

Enterprise Monitoring mit Icinga

01.03.2012 | GUUG

 **NETWAYS**®

Bernd Erk
www.netways.de

KURZVORSTELLUNG

DAS ICINGA PROJEKT

ARCHITEKTUR

ICINGA VS. NAGIOS

ENTERPRISE FEATURES

ERWEITERUNGEN FÜR ICINGA

DEMO

FRAGEN UND ANTWORTEN





KURZVORSTELLUNG

NETWAYS Expertise

OPEN SOURCE SYSTEMS MANAGEMENT

- Monitoring & Reporting
- Configuration Management
- Service Management
- Knowledge Management
- Backup & Recovery

OPEN SOURCE DATA CENTER

- High Availability & Clustering
- Cloud Computing
- Load Balancing
- Virtualization
- Database Management

MANAGED SERVICES

MONITORING HARDWARE

KONFERENZEN

Community Aktiviäten



www.netways.org

- NETWAYS Addons
- NETWAYS Plugins



www.icinga.org

- Development
- Hosting



www.monitoringexchange.org

- Repository of Icinga / Nagios addons and plugins
- ~2000 projects

NETWAYS Konferenzen



Open Source Monitoring Conference 17 – 18 Oktober 2012

- 260 Teilnehmer (2011)
- Icinga / Nagios case studies & best practices
- Latest monitoring technologies & addons



Open Source Data Center Conference 25 – 26 April 2012

- 100 Teilnehmer (2011)
- "Agile Infrastructures"
 - ▶ Devops & methods
 - ▶ Databases
 - ▶ Scalability & infrastructure

