PANDORA FMS

Pandora FMS 4.0

new features

Version notes for Pandora FMS version 4.0

OpenOffice/PDF Version

First edition 21 September 2011

1 PANDORA FMS 4.0

This 4.0 new version is an important update comparing with the previous version, the 3.2.1 version. As well as new multiple features, it adds plenty of bug corrections and a great code refactoring (rewriting).

The following list describes in a short way, all the Pandora FMS 4.0 new features. In the next section some of the key features of the new version are described in a more exhaustive way.

1.1. "Star" Features

- New interactive graphic network maps (Enterprise).
- New Enterprise network servers, that are up to 50 times faster that the OpenSource ones (SNMP e ICMP) (Enterprise).
- Support for Oracle and PostgreSQL.
- Event correlationa and event reception console correlation (Enterprise).
- Synthetic modules: generating new data through arithmetic operation between other ones that already exist. (Enterprise).
- Native integration with Integria IMS (http://integriaims.com) for incident management and for incident management from the Pandora FMS interface.
- Extension and improvement of reports (SLA graphics, TOP n, different wizards, etc).
- Extension to the cron extension in order to could register manual processes by the admin user.
- Extended ACL System, based on policies to "shape" agent data (Enterprise).
- Improvements in the Recon Server performance (10 times faster).
- New plugins of VmWare 4.1 centralized monitoring (Enterprise) and of Amazon EC2 (OpenSource).
- Agent Broker mode (delegate monitoring) and Tentacle proxy mode (to use the agents as intermediate nodes).
- Skins System for the interface complete customization by user (Enteprise).
- Global option (CLI and console), deactivating all the alerts of an specific policy.

1.2. Other Improvements and Functionalities

- To add macro _POLICY_ to the alerts (Enterprise).
- Improvements to manage the traps with regular expresions and create messages in real time using data from the traps.
- Policy application queue (Enterprise).
- Improvements in the metaconsole: View management (visual console), dashboard, and specific reports for the metaconsole, that could see all data from all pandoras (Enterprise).
- Policy application from metaconsole (Enterprise).
- Metaconsole: Feature to move an agent (or several) from one pandora to another (Enterprise).
- Agent: Posibility of specifing preconditions to the execution of one module.
- Inventory with Pandora with historic (to store all the "photos" not only the last one) (Enterprise).

2 NEW FEATURES DETAILS

2.1. Synthetic modules.

The synthetic modules are useful to generate new information from information that already exists, through arithmetic operations or the value average.This is useful to, for example: to calculate the total throughput of one switch adding up the traffic of all its interfaces, to calculate the nº of total sales, adding up the average sales of each branch, or to calculate the average temperature of the room, making the average of all the temperatures in all points.
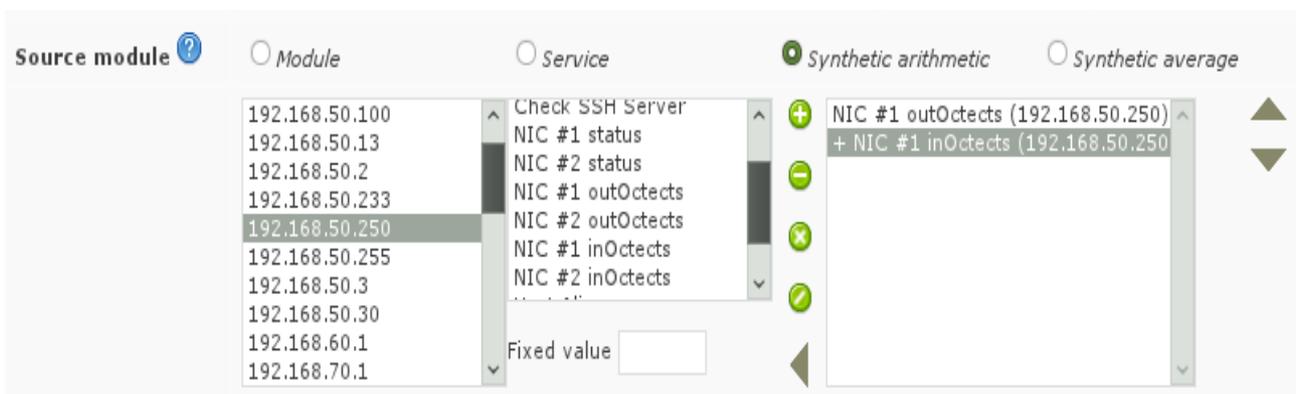
2.2. Virtualization and cloud computing

