



NMIS8 Administration Training

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NMIS Administration Training Topics

SSH access to an NMIS server

- NMIS8 Architecture
- User Interface Recap
- NMIS8 Directory Structure
- NMIS8 Configuration Files
 - Where are the files,
 - Look at each file
 - Edit the files to make changes
- Working with RRD files
- System Maintenance



Opmantek Community Wiki

- Access all available documentation at the Opmantek Community Wiki.
<https://community.opmantek.com>
- Register @ <https://opmantek.com> “Join Community” top right.

The screenshot shows the Opmantek Community Wiki Home page. The browser address bar displays <https://community.opmantek.com/display/NMIS/Home>. The page has a green header with navigation links: Dashboard, NMIS, and Home. A search bar is located in the top right corner. On the left side, there is a sidebar with a search box and a list of links categorized under 'Amount of Performance Data Storage NMIS8 Stores', 'Default Credentials (Passwords) for NMIS8 VM', 'Getting Started - Virtual Appliance Bundle & NMIS 8', 'Logs, debugs and files which are useful when troubleshooting and resolving issues in NMIS', 'Managing Servers and Services with NMIS8', 'Moving the NMIS database to a new partition', 'NMIS8 Configuration', 'NMIS8 Virtual Machine', 'NMIS8 VM Installation Guide', 'NMIS 4.3.6e Installation Documentation', 'NMIS 8 Installation Guide', 'NMIS 8 Release Notes', 'NMIS File Permissions', 'NMIS Metrics, Reachability, Availability and Health', 'Patching NMIS with 8.3.4G Update', 'Patching NMIS with 8.3.6G Update', 'Patching NMIS with 8.3.9G Update', 'User Management in NMIS8', and 'Using SNMPv3 with NMIS for Secure Network Management'. The main content area features a 'Home' section with a welcome message and a list of links to various documentation pages. Below this is a section titled 'NMIS v8 Documentation' which lists current documentation. To the right of this section is a 'Tools' dropdown menu. Further right is a section titled 'Opmantek Modules to Extend NMIS8' which lists several modules: opFlow, opReports, opMaps, opSLA, and opHA. At the bottom of the page is a section titled 'NMIS in Depth' which includes a link to 'Why does NMIS do that, how does it work?'. The footer of the page contains the text 'NMIS Support'.

Dashboard › NMIS › Home

Search

Home

Added by [Community Admin](#), last edited by [Keith Sinclair](#) on Dec 20, 2012 ([view change](#))

Welcome to the NMIS community page! Have you just downloaded NMIS (VM or source)? See the [NMIS v8 Documentation](#) section information to get you started and help you configure NMIS. If you are looking for information and documentation for one of our modules see the specific Module links below. Lastly, if you have just downloaded the [VM Bundle with NMIS](#) which includes all of our modules check out the [Getting Started - Virtual Appliance Bundle & NMIS 8](#) document to get you going.

NMIS v8 Documentation

Current NMIS v8 documentation is listed below.

- [Getting Started - Virtual Appliance Bundle & NMIS 8](#)
- [NMIS8 Release Notes](#)
- [NMIS8 Installation guide - All you should need to know to get NMIS8 running on Linux](#)
- [NMIS8 VM Installation Guide](#) - What you need to know to get NMIS8 VMware OVF ready for use on your VMware installation.
- [NMIS8 Quick Start Guide](#)
- [NMIS8 Configuration Guide](#)
- [NMIS8 Virtual Machine](#) - More information about the NMIS8 Virtual Machine.
- [Managing Servers and Services with NMIS8](#)
- [NMIS Configuration Part 1](#) on the "show brain" blog
- [NMIS Configuration Part 2](#) on the "show brain" blog
- [Using SNMPv3 with NMIS for Secure Network Management](#)

Opmantek Modules to Extend NMIS8

- [opFlow](#) - Application level visibility using NetFlow information, providing incredible visibility into bandwidth usage, by user and application.
- [opReports](#) - Expert reporting, with traffic lights and actions.
- [opMaps](#) - Geographical mapping of your Organisation, from NMIS information.
- [opSLA](#) - Enhanced IPSLA engine for 10000's of IPSLA probes on a single server.
- [opHA](#) - High availability for NMIS through Master/Slave and Multi-Master configurations.

