



# Nagios Integration

**]project-open[**

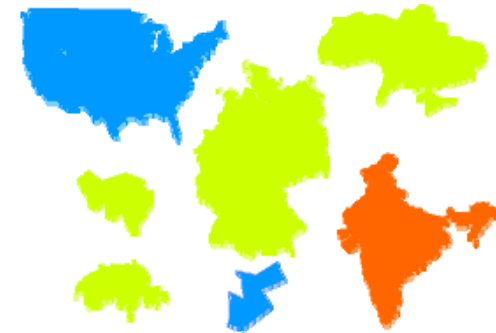
Open Source

Enterprise Business Application

# Intro

# About cognovís

- Started 2004 as IT consultancy
- Networked company with employees in 4 countries
  - Join Venture in Hyderabad / India
  - Close partnerships in Spain and Slovenia
- Expertise in:
  - Business process (software) for project oriented companies
  - Knowledge building and management (software)
  - Member based organisation management (software)
- Customer base:
  - SMEs
  - Associations
  - (Universities)
- Experience of collaboration in EU projects (E4)
- **]po[** Core Development Partner



# ]project-open[ in a Nutshell

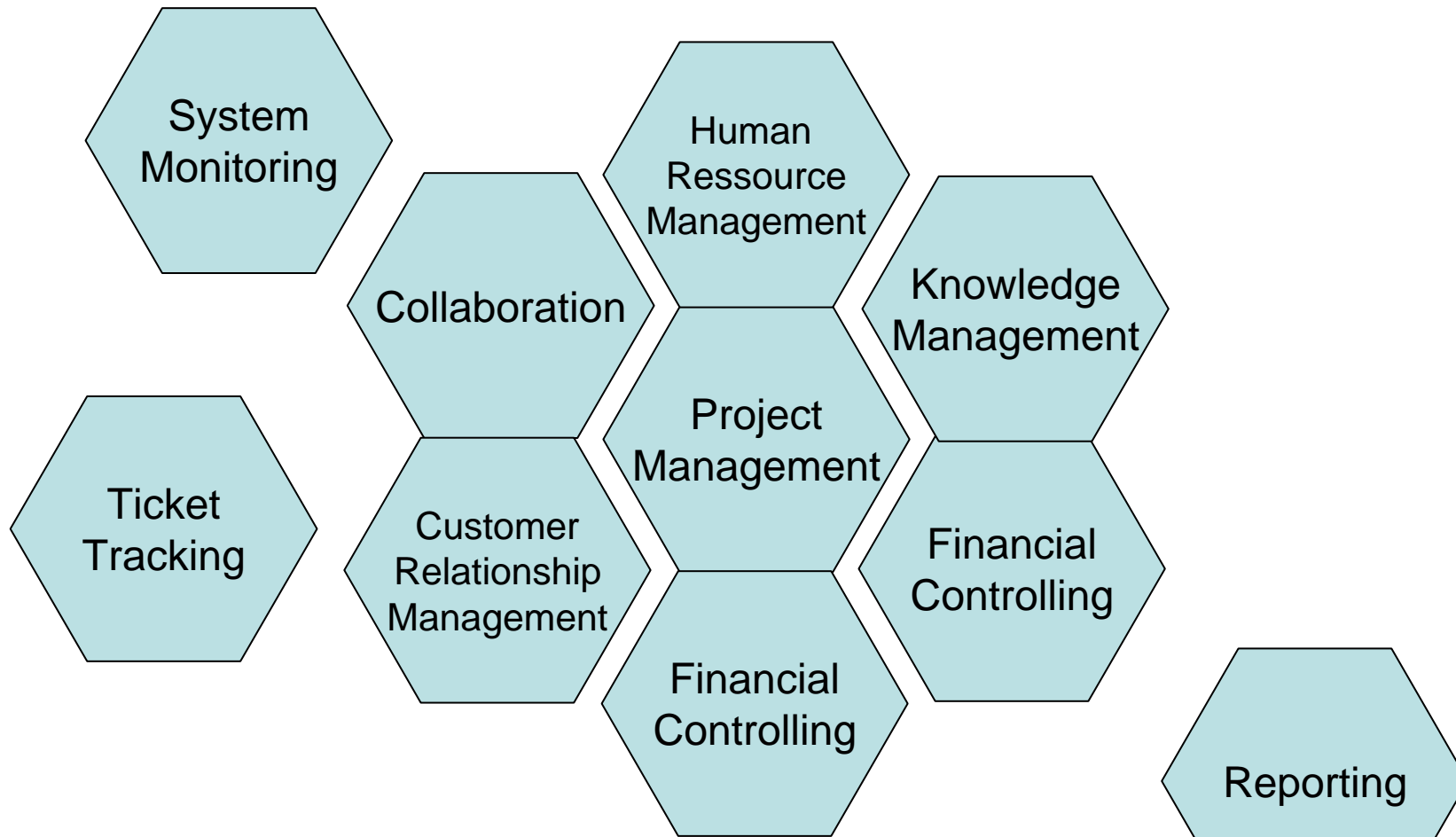


**]po[** is an OSS Web-based "Enterprise Project Management" software for project-based organizations.

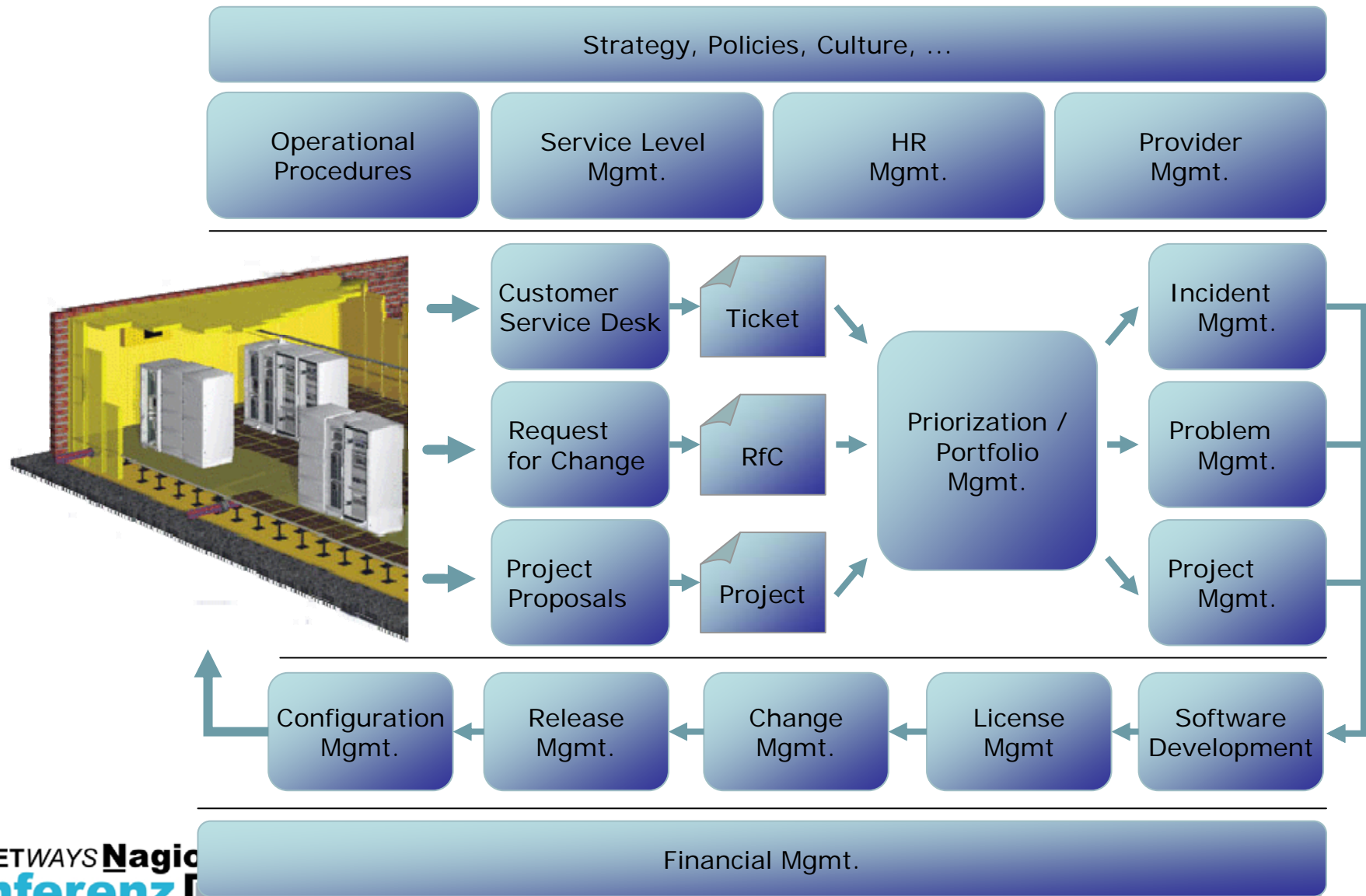
It integrates areas such as CRM, sales, project planning, project controlling, collaboration, timesheet, invoicing and payments.

As one of the largest open-source based web applications in the world with more than 1,000,000 lines of code, **]po[** is used by more than 1000 companies in 25 countries to run their business

# ]project-open[ covers the following areas



# The ]po[ ITSM Process Map

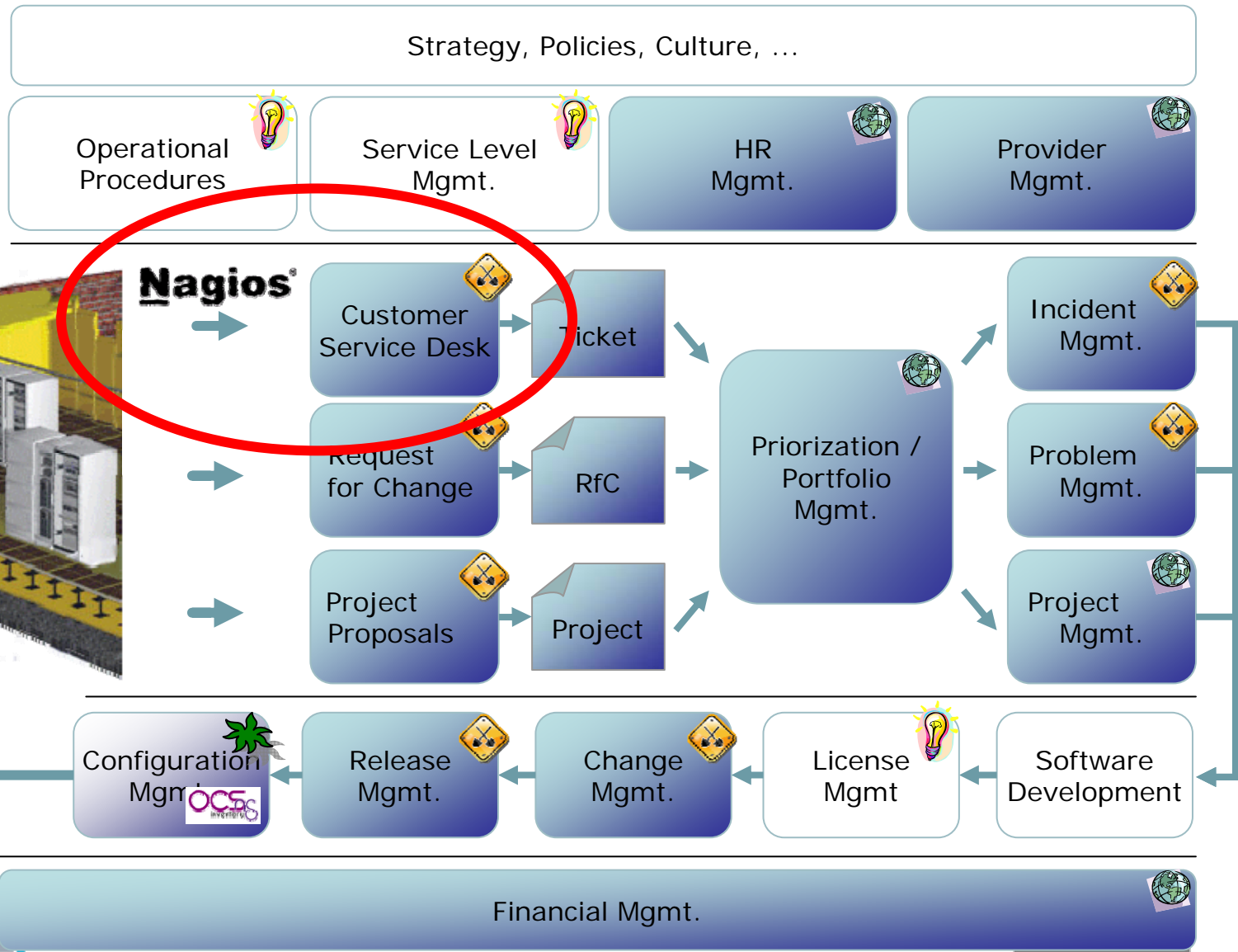
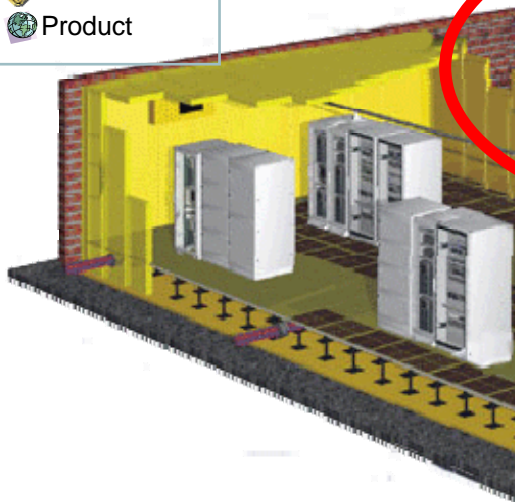


