

# Assets management with FusionInventory

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# **RMLL**

**Rencontres Mondiales  
du Logiciel Libre**

July 2011

# About us: David Durieux

## IT management consultant

- ▶ GLPI core-developer
- ▶ FusionInventory project co-leader
- ▶ Work at siprossii, Lyon area, France

# About us: Gonéri Le Boudier

## Free software enthusiast

- ▶ FusionInventory project co-leader
- ▶ Debian Developer
- ▶ Perl Monger
- ▶ Former OCS Inventory developer
- ▶ Work at TECLIB', Paris, France

# The FusionInventory contributors



- ▶ about 10 people directly involved in the project
- ▶ active community of contributors
- ▶ 2 companies involved

We are looking for people to JOIN US!

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# The origin

2006 Agent creation

2008 Server project (Tracker, a GLPI plugin)

2009 Agent/Server integration

2010 FusionInventory project

2010 Uranos integration

2011 Rudder integration

# The project infrastructure

FusionInventory is a community-driven project.

- ▶ active mailing lists
- ▶ IRC: #FusionInventory on FreeNode
- ▶ public Forge, Git repositories, etc

# Outline

Global Overview

Installation

Network Discovery

Remote SNMP Inventory

Wake On Lan

Software Deployment

vCenter/ESX/ESXi remote inventory

Inventory

What else?

Questions

Annexe





# First, some vocabulary!

- ▶ Agent: a software running on a computer
- ▶ Server: a software that can speak with the Agent
- ▶ Task: an action done by the Agent for the server

## FusionInventory supports "push" and "pull"

- ▶ **"pull": Agent  $\implies$  Server**  
the agent creates the connection to the server.
- ▶ **"push": Agent  $\longleftarrow$  Server**  
the server awake the agent by itself.

Different Tasks are supported:

- ▶ Inventory
- ▶ Network discovery
- ▶ Remote SNMP inventory
- ▶ Software deployment
- ▶ vCenter/ESX/ESXi remote inventory
- ▶ Wake On Lan

# Servers today

## 4 different servers (so far!)

- ▶ FusionInventory for GLPI

<http://www.FusionInventory.org>

- ▶ Uranos

<http://uranos.sourceforge.net/>

- ▶ Rudder

<http://www.normation.com/#produits>

- ▶ OCS Inventory NG (patched to ignore the UserAgent filter)

[http://forge.fusioninventory.org/projects/fusioninventory-agent/wiki/Patch\\_ocs\\_server](http://forge.fusioninventory.org/projects/fusioninventory-agent/wiki/Patch_ocs_server)

...local mode is also possible for Inventory

# Discussion opened with

- ▶ FusionDirectory
- ▶ Mandriva's Pulse2
- ▶ OTRS ITSM

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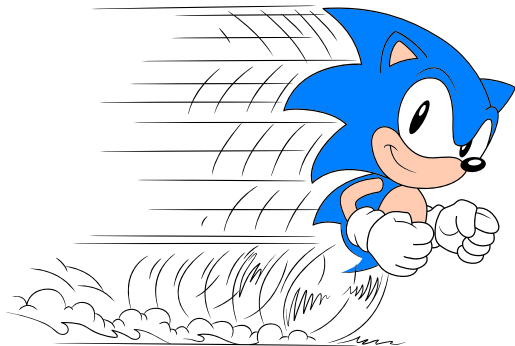


## FusionInventory for GLPI

A GLPI generic plugin.

1. Extract
2. Configure
3. You're done!

Agent: supported OS (1/2)

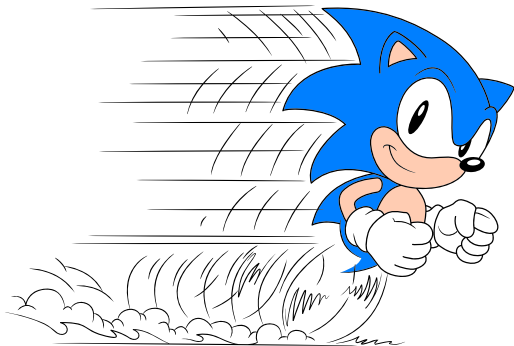


Runs everywhere!





## Agent: supported OS (1/2)



Runs everywhere!