NMIS in Depth

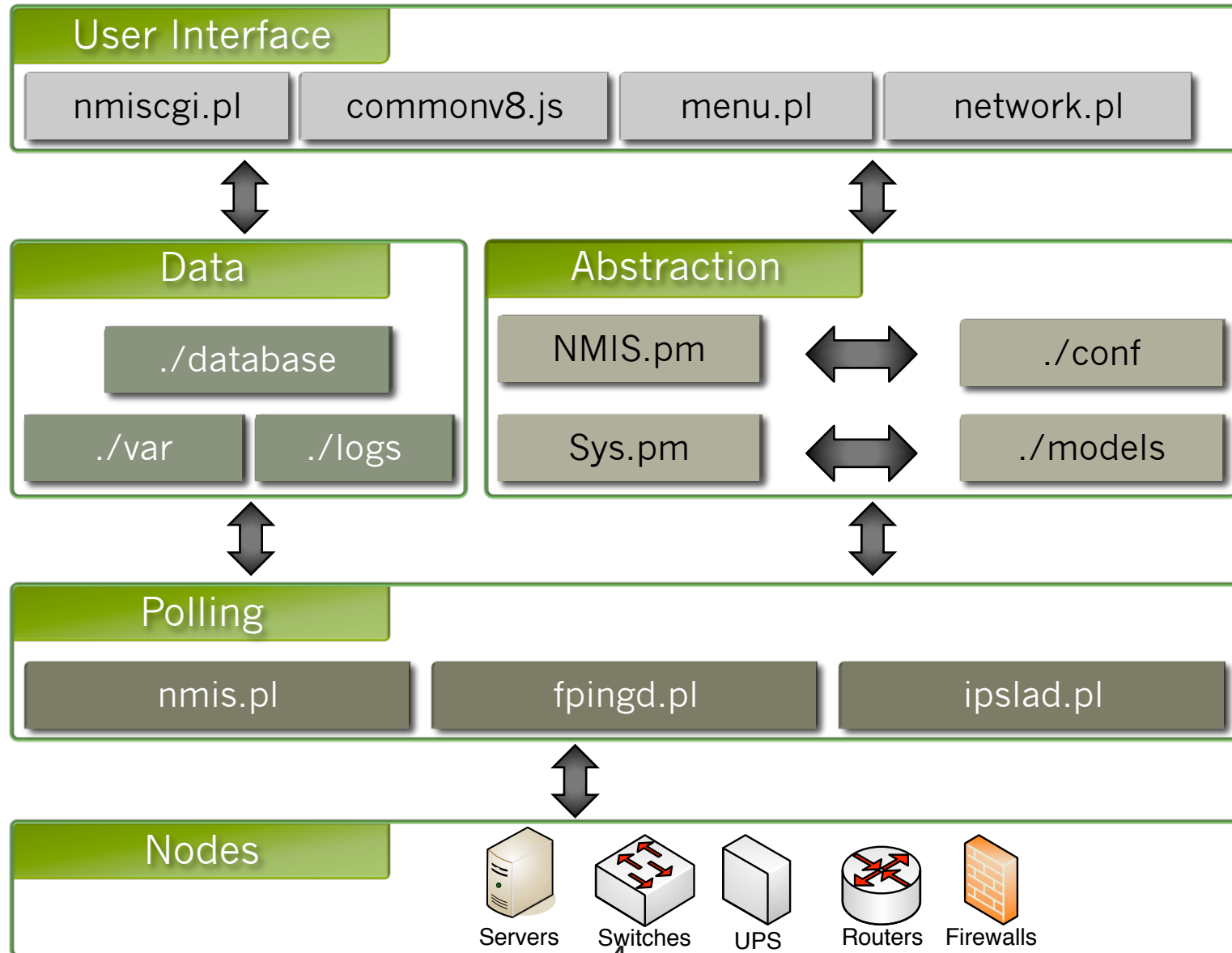
Why does NMIS do that, how does it work?

