the event that clients are asked to leave through no fault of their own.

Clients may exchange/upgrade their systems without incurring additional charges, provided these changes replace existing equipment without incurring additional infrastructure costs.

Communication Plan

- The Client will contact NCS via email at **NCSserverhosting@mcgill.ca** for any inquiries or requests of service. The Manager of Research Computing Services (514-398-5480) will act as liaison between our Clients and NCS Computer Operations. The latter are responsible for day to day operations in our data centres.
- An integral part of this SLA includes the completed form found in Appendix B. The following information must be included on the form:
  - 24x7x365 contact information.
  - escalation contact information.
- NCS will inform the Client and sub-ordinate users (via email notification) of any service-affecting updates or changes at least two business days prior to the event.
- The Client will inform NCS (via email notification) of any anticipated changes on the hosted servers that deviates from this contract or could causes potential problems to NCS server monitoring systems.

Support

All hosting-related problems experienced by the Client must be reported to the on-duty Operator at extension 3699. The client establishes the problem severity.

Nature of the request	Severity level	Description
Problem	1 – High	System down, data loss
Problem	2 - Medium	Poor performance
Change request (sent to NCSserverhosting@mcgill.ca)	3 - Low	Reconfiguration or addition

Support Severity Levels

NCS support personnel response time 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	8 hours	Next business day

Support Response Time

Escalation

NCS Computer Operators can be reached by phone (call 24x7x365 at 514-398-3699). In the event of non resolution of a problem the client can simply specify the following:

- the urgency of the situation
- the problem needs to be escalated.
- the requested level of appropriate escalation

The Operator will have up-to-date instructions on how to reach NCS support staff.

Internal escalation process: (staff will be paged as needed)

- Level 1 Operator on duty (Extension 3699)
- Level 2 Operations Supervisor (Extension 3690)
- Level 3 Operations Manager (Extension 7900)
- Level 4 NCS Associate Director – Quan Nguyen (Extension 3709)
- Level 5 NCS Director – Gary Bernstein (Extension 4279)

Appendix A
Guidelines for servers hosted in NCS data centres

Physical requirements

- All equipment must comply with, and fit into, industry standard 19-inch equipment racks (manufactured by APC Inc) provided by NCS. NCS does not accept racks provided by users. There is a small charge based on the amount of rack space used.

- Peripherals must be rack-mountable.

- Equipment must operate on 208 V single phase, 208 V 3-phase or 120 V power connections.

- No external UPS is required. This is centrally provided by NCS.

- Access to keyboard, video display and mouse is via KVM switches provided by NCS. Locally attached keyboards, video displays and mice are not supported.

- No air conditioning equipment is required. This is centrally provided by NCS.

Recommended maintenance plans

- Equipment must have a hardware maintenance plan with the vendor. NCS also recommends that clients do not extend equipment usage past the manufacturer recommended "end-of-life".

- Clients should have a software and system administration support plan. NCS offers a separate SLA to this end if the client doesn't have a system administrator.

- Equipment should run software versions that are currently supported by the manufacturer with all critical patches applied in a timely manner.

- NCS must be provided with a 24/7 emergency number to reach a support person and their backup in the event of equipment failure or a data centre event that would precipitate contacting equipment owners.

- Any malfunctioning equipment that interferes with the normal operation of the data centre will be powered off or removed until that equipment has been repaired. Where possible, notice will be given to the client..

Rights of Ownership

- All research equipment remains the property of the researcher. Access to said equipment is available at all times (24/7). (*see data center access below*)

- Once the server has run its useful life, the owner(s) must request the decommissioning of the equipment. For audit purposes, make, model and serial numbers will be retained. 30 days after decommissioning the server will be un-racked and either removed or replaced.

- Two weeks after un-racking, the equipment will be either

    o Sent back to the owner

    o Sent for recycling

    o Sent for re-purposing

- In all cases the owner(s) will be notified by email.

Data centre access – Burnside Hall

- Remote system access (via KVM) is provided in a separate console room adjacent to the data centre.

- To minimize dust infiltration and temperature fluctuations, physical access to the data centre will be granted only if absolutely necessary.

- Clients are required to adhere to all NCS Standard Operating Procedures (SOP) with respect to security and cleanliness.

- No guests are allowed in the data centre without prior authorization by NCS.

- Street shoes/boots are not permitted in the data centre. Disposable "booties" will be provided by NCS.

- No food or beverage is permitted in the data centre.

- System owners must pre-register any staff that are to have access to their system equipment. In addition, external contractors and support personnel must obtain prior approval from the system owner before access will be granted. The system owner must email any authorization, complete with all required details, to opsupv.ncs@mcgill.ca.

- Clients must have positive identification (e.g., photo ID) when requesting access to the data centre.

Data centre access – Laird Hall

- The Burnside access procedures apply to Laird Hall during business hours.

- Outside business hours, arrangement must be made in advance with the NCS manager of data Center Operations located in Burnside Hall, basement (514-398-7900)

Data centre access – Ferrier 312

At this time the Ferrier data centre is being used as part of BCDR and only McGill production equipment will be housed there. There is no plan to house research equipment there.