The Enterprise version has an specific component (plugin Enterprise, includded in the Enterprise license) for the VM's automatic detection using the Vmware 4.x. Infrastructure. It uses a single management point (Vcenter) to get all the information in a remote way, using the Vmware api. There are also different OpenSource plugins and tools for the monitoring of VirtualBox, XEN, KVM y Amazon EC2.
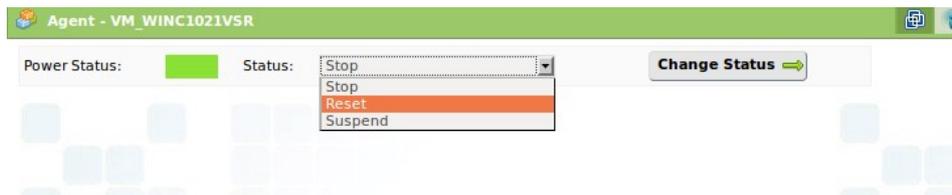
See more info at our Virtualization and cloud computing section.

2.3. Improvements in the Metaconsole.

The Metaconsole is a Pandora that works as a manager of installations that are independents from Pandora FMS, to coordinate them in server farms with a single administration. This allows to Pandora FMS get an almost unlimited scalability, administrating from a single point several installations, that are independent between them, in a federated and independent system.
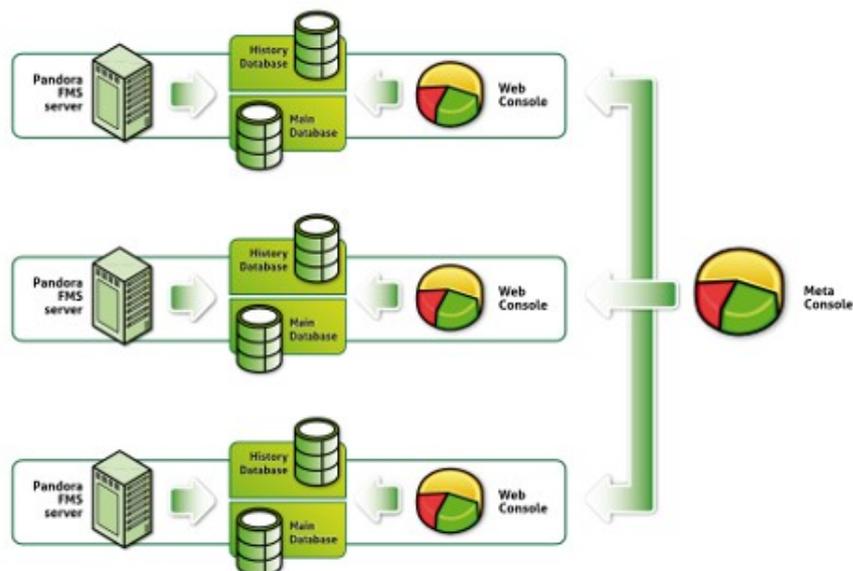
We have added the posibility of defining reports in the metaconsole, to could include information in only one report that corresponds to different Pandora FMS servers, and also other improvements in the metaconsole for the event management, users and policies.

2.4. Improvements in Policies.

Now the system uses a system of queues for the policy application, so it is posible to see who, when and which policy have been programmed to apply. This allows to work in team in a more efficient way. The queue system could be also be used with the metaconsole.

2.5. Administration from command line (CLI)

Pandora FMS could be managed from command-line. The Pandora FMS CLI (Command-Line Interface) is used making calls in command-line (pandora_manage). This method is specially useful to integrate third applications with Pandora FMS through automated tasks.