NETWAYS In-house Development





DAS ICINGA PROJEKT

Icinga Team

NETWAYS®



Projekt Struktur und Kommunikation



feedback.icinga.org

www.icinga.org

dev.icinga.org

docs.icinga.org
wiki.icinga.org

demo.icinga.org

Mailing-Lists

Icinga-Core

Icinga-Web

Icinga-Doc

Icinga-Reporting

translate.
icinga.org

Tools and Platform

Icinga Quality, Testing and Community Support

website and open source ticketing system

Icinga-
Core

*C based source
MySQL
PostgreSQL
Oracle*

Icinga-
Web

*based on PHP
using Sencha,
Agavi MVC*

Icinga-
Doc

*based on
Docbook in
english and
german*

Icinga-
Reports

*based on Jasper
- Reporting*

GIT

GIT

GIT

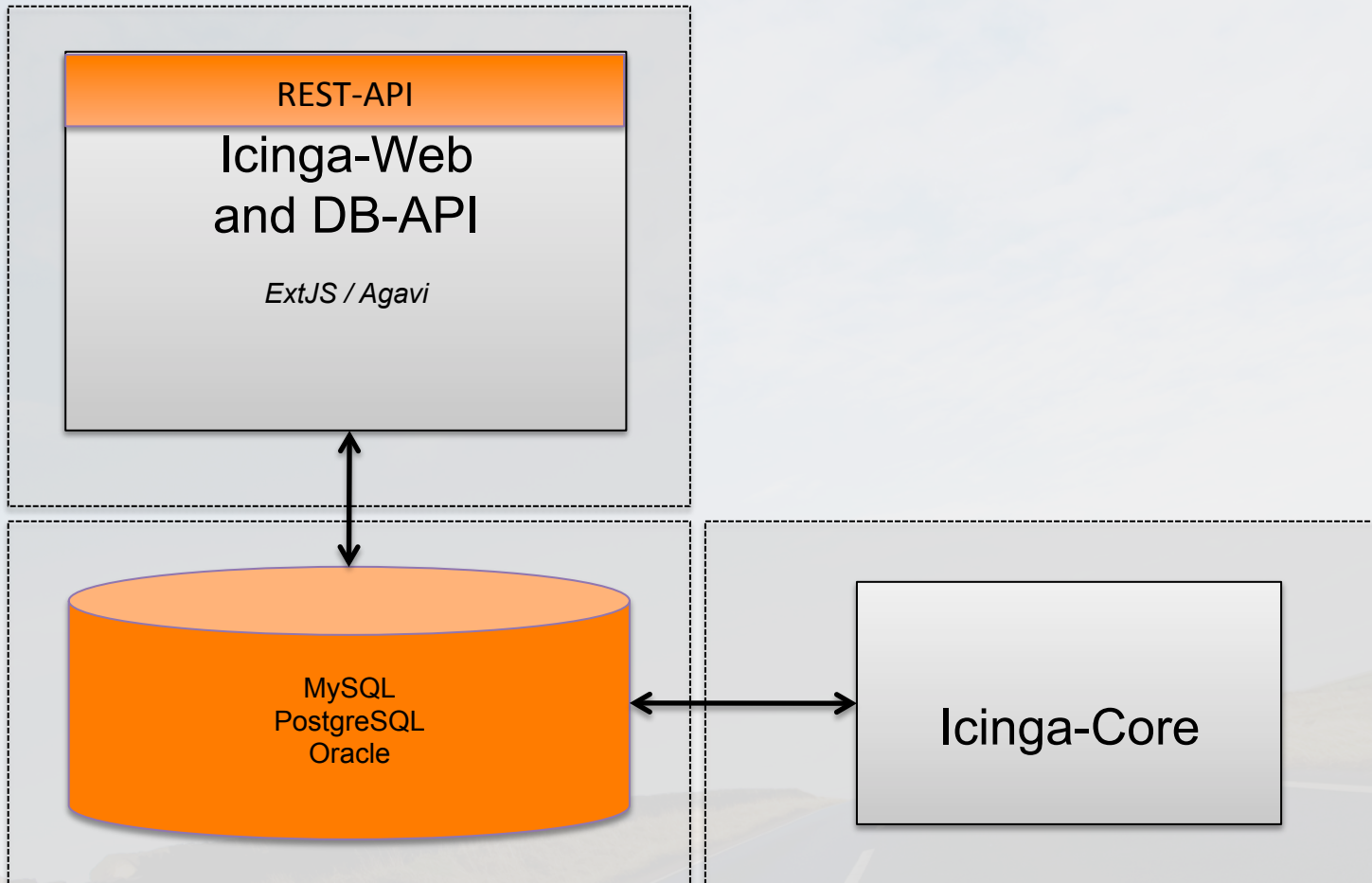
GIT

The logo for NETWAYS, featuring the word "NETWAYS" in a bold, white, sans-serif font. To the left of the text is a vertical orange bar with a white triangle pointing to the right at the top. A registered trademark symbol (®) is located to the right of the text.