### A large collection of supported OS

- ▶ all the major system are supported
- ▶ portage is easy as soon as a Perl exist

# Agent: supported OS (2/2)

## Supported Operating Systems:

- ▶ Linux
- ▶ BSD
- ▶ AIX
- ▶ HP-UX
- ▶ Solaris
- ▶ Windows, all from 2000 to Seven 64bit

A complete list is available on the website



# Agent: supported OS (2/2)

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# Agent: Tested systems



## Linux

- ▶ **Debian** all since 3.1
- ▶ **Ubuntu** all since 8.04
- ▶ **Mandriva** 9.2, 10.2, 2007.1, 2010.0, 2010.1
- ▶ **RedHat EL** (or CentOS) all since 3
- ▶ **Fedora** all since the 2nd
- ▶ **SUSE Linux Enterprise Server** 10, 11
- ▶ **Slackware** 10 to 13
- ▶ **RedHat Linux** 7.0, 8.0 and 9.0
- ▶ **SME Server** 7.5
- ▶ **OpenSUSE** 11.3
- ▶ **Gentoo** 1.6.14, 2008
- ▶ **Montavista** 4.0



# Agent: Tested systems

Sehr geehrter Mac OS X Beta Tester,  
bitte nutzen Sie die Chance, aktiv über  
Macintosh mitzuentcheiden!

Mac OS X ist ein ultramodernes Betriebssystem für den Macintosh einläutet. Es wird für die Arbeit mit dem Internet konzipiert, innovative Technologien, die eine noch höhere Leistung gewährleisten. Ferner wird es durch eine faszinierende, neue Benutzeroberfläche, die sogenannte Aqua Oberfläche.

Diese Public Beta Version bietet Ihnen die Möglichkeit, das neue Betriebssystem zu testen. Bitte beachten Sie, dass es sich um eine Beta Version handelt und es zu Unstabilitäten kommen kann.

Vielen Dank für Ihre Unterstützung bei der Entwicklung dieses neuen Systems.

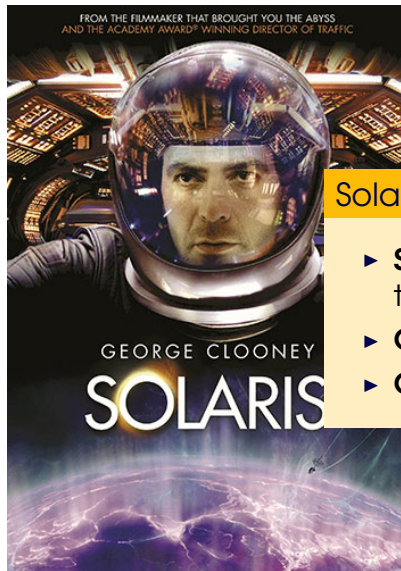


## MacOSX

- ▶ **Panther** 10.3.9 PowerPC
- ▶ **Tiger** all
- ▶ **Leopard** all
- ▶ **Snow Leopard** all



# Agent: Tested systems



## Solaris

- ▶ **Solaris** 8 to 10 for SPARC and 10 to 11 for x86
- ▶ **OpenSolaris** 2009.06
- ▶ **OpenIndiana** oi\_148

# Agent: Tested systems



## BSD

- ▶ **OpenBSD** 4.5 to 4.8
- ▶ **FreeBSD** all since 5.3  
include Debian  
GNU/kFreeBSD
- ▶ **NetBSD** 5.0 and 5.1
- ▶ **DragonflyBSD** 2.8

## HPUX

- ▶ **11.11** PA-RISC
- ▶ **11.23** Itanium
- ▶ **11.31** Itanium

# Agent: Tested systems



## AIX

- ▶ 5.1
- ▶ 5.2
- ▶ 6.1



# Agent: Tested systems



## Android

- ▶ All the revision since 1.6



**FUSION**  
INVENTORY

# Agent: Installation

## different options

- ▶ **distribution packages**  
Debian, Fedora, EPEL, Ubuntu, Mageia, ...
- ▶ **Windows installer**  
GPO, psexec, ...
- ▶ **static prebuilt packages**, untar and run  
62 differents system so far
- ▶ tarball or CPAN installation

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# Network discovery

FusionInventory can do fast network inventory using

- ▶ NMAP
- ▶ NetBios
- ▶ SNMP query

# Network discovery

During this step, we identify

- ▶ Network information
- ▶ Windows domain information
- ▶ SNMP device name (sysdesc)

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## History of SNMP

- ▶ Standard protocole  
First RFC: 1988
- ▶ Created for monitoring devices
- ▶ Tree different version 1, 2c, 3 (Encryption)
- ▶ OID: an address per information
- ▶ MIB: definition of OID addresses

# SNMP: For what?

## How we use SNMP?

- ▶ Identify devices remotely (switch, router, printer...)
- ▶ Inventory devices using SNMP
- ▶ Get all important information



# SNMP: The MIB nightmare?

All people say us: MIB exist use it!