# Current Status

August 2008

## Maturity

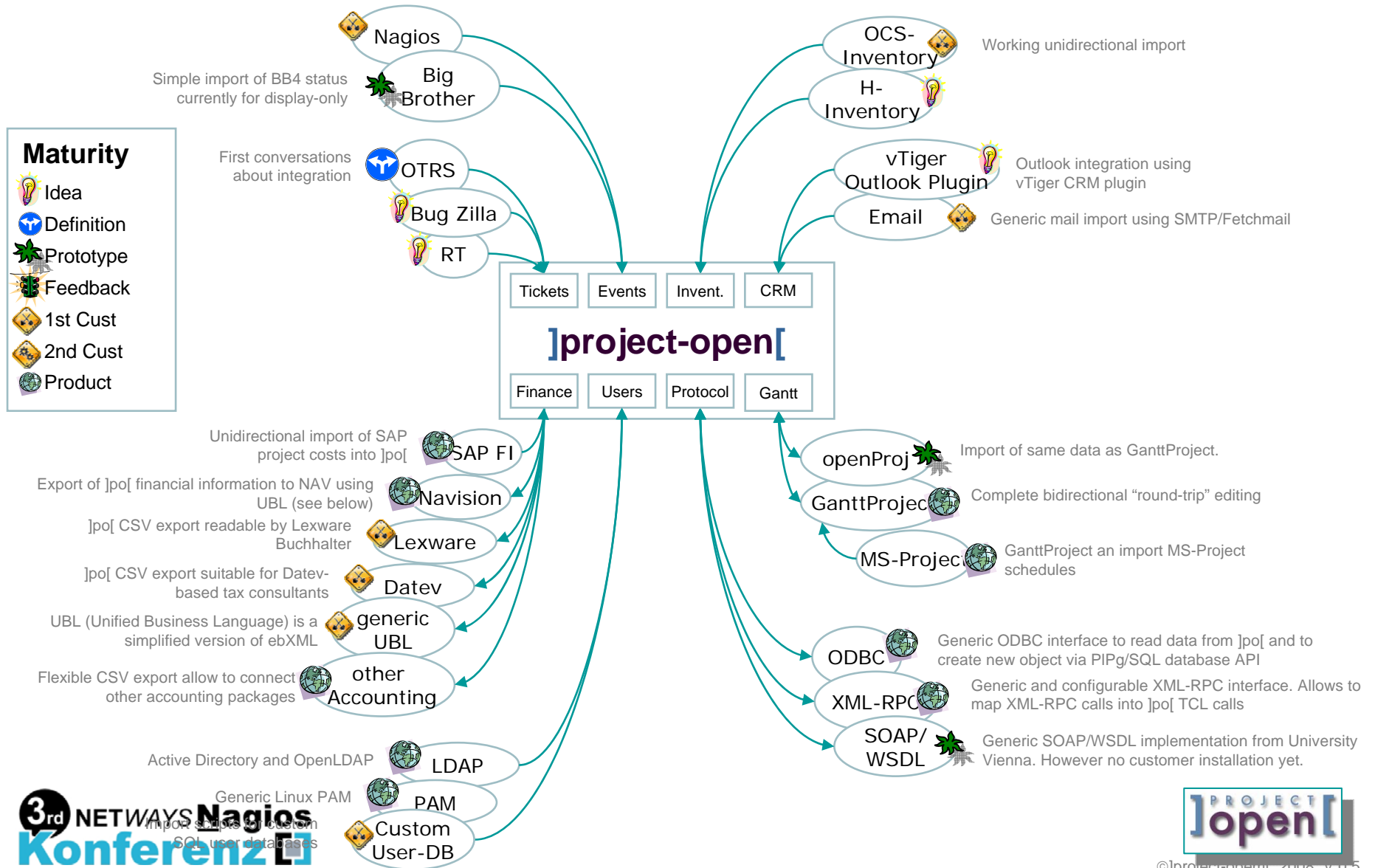
- Idea
- Definition
- Prototype
- Feedback
- 1st Cust
- 2nd Cust
- Product



# Nagios Integration



# ]po[ as an Integration Platform



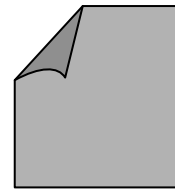
# Nagios Integration Overview

1. **]po[** receives and parses Nagios alert emails.

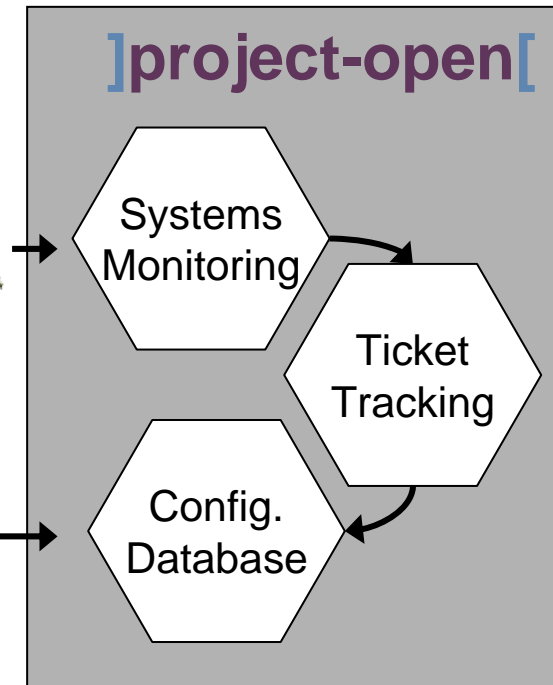
**Nagios**



2. **]po[** parses the Nagios configuration files and creates "Configuration Items" (=objects) for hosts and services



Configuration File



# The List of Tickets

The screenshot shows a web browser window titled "Tickets - Opera" displaying the Project Open Helpdesk interface. The browser's address bar shows the URL: `http://projop/intranet-helpdesk/index?form%3Amode=edit&form%3Aid=tickr`. The interface includes a navigation menu with "Home", "Bugs", "Users", "Projects", "Timesheet", "Helpdesk", "Finance", "Conf Items", "Reporting", and "Admin". A search bar is present with the text "3 users online" and a "Go" button. Below the navigation, there are tabs for "All", "a", "b", "c", "d", "e", "f", "g", "h", "i", "j", "k", "l", "m", "n", "o", "p", "q", "r", "s", "t", "u", "v", "w", "Summary", "Potential", "Open", "Status", and "Closed".

