

Nürnberg, October 29th 2009

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NConf - Enterprise Nagios configurator



Agenda



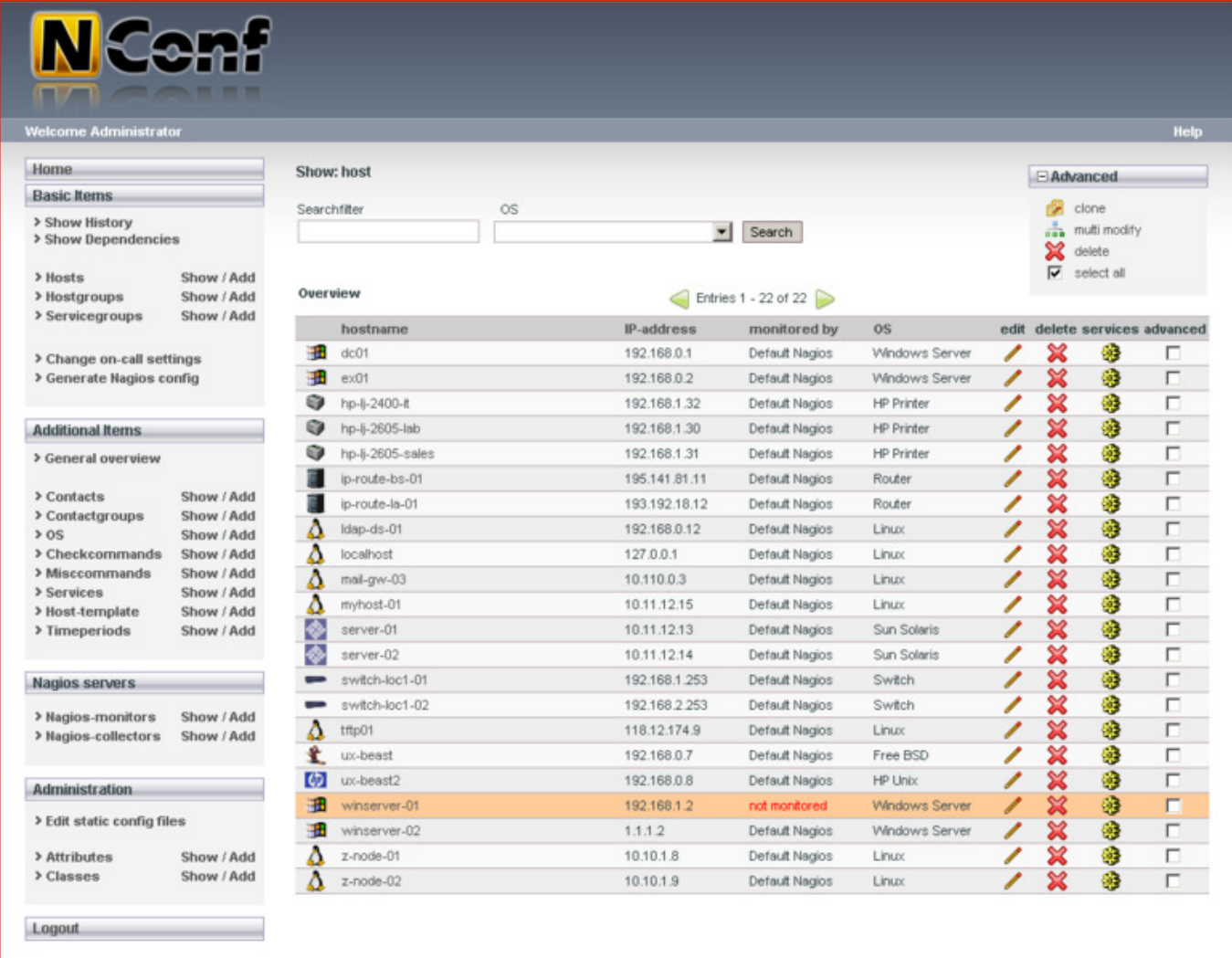
- Introduction
- What is NConf
- The project
- Working with NConf
- Customizing NConf
- Distributed monitoring
- Application design
- Development roadmap
- Live demo NConf 1.2.6
- Q & A

Introduction

What is NConf

Main theme:

Designed for ease of use, aimed at large, distributed setups.



The screenshot shows the NConf web interface. At the top left is the NConf logo. Below it is a navigation menu with sections: Home, Basic Items (Show History, Show Dependencies, Hosts, Hostgroups, Servicegroups, Change on-call settings, Generate Nagios config), Additional Items (General overview, Contacts, Contactgroups, OS, Checkcommands, Misccommands, Services, Host-template, Timeperiods), Nagios servers (Nagios-monitors, Nagios-collectors), Administration (Edit static config files, Attributes, Classes), and Logout. The main content area is titled 'Show: host' and includes a search filter and OS dropdown. Below this is an 'Overview' section with a table of hosts. The table has columns for hostname, IP-address, monitored by, OS, edit, delete, services, and advanced. The 'winserver-01' row is highlighted in orange and has a 'not monitored' status. The 'Advanced' section on the right contains options for clone, multi modify, delete, and select all.