Yes but...

- ▶ Most of the time hard to find
- ▶ Not always free (like in FreeSoftware)
- ▶ Important information may be missing
- ▶ Worst! They are sometime wrong depending on device model/firmware

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# SNMP: An example



## Example: Cisco 6500 firmware

12.2(33)SXI**2a** (02-Sep-09 01:00)

► Serial OID:  
.1.3.6.1.2.1.47.1.1.1.1.11.1

12.2(33)SXI**3** (27-Oct-09 11:12)

► Serial OID:  
.1.3.6.1.2.1.47.1.1.1.1.11.**2** ←  
WTF?!

# SNMP: How do we unfuck this mess?

## We create our own MIB like files

- ▶ XML files
- ▶ Relation between OID and information  
e.g: serial number is oid .1.3...
- ▶ Simple or dynamic OID  
a serial number or name of each port

# SNMP: Network switch (1/3)

## Network switch

- ▶ Serial number
- ▶ Manufacturer
- ▶ Model
- ▶ Firmware
- ▶ Mac address
- ▶ CPU/RAM load
- ▶ etc





























































## Switch port

- ▶ Name
- ▶ Network speed
- ▶ Port status (enabled / disabled)
- ▶ Errors input & output
- ▶ VLAN
- ▶ Trunk (tagged)
- ▶ Active connection

## Connections per port

- ▶ Mac addresses  
one or many on some case
- ▶ LLDP and CDP neighborhood  
dialog and information between switches

# SNMP: What results for switch?

	Name	MTU	Speed	Internal status	Last Change	Number of bytes received	Number of input errors	Number of bytes sent	Number of errors in reception	Duplex	Internal MAC address	VLAN	Connected to	Connection
	Gi0/25	1500	1 Gbps		186 days, 21:17:49.60	2 Go	220	528 Mo	-		00:1c:f6:e2:9d:99	8 [Users] 	ent-fr-pc-029  00:23:7D:56:FF:30	
	Gi0/26	1500	1 Gbps		195 days, 20:25:44.24	1 Go	-	2 Go	-		00:1c:f6:e2:9d:9a	8 [Users] 	ent-fr-pc-030  00:23:7d:da:02:86 10.51.24.30	
Historique														
Connection		Item								Field		Date		
		Sans nom sur ent-fr-pc-030 										18-03-2011 09:34		
Voir l'historique complet														
	Gi0/27	1500	1 Gbps		415 days, 09:36:21.00	2 Go	-	223 Mo	-		00:1c:f6:e2:9d:9b	8 [Users] 	ent-fr-pc-031  00:26:55:52:F4:D8	
	Gi0/28	1500	1 Gbps		74 days, 04:34:37.97	1 Go	-	3 Go	-		00:1c:f6:e2:9d:9c	8 [Users] 	ent-fr-pc-032  d8:d3:85:fc:90:b8 10.51.26.32	
	Gi0/29	1500	1 Gbps		84 days, 02:42:22.94	3 Go	-	945 Mo	-		00:1c:f6:e2:9d:9d	8 [Users] 	N/A  68:b5:99:6a:c8:a2	
	Gi0/30	1500	1 Gbps		202 days, 21:00:48.79	1 Mo	-	5 Mo	-		00:1c:f6:e2:9d:9e	99 [public] 	N/A  3c:4a:92:71:53:9e	
	Gi0/31	1500	1 Gbps		131 days, 01:21:02.02	3 Go	-	4 Go	-		00:1c:f6:e2:9d:9f	99 [public] 		
	Gi0/32	1500	1 Gbps		199 days, 17:08:47.19	3 Go	-	3 Go	-		00:1c:f6:e2:9d:a0	12 [IPPhone] 	hub  N/A  N/A 	
	Gi0/33	1500	10 Mbps		2 minutes, 31.48	-	-	-	-		00:1c:f6:e2:9d:a1	99 [public] 		
	Gi0/37	1500	10 Mbps		2 minutes, 31.48	-	-	-	-		00:1c:f6:e2:9d:a5	99 [public] 		
	Gi0/38	1500	1 Gbps		335 days, 22:46:00.05	77 Mo	-	4 Go	-		00:1c:f6:e2:9d:a6		ent-fr-sw-001  00:64:40:49:0d:99	
	Gi0/39	1500	1 Gbps		26 days, 21:24:01.56	55 Mo	-	1 Go	-		00:1c:f6:e2:9d:a7		ent-fr-sw-002  00:23:34:de:79:19	