On the left side, there is a "Filter Tickets" section with dropdown menus for "Mine/All: All", "Status", and "Type", along with an "OK" button. Below this is an "Admin Tickets" section with a link for "New Ticket".

The main content area displays a table of tickets:

Nr	Name	Conf Item	Queue	Type	Status	Customer	Contact	Assig	SLA
75	Nagios recovery service alert berlin2/http podesign is ok	http podesign		Ticket Closed		project-open	Unregistered Visitor		
73	Nagios recovery service alert berlin2/http podesign is ok			Ticket Closed		project-open	Unregistered Visitor		
71	Nagios problem service alert atenea/dns is unknown	dns		Ticket Open		project-open	Unregistered Visitor		

# Services Status

**Configuration Items - Opera**

File Edit View Bookmarks Widgets Tools Help

http://projop/intranet-confdb/index?form%3Amode=edit&form%3Aid=conf\_i ? Google

PROJECT **Open** My Account | Change Password | Reset Stuff | Add Stuff | Log Out

Home Bugs Users Projects Timesheet Helpdesk Finance **Conf Items** Reporting Admin

2 users online | Search | Go

**Filter Configuration Items**

Treelevel: All Items

Type:

Status:

Cost Center:

Owner:

OK

**Administration Links**

- Add a new Configuration Item
- Nagios Main Page
- Import Nagios Definitions

Type	Status	Processor	Memory	OS	OS Version
Linux-Server	Active	x			
49 Linux-Server	Active	x			
7 Generic-Router	Active	x			
Linux-Server	Active	x			
Generic-Router	Active	x			
Linux-Server	Active	x			
Hardware	Active	x			
berlin2	Active	x	127.0.0.1		
berlin2 - HTTP PcDemo	Active	x			
berlin2 - HTTP Translationdep	Active	x			
berlin2 - HTTP Adverbage	Active	x			
berlin2 - HTTP Harbinger	Active	x			
berlin2 - HTTP Ecosystemas	Active	x			
berlin2 - HTTP Maxweb	Active	x			
berlin2 - HTTP Opus5	Active	x			

# Automated ticket closure

The screenshot shows a web browser window titled "New Ticket - Opera" displaying the Project Open Helpdesk interface. The browser address bar shows the URL: `http://projop/intranet-helpdesk/new?form_mode=display&ticket_id=191654`. The interface includes a navigation menu with options like "Home", "Bugs", "Users", "Projects", "Timesheet", "Helpdesk", "Finance", "Conf Items", "Reporting", and "Admin". A search bar and "Go" button are also present.

The main content area displays a "New Ticket" form with the following details:

Title	Nagios recovery service alert berlin2/http podesign is ok
Customer	
Customer Contact	
Status	Closed
Type	Ticket

Below the ticket details are "Edit" and "Delete" buttons.

The "Ticket Discussion" section shows a single entry:

Subject: Nagios recovery service alert berlin2/http podesign is ok ([Reply](#)) ([Edit](#))

Posted in: [Ticket 191654](#)

Posted by: [Frank Bergmann](#)

Status: Open

Posting Date: 2008-05-28

Priority: 5

Assigned to: [Frank Bergmann](#)

