

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

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

...local mode is also possible for Inventory

Discussion opened with

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

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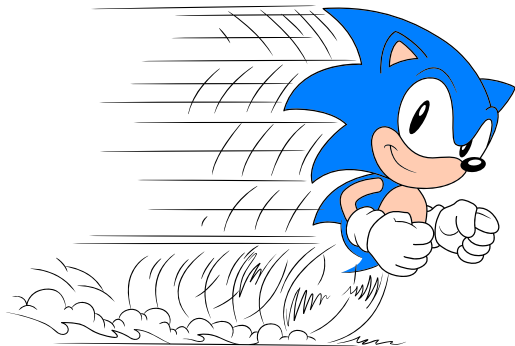
Questions

FusionInventory for GLPI

A GLPI generic plugin.

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

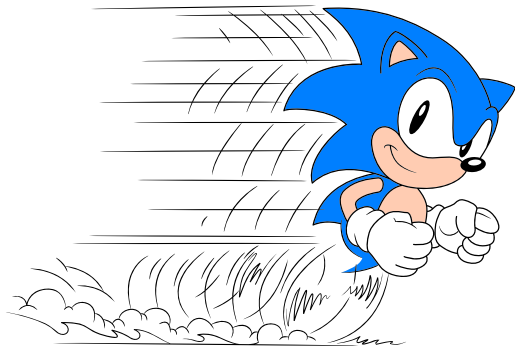
Agent: supported OS (1/2)



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



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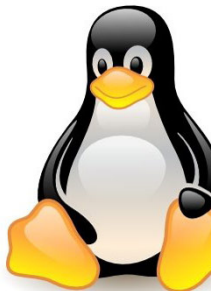
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Agent: Tested systems



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



Windows

- ▶ **Windows 2000** \geq SP4
- ▶ **Windows XP** all
- ▶ **Windows 2003** all
- ▶ **Windows 2008** all
- ▶ **Windows Vista** all
- ▶ **Windows Seven** all

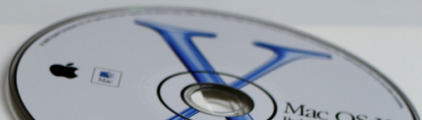
Agent: Tested systems

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, ergänzt.

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 Änderungen kommen kann.

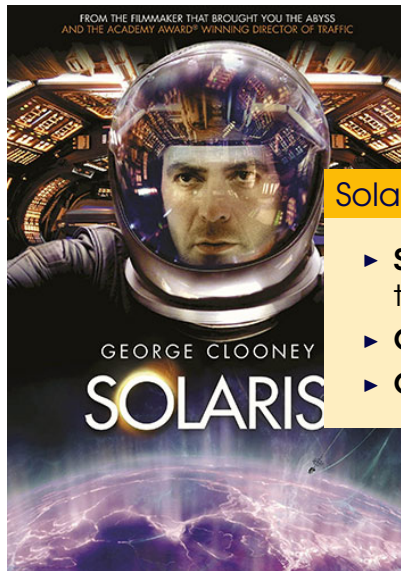
Vielen Dank für Ihre Unterstützung bei der Entwicklung dieses neuen Systems.



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



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

SNMP: Network switch (3/3)

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 [IPhone] 	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	

SNMP: Printer (1/2)

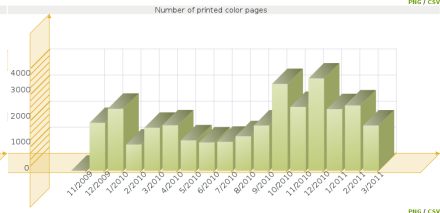
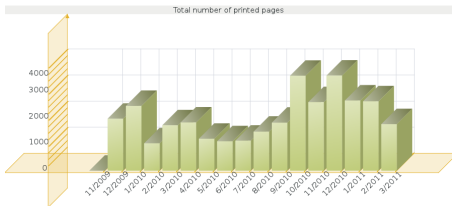
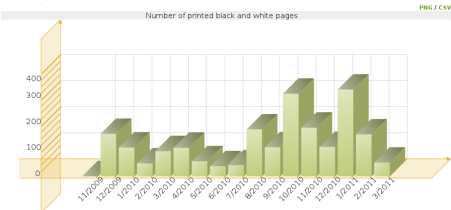
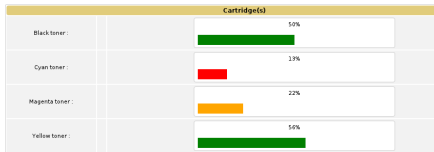
Get printer information

- ▶ 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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What?

- ▶ awake computer.

Wake On Lan

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How?

Send the Magic Packet with agent

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

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- ▶ 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

What?

FusionInventory deployment

Why a new software deployment?

- ▶ Same user interface
- ▶ rights based on GLPI group/profile/entity
- ▶ Secure: HTTPS and sha512
- ▶ Sexy interface using ExtJS



FusionInventory Deploy: package creation

List : [Icons] 1/1 [Icons]

Installation | Uninstallation

Package management - ID 1 (Root entity)

Child entities : No [Icon]

Name : Comments :

List of check

Type	Name	Value
Type: File exist (1)		
File exist	c:\test.txt	
Type: Register key exist (1)		
Register key exist	HKLM...	