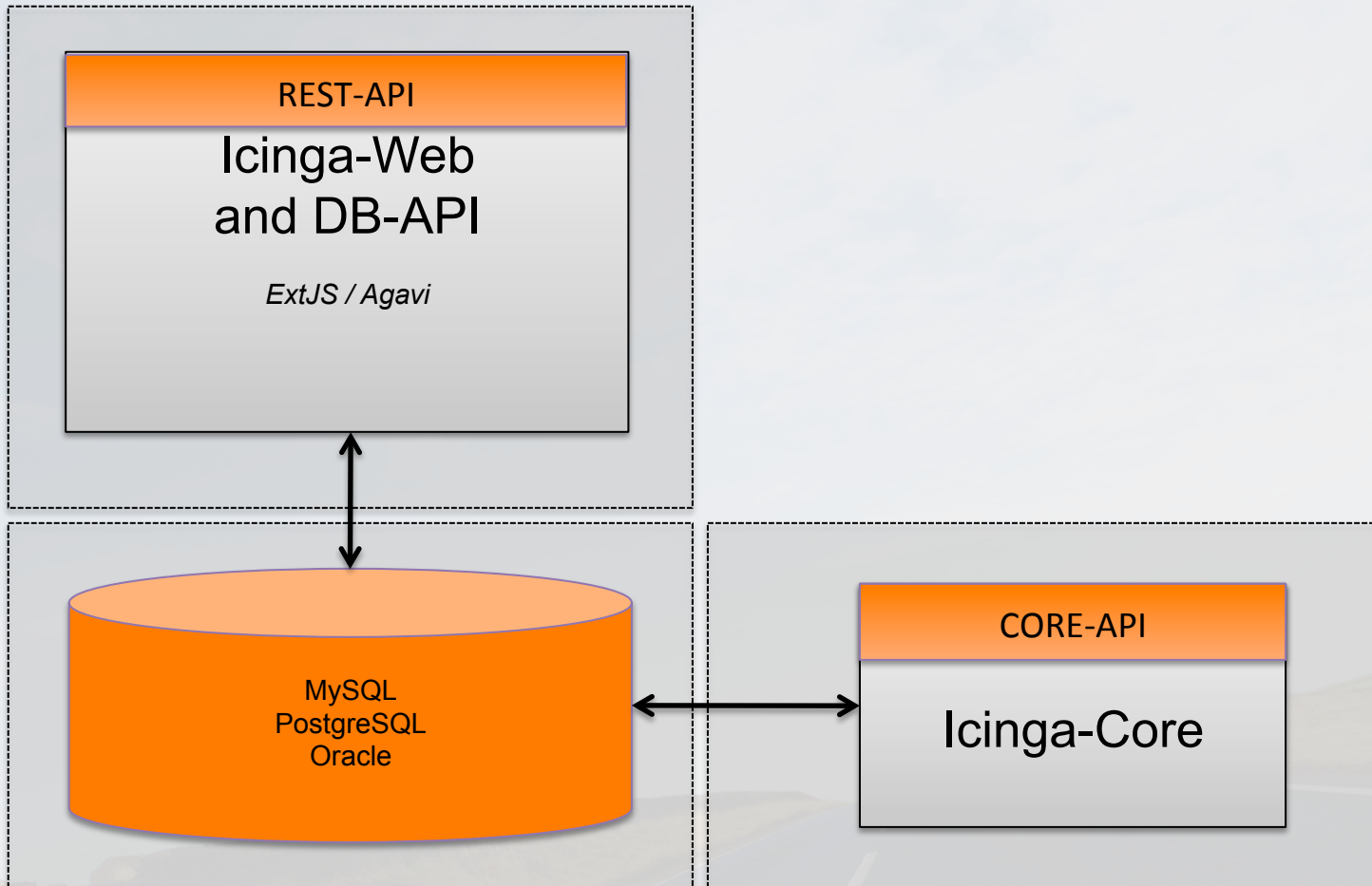
NETWAYS®

ICINGA - ARCHITEKTUR

Aktuelle Architektur



Zukünftige Architektur





ICINGA VS. NAGIOS

Icinga vs. Nagios

- Optimierterer Datenbanksupport für MySQL, PostgreSQL und Oracle
- Modernes, mandantenfähiges Webinterface
- Volle Modulintegration und einheitliches Benutzermodell
- SLA Reporting Lösung auf Basis von Jasper
- Dezentralisierte Projektstruktur
- Dualstack IPv4 und IPv6 Support
- Roadmap



ENTERPRISE FEATURES

Enterprise Webinterface I

- Basiert auf modernen und flexiblen Frameworks
 - ▶ MVC Framework Agavi und Javascript Framework ExtJS
- Transparente Integration von Erweiterungen
 - ▶ Menüintegration
 - ▶ Berechtigungsmodell
- Unabhängige Benutzer- und Gruppenverwaltung
 - ▶ Kontakte und Kontaktgruppen
 - ▶ Host- und Servicegruppen
 - ▶ Customvariablen

Enterprise Webinterface II

- Leistungsfähige Suche über alle Objekttypen
- Flexibles Filter- und Gruppierungsmodell
- Schneller Zugriff in großen Umgebungen
- Individuelle Konfiguration der Benutzerobfläche
 - ▶ Erstellung von Dashboard
 - ▶ Konfiguration und Speicherung eigener Sichten (Cronks)
- Mehrsprachigkeit