Due Date: 2008-03-30

Visible for: All group members

Receive updates: major

\*\*\*\*\* Nagios \*\*\*\*\*

Notification Type: RECOVERY

Service: HTTP PoDesign

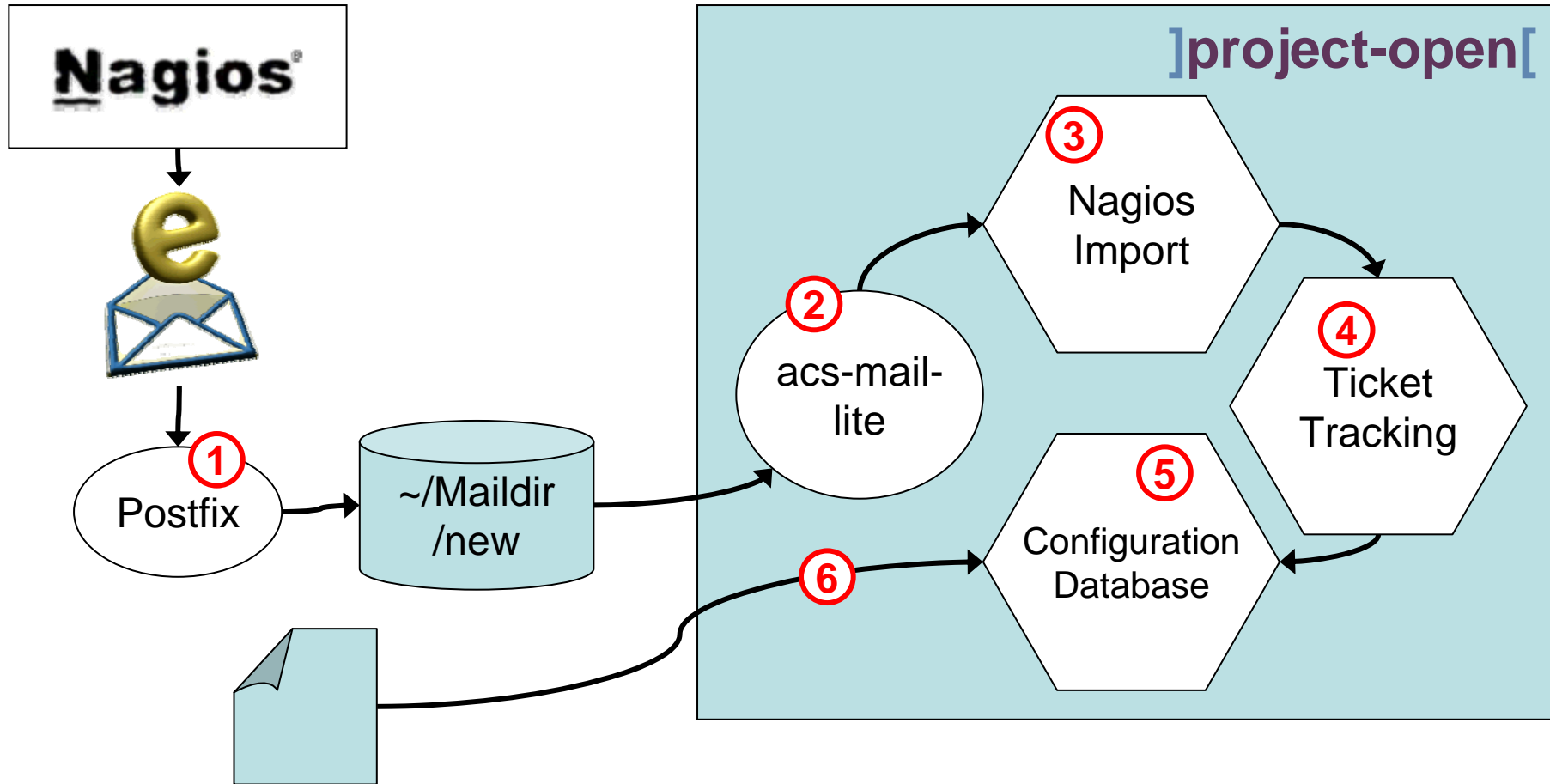
Host: Berlin2

Address: 127.0.0.1

State: OK

Date/Time: Sat Mar 29 19:45:57 CET 2008

# Nagios Integration Details



/usr/local/nagios/etc/nagios.cfg

# Nagios Integration Details

1. A locally running Postfix instance receives emails (possibly imported via fetchmail) and delivers them to ~/Maildir/new/
2. An OpenACS “acs-mail-lite” process scans ~/Maildir every few minutes
3. ]po[’s “intranet-nagios” package receives callbacks from acs-mail-lite, parses the Nagios subject line and extracts extract all important variables (host, service, status etc.):
4. ]po[ check decides whether to open a ticket or trigger a workflow
5. ]po[ check is there is already an open ticket for the specified host/service and add the current message to the existing ticket
6. If we are running a workflow ]po[ checks if there is the need to move the workflow along based on the Nagios E-Mail.

# Nagios Integration Details

7. Dependent on configuration, ]po[ checks for budget constraints in the associated project and alerts financial controllers.
8. According to urgency and skills, the best available resource (internal or external) is assigned to the ticket. This requires:
  - resource planning and timesheet management
  - supplier database
  - legal frameworks, SLAs
9. If the incident is handled, the workflow could move on to incident analysis and underlying problem solving.
10. If necessary, ]po[ generates a new host and/or service as “Configuration Items” in the configuration database.
11. Alternatively, ]po[ can also parse the Nagios configuration files and import all hosts and services into the ConfDB.



# Conclusions

- Nagios is a great interface to server infrastructure
- Parsing the Nagios config files & mails wasn't much fun, but it's OK
- Feature Requests:
  - API or other format to read the Nagios database.
  - Nagios returning the host's list of hardware & software similar to OCS-Inventory
  - Send out emails in XML format for easier parsing?

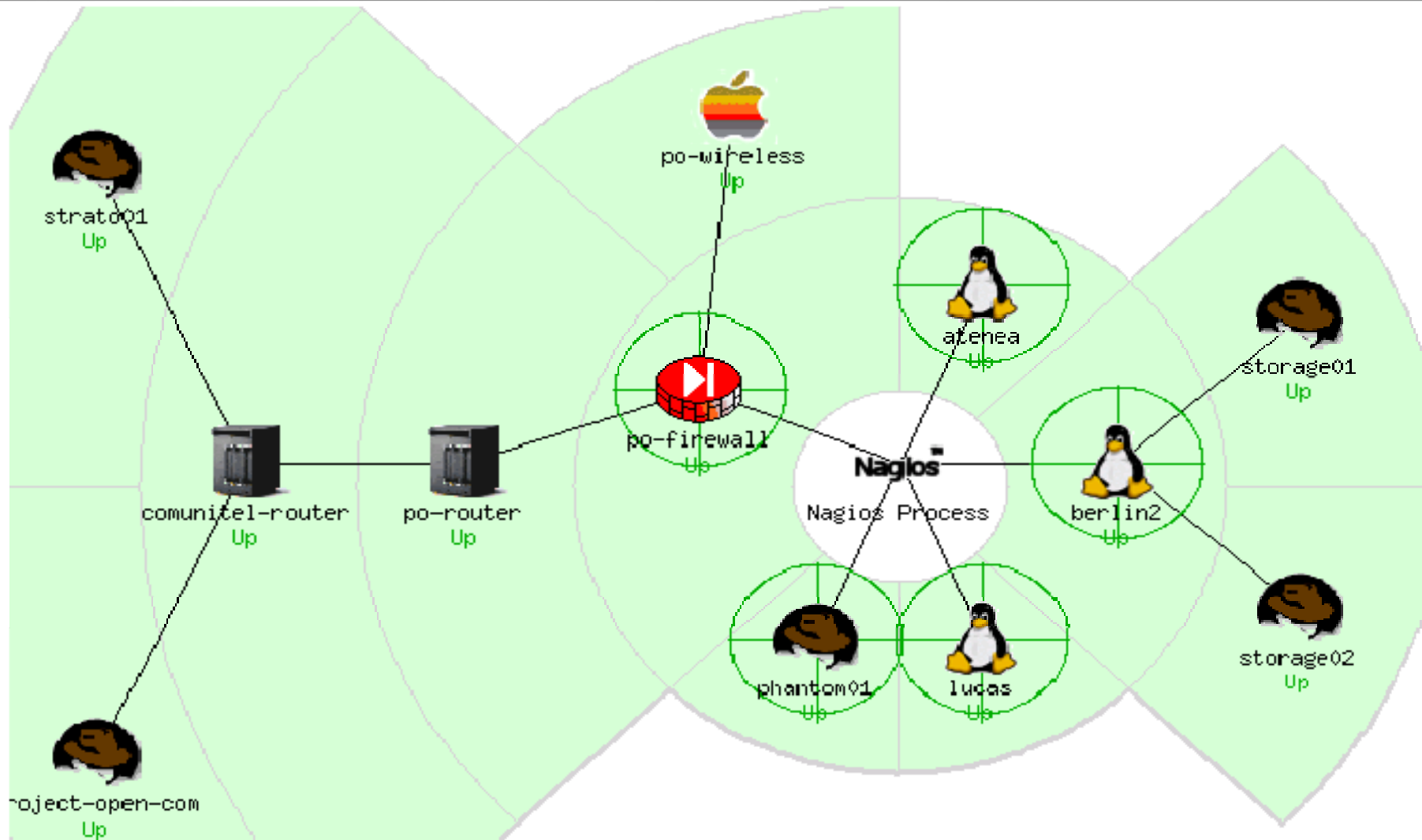
# Future ideas

- Link XoWIKI with Confltems
- Use Nagios API for access to all data
- Pray for NDO Utils perform better and do it with PostgreSQL
- Manage notifications based on contacts searches (expert find)
- Integrate notification periods with Resource Management and absences
- Use Nagios for external incoming notifications:
  - Production / Delivery status changes in ERP
  - Analysis of financial data KPIs
- Track ITIL KPIs with ]po[ QCM (quality control management)
- Use nagios to fill in ]po[ QCM KPI values
- Convince more IT departments that controlling has benefits.

