

Icinga – Open Source Monitoring



Icinga Development Team

@ Nagios(Icinga ☺) Workshop 2010

31.05.2010 - Nuremberg



Agenda

- **The Icinga Project**
- **Project Structure**
- **Tools and Plattform**
- **Icinga Development Team**
- **History**
- **Project Status Update**
- **Live-Demo**
- **Roadmap**
- **Questions & Answers**

The Project Structure

- Biweekly Mumble session
- Team Mailinglist for communication
- Ticketing und project-management (dev.icinga.org)

Icinga Quality, Testing and Community Support

Icinga-API

Icinga-
Core

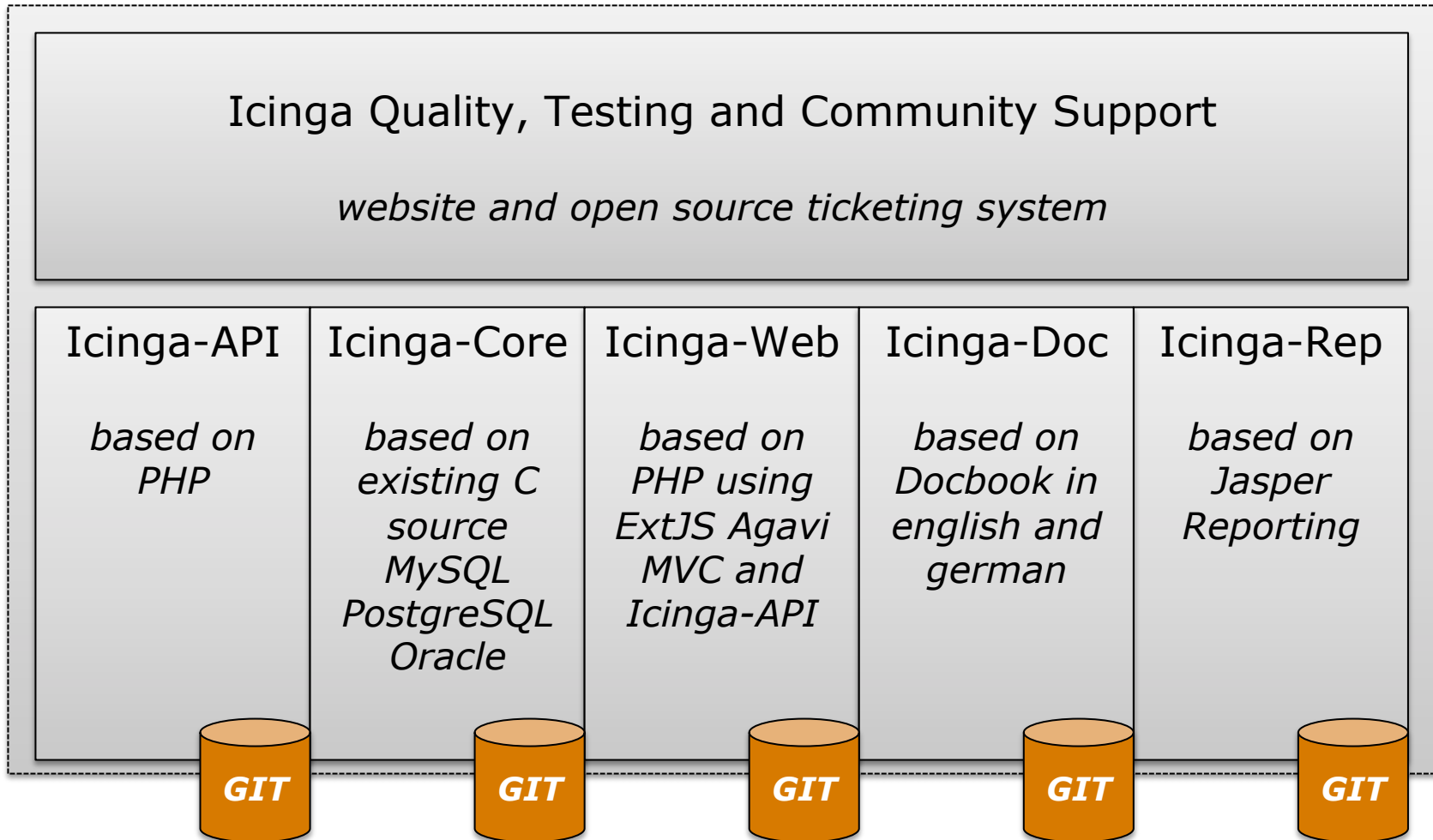
Icinga-
Web

Icinga-
Docu

Icinga-
Report



Tools and Platform





The Icinga Development Team

- **Core Team**

- Michael Friedrich
- Hiren Patel
- Christoph Maser
- Alexander Wirth
- Massimo Forni