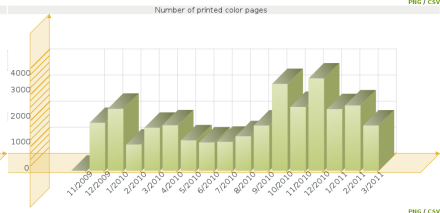
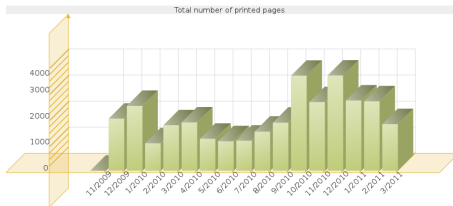
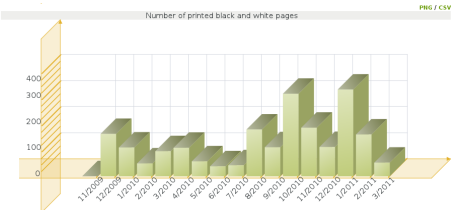
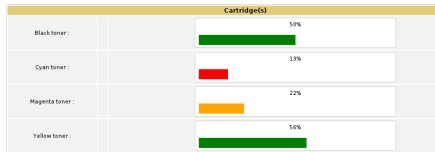
## Get printer information

- ▶ Serial number
- ▶ Manufacturer
- ▶ Model
- ▶ Firmware
- ▶ Memory
- ▶ Mac address
- ▶ etc

## Additional important information

- ▶ Get cartridges ink level
- ▶ Page counter

# SNMP: What result for printer?



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# Wake On Lan

# What?

- ▶ awake computer.



# Wake On Lan

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- ▶ awake computer.

## How?

## Send the Magic Packet with agent

- ▶ Raw ethernet packet (only from linux computer)
- ▶ else, UDP packet

# Wake On Lan

# What?

- ▶ awake computer.

## How?

## Send the Magic Packet with agent

- ▶ Raw ethernet packet (only from linux computer)
- ▶ else, UDP packet

## Benefit

- ▶ no firewall issue
- ▶ nor special routage rule needed

# Wake On Lan: Example (1/2)

## What we have

- ▶ A remote site
- ▶ 50 computers all under windows

## What we want

- ▶ start all at same time, at 2:00 am for maintenance operation

# Wake On Lan: Example (2/2)

## Into GLPI with task management

- ▶ Define computers to awake
- ▶ Schedule it at 2:00AM
- ▶ That's all

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# Software Deployment: OCS Inventory

## What?

OCS software deployment featuring peer to peer support

## Benefit

- ▶ no proxy nor mirror
- ▶ bandwidth-friendly
- ▶ OS independent

# Software Deployment: FusionInventory

TODO

## What?

FusionInventory deployment support featuring peer to peer support

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# What else? (1/2)



agent developement is very active

- ▶ code clean up  
larger test-suite, modern perl
- ▶ architecture changes  
event-driven programming, various executable
- ▶ smaller memory footprint

# What else? (1/2)



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## What else? (2/2)



### In test-suite we trust!

- ▶ strong effort done during the last year  
36 800 tests on the GLPI plugin and up to 2 000 on the agent
- ▶ with even stronger benefit so far

# Our roadmap

## What we are about to release

- ▶ FusionInventory for GLPI 0.78: beta planned for this month
- ▶ ESX inventory: before june
- ▶ Android Agent

## Work in progress

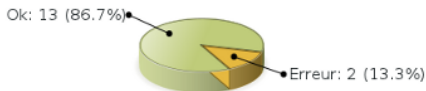
- ▶ Software deployment
- ▶ OCS/XML → REST/JSON transition


