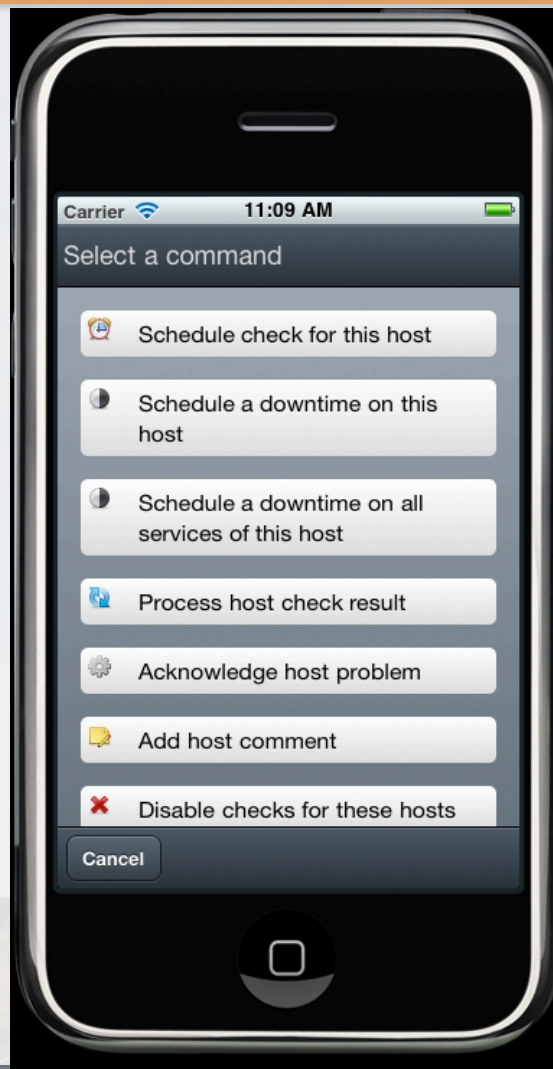
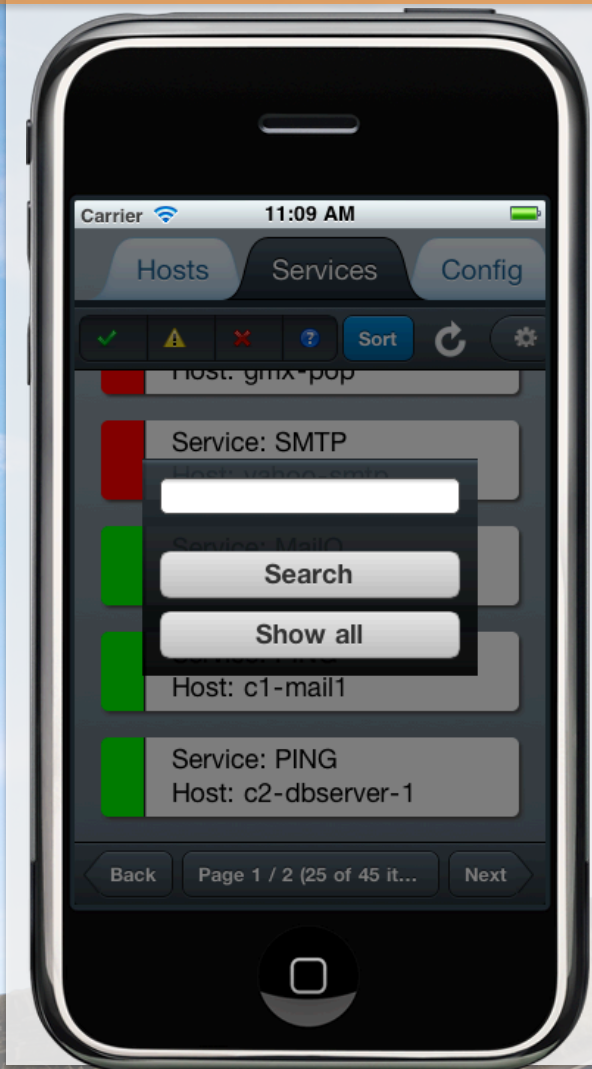
HTTP Interface