- **API Team**

- Jannis Mosshammer
- Marius Hein

- **Web Team**

- Marius Hein
- Jannis Mosshammer
- Michael Lübben

- **Docu Team**

- Lara Berdelmann
- Wolfgang Nieder

- **Quality and Testing**

- Matthias Flacke
- many others

- **Organisation**

- Bernd Erk

- **Marketing and Support**

- Karolina Hein
- Scott Evans
- Amanda Mailer



Annual History

- Release of 8 Icinga Versions (currently 1.0.1 core)
- near to 500 downloads a week on sourceforge
- near to 3.000 downloads of icinga-web on sourceforge
- near to 13.000 downloads of icinga-core on sourceforge
- near to 850 followers on twitter
- passed Nagios runtime performance and stability
- multilanguage support for webinterface
- popular webcasts on YouTube



Project Status Update - Doc

- create various formats based on a single technical base
- layout is independent from content
- generate various formats like HTML, XHTML, PDF, PostScript, RTF, MANPAGES using XSLT, XSL-FO
- use different stylesheets
- modularity using includes
- two languages (en, de) available now on docs.icinga.org and more to come (es)
- PDF and MANPAGES will be available soon



Project Status Update – Core

- Applied a huge set of patches from mailinglist
- Applied service escalation patch
- Maintaining Debian, RedHat and SLES Packages
- Extended IDOUTILS Housekeeping in external thread
- 30% - 35% Performance increase using IDO2DB compared to NDO2DB
- Added stable support for more RDBMs
 - MySQL
 - PostgreSQL
 - Oracle
- checkout the changelog for more information

Project Status Update – docs.icinga.org



Open Source Monitoring

Home Register Community Dev Docs

ICINGA

Open Source Monitoring

Icinga Documentation

Welcome to Icinga-Docs. Please select your preferred language on the right.

Built on proven technologies and concepts as well as progressive frameworks and standards, Icinga is a product of the community - their ideas, needs and combined passion for innovation.

Additional Information

Visit our website: [Icinga Website](#)

Visit our new alpha-demo: [Icinga 0.9.1 Beta Web](#)

Visit our online-demo: [Icinga 1.0.1 Demo-System](#)

Download actual version: [Icinga @ Sourceforge](#)

Available Documentation

- **Latest Icinga documentation**
 - [English - Online](#)
 - [German - Online](#)
- **1.0.1 Stable Icinga documentation**
 - [English - Online](#)
 - [German - Online](#)
- **1.0 Stable Icinga documentation**
 - [English - Online](#)
 - [German - Online](#)
- **1.0 RC Icinga documentation**
 - [English - Online](#)
 - [German - Online](#)
- **0.8.4 Icinga documentation**
 - [English - Online](#)
- **0.8.3 Icinga documentation**
 - [English - Online](#)
- **0.8.2 Icinga documentation**
 - [English - Online](#)
- **0.8.1 Icinga documentation**
 - [English - Online](#)

Project Status Update – API

- no dependencies to other libraries or frameworks
- opportunity to be free from complex data schemas
- available interfaces
 - output: database (PHP-PDO)
 - input: pipe, ssh
- support multiple satellites

Project Status Update – API Example I – Connect Icinga

```
$apiFile = 'icinga-api/IcingaApi.php';  
$idoConfig = array (  
    'type'           => 'mysql',  
    'host'          => 'database_master',  
    'database'      => 'icinga_db',  
    'user'          => 'icinga_user',  
    'password'      => 'very_secret',  
    'table_prefix'  => 'icinga_',  
);
```