hostname	IP-address	monitored by	OS	edit	delete	services	advanced
dc01	192.168.0.1	Default Nagios	Windows Server				<input type="checkbox"/>
ex01	192.168.0.2	Default Nagios	Windows Server				<input type="checkbox"/>
hp-lj-2400-It	192.168.1.32	Default Nagios	HP Printer				<input type="checkbox"/>
hp-lj-2605-lab	192.168.1.30	Default Nagios	HP Printer				<input type="checkbox"/>
hp-lj-2605-sales	192.168.1.31	Default Nagios	HP Printer				<input type="checkbox"/>
ip-route-bs-01	195.141.81.11	Default Nagios	Router				<input type="checkbox"/>
ip-route-la-01	193.192.18.12	Default Nagios	Router				<input type="checkbox"/>
ldap-ds-01	192.168.0.12	Default Nagios	Linux				<input type="checkbox"/>
localhost	127.0.0.1	Default Nagios	Linux				<input type="checkbox"/>
mail-gw-03	10.110.0.3	Default Nagios	Linux				<input type="checkbox"/>
myhost-01	10.11.12.15	Default Nagios	Linux				<input type="checkbox"/>
server-01	10.11.12.13	Default Nagios	Sun Solaris				<input type="checkbox"/>
server-02	10.11.12.14	Default Nagios	Sun Solaris				<input type="checkbox"/>
switch-loc1-01	192.168.1.253	Default Nagios	Switch				<input type="checkbox"/>
switch-loc1-02	192.168.2.253	Default Nagios	Switch				<input type="checkbox"/>
tftp01	118.12.174.9	Default Nagios	Linux				<input type="checkbox"/>
ux-beast	192.168.0.7	Default Nagios	Free BSD				<input type="checkbox"/>
ux-beast2	192.168.0.8	Default Nagios	HP Unix				<input type="checkbox"/>
winserver-01	192.168.1.2	not monitored	Windows Server				<input type="checkbox"/>
winserver-02	1.1.1.2	Default Nagios	Windows Server				<input type="checkbox"/>
z-node-01	10.10.1.8	Default Nagios	Linux				<input type="checkbox"/>
z-node-02	10.10.1.9	Default Nagios	Linux				<input type="checkbox"/>

Introduction

What is NConf

Show host dependencies

Host
ip-route-bs-01

- Top level
 - ip-route-bs-01
 - Host info
 - IP: 195.141.81.11
 - Services
 - switch-loc1-01
 - Host info
 - IP: 192.168.1.253
 - Services
 - dc01
 - ex01
 - Host info
 - IP: 192.168.0.2
 - Hostgroup: windows-servers
 - Services
 - hp-lj-2400-it
 - localhost
 - myhost-01
 - ux-beast2
 - winserver-01
 - winserver-02

Step 2

Select the services (checkcommands) for your host

<input type="checkbox"/> check_ftp	<input type="checkbox"/> check_hpjd	<input type="checkbox"/> check_http	<input type="checkbox"/> check_inap
<input checked="" type="checkbox"/> check_local_disk	<input type="checkbox"/> check_local_load	<input type="checkbox"/> check_local_mrtgtraf	<input type="checkbox"/> check_local_procs
<input checked="" type="checkbox"/> check_local_swap	<input type="checkbox"/> check_local_users	<input type="checkbox"/> check_nt	<input checked="" type="checkbox"/> check_ping
<input type="checkbox"/> check_pop	<input type="checkbox"/> check_smtp	<input type="checkbox"/> check_snmp	<input checked="" type="checkbox"/> check_ssh
<input type="checkbox"/> check_tcp	<input type="checkbox"/> check_udp		

Submit Reset

Step 3: Services of myhost-01

Advanced

clone a service to other hosts

Add additional services to host:
check_ftp Add

Edit a host's existing services:

services	edit	delete	clone
check_local_disk			
check_local_swap			
check_ping			
check_ssh			

Introduction

Why NConf

- NConf is meant for large, distributed monitoring setups
- It allows a very quick initial deployment of Nagios
- We have been using NConf in a production environment for 3 years
- NConf supports numerous authentication mechanisms and user roles
- The NConf data structure is easily expandable
- The target audience are sysadmins with Nagios know-how*

* Nagios know-how required for initial deployment of NConf, not required for later usage of the tool

Introduction

Main features

- effortlessly maintain a distributed Nagios topology
- user-friendly web-GUI
- define host templates for your hosts
- define dependencies between hosts
- browse dependencies graphically
- choose from multiple authentication modes
- import existing Nagios configuration files
- easily expandable and customizable data schema
- perl database API
- customizable appearance
- runs on Linux / Apache / PHP / MySQL

Introduction

History

- 2006
Initial deployment of Nagios for ~400 systems, first version of NConf (originally called „NagiosConf“)
- 2007
Continuous improvement of NConf, bugfixing, additional features
- 2008
Start of project „Nagios II“, deployment of Nagios for ~1000 additional systems
- 2009
Release of NConf under GPL license, implementation of additional features required for project „Nagios II“

Introduction

The development team

- Fabian Gander

Development of web GUIs, install/update procedure;

- Angelo Gargiulo

DB development, perl-API, backend functionality, quality assurance;

- Bernhard Waldvogel

Specifications, testing, project management;