Basically, it consists on a call with the parameters fomatted to do a task such as the creation and deletion of an agent, a module or an user, among others.

In this version we have extended the CLI in new commands.

2.6. Event Correlation System

From version 4.0 Pandora FMS incorporates a system to could relate events between them and generate alerts or new events. This system allows to define logic rules between the system events, based on several fields, like "tag" (a tag that all Pandora data could have), state, criticity, value, group or origin agent, etc. All this rules are also applied on a time window. This system allows "to filter" false positives, event storms, and could determine the problem root in a more clear and automated way.

| Sort	Name	Module (Agent)	Group	Tag	Operator	Op.
⬇	Users connected	Users connected.* (agent_user_state_info)	🏠	Frontend	OR ▾	🔧 ✖
⬆⬇	Disks devices OK	*.disk_root_state (*)	📑		AND ▾	🔧 ✖
⬆⬇	Local components	*.local.* (*)	📑	Local components	OR ▾	🔧 ✖
⬆	Security system OK	security_state (ip-10-2-110-211)	🔒			🔧 ✖

2.7. Support (experimental) for Oracle and PostgreSQL as backend.

In version 4.0 Pandora incorporates the posibility of using Oracle or PostgrSQL as database system for the Pandora backend, replacing MySQL that was the only backend supported until now. It is not recommended to use it for systems in production (so we call it experimental).

2.8. Delegated Agents (broker mode) and Proxy mode.

This is an special work for agent that allows to work on a complex architectures operating only on one physical agent, and that display a remote monitoring of this agent, and results in a real monitoring in several agents, monitored and managed from the only system with a software agent installed. This agent is managed as an agent that besides works as it has got also other agents.

The Tentacle protocol supports the use of proxies (in mode HTTP/Connect) so the agents could connect directly with the server using an standard proxy. Same way, it is possible to configure the agents to they work as intermediate servers (drone mode), and we could use them to centralize the communication with the destination server or with other proxy. This system also allows the management of file collections and remote configurations.
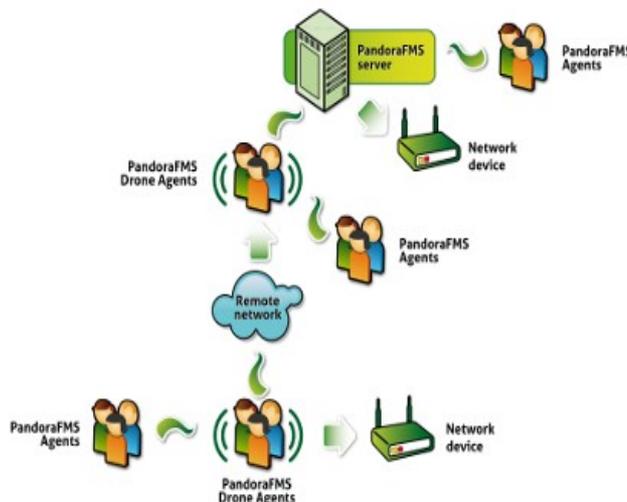
2.9. Post-conditions and Pre-conditions in the module execution in the software agents

This allows to act from agents inmediately, once that we have detected that something is wrong, regardless of subsequent performances in the console. The precondition system allows not to monitor systems that in this moment don't have any activity, as for example, systems in high availability.

2.10. Inventory remote and through Software

A new inventory system and service that will work as a system inventory, showing the software and the hardware in the monitored systems. It's possible to choose between the agent-less and agent-based configuration to get data. Now all the inventory history is stored and one event is generated when a change is detected in the inventory information.

2.11. Ipv6 Support

This version includes complete support (experimental) for TCP, ICMP and SNMP protocols.

2.12. Network Dinamic Browsable Maps

These maps are an improved and extended version of the network maps and the graphic console. It allows the user, in a completely graphic environment, to create his own maps, with monitoring real real elements and arrange them acording a customized vision of the network, and fix several hierarchies with them, and also link them to other maps and navigate through them.

