

Procedures on adding, modifying, or deleting items from the IT hardware inventory

History of Effective Dates

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02.01	05/Jul/2013	New implementation of SOP

History of Approval Dates

Printed Name	Signature	Date (dd/mmm/yyyy)
Marina Salluzzi		21/Jun/2013

Note:

This SOP belongs to the Calgary Image Processing and Analysis Centre (CIPAC); it is strictly confidential and intended for internal and clinical research use only. Prior to using this SOP confirm the validation and current version number by requesting verification from the SOP keeper.

Individuals requesting SOP documentation must have authorization to obtain this document, and it is their responsibility to ensure the document is properly handled.

1. Purpose

The purpose of this standard operating procedure (SOP) is to standardize the process of adding, modifying, or deleting items from the IT hardware inventory database of the CIPAC facility. This SOP is intended for managers, IT personnel and users from CIPAC and the Seaman Family Magnetic Resonance Centre (MR Centre).

2. Scope

The scope of this SOP is to formulate a consistent procedure regarding the modification of the IT hardware inventory database at CIPAC. The database is needed to provide traceability of all hardware components in the centre and the standard procedure will bring consistency to the database. This SOP is also developed in accordance with the quality assurance processes and guidelines of the MR Centre IT department.

CIPAC currently has hardware located at the Foothills Medical Centre (FMC), in the MR Centre, the FMC main building, the Stephenson Cardiac MR Centre and the South Tower, as well as at the Alberta Children's Hospital. The CIPAC IT hardware will be utilized throughout the processing of the research images and all instances of data and image storage, and must all be accounted for in terms of functionality, location, current usage, and service life.

3. Background

CIPAC was created with funds from the Canadian Foundation for Innovation (CFI) and the Canadian Institutes of Health Research (CIHR) as part of a pan-Canadian research-imaging network. This unique research network is the initial step towards building a national infrastructure to accommodate clinical trials and therefore facilitate large-scale research across the country. CIPAC has the mission of providing a secure environment for processing research data of studies that currently belong, but are not restricted to, to the network. As a production site, the Core will handle the research data for each study in a standardized manner as indicated by the expertise of the IT department of the MR Centre and complying with Health Canada regulations.

4. Definitions/Abbreviations/Symbols

Administrative user – any staff member with administrative access rights to the IT hardware inventory database. This should be limited to CIPAC project lead and manager, and IT members of CIPAC and the MR Centre.

AHS – Alberta Health Services.

CIPAC/MR Centre IT – hardware, software, and staff responsible for managing and facilitating information technology operations for the CIPAC facility and the MR Centre. These operations include, but are not limited to, hardware installation, hardware maintenance, database management, data transfer, account management, information security and integrity, and IT policy management.

Database – for the purposes of this SOP any reference to ‘the database’ will be a reference to the CIPAC/MR Centre IT hardware inventory database.

Database administrator – current staff member whose job it is to maintain, modify, and update the database.

FileMaker Pro 12 – Pro 12 is the latest version of the FileMaker software from FileMaker Inc. It is a cross-platform relational database application that integrates a database engine with a graphical user interface (GUI).

FMC – Foothills Medical Centre.

Gbics – gigabit interface converter, a transceiver for adapting a network interface card to a variety of physical media such as copper or fiber cable.

IT – Information technology.

NIC – network interface card, is a computer circuit board or card that is installed in a computer so that it can be connected to a network.

URL – uniform resource locator is the unique address for a file that is accessible on the internet.

5. Specific in-depth definitions of fields in the database

5.1. Inventory item attributes

- 5.1.1. A list of all item attributes contained within the CIPAC IT hardware inventory database is summarized in Table 1.
- 5.1.2. Required attributes that must be included for every item are:
 - a) Attribute 1. Description
 - b) Attribute 3. Department
 - c) Attribute 5. Model
 - d) Attribute 6. Status
 - e) Attribute 7. Category
 - f) Attribute 10. Serial Number
 - g) Attribute 15. Building
 - h) Attribute 16. Room
 - i) Attribute 35. Date of Purchase
- 5.1.3. If any attributes are skipped due to time constraints, or uncertainty, the database administrator should be notified of the item, and which attributes need to be completed.
- 5.1.4. All other attributes are optional, but as many attributes as are reasonable for the item, should be entered into the database.

Table 1. List and description of attributes.