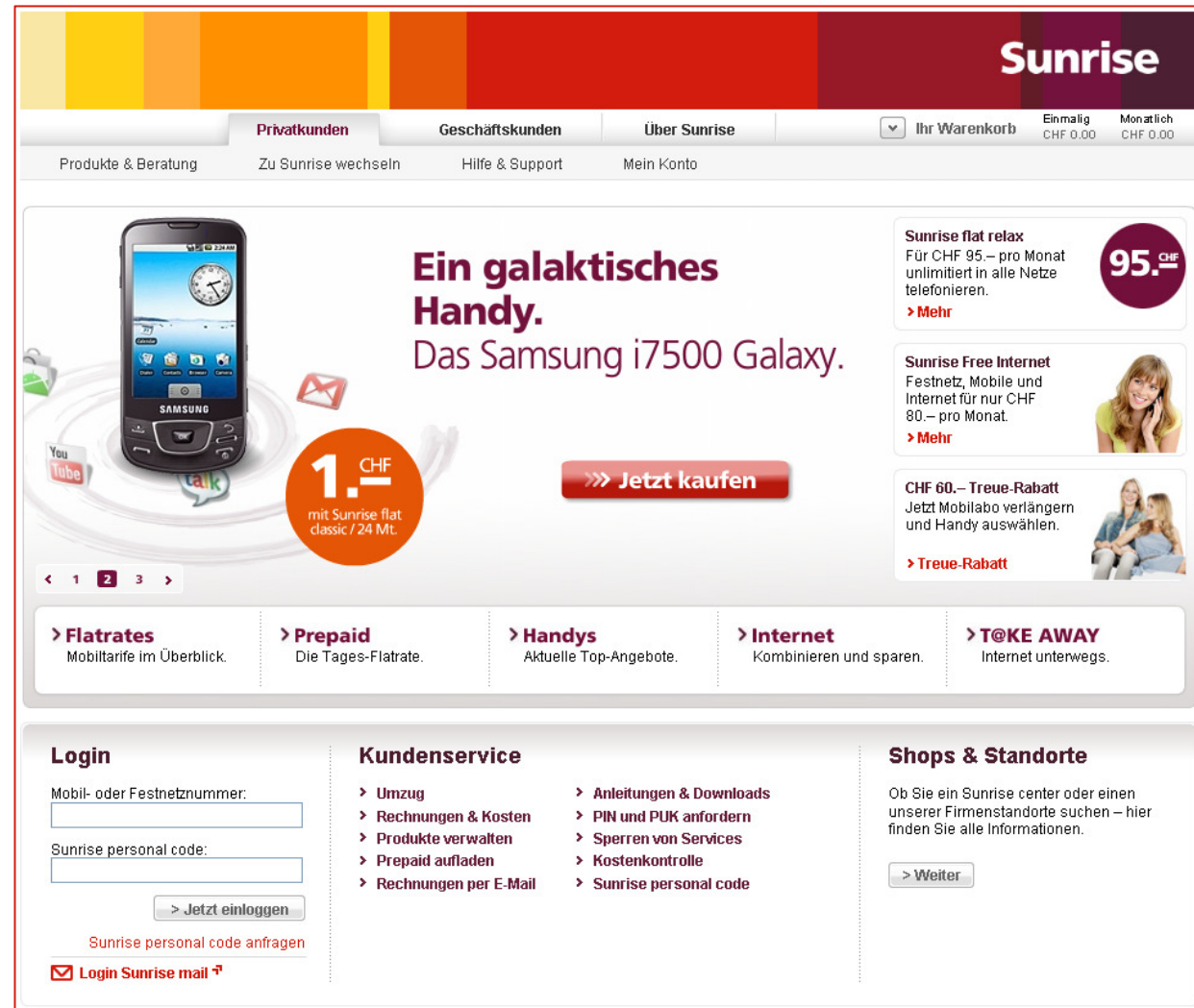
Introduction

License

- NConf is published under GPL (v2)
- Copyright holder is Sunrise Communications AG
- Development has so far been sponsored by Sunrise
- The goal is to give something back to the OS-community, as well as to profit from third party extensions some day