2.13. Recon server Improvements for network topology and autodiscovery

The Recon server has improved the velocity and the topology detection kind. We now use NMAP that is the network scanner more quick and reliable at the moment.

2.14. Improvements in the SNMP Trap Monitoring

It is possible to configure alerts on each trap, simples or including regular expressions on the received trap. Now it is possible to use data collected by the regular expresion as macros when configuring de alert. All these operations are included in the OpenSource version.

2.15. ICMP and SNMP Exploring High velocity

Pandora FMS 4.0 version has added the new server "Enterprise Network Server" that does the same checks that the OpenSource version, but up to 50 times quicker, so it uses specific tools that are quicker and it organizes the checks in multithread blocks, it allows a more efficient management in systems with thousands of ICMP or SNMP checks.

2.16. Skins System

The Enterprise version allows to design your own interface -by user group- in order that the look customization will be total: colors, icons, layout, logos...
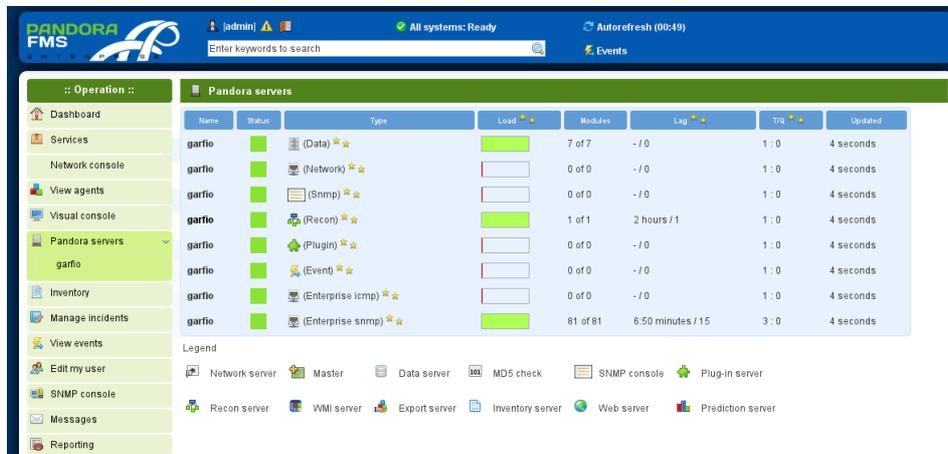

2.17. 100% Web, Multiclient: Aimed at SaaS

Pandora architecture and design has been checked and improved. Now it is aimed to provide service with the same infrastructure to several different clients. It is multi user (see only their own elements) and because it is 100% web, it allows that any client by remote, has access to the views and the management of his reports.

## 2.18. Native integration : Integria IMS (Incident management System)

Pandora Fms has integrated a basic incident system. Instead of improving this system we have completely integrated it with an incident external system, called Integria IMS (http://integriaims.com). This OpenSource system allows to do many things, such as automatic notifications through email, work in team, include attachments, notify SLA's or segregate by roles. You could use the Pandora FMS interface to work directly on Integria.
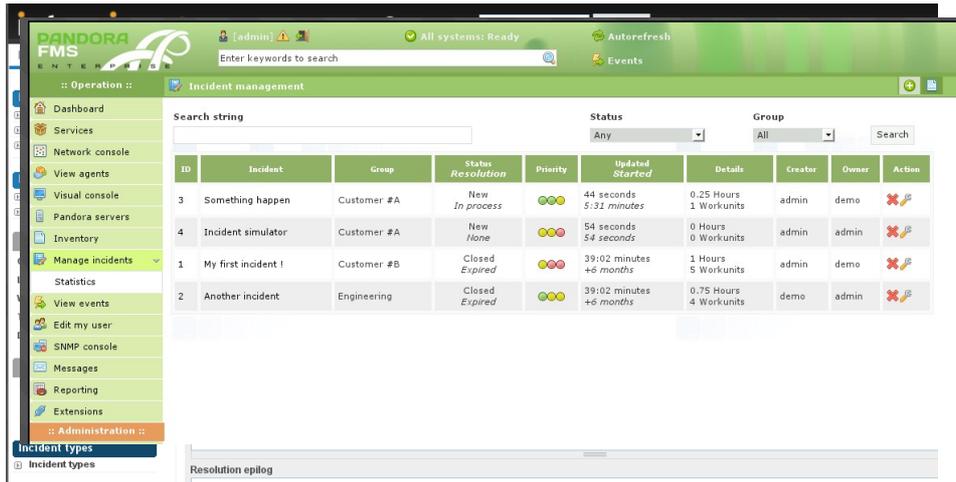
2.19. Improved Reports