# Screenshots

configuration database

# Sample Nagios Configuration





Filter Configuration Items

Treelevel: Only Top Items

Type: [ ]

Status: [ ]

Cost Center: [ ]

Owner: [ ]

Customer: [ ]

OK

Administration Links

- ◆ [Add a new Configuration Item](#)
- ◆ [Nagios Main Page](#)
- ◆ [Import Nagios Definitions](#)

This option lets you import the network definition from the Nagios configuration files

<input type="checkbox"/>	Name	IP	Type	Status	Processor	Memory	OS	OS Version
<input type="checkbox"/>	<a href="#">phantom01</a>	172.26.3.2	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">project-open-com</a>	82.165.99.249	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">po-wireless</a>	172.26.0.137	Generic-Router	Active	x			
<input type="checkbox"/>	<a href="#">po-firewall</a>	172.26.0.1	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">po-router</a>	172.26.1.1	Generic-Router	Active	x			
<input type="checkbox"/>	<a href="#">atenea</a>	172.26.0.4	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2</a>	127.0.0.1	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">strato01</a>	85.214.17.81	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">lucas</a>	172.26.2.2	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">storage01</a>	172.26.3.2	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">comunitel-router</a>	87.235.0.10	Generic-Router	Active	x			
<input type="checkbox"/>	<a href="#">storage02</a>	172.26.3.3	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">[project-open]</a>		Software	Active	x			
<input type="checkbox"/>	<a href="#">tinym</a>	193.1.97.46	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">atencn6000</a>	172.26.2.3	Linux-Server	Active	x			

Delete

## Import Nagios Configuration

### Configuration

- ◆ Nagios Configuration File: /usr/local/nagios/etc/nagios.cfg
  - ⊕ Host: phantom01
  - ⊕ Host: generic-host
  - ⊕ Host: project-open-com
  - ⊕ Host: po-wireless
  - ⊕ Host: po-firewall
  - ⊕ Host: generic-switch
  - ⊕ Host: linux-server
  - ⊕ Host: po-router
  - ⊕ Host: tinytm
  - ⊕ Host: strato01
  - ⊕ Host: atenea
  - ⊕ Host: generic-printer
  - ⊕ Host: berlin2
  - ⊕ Host: windows-server
  - ⊕ Host: atencn6000
  - ⊕ Host: lucas
  - ⊕ Host: generic-router
  - ⊕ Host: storage01
  - ⊕ Host: comunitel-router
  - ⊕ Host: storage02

]po[ shows the list of Nagios items parsed from the config files for sanity checks as a collapsible list

Import Nagios Configuration - Mozilla Firefox

File Edit View History Bookmarks Tools Help

PROJECT  
**open**

My Account | Change Password | Reset Stuff | Add Stuff | Log Out

Skin:

Home Bugs Users Projects Timesheet Helpdesk Finance **Conf Items** Reporting Admin

2 users online |

## Import Nagios Configuration

### Configuration

- ◆ Nagios Configuration File: /usr/local/nagios/etc/nagios.cfg
  - ⊕ Host: phantom01
  - ⊕ Host: generic-host
  - ⊕ Host: project-open-com
  - ⊕ Host: po-wireless
  - ⊕ Host: po-firewall
  - ⊕ Host: generic-switch
  - ⊕ Host: linux-server
  - ⊕ Host: po-router
  - ⊕ Host: tinytm
  - ⊕ Host: strato01
  - ⊕ Host: atenea
  - ⊕ Host: generic-printer
  - ⊖ Host: berlin2
    - ⊖ Host Info
      - use: linux-server
      - type: host
      - host\_name: berlin2
      - alias: Berlin 2
      - address: 127.0.0.1
    - ⊖ Service: HTTP PcDemo
      - service\_description: HTTP PcDemo
      - check\_command: check\_http!-p 30028
      - use: local-service
      - type: service
      - host\_name: berlin2
    - ⊕ Service: Swap Usage
    - ⊕ Service: HTTP Translationdep
    - ⊕ Service: HTTP Leg
    - ⊕ Service: HTTP Adverbage
    - ⊕ Service: HTTP Harbinger

Opened up collapsible list with the details on the Host "Berlin2" and its "PcDemo" service (our main demo server)

### Filter Configuration Items

Treelevel: Only Top Items

Type:

Status:

Cost Center:

Owner:

Customer:

### Administration Links

- [Add a new Configuration Item](#)
- [Import Nodes](#)

The "Configuration Items" page by default show all available "top" hardware items

<input type="checkbox"/>	Name	IP	Type	Status	Processor	Memory	OS	OS Version
<input type="checkbox"/>	<a href="#">phantom01</a>	172.26.3.2	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">project-open-com</a>	82.165.99.249	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">po-wireless</a>	172.26.0.137	Generic-Router	Active	x			
<input type="checkbox"/>	<a href="#">po-firewall</a>	172.26.0.1	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">po-router</a>	172.26.1.1	Generic-Router	Active	x			
<input type="checkbox"/>	<a href="#">atenea</a>	172.26.0.4	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2</a>	127.0.0.1	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">strato01</a>	85.214.17.81	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">lucas</a>	172.26.2.2	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">storage01</a>	172.26.3.2	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">comunitel-router</a>	87.235.0.10	Generic-Router	Active	x			
<input type="checkbox"/>	<a href="#">storage02</a>	172.26.3.3	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">project-open</a>		Software	Active	x			
<input type="checkbox"/>	<a href="#">tinym</a>	193.1.97.46	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">atencn6000</a>	172.26.2.3	Linux-Server	Active	x			



### Filter Configuration Items

Treelevel: All Items

Type:

Status:

Cost Center:

Owner:

Customer:

### Administration Links

- [Add a new Configuration Item](#)
- [Import Nodes](#)

By selecting "All items" you also get the sub-elements, both hard- and software

<input type="checkbox"/>	Name	IP	Type	Status	Processor	Memory	OS	OS Version
<input type="checkbox"/>	<a href="#">phantom01</a>	172.26.3.2	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">project-open-com</a>	82.165.99.249	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">po-wireless</a>	172.26.0.137	Generic-Router	Active	x			
<input type="checkbox"/>	<a href="#">po-firewall</a>	172.26.0.1	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">po-router</a>	172.26.1.1	Generic-Router	Active	x			
<input type="checkbox"/>	<a href="#">atenea</a>	172.26.0.4	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">dns</a>		Hardware	Active	x			
<input type="checkbox"/>	<a href="#">berlin2</a>	127.0.0.1	Linux-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP PcDemo</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Translationdep</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Adverbage</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Harbinger</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Ecosystemas</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Maxweb</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Opus5</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Bnt</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Argos</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Transdept</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Adquem</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Ebibliotekar</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Isite</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Oztr</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Livetranslation</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP AlfaBeta</a>		HTTP-Server	Active	x			
<input type="checkbox"/>	<a href="#">berlin2 - HTTP Santranslate</a>		HTTP-Server	Active	x			

Here you can see a number of ASP customers hosted on the server "Berlin2"

Parameters - Mozilla Firefox

File Edit View History Bookmarks Tools Help

**EnabledInvoiceSurchargeField** 0  
Enable a "Surcharge" field in invoices and quotes?

**EnabledInvoiceSurchargeFieldP** 0  
Enable a "Surcharge" field in invoices and quotes?

**intranet-mail-import** **Project/Open Mail Integration**

**MailDir** /web/projop/Maildir  
Location of the maildir location that accepts incoming messages

**ScanMails** 20  
How often (in seconds) to scan for new mails

**MMEncodeBin** /usr/bin/mmencode  
Location of mmencode executable.

**SendmailBin** /usr/sbin/sendmail  
Location of sendmail binary on your system. (Set to SMTP to use SMTP server)

**intranet-nagios** **]project-open[ Nagios Integration**

**NagiosConfigurationUnixPath** /usr/local/nagios/etc/nagios.cfg  
Unix path to the main Nagios configuration file. Example: /usr/local/nagios/etc/nagios.cfg.

**intranet-otp** **]project-open[ One Time Passwords**

**AdminNeedsOtpPrivateP** 0  
Used to disable OTP on the private (local) network for the Admin during testing. The Admin needs OTP most urgent

**AdminNeedsOtpPublicP** 1  
Used to disable OTP on the public network (Internet) for the Admin during testing. The Admin needs OTP most urgent

**RedirectPublicConnectionToSSL** 0  
Force the use of SSL (HTTPS) for users connecting from an untrusted location?

**MaxFailedLogins** 3  
Maximum number of failed logins until the OTP account is blocked.

**PrivateNetworks** 10.0.0.0/8, 172.16.0.0/12, 192.168.0.0/16  
A comma separated list of IP addresses that are considered private and trusted. The /16 specifies the number of bits

**OtpSelectionAlgorithm** sequential  
How should the OTPs be selected? Possible values are: sequential (1, 2, ...) or pseudo\_random (23, 45, 4, ...)

**intranet-release-mgmt** **]project-open[ Release Management**

**ReleaseMgmtReleaseItemsCustomColumns**  
A list of DynField custom variables to show in the projects list of Release Items. You can use the associated "\_deref" such as user ids etc. Example: Let's assume a DynField "pl\_area" in "im\_projects", referring to an Area Project Lead. Use "pl\_area\_deref" variable that you can use here. Multiple variables of this type can be specified separated by a space

**ReleaseProjectType** Software Release  
What is the name of the category to indicate a software release project?

**intranet-reporting-indicators** **]project-open[ Reporting Indicators**

**CompanySector**

Find: nagios Next Previous Highlight all Match case

Nagios Configuration:  
Determines where to find  
the Nagios home directory  
on the local computer

Conf Item - Mozilla Firefox

File Edit View History Bookmarks Tools Help

My Account | Change Password | Reset Stuff | Add Stuff | Log Out

**PROJECT**  
**open**

Home Bugs Forum Users Projects Workflow Companies Timesheet Absences Help

### Conf Item

Conf Item	
Name	berlin2
Nr	berlin2-2007-08-11-18-31-26
Code	
ConfItem Version	
Parent	
Type	Personal Computer
Status	Active
Project	
Owner	
Cost Center	
Description	i686/00-00-18 08:51:56
Note	
<input type="button" value="Edit"/>	

Associated Projects	
<input type="button" value="Associate with new project"/>	
<input type="checkbox"/>	<b>Project Name</b>
No Associated Projects.	
Associated Tickets	
<b>Ticket Name</b>	
No Associated Tickets.	
Conf Item Member	
<b>Name</b>	
none	
<input type="button" value="Add member"/>	
<input type="button" value="Delete members"/>	<input type="button" value="Apply"/>

Question: Could you include this in Nagios?

- OCS-Inventory**

### Drives

Letter	Type	Filesystem	Total	Free	Files	Volume
/dev/sda2		reiserfs	33682	5281	/	
//172.26.2.5/projop	smbfs		111650	11672		/mnt/berlin_projop
//172.26.2.5/public	smbfs		111650	11672		/mnt/berlin_public
//172.26.2.5/web	smbfs		40961	20768		/mnt/berlin_web

### Monitors

Manufacturer	Caption	Description	Type	Serial
No data.				

### Input Devices

### Input Devices

Type	Manufacturer	Caption	Description	Interface	Pointtype
No data.					

### Memory

Caption	Description	Capacity	Purpose	Type	Speed	Num Slots
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0
	DIMM	1024		DDR		0

Continuation from OCS Inventory integration

### Modems

Name	Model	Description	Type
No data.			

### Printers

Name	Driver	Port
No data.		

### Sound Devices

Manufacturer	Name	Description
No data.		