Introduction

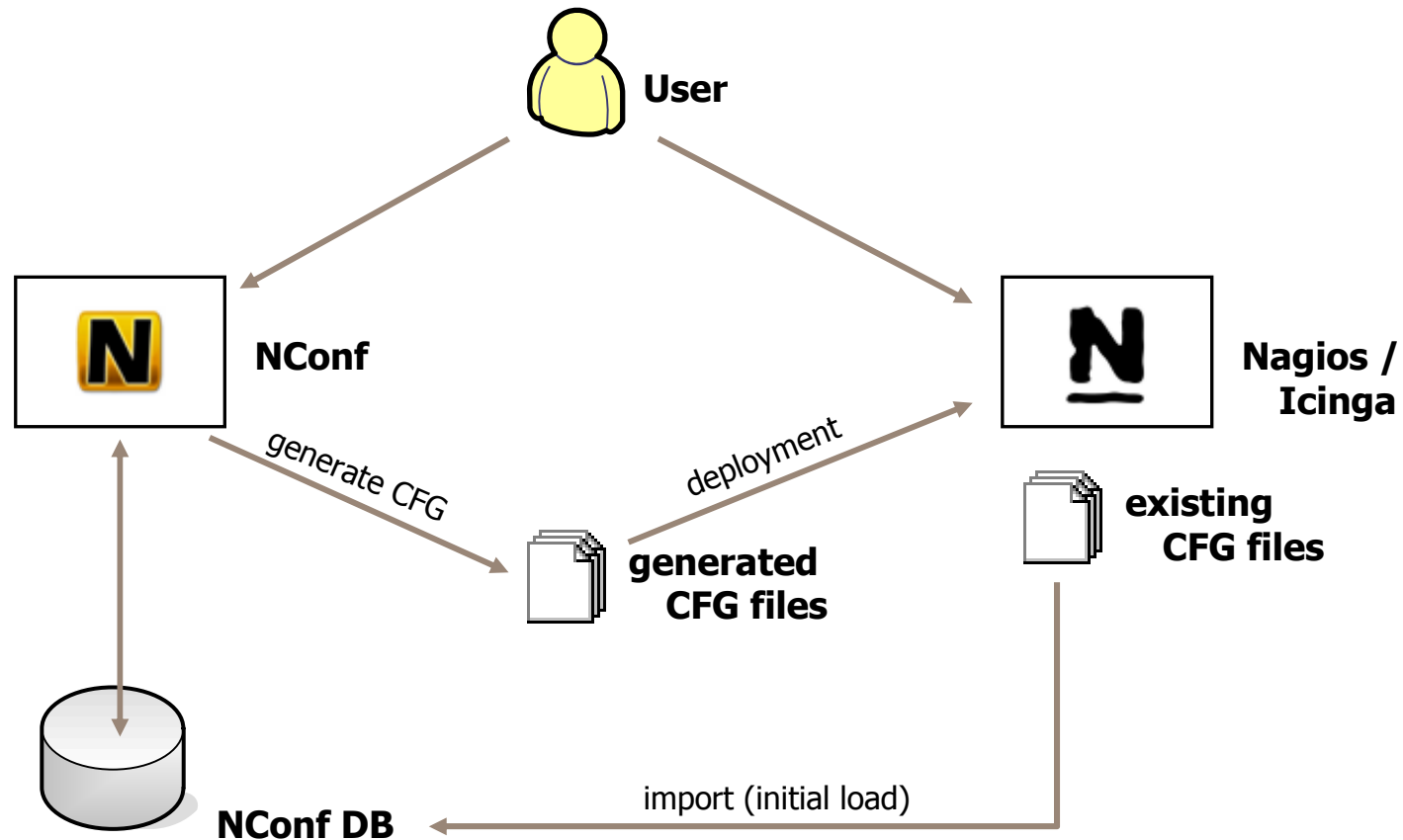
Who is Sunrise



The screenshot shows the Sunrise website homepage. At the top right is the Sunrise logo. Below it is a navigation bar with tabs for 'Privatkunden', 'Geschäftskunden', and 'Über Sunrise'. To the right of the navigation bar are links for 'Ihr Warenkorb', 'Einmalig CHF 0.00', and 'Monatlich CHF 0.00'. Below the navigation bar are links for 'Produkte & Beratung', 'Zu Sunrise wechseln', 'Hilfe & Support', and 'Mein Konto'. The main content area features a large advertisement for the Samsung i7500 Galaxy, showing the phone and a '1. CHF mit Sunrise flat classic / 24 Mt.' badge. To the right of the phone are three promotional boxes: 'Sunrise flat relax' for CHF 95.-, 'Sunrise Free Internet' for CHF 80.-, and 'CHF 60.- Treue-Rabatt'. Below these are five category links: 'Flatrates', 'Prepaid', 'Handys', 'Internet', and 'T@KE AWAY'. At the bottom, there are three sections: 'Login' with input fields for mobile/fixed network number and personal code, a 'Kundenservice' section with a list of services like 'Umzug', 'Rechnungen & Kosten', and 'Anleitungen & Downloads', and a 'Shops & Standorte' section with a 'Weiter' button.

Working with NConf

Mode of operation



Working with NConf

Object definitions: Nagios vs. NConf

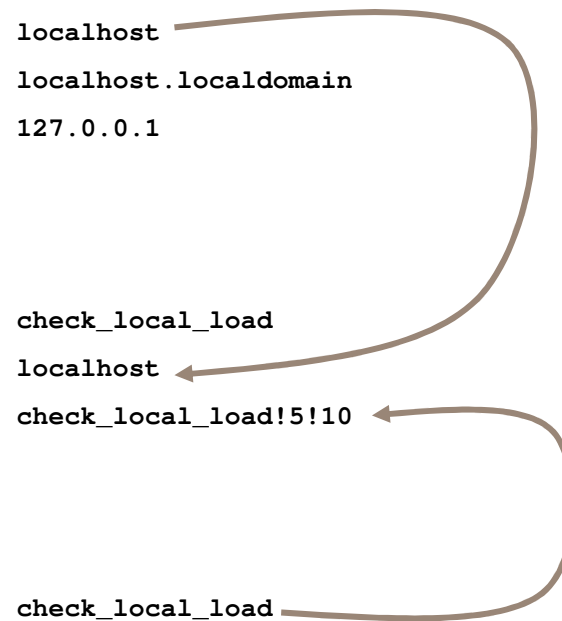
Nagios

```

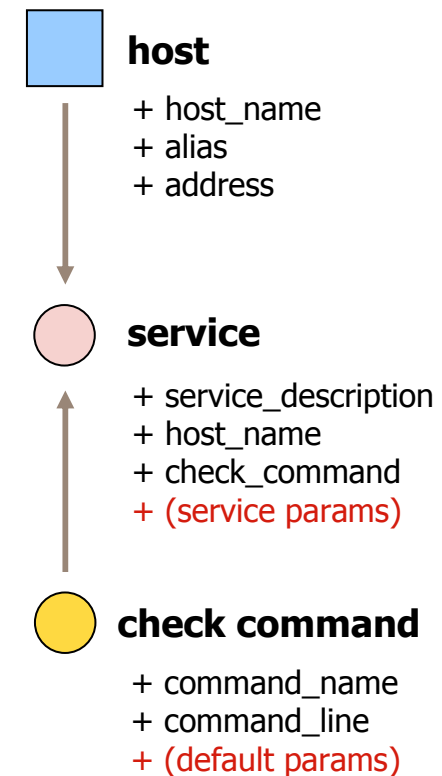
define host {
    host_name      localhost
    alias          localhost.localdomain
    address        127.0.0.1
}

define service {
    service_description check_local_load
    host_name      localhost
    check_command  check_local_load!5!10
}

define command {
    command_name  check_local_load
    command_line  $USER1$/check_load -w $ARG1$ -c $ARG2$
}
    
```