Project Status Update – API Example II – Search Data

```
require_once($apiFile);

$api = IcingaApi::getConnection(IcingaApi::CONNECTION_IDO, $idoConfig);

$apiRes = $api->createSearch()
    ->setSearchTarget(IcingaApi::TARGET_SERVICE)
    ->setResultColumns(array(
        'SERVICE_NAME',
        'SERVICE_OUTPUT',
        'SERVICE_PERFDATA',
        'SERVICE_CURRENT_STATE'
    ))
    ->setSearchFilter(array(
        array('CONTACTGROUP_NAME', '%', IcingaApi::MATCH_LIKE),
        array('HOST_NAME', 'localhost')
    ))
    ->setSearchGroup('SERVICE_NAME')
    ->setSearchOrder(array('SERVICE_NAME'))
    ->fetch();
```



Project Status Update – API Example III – Send Data

```
$config = array (
    'ssh_bin'           => '/usr/bin/ssh',
    'ssh_user'         => 'icinga',
    'ssh_host'         => 'monitoring_server',
    'ssh_port'         => 22,
    'ssh_timeout'      => 20,
    'ssh_pipe'         => '/usr/local/icinga/var/rw/icinga.cmd'
);

$cmd = IcingaApi::getCommandObject();

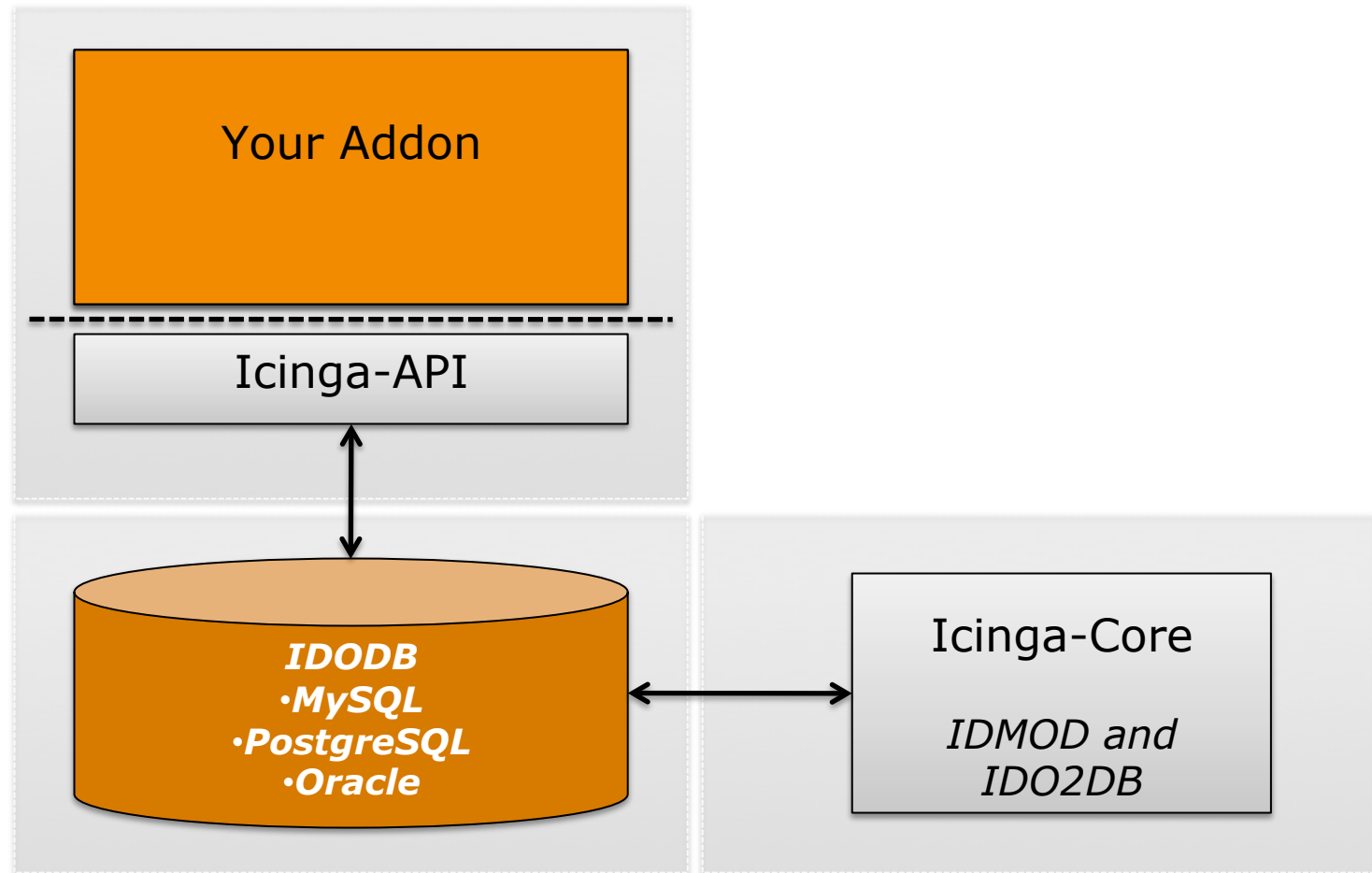
$cmd->setCommand('SCHEDULE_SVC_CHECK')
    ->setTarget(IcingaApi::COMMAND_INSTANCE, '1')
    ->setTarget(IcingaApi::COMMAND_HOST, 'linux-www-20')
    ->setTarget(IcingaApi::COMMAND_SERVICE, 'apache-procs')
    ->setTarget(IcingaApi::COMMAND_CHECKTIME, '1251449262');

$cmdDisp = IcingaApi::getCommandDispatcher();

$cmdDisp->setInterface(IcingaApi::COMMAND_SSH, $config)
    ->setCommand(array($cmd))
    ->send();
```