# FusionInventory for GLPI 0.78: Action scheduler 1/2





# FusionInventory for GLPI 0.78: Action scheduler 2/2

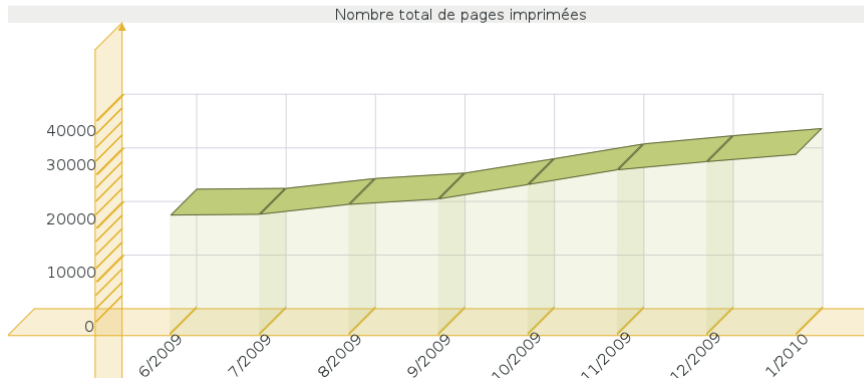


Historique						
	Tâches en cours :					
	Uniqid	Numéro de process	Agent	Date	Statut	Commentaires
	Tâches terminées :					
	Uniqid	Numéro de process	Agent	Date	Statut	Commentaires
	4d66935c8b676	263	port004	2011-02-24 18:21	Ok	
	4d6688d062448	228	port004	2011-02-24 17:36	Ok	
	4d6684e777451	193	port004	2011-02-24 17:19	Ok	
	4d66847e7a90a	158	port004	2011-02-24 17:18	Ok	
	4d6683a7e1049	122	port004	2011-02-24 17:14	Ok	
	4d6682af6a840	86	port004	2011-02-24 17:10	Ok	
	4d668247da032	50	port004	2011-02-24 17:08	Ok	
	4d6680822f38a	9	port004	2011-02-24 17:01	Ok	
	4d66801c7604d	7	port004	2011-02-24 16:58	Ok	
	4d664309a7d3d	6	port004	2011-02-24 14:32	Ok	
	4d663815ebbbf	5	port004	2011-02-24 12:37	Erreur	Action cancelled by user
	4d663644cf648	4	port004	2011-02-24 11:48	Ok	
	4d6635fdb8d4	3	port004	2011-02-24 11:42	Ok	
	4d66313a5ac77	2	port004	2011-02-24 11:25	Ok	
	4d6630fa30aaa	1		2011-02-24 11:20	Erreur	Unable to find agent to run task

AJAX DEBUG

# FusionInventory for GLPI 0.78: Printer graph

Date début :	2009-01-01	
Date fin :	2011-02-26	
Unité de temps :	mois	
Affichage :	Compteur total	
Imprimantes :	afficio accueil	
Ajouter une imprimante :	<input type="text"/>	
Supprimer une imprimante :		



▲ Liste : 45

Composants Volumes Machine virtuelle Logiciels Connexions Gestion Documents Registre Tickets Liens Notes Réservations Historique

## Ordinateur - ID 2

Nom :	ESX1	Statut :	Production
Lieu :	-----	Type :	-----
Responsable technique :	-----	Fabricant :	IBM
Usager numéro :		Modèle :	BladeCenter HS22-17870C4G-
Usager :		Numéro de série :	
Utilisateur :	-----	Numéro d'inventaire :	
Groupe :	-----	Réseau :	-----
Domaine :	lan		
Système d'exploitation :	VMware ESXi		
Service pack :	VMware ESXi 4.1.0 build-320137	Swap :	0
Version du système d'exploitation :	4.1.0	Commentaires :	
Product ID du système d'exploitation :			
Numéro de série du système d'exploitation :			
UUID :	1bb550da-1758-11df-9zcb-e11f131cbab4		

Dernière modification : 2011-03-01 16:28  
 Date dernier inventaire OCSNG : 2011-02-23 07:44  
 Date d'import dans GLPI : 2011-02-28 20:51  
 Serveur localhost, Agent : OCS\_local\_5005