ATTRIBUTE NUMBER	NAME	DESCRIPTION
GENERAL		
1	Description	What the item is and it's purpose, in non-technical terminology.
2	Host name	Name as specified in the operating system (OS) on the equipment.
3	Department	Name of department that owns the equipment, <i>e.g.</i> , MR Centre, CIPAC.
4	Manufacturer	Name of the company that manufactured or provided the equipment.
5	Model	Model name or number of the equipment.
6	Status	Is the equipment in use, in storage, or ready to be surplus.
7	Category	Type of equipment the item is, <i>e.g.</i> , switch, server, router. This is selected from a dropdown menu; anything that does not belong to an available category should be labeled as 'other'. Note: When an item is labeled as 'other' this should be noted and reported to the database administrator so that a new category for the item can be added to the list, and the item can be added to that category. No item should remain listed as 'other'.
8	Attached equipment	For cross-referencing purpose, <i>e.g.</i> , which computer is attached to which monitors, as well as which servers are attached to which storage devices. This does not address networked equipment (equipment connected via NIC). Specifics for how equipment is networked are included in the network section (18–22).

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ATTRIBUTE NUMBER	NAME	DESCRIPTION
9	Quantity	This is primarily for cables, gbics, nics, or other items of the same time type that does not make sense to track individually. Note: Not to be used to track machines. Item tracked by a unique serial number; then the quantity should always be one.
TAG NUMBERS		
All tag numbers should be 'n/a' if the item does not have that type of tag.		
10	Serial Number	The item's serial number as described on the item. All items must have a serial number. If the item does not have serial number, then the part number should be used as the serial number as well. If the item has no identifying number, notify the database administrator after the item is entered.
11	Part Number	The item's part number.
12	Service Tag Number	The item's service tag number.
13	Express Code	The item's express code.
14	Company Asset Tag	University of Calgary or Alberta Health Services tag number.
LOCATION		
15	Building	General location of the item, such as South Tower, MR Centre, ACH, FMC, etc.
16	Room Number	The room number in which the item is located, e.g., MRG020B.
17	Desk Number	The desk number where a machine may be located. An item with a desk number should not have a rack number.

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ATTRIBUTE NUMBER	NAME	DESCRIPTION
18	Rack Number	For rack mounted equipment, the rack in which the equipment is located. An item with a rack number should not have a desk number.
19	Rack Position	Only for rack mounted equipment. Starting at the bottom of the rack and counting up by device. Bottom device is position one, next device is position two, <i>etc.</i>
20	Location Change Date	Date when the item arrived at the current location.
NETWORK		
21	Internal IP	IP address at which the item can be reached from within the AHS firewall.
22	External IP	IP address at which the item can be reached from outside the AHS firewall. This is mainly for servers that have firewall exception rules.
23	NIC	NICs that are currently connected to another network device. These must be listed in respective order to Attribute 24, <i>i.e.</i> , if NIC en0 is listed first in this field, then the Switch/Port it is connected to must be listed first in Attribute 24. This is a space-delimited field; multiple NICs are separated by spaces, <i>i.e.</i> , if the item has NICs en0 and en1, they are listed in the field as: "en0 en1"
24	Switch/Port	Complementary field to Attribute 23. The Switch/port number must be listed in respective order to Attribute 23, <i>i.e.</i> , if Switch/Port D01 is listed first in this field, then it must be connected to the first item listed in Attribute 23. The Switch and Port are listed as follows, the switch name + " " + "D" + port number, <i>e.g.</i> , "Switch D01". This is a space-delimited field; multiple Switch/Port entries are separated by spaces, <i>i.e.</i> , if the item has Switch/Ports D01 and D02 and E01, they are listed in the field as: "Switch D01 Switch D02 Switch E01".

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ATTRIBUTE NUMBER	NAME	DESCRIPTION
25	Monitored	A yes/no field specifying if the item is monitored by an external service such as, but not restricted to, NAGIOS.
OS (OPERATING SYSTEM) DETAILS		
26	OS	The host operating system currently running on the item.
27	OS Version	The exact version of the operating system.
28	Virtual Machine	A yes/no field specifying whether or not the item is running a virtual machine.
WARRANTY		
29	Warranty Start Date	Date the warranty for the item began.
30	Warranty End Date	Date the warranty for the item will end.
31	AppleCare Number	AppleCare number that arrived with the item.
PURCHASE INFORMATION		
32	Date of Purchase	Date the item was purchased.
33	Purchase Price	Purchase price of the item as in the invoice or quote.
34	Purchasing Company	Name of the vendor or provider of the equipment Note: use Microstore for Apple products and software.
35	Lease Start Date	Start date of the lease.
36	Lease Expiry Date	End date of the lease.
37	Leasing Company	Name of the company the item is leased from.