Project Status Update – Web architecture





Project Status Update – Web Features

- persistent user settings
- multiple authentication adapters
- easily extendable using custom cronks and modules
- create custom views on all monitoring items
- state of the art web 2.0 interface
- multilanguage support
- frontend layer for individual cronks
- flexible module loader based on phing available
- Cronk and Module skeletons available for download

translate.icinga.org



The screenshot shows the Icinga Translate web application in a browser window. The browser's address bar displays the URL <https://translate.icinga.org/pootle/>. The page header includes the Icinga logo and the text "Icinga Translate". A navigation menu contains links for Home, Help, Admin, My Account, and Log Out. The main content area features a heading "This is the webbased translation system for Icinga" and a sub-heading "You can also visit the official development system and our website development system." Below this, a message states "You need to login or register in order to save your translations." The page is divided into two columns. The left column, titled "Languages", contains a table with columns for Language, Overall Completion, and Last Activity. The right column, titled "Projects", contains a table with columns for Project, Overall Completion, and Last Activity. Below the projects table is a "Latest News" section with a list of user registration announcements and a link to "Subscribe to the RSS feed." A vertical "feedback" button is located on the left side of the page.

Language	Overall Completion	Last Activity
Bulgarian	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-04-30 13:32 (ivaylo)
Catalan; Valencian	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-05-04 16:23 (arturvivo)
Chinese (China)	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-05-01 13:14 (translator)
Croatian	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-05-05 11:11 (dpenezic)
Czech	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-05-03 10:28 (Karass)
Danish	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-04-29 07:12 (tomdc)
Dutch; Flemish	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-05-04 07:25 (tomdc)
English	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-04-29 20:42 (kkalisz)
Finnish	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-05-08 22:45 (Migu)
French	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-05-07 16:09 (alex)

Project	Overall Completion	Last Activity
Icinga Web	<div style="width: 100%;"><div style="width: 100%;"></div></div>	2010-05-28 07:30 (eddavid)