Mise à jour automatique OCSNG : Oui  
 Source de mise à jour : -----

Actualiser Supprimer

Composants			
2 ▼	Processeur	Intel(R) Xeon(R) CPU X5570 @ 2.93GHz	Fréquence : 2933 MHz
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e58416c5a8176412d5471	Capacité : 302795194 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c34564d446c6973	Capacité : 555176952 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e58416c5a494033384344	Capacité : 555176952 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c34405275214544	Capacité : 242262999 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e58416c5a2f594670426e	Capacité : 333104284 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e58416c5a564c32485271	Capacité : 555176952 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c344f4e78475646	Capacité : 353271546 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c342f5946526874	Capacité : 333104284 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c3451796d4e2d30	Capacité : 508978790 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.600568e000000000c17b9ea0cb164e9f	Capacité : 73998422 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e58416c5a2f5514f316f	Capacité : 333104284 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c342f554c757247	Capacité : 333104284 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c344051754e6631	Capacité : 353261060 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c3440516f545a4b	Capacité : 353261060 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c342f59464a7035	Capacité : 333104284 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e57664c344052756c3068	Capacité : 242262999 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e58416c5a495058526c6d	Capacité : 353269449 Mo
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e58416c5a405339614268	Capacité : 242262999 Mo



**FUSION**  
INVENTORY

**+** **G** **LPI**

**Demo time!**

# Outline

Global Overview

Installation

Network Discovery

Remote SNMP Inventory

Wake On Lan

Software Deployment

vCenter/ESX/ESXi remote inventory

Inventory

What else?

Questions

Annexe



*Question?*

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Global Overview

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# The inventory content

This section presents information collected in FusionInventory inventory.

# Inventory: Generic machine information (1/3)

**USERID** The current user list, '/' is the delimiter. This field is deprecated, you should use the USERS section instead.

**OSVERSION**

**OSCOMMENTS** Service Pack on Windows, kernel build date on Linux

**NAME**

**PROCESSORS** The processor speed in MHz, this field is deprecated, see CPUS instead.

**SWAP** The swap space in MB.

## Inventory: Generic machine information (2/3)

**ETIME** The time needed to run the inventory on the agent side.

**OSNAME**

**IPADDR**

**WORKGROUP**

**DESCRIPTION** Computer description (Windows only so far)

**MEMORY** Total system memory in MB

**UUID**

**DNS**

**LASTLOGGEDUSER** The login of the last logged user.

**USERDOMAIN** This field is deprecated, you should use the **USERS** section instead.

**DATELASTLOGGEDUSER**

# Inventory: Generic machine information (3/3)

## DEFAULTGATEWAY

**VMSYSTEM** The virtualization technologie used if the machine is a virtual machine. Can by:  
Physical: (default) Xen VirtualBox Virtual Machine: Generic if it's not possible to correctly identify the solution VMware: ESX, ESXi, server, etc QEMU SolarisZone VServer OpenVZ BSDJail Parallels Hyper-V

## WINOWNER

## WINPRODID

## WINPRODKEY

## WINCOMPANY

**WINLANG** Language code of the Windows

**CHASSIS\_TYPE** The computer chassis format (e.g: Notebook, Laptop, Server, etc)

# Inventory: BIOS

SMODEL System model

SMANUFACTURER System manufacturer

SSN System Serial number

BDATE BIOS release date

BVERSION The BIOS revision

BMANUFACTURER BIOS manufacturer

MMANUFACTURER Motherboard Manufacturer

MSN Motherboard Serial

MMODEL Motherboard model

ASSETTAG

ENCLOSURESERIAL

BASEBOARDSERIAL

BIOSERIAL The optional asset tag for this machine.



# Inventory: PCI cards

## DRIVER

**NAME** The device name, the on from the PCIIDs DB

**MANUFACTURER** The manufacturer name, the on from the PCIIDs DB

**PCICLASS** The PCI class ID

**PCIID** The PCI ID, e.g: 8086:2a40 (only for PCI device)

**PCISUBSYSTEMID** The PCI subsystem ID, e.g: 8086:2a40 (only for PCI device)

**PCISLOT** The PCI slot, e.g: 00:02.1 (only for PCI device)

**TYPE** The controller revision, e.g: rev 02. This field may be renamed in the future.

**REV** Revision of the device in the XX format (e.g: 04)

# Inventory: Memories

DESCRIPTION

FORMFACTOR Only available on Windows, See Win32\_PhysicalMemory documentation on MSDN.