We haved added the possibility of changing the report logo and adding front page, footer and index in the reports. With Pandora FMS, in its Enterprise version, it is possible to create PDF reports and send them to an email address in the wanted date.

And, what is more, the reports could be recurrents and could be sent every week, month , every six months, etc. In the Enterprise reports is posible to customized the from page with a WYSIWYG editor, add heads, create an automatic content index, customize fonts (including non latin characters, as Arabic, Japanese...) and of course, use several Wizard to could manage them easier and quicker.
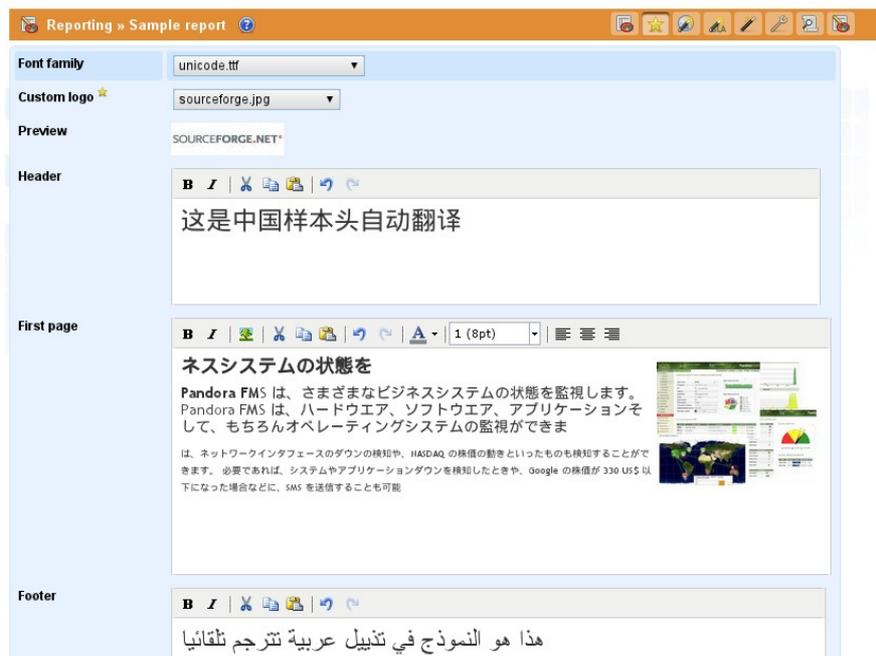
We have also created new specific reports, with wizards, like "Top N", or "group SLA", that increase the number of available reports that alredy exist.

2.20. Third parts Product Integration API library

The Pandora FMS external API has been expanded regarding to the previous version. The API is used to make remote calls (through HTTP in the file /include/api.php).

This is the method that has been defined in Pandora FMS to integrate applications of third parts with Pandora FMS. Basically it consists on a call with the parameters configured to get a value or list of values that it will use to do operations after being applied.

3 NEW VERSION NOTES

Pandora FMS 4.0 version will be available on September 22, 2011.

It is possible to get Pandora FMS 4.0 in packages for SUSE, Debian, Ubuntu, RedHat, and CentOS. It is also available a public Amazon EC2 image and, of course, the comprehensive PDF manual (600 pages) available in three languages (Spanish, English an Japanese).

Downloads of Pandora FMS v4.0 at :

> http://pandorafms.com/index.php?sec=pandora&sec2=download

The next Pandora FMS release will be the v4.1, in the first quarter of 2012.