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ATTRIBUTE NUMBER	NAME	DESCRIPTION
38	Buy-out Option	If leased, can the item be purchased outright afterwards, and at a particular price.
39	Monthly Lease Payment	Monthly payment required for the lease.
ADDITIONAL INFORMATION		
40	URL	The URL to access the service or admin features of a web server/switch/router.
41	Notes	Any additional information not specifically included in the above fields.

6. Procedure

6.1. Steps for adding a new item as the administrator or as an administrative user in the database

The steps for adding a new item in the Database are:

- 6.1.1. Open the database in FileMaker Pro 12.
- 6.1.2. Database is located on the Applications Server (139.48.44.78), in /Users/admin_l/Documents/IT Databases.
- 6.1.3. Switch to the "form view" in the top menu.
- 6.1.4. Modifications can be done in any view; however, it is preferable that they are done in the form view, as it is easier to see when calculated and scripted results are updated.
- 6.1.5. Add a new record to the database using the 'New Record' icon located at the top of the GUI.
- 6.1.6. Fill in all of the appropriate fields as per the Add/Modify IT Hardware Inventory Item form, or as per the item information you have on hand.
- 6.1.7. Ensure that all required fields listed in 5.1.2 are entered correctly.
- 6.1.8. Recheck that all information was entered correctly.
- 6.1.9. Close the application or proceed to the next item to be added to the inventory starting at 6.1.4.

6.2. Steps for adding a new item as a non-administrative user in the database

Any CIPAC or MR Centre user that has acquired new IT hardware inventory item(s) must notify the IT personnel to add the new item(s) in the database to ensure the hardware inventory list is up-to-date. Notification should be made within 10 days of receipt of the new item.

The steps for notifying the database administrator of a new item are:

- 6.2.1. Obtain the Add/Modify IT Hardware Inventory Item form from the database administrator or from the CIPAC shared directory.
- 6.2.2. Fill in the fields as completely as possible.

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- 6.2.3. Any field that is definitely not applicable to the item should be filled in with 'n/a'.
- 6.2.4. For any field that is not completed or not marked with 'n/a', mark it with an asterisk, and provide a note in the field describing why it is incomplete.
- 6.2.5. Repeat steps 6.2.1 to 6.2.4 for each new item, unless the new items are items where a quantity is reflected in the quantity field (*i.e.*, cables, or NICs), and then only fill out one form reflecting the total quantity of the item.
- 6.2.6. Forward the completed form to the database administrator, or the administrative user in the event that the administrator is absent.

By email: Email the completed forms to the database administrator/administrative user as an attachment with file type .doc, .docx, or .pdf.

By hand: Print the form and place it on the desk of the database administrator/administrative user.
- 6.2.7. In the event the database administrator is not available, the form should be submitted to an administrative user by either method described in 6.2.6.

6.3. Steps to modify an item as an administrative user in the database

The steps to modify an item in the database are:

- 6.3.1. Open the database in FileMaker Pro 12.
- 6.3.2. Database is located on the Applications Server (139.48.44.78), in /Users/admin_l/Documents/IT Databases.
- 6.3.3. Switch to the 'form view'.

Modifications can be done in any view; however, it is preferable that they be done in the form view, as it is easier to see when calculated and scripted results are updated.
- 6.3.4. Locate the appropriate record by executing a Find with the Find icon in the top center of the GUI. Enter the serial number of the item into the serial number field under identifiers and click the 'Perform Find' icon.
- 6.3.5. Fill in all of the appropriate fields as per the 'Add/Modify IT Hardware Inventory Item' form, or as per the item information you have on hand.

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- 6.3.6. Ensure that all required fields listed in 5.1.2 are entered correctly.
- 6.3.7. Recheck that all information was entered correctly.
- 6.3.8. Close the application or proceed to the next item to be modified in the inventory starting at 6.3.4 of this section.

6.4. Steps to modify an item as a non-administrative user in the database

Any CIPAC or MR Centre user that has changed the status of an IT hardware item, by moving, surplus, exhausting, or otherwise changing it with regards to any attribute included in the database, needs to notify the change to the database administrator. This maintains a consistent record of the current status of all IT hardware inventory items. Notification should be made within 10 days of the status change of the item.