### Storage Devices

Manufacturer	Name	Model	Description	Type	Disk Size
IBM		SERVERAID	SCSI	disk	35548
??		MATSHITADVD-ROM SR-8177	IDE	removable	0

### Video Devices

Name	Chipset	Memory	Resolution
ATI Technologies Inc Radeon RV100 QY [Radeon 7000/VE]	VGA compatible controller		

### BIOS

S-Manufacturer	S-Model	SSN	Type	B-Manufacturer	B-Version
IBM	eserver xSeries 445 -[887022X]-KKMML7T			IBM	-[REE145AUS-1.11]-0

### Slots

Name	Description	Designation	Purpose	Status
Node 1 133MHz PCI-X ActivePCI Card Slot 6	64-bit PCI-X	6		In Use
Node 1 133MHz PCI-X ActivePCI Card Slot 5	64-bit PCI-X	5		In Use
Node 1 100MHz PCI-X ActivePCI Card Slot 4	64-bit PCI-X	4		Available
Node 1 100MHz PCI-X ActivePCI Card Slot 3	64-bit PCI-X	3		Available
Node 1 66MHz PCI-X ActivePCI Card Slot 2	64-bit PCI-X	2		Available
Node 1 66MHz PCI-X ActivePCI Card Slot 1	64-bit PCI-X	1		Available

### Ports

Type	Name	Caption	Description
Other	Not Specified	Proprietary	None
Other	Not Specified	Proprietary	None
Other	Not Specified	Proprietary	None
Other	Not Specified	Proprietary	None
Mouse Port	Not Specified	Mini DIN	None
Keyboard Port	Not Specified	Mini DIN	None
Other	Not Specified	RJ-45	None
USB	Not Specified	Access Bus (USB)	None
USB	Not Specified	Access Bus (USB)	None
USB	Not Specified	Access Bus (USB)	None

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USB	Not Specified	Access Bus (USB)	None
Video Port	Not Specified	DB-15 female	None
Other	Not Specified	Proprietary	None
Other	Diskette/CDROM	None	Other
SCSI Wide	Not Specified	68 Pin Dual Inline	None
SCSI Wide	Internal SCSI (channel B)	None	68 Pin Dual Inl
Network Port	Not Specified	RJ-45	None
Network Port	Not Specified	RJ-45	None
Serial Port 16550A Compatible	Not Specified	DB-9 male	None
Network Port	Not Specified	RJ-45	None
Other	Not Specified	RJ-45	None

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### Controllers

Manufacturer	Name	Version	Folder	Comments	Filename	Filesize	Source
IBM Winnipeg PCI-X Host Bridge	Host bridge						
ATI Technologies Inc Radeon RV100 QY [Radeon 7000/VE]	VGA compatible controller						
VIA Technologies, Inc. VT82C686 [Apollo Super South]	ISA bridge						
VIA Technologies, Inc. VT82C586A/B/VT82C686/A/B/VT823x/A/C PIPC Bus Master IDE	IDE interface						
VIA Technologies, Inc. VT82xxxxx UHCI USB 1.1 Controller	USB Controller						
VIA Technologies, Inc. VT82xxxxx UHCI USB 1.1 Controller	USB Controller						
VIA Technologies, Inc. VT82C686 [Apollo Super ACPI]	SMBus	rev 40					
IBM Winnipeg PCI-X Host Bridge	Host bridge	rev 05					
Broadcom Corporation NetXtreme BCM5704 Gigabit Ethernet	Ethernet controller	rev 02					
Broadcom Corporation NetXtreme BCM5704 Gigabit Ethernet	Ethernet controller	rev 02					
IBM Winnipeg PCI-X Host Bridge	Host bridge	rev 05					
IBM Winnipeg PCI-X Host Bridge	Host bridge	rev 05					
IBM PCI-X to PCI-X Bridge	PCI bridge	rev 02					
Adaptec ServerRAID Controller	RAID bus controller	rev 02					
IBM Winnipeg PCI-X Host Bridge	Host bridge	rev 05					
Silicon Image, Inc. (formerly CMD Technology Inc) SiI 3124 PCI-X Serial ATA Controller	RAID bus controller	rev 02					
IBM Winnipeg PCI-X Host Bridge	Host bridge	rev 05					

### Software

Publisher	Name	Version	Folder	Comments	Filename	Filesize	Source
	yast2-schema	2.10.1-3		AutoYaST Schema			
	filesystem	9.3-2		Basic Directory Layout			
	terminfo	5.4-68		A terminal descriptions database			
	evms	1.05.8-4		YML Based Toolkit			

File	Edit	View	History	Bookmarks	Tools	Help
terminro			5.4-68			A terminal descriptions database
expat			1.95.8-4			XML Parser Toolkit
cabextract			1.1-4			A Program to Extract Microsoft Cab
utempter			0.5.5-3			A privileged helper for utmp and wtr
ethtool			3-3			Examine and Tune Ethernet-Based N
popt			1.7-207			A C library for parsing comm
ash			1.6.1-2			The Ash shell
lukemftp			1.5-581			perl
glib2			2.6.3-4			
tcpd			7.6-715			A security wrapper for TCP daemon
libacl			2.2.30-3			A dynamic library for accessing POS
libgcj			3.3.5-5			Java Runtime Library for gcc
pciutils			2.1.11-201			PCI-utilities for Kernel version 2.2 a
cpp			3.3.5-5			The GCC Preprocessor
pam			0.78-8			A security tool that provides authent
grep			2.5.1a-4			GNU grep
libgcrypt			1.2.1-3			The GNU Crypto Library
libxml2			2.6.17-4			A library to manipulate XML files
tcsh			6.12.00-455			The C SHell
devs			9.3-2			Device files
isapnp			1.26-492			An ISA plug and play configuration u
procinfo			18-43			Display System Status Gathered from /proc
acpid			1.0.3-8			Executes Actions at ACPI Events
scsi			1.7_2.35_1.12_0.14-4			SCSI Tools (Text Mode)
yast2-mail-aliases			2.11.4-3			YaST2 - Mail Configuration (Aliases)
sitar			0.9.0-5			System InformaTION at Runtime
scpm			1.1-6			System Configuration Profile Management
convmv			1.08-3			Converts File Names from one Encoding to Another
perl-Digest-SHA1			2.10-3			A Perl Interface to the SHA-1 Algorithm
openslp			1.2.0-3			An OpenSLP Implementation of Service Location Protocol V2
hotplug			0.50-19			Automatic configuration of hotplugged devices
pam-modules			9.3-4			Additional PAM Modules
dmraid			0.99_1.0.0rc5CDH1-4			A Device-Mapper Software RAID Support Tool
eject			2.0.13-190			A program to eject media under software control
finger			1.2-42			Show user information (client)
powersave			0.9.25-3			General Powermanagement daemon supporting APM and ACPI and CPU frequency scaling
postfix			2.2.1-3			A fast, secure, and flexible mailer
mailx			11.4-3			A MIME-capable Implementation of the mailx Command
yast2-ncurses			2.11.5-3			YaST2 - Character Based User Interface

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