Edit a check

Type:

File:

Command list

Type	Value
Type: Command (1)	
Command	Value : ipconfig
Type: Show dialog (1)	
Show dialog	Title : title Content : content Type : INFO

Edit command

Type:

Title:

Content:

Type:

List of files

File	Type	P2P deployment	Date added	Validity time	Uncompress
P2P deployment: Yes (1)					
nx-vm-adelaunay1.desktop		Yes	08/07/2011	0	Yes



FusionInventory Deploy: group creation

List: [icon] [icon] 1/6 [icon]

Static group

Groups - ID 3

Name :

Comments :

Type :

Associated items

Type	Name
<input type="checkbox"/> Computer	ordinateur test deploy

Total = 1

/

Search

Type : Location : [icon] [icon]

Start : Display items room :

Serial Number :

Inventory number :

building :

Name
<input type="checkbox"/> ordinateur test deploy

/



FusionInventory Deploy: task creation

⚡ List : 🔍 2/2

Actions

Task - ID 2 (Root entity)

Name :

Scheduled date : 3

Active :

Periodicity :

Communication type :

Permanent :

Comments :

Update

Purge

Task ⚡

Order list

➕ Add ➖ Delete

Package	Module
test groupe statique (1)	
package 1	Package install
test groupe dynamique (1)	
package 1	Package install

Edit task

Module:

Group:

Package:

Advanced options

Number of trials:

Time between 2 trials (in minutes):

Valid



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The issue

You can **NOT** run an agent on these machines.

The solution

FusionInventory is able to connect to the machine using VMware SOAP API to get:

- ▶ Hardware inventory
- ▶ VirtualMachine list

vCenter

vCenter are an interface in front of a group of ESX/ESXi.

- ▶ Hardware inventory
- ▶ ESX/ESXi inventories

vCenter/ESX/ESXi: command line

```
fusioninventory-esx --host vcenter --user foo \  
--password bar --directory /tmp
```

Then you can push the generated files in the server:

```
fusioninventory-injector -v --file /tmp/*.ocs \  
-u https://glpi/plugins/fusioninventory/
```

vCenter/ESX/ESXi: from GLPI

Authentication for remote devices (VMware)

Authentication for remote devices

Name : Login root

Type : VMware host

Login : root

Password :

You can drive the ESX inventory directly from GLPI

- ▶ Create a credential
- ▶ Associate it to an vCenter/ESX/ESXi server
- ▶ Schedule the discovery

◀ ◻ ▶ ◀ ◻ ▶ ◀ ≡ ▶ ◀ ≡ ▶ ≡ ↺ 🔍 ↻

Composants			
2 ▼	Processeur	Intel(R) Xeon(R) CPU X5570 @ 2.93GHz	Fréquence : 2933 MHz
1 ▼	Disque dur	/vmfs/devices/disks/naa.60a98000486e58416c5a6176412d5471	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

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The agent collects and send information

- ▶ System: DNS, IP, AntiVirus, users, serials, etc
- ▶ Hardware: CPUs, storage, etc
- ▶ Phone configuration: SIM card, IMEI, serial Android only
- ▶ And more

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.

OSNAME

OSVERSION

OSCOMMENTS Service Pack on Windows, kernel build date on Linux

NAME

SWAP The swap space in MB.

Inventory: Generic machine information (2/3)

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: 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



**FUSION
INVENTORY**

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: 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: 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: And also

- ▶ Logged users
- ▶ Battery
- ▶ Printer (with serial)
- ▶ LVM configuration (Linux, AIX $\geq 2.1.10$)
- ▶ Screen and Video card
- ▶ USB devices
- ▶ Running processes
- ▶ Environment variables
- ▶ Port
- ▶ Slot
- ▶ Sound card
- ▶ Modem

Outline

Global Overview

Installation

Network Discovery

Remote SNMP Inventory

Wake On Lan

Software Deployment

vCenter/ESX/ESXi remote inventory

Inventory

What else?

Questions

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)



agent developement is very active

- ▶ code clean up
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What else? (2/2)



In test-suite we trust!

- ▶ strong effort done during the last year
 $\geq 40\,000$ 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

- ▶ Android Agent, inventory done, finishing the GUI
- ▶ FusionInventory for GLPI 0.80 featuring the configuration Wizard!
- ▶ Debian package for fusioninventory-esx

Work in progress

- ▶ Software deployment
- ▶ OCS/XML → REST/JSON transition
- ▶ FusionInventory Agent 2.2.x



Why JSON (1/2)

```
GET http://srv/?action=getConfig&machineid=foobar
{
  "httpd" : {
    "ip" : "0.0.0.0",
    "trust" : (
      "127.0.0.1"
    ),
    "port" : 62354
  }
}
```


Why JSON (2/2)

REST/JSON benefit!

- ▶ Way simpler
- ▶ Already a standard in the IT management world
Puppet, OPSI, etc
- ▶ Very small CPU/memory footprint
- ▶ REST is easier to debug
- ▶ REST is test-suite friendly using Test::HTTP::Server::Simple

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Question?

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/