PURPOSE Only available on Windows, See Win32\_PhysicalMemory documentation on MSDN.

SPEED In Mhz, e.g: 800

TYPE

NUMSLOTS Eg. 2, start at 1, not 0

SERIALNUMBER

# Inventory: CPUs

**CACHESIZE** The total CPU cache size in KB. e.g: 3072

**CORE** Number of core.

**DESCRIPTION**

**MANUFACTURER** AMD/Intel/Transmeta/Cyrix/VIA

**NAME** The name of the CPU, e.g: Intel(R) Core(TM)2  
Duo CPU P8600 @ 2.40GHz

**THREAD** Number of thread per core.

**SERIAL** Serial number

**SPEED** Frequency in MHz

**ID** The CPU ID:

<http://en.wikipedia.org/wiki/CPUID>



# Inventory: Filesystems

**CREATEDATE** Date of creation of the filesystem in DD/MM/YYYY format.

**DESCRIPTION**

**FREE** Free space (MB)

**FILESYSTEM** File system name. e.g: ext3

**LABEL** Name of the partition given by the user.

**LETTER** Windows driver letter. Windows only

**SERIAL** Partition serial number or UUID

**SYSTEMDRIVE** Boolean. Is this the system partition?

**TOTAL** Total space available (MB)

**TYPE** The mount point on UNIX.

**VOLUMN** System name of the partition (e.g: /dev/sda1 or server:/directory for NFS)

# Inventory: Screens

**BASE64** The uuencoded EDID frame. Optional.

**DESCRIPTION**

**MANUFACTURER** The manufacturer retrieved from the EDID frame.

**SERIAL** The serial number retrieved from the EDID frame.

**UUENCODE** The uuencoded EDID frame. Optional.

# Inventory: Storage devices

**DESCRIPTION** The long name of the device displayed to the user.

**DISKSIZE** The disk size in MB.

**INTERFACE** INTERFACE can be SCSI/HDC/IDE/USB/1394/Serial-ATA/SAS or empty if unknown

**MANUFACTURER**

**MODEL** The commercial name of the device

**NAME** The name of the device as seen by the system.

**TYPE** The kind of device. There is no standard for the format of the string in this field.

**SERIAL** The harddrive serial number

**FIRMWARE** Firmware version

**SCSI** COID, CHID, UNID and LUN

**WWN** World Wide Name [http://fr.wikipedia.org/wiki/World\\_Wide\\_Name](http://fr.wikipedia.org/wiki/World_Wide_Name)

# Inventory: Softwares

NAME  
COMMENTS

FILESIZE

PUBLISHER

FOLDER

FROM Where the information about the software came from, can be: registry, rpm, deb, etc

INSTALLDATE Installation day in DD/MM/YYYY format.  
Windows only.

NO\_REMOVE Can the software be removed.

RELEASE\_TYPE Windows only for now, come from the  
registry

UNINSTALL\_STRING Windows only, come from the registry

URL\_INFO\_ABOUT

VERSION

IS64BIT If the software is in 32 or 64bit, (1/0)

GUID Windows software GUID



# Inventory: Logged users

LOGIN

DOMAIN The Windows domain of the user, if available.

# Inventory: Video cards

CHIPSET

MEMORY Video card memory in MB

NAME

RESOLUTION Resolution in pixel. 1024x768.

PCISLOT The local PCI slot ID if the video card use PCI.

# Inventory: Virtual machines

**MEMORY** Memory size, in MB.

**NAME** The name of the virtual machine.

**UUID**

**STATUS** The VM status: running, idle, paused, shutdown, crashed, dying, off

**SUBSYSTEM** The virtualisation software. E.g: VmWare ESX

**VMTYPE** The name of the virtualisation system family.  
The same type found is **HARDWARE/VMSYSTEM**

**VCPU** Number of CPU affected to the virtual machine

**VMID** The ID of virtual machine in the virtual management system.

**MAC** The list of the MAC addresses of the virtual machine. The c  
is '/'. e.g: 00:23:18:91:db:8d/00:23:57:31:sb:8e

**COMMENT** a comment

**OWNER**

# Inventory: USB devices

VENDORID Vendor USB ID. 4 hexa char.

PRODUCTID Product USB ID. 4 hexa char.