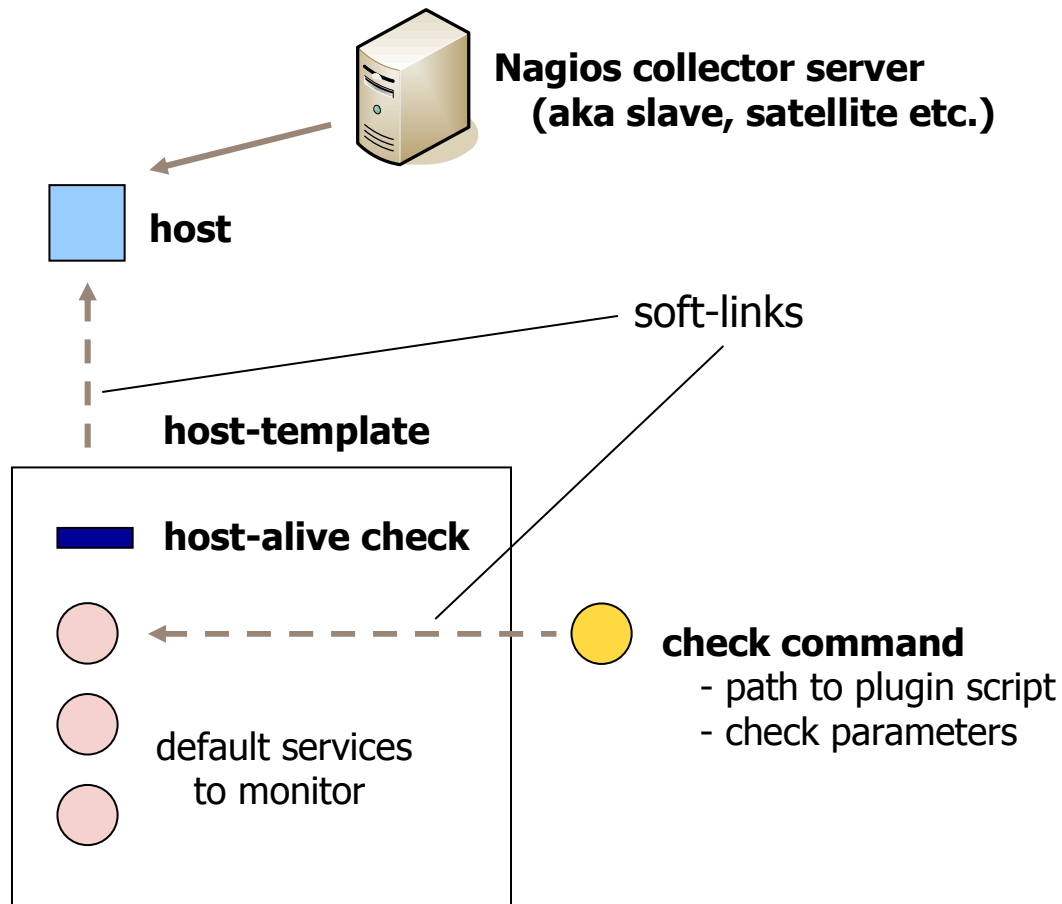


NConf



Working with NConf

Host-templates in NConf



Working with NConf

Customizing NConf

- Users may edit contacts, contactgroups, commands, timeperiods, host-templates, etc...
- Commands can be any Perl / shell scripts or binaries, using SNMP, NRPE, etc...

Home

Basic Items

- > Show History
- > Show Dependencies
- > Hosts Show / Add
- > Hostgroups Show / Add
- > Servicegroups Show / Add
- > Generate Nagios config

Additional Items

- > General overview
- > Contacts Show / Add
- > Contactgroups Show / Add
- > OS Show / Add
- > Checkcommands Show / Add
- > Misccommands Show / Add
- > Services Show / Add
- > Host-template Show / Add
- > Timeperiods Show / Add

Nagios servers

- > Nagios-monitors Show / Add
- > Nagios-collectors Show / Add

Administration

- > Edit static config files
- > Attributes Show / Add
- > Classes Show / Add

Show: checkcommand

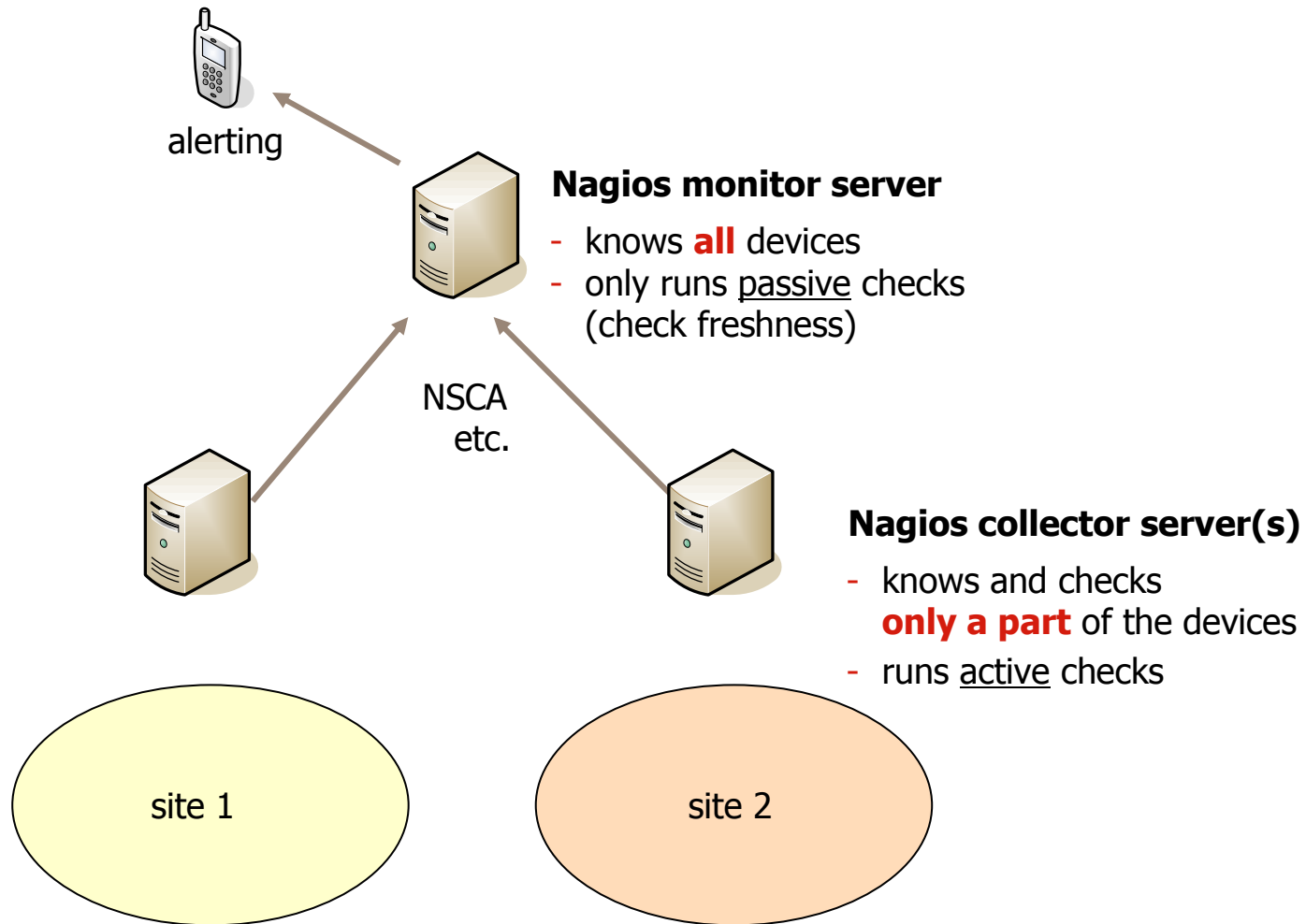
Searchfilter

Overview Entries 1 - 18 of 18

check command name	edit	delete
check_ftp	✎	✖
check_hpjd	✎	✖
check_http	✎	✖
check_imap	✎	✖
check_local_disk	✎	✖
check_local_load	✎	✖
check_local_mrtgtraf	✎	✖
check_local_procs	✎	✖
check_local_swap	✎	✖
check_local_users	✎	✖
check_nt	✎	✖
check_ping	✎	✖
check_pop	✎	✖
check_sntp	✎	✖
check_snmp	✎	✖
check_ssh	✎	✖
check_tcp	✎	✖
check_udp	✎	✖