The steps for notifying the database administrator are:

- 6.4.1. Obtain the 'Add/Modify IT Hardware Inventory Item' form from the Database administrator or from CIPAC shared directory.
- 6.4.2. Fill in the fields as completely as possible.
- 6.4.3. Any field that is definitely not applicable to the item should be filled in with 'n/a'.
- 6.4.4. For any field that is not completed or not marked with 'n/a', mark it with an asterisk, and provide a note in the field describing why it is incomplete.
- 6.4.5. Repeat steps 6.4.1 to 6.4.4 for each item, unless the items are a quantity that is reflected in the quantity field (*i.e.*, cables, or NICs), and then only fill out one form reflecting the total quantity of the item.
- 6.4.6. Forward the completed forms to the database administrator.
 - By e-mail: e-mail the completed forms to the database administrator as an attachment with file type .doc, .docx, or .pdf.
 - By hand: Print the form and place it on the desk of the database administrator.
- 6.4.7. In the event the database administrator is not available, the form should be submitted to an administrative user by either method described in 6.4.6.

7. Responsibilities

7.1. CIPAC and MR Centre IT

- 7.1.1. Creating this SOP and confirming the information is up-to-date.
- 7.1.2. Reporting to the SOP keeper if any change or update is needed in the content of this SOP.
- 7.1.3. Processing and complying with the Request for Add/Modify IT Hardware Inventory Item form.
- 7.1.4. Adding or modifying the correct items with the correct information in the database as per the current item status or information contained in the received Add/Modify IT Hardware Inventory Item form.
- 7.1.5. Complying with the current version of SOP-DIT-02 regarding hardware IT items and the database.
- 7.1.6. Ensuring that the database is kept accurate, and up-to-date.
- 7.1.7. Reporting any inconsistency or errors in the database to the CIPAC manager.

7.2. Non-administrative staff

- 7.2.1. Receiving the current version of the Add/Modify IT Hardware Inventory Item form from the SOP keeper.
- 7.2.2. Ensuring that an Add/Modify IT Hardware Inventory Item form is completed for every inventory item that is acquired or modified.
- 7.2.3. Find for all item(s) the proper information needed to properly fill in the Add/Modify IT Hardware Inventory Item form.
- 7.2.4. Comply with the procedures of the current SOP-DIT-02 regarding hardware IT items.

7.3. CIPAC Manager

- 7.3.1. Keeping track of the Add/Modify IT Hardware Inventory Item requests that are given to the administrative staff.
- 7.3.2. Performing routine audits/checks of the database to ensure items are being properly tracked and accounted for.
- 7.3.3. Reporting to the database administrator any problem encountered with the database, or item information stored in it.

7.4. SOP Keeper

- 7.4.1. Providing the Add/Modify IT Hardware Inventory Item form to the requester.
- 7.4.2. Approving the Add/Modify IT Hardware Inventory Item form.
- 7.4.3. Archiving the Add/Modify IT Hardware Inventory Item form.
- 7.4.4. Any other responsibilities towards the SOP-DIT-02 as described in the current version of the SOP-SOP-01.

7.5. Director of the Site

- 7.5.1. Supervising work regarding SOPs.
- 7.5.2. Signing SOPs approval forms.
- 7.5.3. Any other responsibilities towards the SOP-DIT-02 as described in the current version of the SOP-SOP-01.

8. Sign off sheet

The sign-off sheet is attached and appended to the current version of this SOP.

9. References

FileMaker manual is available online at the publisher's web-page (www.filemaker.com).

10. Appendices

Specific forms regarding this SOP are listed below:

- 10.1.1. Add/Modify IT Hardware Inventory Item form

Calgary Image Processing and Analysis Centre

<u>ADD/MODIFY IT HARDWARE INVENTORY ITEM FORM</u>			
Description of Item			
Description:		Warranty Start:	
Host Name:		Warranty End:	
Department:		AppleCare Number:	
Manufacturer:		Purchase Date:	
Model:		Purchase Price:	
Category:		Purchasing Company:	
Attached:		Internal IP:	
Status:		External IP:	
Serial Number:		MAC Address:	
Part Number:		NIC:	
Service Tag Number:		Switch/Port:	
Express Code:		Monitored:	
Company Asset Tag:		Connected Storage:	
Building:		Total Drives:	
Room:		Available Drives:	
Desk Number:		URL:	
Rack:		Notes:	
Rack Position:		Lease Start:	
Location Change Date:		Lease End:	
Operating System:		Leasing Company:	
OS Version:		Buy-Out:	
Virtual Machine:		Monthly Lease:	
Requester (Print):			
Signature:		Date (dd/mmm/yyyy):	
Core/MR Centre IT (Print):			
Signature:		Start Date (dd/mmm/yyyy):	
Return of Form			
SOP Keeper (Print):			
Signature:		Date (dd/mmm/yyyy):	