- Abfrage nahezu aller Icinga-Daten mit Hilfe eines REST-Like Interfaces auf Basis von Icinga-Web
- Einheitliches Berechtigungskonzept auf Basis von Authkeys
- Unterstützung verschachtelter UND / ODER Bedingungen
- Support von Order, Group by und Limit
- Datenexport via XML oder JSON
- Kommandoverarbeitung mit Hilfe von PUT

SLA-Reporting

- SLA Reports basierend auf Jasper Reports
- Multiformat Berichte als PDF, Word, Excel und CSV uvam.
- Automatische Reportversendung
- Reportpackage mit über 20 Basisberichten
- Vollständige Integration in Icinga Web

Mobiles Interface





ERWEITERUNGEN FÜR ICINGA

Business Process Integration



Icinga - Overview

icinga.demo.netways.de/icinga-web/web/portal

Monitoring LConf Heatmap Admin Help

Erk, Bernd

28 UP 2 DOWN 0 UNREACHABLE 30 IN TOTAL
210 OK 1 WARNING 3 CRITICAL 0 UNKNOWN 214 IN TOTAL

30 / 0 0.03 / 0.17 / 4.01 0 / 0.14 / 0.26
214 / 0 0.00 / 0.15 / 4.00 0.00 / 0.13 / 0.42

Overview

Refresh Settings Filter Icinga-bp Show groups Don't show filtered subprocesses

Name	Hardstate	Host	Service
Exchange	OK		
c1exchange1 : net-ping	OK	c1exchange1	net-ping
c1exchange2 : net-ping	CRITICAL	c1exchange2	net-ping
SQL Cluster 2	OK		
c2-mysql1 : net-ping	OK	c2-mysql1	net-ping
c2-mysql2 : net-ping	OK	c2-mysql2	net-ping
SQL Servers	OK		
SQL Cluster 1	OK		
c1-mysql1 : net-ping	OK	c1-mysql1	net-ping
c1-mysql2 : net-ping	OK	c1-mysql2	net-ping
SQL Cluster 2	OK		
c2-mysql1 : net-ping	OK	c2-mysql1	net-ping
c2-mysql2 : net-ping	OK	c2-mysql2	net-ping

Events for c1exchange2 : net-ping

Page 1 of 1 | Displaying 1 - 4 of 4

Host	Service	Status	Timestamp	A...	Output
Timestamp: 2011-02-01 12:19:24 (1 Item)					
c1ex...	net-ping	CRITICAL	2011-0...	3	PING ...
Timestamp: 2011-02-01 12:17:24 (1 Item)					
c1ex...	net-ping	CRITICAL	2011-0...	2	PING ...
Timestamp: 2011-02-01 12:15:24 (1 Item)					
c1ex...	net-ping	CRITICAL	2011-0...	1	PING ...
Timestamp: 2010-11-10 17:37:06 (1 Item)					
c1ex...	net-ping	CRITICAL	2010-1...	1	PING ...

PNP - Integration



Icinga - ServiceStatus
icinga.demo.netways.de/icinga-web/

Monitoring LConf Heatmap Admin Help

28 UP 2 DOWN 0 UNREACHABLE 30 IN TOTAL
210 OK 1 WARNING 3 CRITICAL 0 UNKNOWN 214 IN TOTAL

30 / 0
0.03 / 0.17 / 4.01
0 / 0.11 / 0.25

214 / 0
0.00 / 0.15 / 4.00
0.00 / 0.13 / 0.42

Reload Categories Settings

Data (12)

- Downtimes
- HostHistory
- HostStatus
- Hostgroups
- LogView
- Notifications
- Open problems
- ServiceHistory
- ServiceStatus
- Servicegroups
- Status Map
- services ok

Tactical Overview (3)
Business Process (2)
Misc (6)