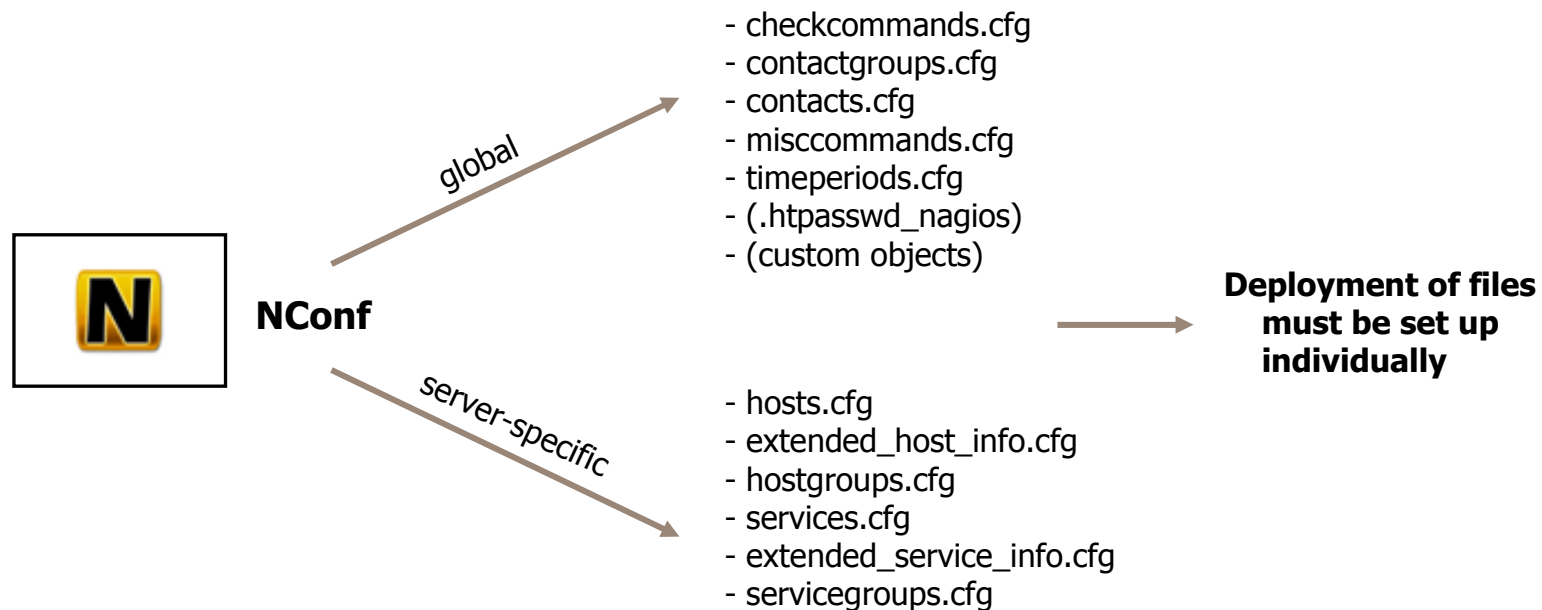
Working with NConf

Distributed monitoring „a la NConf“



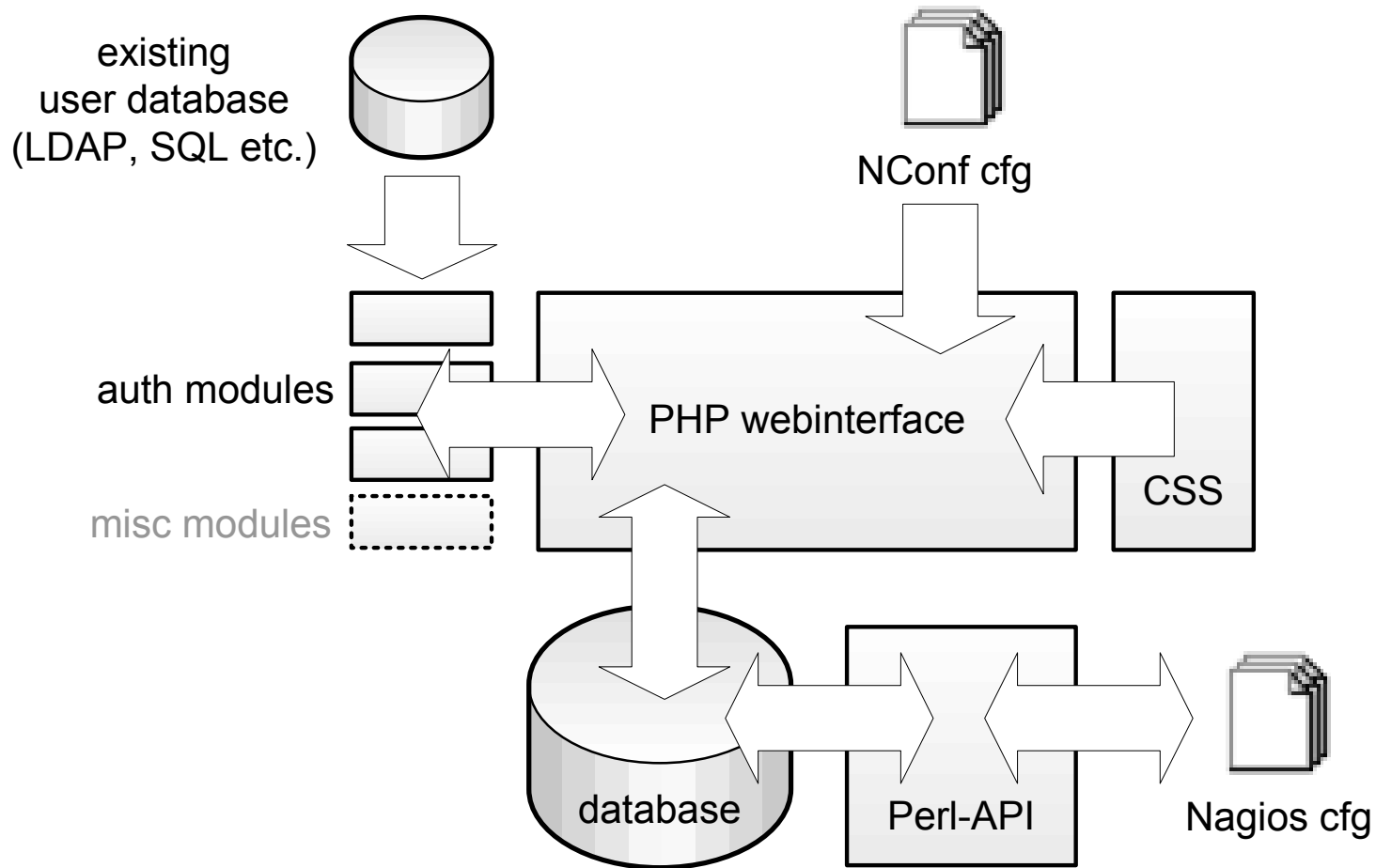
Working with NConf

Distributed monitoring „a la NConf“



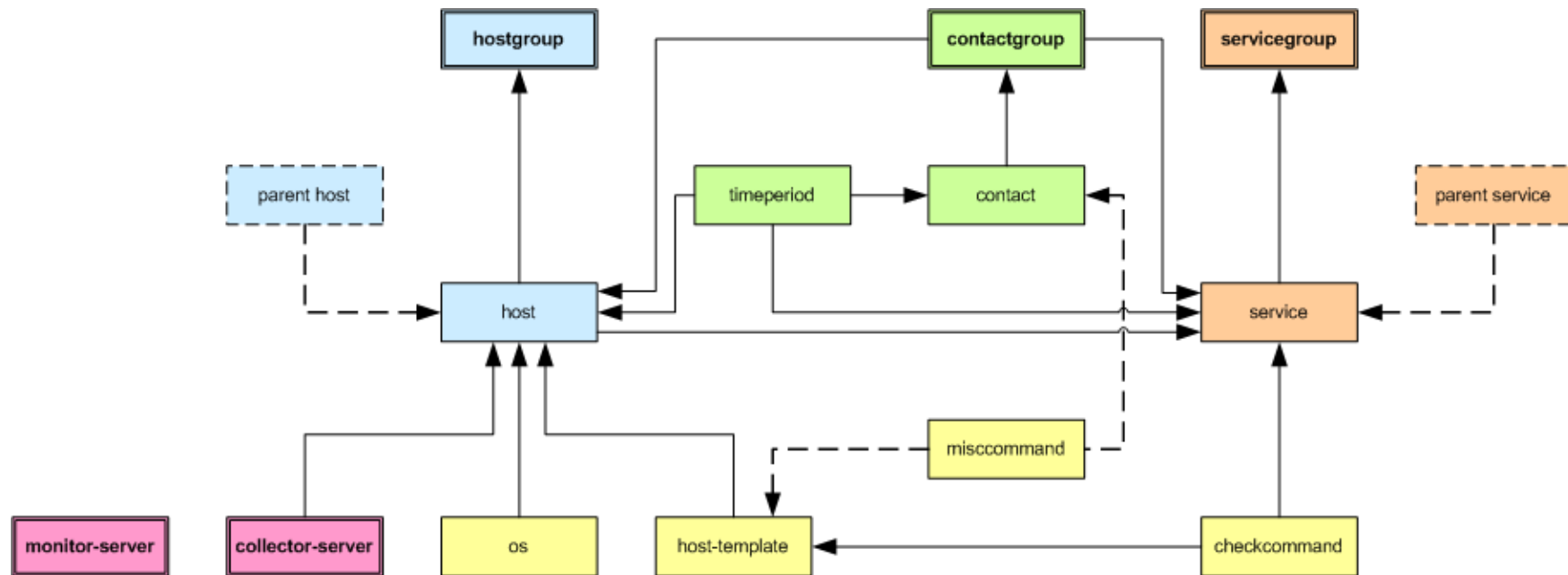
Application design

Components of the application



Application design

Domain model



Application design

Extending the data structure

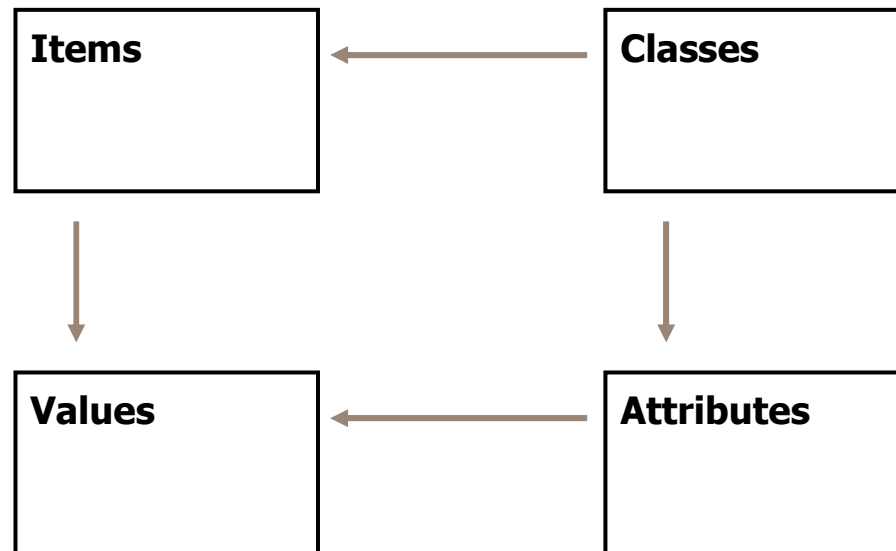
Class

Overview

	Attribute Name	Friendly Name	Datatype	Mandatory	Ordering	Naming Attribute	Edit	Delete
	host_name	hostname	text	✓	↑ ↓	🔑	✎	✖
	alias	alias	text	—	↑ ↓		✎	✖
	address	IP-address	text	✓	↑ ↓		✎	✖
	os	OS	assign_one	✓	↑ ↓		✎	✖
	check_period	check period	assign_one	✓	↑ ↓		✎	✖
	notification_period	notification period	assign_one	✓	↑ ↓		✎	✖
	contact_groups	contact groups	assign_many	—	↑ ↓		✎	✖