Latest News

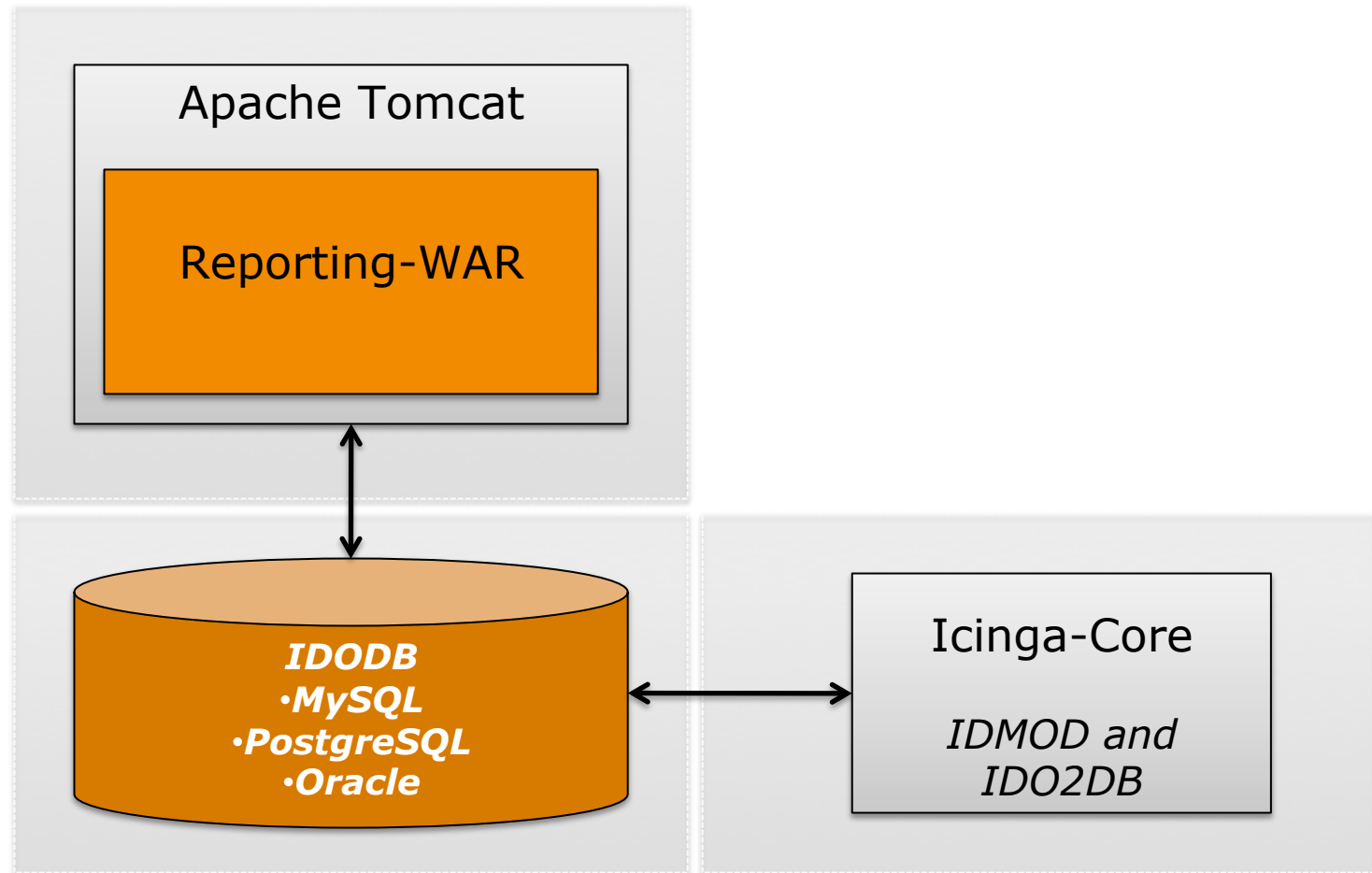
- New user **eddavid** registered.
- New user **Mihai** registered.
- New user **VK7HSE** registered.
- New user **mythus** registered.
- New user **warwithin** registered.

[Subscribe to the RSS feed.](#)

Project Status Update – Reporting

- multiformat reporting based on JasperReports
- standalone Tomcat application using external db-connection
- easily extendable and reusable
- webinterface integration with scheduler
- external report styles
- report templates still available
 - host activity
 - service activity
 - host availability
 - host- and service top10
 - host- and hostgroup overview

Project Status Update – Reporting architecture





Project Status Update – Reporting Challenges

- service level agreement reporting using idoutils
 - service level needs to be defined
 - monitoring on service level using business process addon
- initial state problem
- states outside given date ranges
- performance
- and ...