Refresh Settings Filter Commands

Service	Status	Last check	Duration	Info	Attempt	Output	Perfdata
Host: c1-dns1 (10 Items)							
lx-load	OK	2011-02-27 20:38:29	4w 6d 8h 24m 44s		1 / 3	OK - load average: 1....	
net-ping	OK	2011-02-27 20:35:44	4w 6d 8h 25m 54s		1 / 3	PING OK - Packet los...	
lx-cpu	OK	2011-02-27 20:34:27	4w 6d 8h 27m 11s		1 / 3		
lx-swap	OK	2011-02-27 20:33:02	4w 6d 8h 18m 36s		1 / 3		
lx-procs all	OK	2011-02-27 20:33:11	4w 6d 8h 21m 3s		1 / 3		
lx-logins	OK	2011-02-27 20:30:42	4w 6d 8h 23m 30s		1 / 3	USERS OK - 2 users ...	
lx-disk	OK	2011-02-27 20:35:41	4w 6d 8h 25m 58s		1 / 3	DISK OK - free space...	
net-dns	OK	2011-02-27 20:34:30	4w 6d 8h 27m 8s		1 / 3	DNS OK: 0.3084 seco...	
lx-procs zombies	OK	2011-02-27 20:31:56	4w 6d 8h 19m 49s		1 / 3	PROCS OK: 0 proces...	
lx-memory	OK	2011-02-27 20:32:33	4w 6d 8h 22m 17s		1 / 3	Memory OK - 95.28% ...	
Host: c1-dns2 (10 Items)							
net-dns	OK	2011-02-27 20:35:30	4w 6d 8h 24m 37s		1 / 3	DNS OK: 0.2552 seco...	
lx-procs zombies	OK	2011-02-27 20:38:26	4w 6d 8h 27m 5s		1 / 3	PROCS OK: 0 proces...	
lx-memory	OK	2011-02-27 20:31:56	4w 6d 8h 19m 46s		1 / 3	Memory OK - 96.41% ...	

Image for c1-dns1

Page 1 of 8

Displaying topics 1 - 30 of 214

PNP - Integration



Service details c1-dns1 -> net-ping

Host: c1-dns1 **Service:** net-ping

4 Hours 27.02.11 15:40 - 27.02.11 19:40

Datasource: rta

c1-dns1 / net-ping

5.0
4.0
3.0
2.0
1.0
0.0

17:00 17:20 17:40 18:00 18:20 18:40 19:00 19:20 19:40 20:00 20:20 20:40

■ rta 4.2527 Last 4.6550 Max 2.7752 Average

Default Template
Command lconf-net-ping

Datasource: pl

c1-dns1 / net-ping

5.0
4.0
3.0
2.0
1.0
0.0

17:00 17:20 17:40 18:00 18:20 18:40 19:00 19:20 19:40 20:00 20:20 20:40

Search

Actions

My basket
Basket is empty

Status
Host: [c1-dns1](#)
Service: [net-ping](#)
Last Check: 27.02.11 19:35

Time ranges

- 4 Hours
- 25 Hours
- One Week
- One Month
- One Year

Services

- Host Perfdata
- lx-cpu
- lx-disk
- lx-load

LConf – LDAP basierte Konfiguration

- Icinga/Nagios Konfiguration basierend auf LDAP
- Flexible Hierarchien und Zugriffsmodelle
- Support für Benutzer- und Gruppenberechtigungen
- Bearbeitung über nativen LDAP-Client
- Support für verteilte Umgebungen und Synchronisation
- Integriertes Icinga-Web Modul

LConf – LDAP basierte Konfiguration

The screenshot displays the LConf web interface in a browser window. The address bar shows the URL `icinga.demo.netways.de/icinga-web/lconf/`. The interface is divided into several panels:

- DIT (Directory Information Tree):** A tree view on the left showing the LDAP hierarchy. The selected entry is `dc=demo,dc=netways,dc=de`, with sub-entries like `LConf(4)`, `1_INBOX(3)`, and `Examples(9)`.
- Properties:** A table showing the properties of the selected entry. The table has two columns: **Property** and **Value**.
- Actions:** A panel on the right showing connections and filters.

Property	Value
cn	example-command
lconfcommandline	\$USER1\$/check_users -w 50 -c 100
objectclass	lconfCommand
dn	cn=example-command,ou=Examples,ou=LConf,dc=demo,dc=netways,dc=de

At the bottom of the interface, there are buttons for **Add property**, **Remove properties**, and **Save Changes**. A search bar labeled "Search keyword" is also present.