	parents	parent hosts	assign_many	—	↑ ↓		✎	✖
	notes	notes	text	—	↑ ↓		✎	✖
	notes_url	notes URL	text	—	↑ ↓		✎	✖
	action_url	action URL	select	—	↑ ↓		✎	✖
	host-template	host template	assign_one	✓	↑ ↓		✎	✖
	monitored_by	monitored by	assign_one	—	↑ ↓		✎	✖
	host_is_collector	host is collector	select	✓	↑ ↓		✎	✖

Application design

Data model



Item „18“ is of class „host“

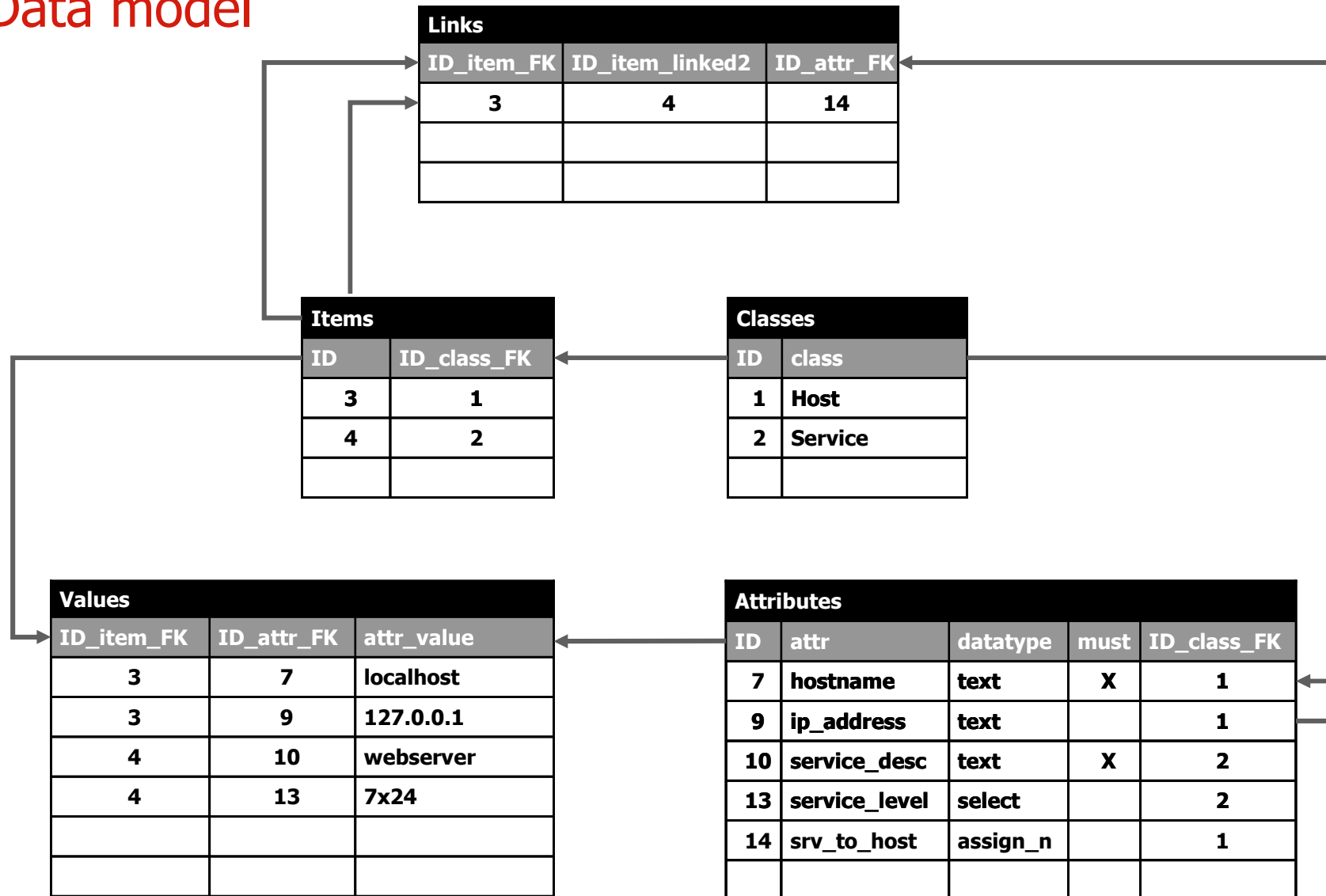
Class „host“ possesses an attribute named „host_name“

The attribute „host_name“ carries the value „localhost“

The value „localhost“ is assigned to item „18“

Application design

Data model



Development roadmap

Upcoming version

- **Current stable version is NConf 1.2.5**
- **Version 1.2.6 is planned to be released within the next 2 weeks**

New features in NConf 1.2.6:

- CSV importer
- GUI improvement
- New deployment features
- Lots of bugfixing
- New nconf.org portal (will be launched with NConf 1.2.6)

Development roadmap

What's ahead

Near future:

- simplified deployment
- service dependencies
- service-templates (Nagios-like)
- host-templates (Nagios-like)
- several Nagios 3.x related features

Far future:

- reporting functionality
- move NConf access control and config to database
- additional export interfaces (e.g. LDAP)
- allow proprietary add-on's

- **Contributions of any kind to the project are welcome!**

Live demo NConf 1.2.6



Contact

How to stay in touch

- **www.nconf.org**
- **NConf forum**
<http://sourceforge.net/apps/phpbb/nconf/>
- **XING**
<https://www.xing.com/net/nconf/>
- **Facebook**
<http://www.facebook.com/group.php?gid=53666978172>