Project Status Update – Reporting SQL Challenges

```
select sum(state_duration),
       state
from (
  (select timestampdiff(second, if (state2.state_time < ${p_date_start}, ${p_date_start}, state2.state_time), if (state1.state_time > ${p_date_end}
  and state2.state_time
                        > ${p_date_start}, ${p_date_end}, state1.state_time)) as state_duration,
       state2.state,
       state2.output
  from icinga_statehistory as state1,
       icinga_statehistory as state2
  where state2.statehistory_id =
        (select statehistory_id
         from icinga_statehistory as sstart
         where sstart.statehistory_id < state1.statehistory_id
         and sstart.state_type = 1
         and sstart.instance_id = 1
         and sstart.object_id = ${p_host_object_id}
         order by sstart.state_time desc limit 0,1
        )
  and state1.statehistory_id IN
        (select statehistory_id
         from (
           (select ida.statehistory_id
            from icinga_statehistory as ida
            where ida.state_type = 1
            and ida.instance_id = 1
            and ida.object_id = ${p_host_object_id}
            and ida.state_time between ${p_date_start} AND ${p_date_end}
           )
         )
  union
        (select idb.statehistory_id
         from icinga_statehistory as idb
         where idb.state_type = 1
         and idb.instance_id = 1
         and idb.object_id = ${p_host_object_id}
         and idb.state_time > ${p_date_end} limit 0,1
        )) as ids
  )
)
)
```

```
union all
  (select if(
    (select idc.statehistory_id
     from icinga_statehistory as idc
     where idc.state_type = 1
     and idc.instance_id = 1
     and idc.object_id = ${p_host_object_id}
     and idc.state_time > ${p_date_end} limit 0,1
    )
    is null, timestampdiff(second, state3.state_time, ${p_date_end}), 0)
    as state_duration,
    state3.state,
    state3.output
  from icinga_statehistory as state3
  where state3.state_type = 1
  and state3.instance_id = 1
  and state3.object_id = ${p_host_object_id}
  and state3.state_time between ${p_date_start} AND ${p_date_end}
  order by state3.statehistory_id desc limit 0,1
  )) as send
group by state
```



Reporting Screens



Live Demo



Demo

Project Compatibility

- downward compatible to Nagios[®]
 - configuration
 - plugins
 - addons
- compatible database schemas
- checkout our webcast for differences between Nagios[®] and Icinga

Roadmap

- Core-Roadmap

- 30. June 1.0.2
- 18. August 1.0.3

- Web-Roadmap

- 30. June 1.0.2
- 18. August 1.0.3

**unified stable release
06. October 2010**

The logo for Icinga, featuring a stylized network of nodes and lines to the left of the word "ICINGA" written vertically in a bold, sans-serif font.

Project Status Update – feedback.icinga.org

A screenshot of the feedback.icinga.org website. The browser address bar shows the URL https://feedback.icinga.org/forums/50329-general. The page features the Icinga logo at the top left, a "General Forum" header, and a list of ideas for improvement. The top idea is "Implement a system to ACK emailed notifications by email or SMS/email gateway" with 46 votes. Other ideas include "Create simple web interface for mobile phones" (33 votes) and "API to add new hosts/groups/services/commands automagically." (20 votes). A sidebar on the right shows a "10 votes left!" notification and a "General activity feed" section.

Your Voice for Icinga

Go to Icinga

powered by **uservoice**

ICINGA

General Forum

Log In or Sign up | English

We love to hear about your ideas and suggestions for Icinga. Vivid minds are always very welcome!

If you want to report a bug, please use our bugtracker:
<http://www.icinga.org/faq/how-to-report-a-bug> THANK YOU!

This is my idea for Icinga ...

Enter your idea

top ideas **hot** new 1 accepted completed 3

46 votes
Implement a system to ACK emailed notifications by email or SMS/email gateway
by anonymous | 2 comments

33 votes
Create simple web interface for mobile phones
Create simple web interface for mobile phones with modern browsers. Optimize it for speed and easy of access, something richer than wap but easier to access then full web interface
by anonymous | 3 comments

20 votes
API to add new hosts/groups/services/commands automagically.
by anonymous | 0 comments

10 votes left!
What happens if I run out?

General activity feed

Need Help?

Questions and Answers



Q & A