EventDB – Verarbeitung von Traps und Logs

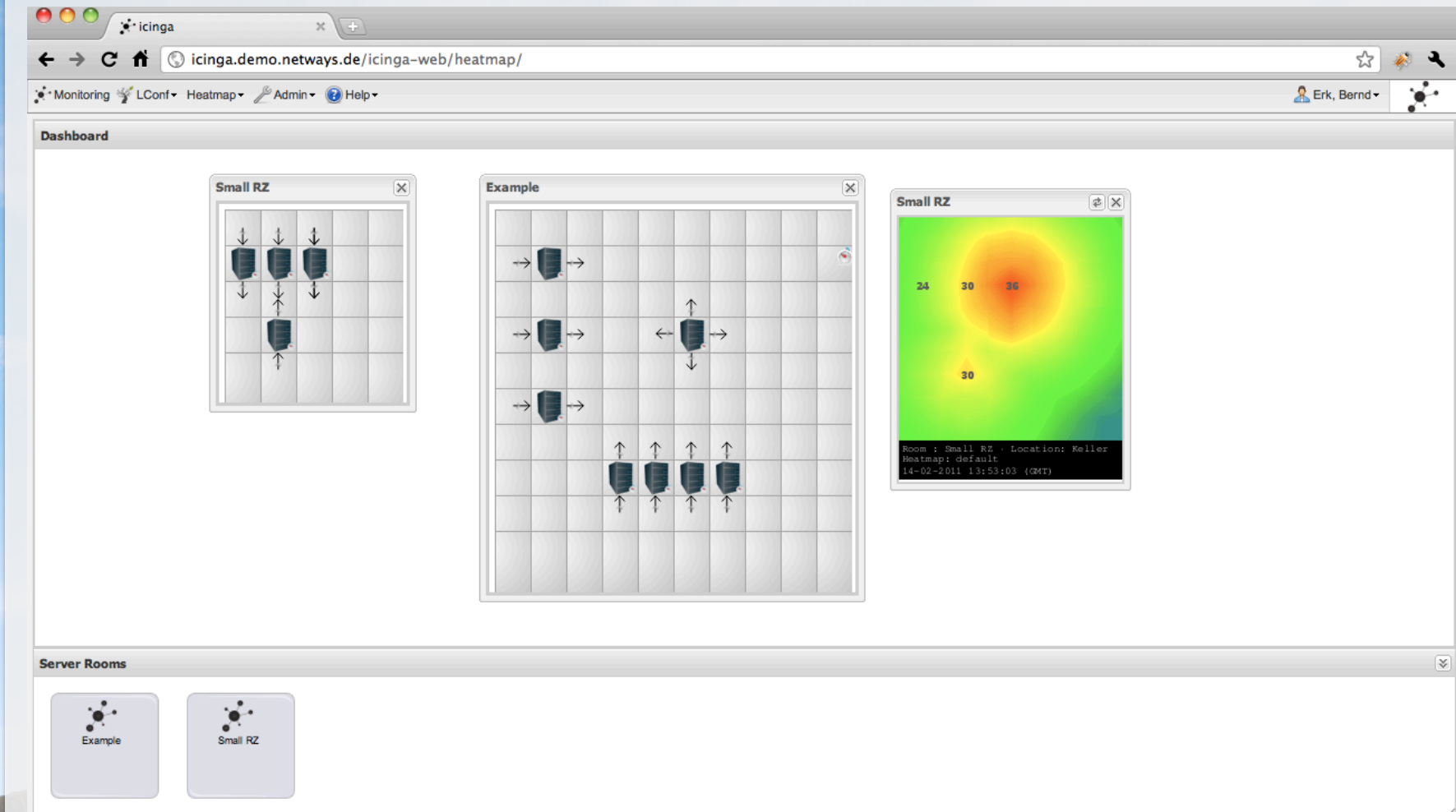
- Verarbeitung passiver Events und Messages
 - ▶ Syslog Anbindung über Sylog-NG und Rsyslog
 - ▶ SNMP-Trap Verarbeitung unter Verwendung SNMPTT
 - ▶ Email-Schnittstelle
- Natives Webinterface für Icinga und Nagios
- Integriertes Webinterface für Icinga-Web
- Verwaltung komplexer Filter und Suchregeln
- Plugin zur Überwachung von Events und Messages