SERIAL

CLASS USB Class (e.g: 8 for Mass Storage)

SUBCLASS USB Sub Class

NAME The name of the device (optional)



# Inventory: Network configuration (1/2)

A network configuration.

**DESCRIPTION** The name of the interface as seen in the OS settings, e.g: eth0 (Linux) or AMD PCNET Family Ethernet Adapter (Windows)

**DRIVER** The name of the driver used by the network interface

**IPADDRESS**

**IPDHCP** The IP address of the DHCP server (optional).

**IPGATEWAY**

**IPMASK**

**IPSUBNET**

# Inventory: Network configuration (2/2)

MACADDR

MTU

PCISLOT The PCI slot name.

STATUS Up or Down

TYPE Interface type: Ethernet, Wifi

VIRTUALDEV If the interface exist or not (1 or empty)

SLAVES Bonded interfaces list in the eth0/eth1/eth2 format (/ is the separator).

MANAGEMENT Whether or not it is a HP iLO, Sun SC, HP MP or other kind of Remote Management Interface

SPEED Interface speed in Mb/s

BSSID Wifi only, Access point MAC Address

SSID Wifi only, Access point name

# Inventory: Batteries (laptop computer)

CAPACITY Battery capacity in mWh

DATE Manufacture date in DD/MM/YYYY format

NAME Name of the device

SERIAL Serial number

MANUFACTURER Battery manufacturer

VOLTAGE Voltage in mV

# Inventory: Printers

COMMENT

DESCRIPTION

DRIVER

NAME

NETWORK Network: True (1) if it's a network printer

PORT

RESOLUTION Resolution: eg. 600x600

SHARED Shared: True if the printer is shared (Win32)

STATUS Status: See Win32\_Printer.PrinterStatus

ERRSTATUS ErrStatus: See  
Win32\_Printer.ExtendedDetectedErrorState

SERVERNAME

SHARENAME

SERIAL The serial number

# Inventory: Running processes

USER The process owner

PID The process Id

CPUUSAGE The CPU usage.

MEM The memory.

VIRTUALMEMORY

TTY

STARTED When the process has been started in  
YYYY/MM/DD HH:MM format

CMD The command.

# Inventory: AntiVirus software

COMPANY Comapny name  
NAME

GUID Unique ID

ENABLED 1 if the antivirus is enabled.

UPTODATE 1 if the antivirus is up to date.

VERSION

# Inventory: LVM Logical Volumes

**LVNAME** The volume name.

**VGNAME** The volume group name.

**ATTR** The special attribute used on this volume (e.g:  
a-)

**SIZE** The size of the volume on MB.

**UUID** The volume UUID.

# Inventory: LVM Physical volumes

**DEVICE** The device name. Eg.: /dev/sda1 on Linux.

**PV\_NAME** The physical device name.

**FORMAT** The format. E.g: lvm2.

**ATTR** The LVM attribute in use for this physical device.

**SIZE** The size in MB.

**PV\_UUID** The UUID.

**PV\_PE\_COUNT** Item PV\_PE\_COUNT

**PE\_SIZE** Item PE\_SIZE



# Inventory: LVM Volume group

VGNAME The name of the volume group.  
PV\_COUNT  
LV\_COUNT  
ATTR The volume group LVM attribute.  
SIZE The size.  
FREE The free space.  
UUID The UUID

# Inventory: Environment variables

KEY The variable name

VAL The content

# Inventory: Ports

Serial, Parallel, SATA, etc

DESCRIPTION

NAME

TYPE

# Inventory: Slots

CAPACITY

FORMFACTOR

REMOVABLE

TYPE

DESCRIPTION

# Inventory: Sound cards

DESCRIPTION  
MANUFACTURER  
NAME

# Inventory: Modems

DESCRIPTION  
NAME

# Thanks

## Thanks!

- ▶ **Windows** <http://www.flickr.com/photos/aeu04117/430338509/sizes/z/in/photostream/>
- ▶ **AIX** <http://www.flickr.com/photos/pchow98/5115638572/>
- ▶ **MacOSX** <http://www.flickr.com/photos/adriannier/5555516312/sizes/l/in/photostream/>
- ▶ **Cisco 6500** [http://www.flickr.com/photos/joachim\\_s\\_mueller/3084164647/sizes/z/in/photostream/](http://www.flickr.com/photos/joachim_s_mueller/3084164647/sizes/z/in/photostream/)