- The Burnside access procedures apply to Ferrier 312.

- NCS staff that have access to Burnside Data centre also have access to Ferrier.

Appendix B
NCS Data Centre Hosting Request

Upon filing out this Data Centre Hosting form, NCS will evaluate the requirements of the request and issue a quote on the goods and services sited in this document, subject to the conditions noted below:

All prices are in Canadian Dollars. Prices and conditions are in effect only up to the expiration date of the quotation.

Any changes to prices, terms and/or conditions of this quotation must be agreed to in writing and duly signed by all parties.

Reception of a quote in no way implies acceptance into the Data Centre Hosting program. All requests are subject to power and space availability in the data centre and will be processed on a "first come, first serve" basis.

Is this request for budgeting / grant proposal only?   ☐ Yes ☐ No

General Information:

Owner Name:	
Department Name:	
Office Phone Number:	

Access Information

For the most part, accessing the server will be done remotely. Should "hands on" access be absolutely necessary, please provide a list of authorized personnel who would be allowed to directly access the server.

Contact Information:

#	Name	Title	Office tel.#	Home tel.#	Cell / pager #
1		Head Researcher			
2		Admin Assistant			
3		Research Assistant 1			
4		Research Assistant 2			
5					

Billing Information:

FOAPALS:

Single Billing Event:	
Monthly Recurring Event: (ie monthly data jack rental)	

NCS – Data Centre Hosting Form (con't)

Hosting Information:

location   ☐ Burnside ☐ Laird Hall ☐ Ferrier 312

Server Name:		Server Type & Model:	
OS Platform:		Serial #	
Size in "U"		# of Power Supplies and consumption	
# of RSA connections		RSA IP Address	
Data Jacks	____ x 100 Mbps	Server IP Address	
	____ x 1 Gbps	Server VLAN	
# KVM connections		Keyboard/Mouse	☐ USB ☐ PS2

Will this server be replacing an existing server?	☐ **Yes** ☐ **No**
If Yes will the old server be removed within 2 weeks?	☐ **Yes** ☐ **No**

Monitoring Information

Will NCS Operations be required to monitor this server? ☐ **Yes** ☐ **No**

If "Yes" please specify what action NCS Operations should take should this server fail:

(Please supply exact shutdown procedures if required)
(Customer will provide instructions (including login and password) for rebooting server if required).

Time frame	Reboot server	Call Contact	Other (please specify)
Business hours (09h00-17h00)	☐	☐	
After hours (17h00-09h00)	☐	☐	
Weekends & holidays	☐	☐	

	Call Contact person	Use Phone Number		
Business hours (09h00-17h00)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ Office	☐ Home	☐ Cell / pager
After hours (17h00-09h00)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ Office	☐ Home	☐ Cell / pager
Weekends & holidays	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ Office	☐ Home	☐ Cell / pager

If case of emergencies NCS Operations will contact the customer as per instructions above.

If NCS Operations is unable to successfully reboot this server, then the customer will be contacted as per the **Contact Information** (see above).

NCS – Data Centre Hosting Form (con't)

Emergency procedures

In the event of an emergency (fire, flood, A/C failure, etc) do you authorize NCS to shutdown your server?   ☐ **Yes**   ☐ **No**

Would you let NCS install automated shutdown procedures (in the event of an emergency) when it becomes available?   ☐ **Yes**   ☐ **No**

Backup Information

If the owner is running an independent backup strategy:

will the customer provide backup tape schedule?   ☐ **Yes**   ☐ **No**

If "Yes" please provide NCS Operations with:
- List of tapes
- Tape rotation
- Minimum of two spare tapes

will NCS Operations be required to monitor backup jobs?   ☐ **Yes**   ☐ **No**

If "Yes" please specify what action NCS Operations should take should the backup job fail:

☐   Contact the customer as per the **Contact Information** (see above)

☐   Contact the following person:

If "No" please specify what schedule NCS Operations should follow for swapping tapes:

☐   On a daily basis

☐   As per schedule to be provided by the customer

☐   No action required

Submitting the Request Form

You can submit this completed request form (along with any other required additional information) to NCS Operations by email to NCSserverhosting@campus.mcgill.ca .If you are submitting this request by facsimile or mail, you must sign and date this form below. For any further information, you can contact the NCS Operations supervisor at 514-398-3690.

Name (please print):

Signature: Date:

Appendix C
Scope of Work

Client name: _____

Services	Description
Data centre	☐ Burnside Hall ☐ Laird Hall ☐ Ferrier
Floor space rental or units of 1RU space	
Rack space	
Electrical work	
Sharing KVM switch	
Network jack installation	
Network jack monthly fee	
Server installation labour	
Server purchase fee	
Storage Area Network disks (SAN)	
Backup services	
Basic system administration services	
Controlled access to the physical space	
Standard cooling and ventilation	
Monitoring	
Occasional manual intervention	
Client problem notification	
Grand Total	