EventDB – Verarbeitung von Traps und Logs

The screenshot displays the Icinga EventDB web interface. At the top, there are navigation links for Monitoring, LConf, Heatmap, Admin, and Help. A user profile for 'Erk, Bernd' is visible. The main dashboard shows a summary of system status: 28 UP, 2 DOWN, 0 UNREACHABLE, 30 IN TOTAL, 210 OK, 1 WARNING, 3 CRITICAL, 0 UNKNOWN, 214 IN TOTAL. Below this, there are several tabs: HostHistory, EventDB (selected), ServiceStatus, TO Charts, and TO CustomVariabl. The EventDB tab shows a list of events with columns: Ack, Type, Host, Priority, Message, Program, Facility, and Created. The events are sorted by priority, with CRITICAL and EMERGENCY events at the top. A filter bar at the top of the event list shows 'E A C Er W N I D' and a search field for 'Host name'. The bottom of the interface shows 'Page 1 of 440' and 'Displaying events 1 - 25 of 11000'.

Ack	Type	Host	Priority	Message	Program	Facility	Created
	Syslog	storage-int	NOTICE	Random test Event,50243	test	local use 2	2011-02-28 15:50:43
	Mail	mail-int	EMERGENCY	Random event :131353	cms	mail sys...	2011-02-28 15:50:43
	Syslog	workstation-test	INFORMATION	A testevent, 73373	access...	FTP da...	2011-02-28 15:50:43
	Syslog	workstation-ext	CRITICAL	Random test Event,11876	ping	security...	2011-02-28 15:50:43
	Mail	workstation-test	DEBUG	Random event :65156	cms	log alert	2011-02-28 15:50:43
	SMNP	storage-int	WARNING	Random test Event,28345	access...	line print...	2011-02-28 15:50:43
	SMNP	workstation-test	ERROR	Random event :457498	ping	local use 0	2011-02-28 15:50:43
	Syslog	storage-bak	CRITICAL	Random test Event,30434	mail	system ...	2011-02-28 15:50:43
	SMNP	share-test	DEBUG	Random test Event,58624	cms	local use 0	2011-02-28 15:50:43
	Syslog	workstation-ext	ALERT	Random event :745858	mail	security...	2011-02-28 15:50:43
	SMNP	oracle-bak	INFORMATION	Random test Event,43532	ping	local use 5	2011-02-28 15:50:43
	Mail	cluster-int	NOTICE	Random test Event,23988	ping	FTP da...	2011-02-28 15:50:43
	SMNP	www-ext	NOTICE	A testevent, 234915	ping	kernel ...	2011-02-28 15:50:43
	SMNP	firewall-test	CRITICAL	Random test Event,8571	access...	kernel ...	2011-02-28 15:50:43
	SMNP	firewall-bak	CRITICAL	Random test Event,12166	mail	messag...	2011-02-28 15:50:43
	Mail	workstation-int	CRITICAL	Random event :116834	mail	local use 6	2011-02-28 15:50:43
	Syslog	firewall-int	EMERGENCY	Random test Event,33368	access...	network...	2011-02-28 15:50:43
	Syslog	oracle-ext	WARNING	A testevent, 389016	load	clock d...	2011-02-28 15:50:43

Heatmap – Temperaturvisualisierung



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NETWAYS®

The word "DEMO" in a large, bold, white, sans-serif font, centered within a solid orange horizontal bar that spans the width of the image.

DEMO

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ROADMAP



Roadmap

- Releases für 2012
 - ▶ 1.7 – 15.05.2012
 - ▶ 1.8 – 04.07.2012





FRAGEN UND ANTWORTEN



Question & Answer

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