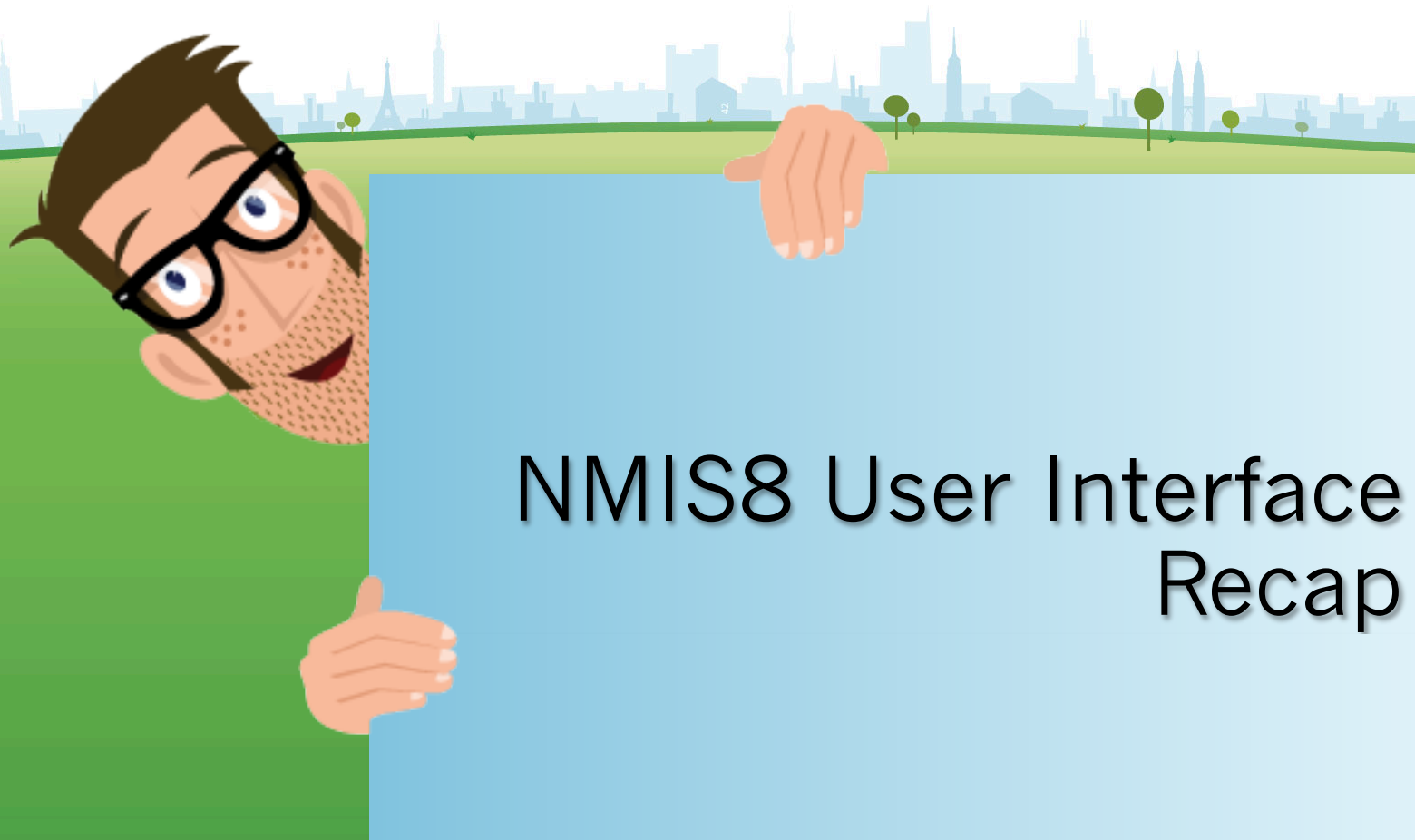
- [NMIS Metrics, Reachability, Availability and Health](#)
- [Amount of Performance Data Storage NMIS8 Stores](#)

NMIS Support



NMIS8 Architecture







The NMIS Dashboard





 **NMIS 8.3.12G** NMIS Servers ▾ NMIS Modules ▾ NMIS8 ▾



 Mon Jan 21 06:09:21 2013 EST User: nmis, Auth: Level0



[Network Status](#) [Network Performance](#) [Network Tools](#) [Reports](#) [Service Desk](#) [System](#) [Quick Select](#) [Help](#)



Metrics   Sun 16:09



8Hr Summary



 **Metric** 80%


 **Reachability** 82%




 **InterfaceAvail** 82%


 **Health** 77%


 **ResponseTime** 3ms


Network Status and Health   Sun 16:09

Group	Status	NodeTotal	NodeUp	NodeDn	Metric	Reach	IntfAvail	Health	RespTime
All Groups Status	Minor	76	62	14	▲ 80.3%	▲ 82.6%	▲ 82.0%	▲ 77.1%	▲ 3.0ms
Opmantek-Boston	Normal	6	6	0	▲ 94.0%	▲ 100%	▲ 87.6%	▲ 91.3%	▲ 1.3ms
Opmantek-Brisbane	Major	4	3	1	▲ 74.4%	▲ 75.0%	▲ 80.0%	▲ 71.0%	▲ 1.4ms
Opmantek-Christchurch	Normal	4	4	0	▲ 92.9%	▲ 100%	▲ 83.2%	▲ 90.6%	▲ 1.3ms
Opmantek-Dallas	Major	4	3	1	▲ 73.9%	▲ 75.0%	▼ 77.6%	▲ 70.8%	▲ 1.3ms
Opmantek-Denver	Major	4	3	1	▲ 73.9%	▲ 75.0%	▼ 77.6%	▲ 70.8%	▲ 1.2ms
Opmantek-Guadalajara	Normal	4	4	0	▲ 92.9%	▲ 100%	▲ 83.2%	▲ 90.6%	▲ 1.3ms
Opmantek-HongKong	Major	4	3	1	▲ 73.9%	▲ 75.0%	▼ 77.6%	▲ 70.8%	▲ 1.3ms
Opmantek-London	Major	6	4	2	▲ 67.9%	▲ 66.7%	▲ 83.2%	▲ 61.6%	▲ 1.3ms

Quick Search   Sun 16:09

Select Device by Context



Group
Model
Type
Role
Net
Vendor

Filter Device list by input string

boston-lin1
boston-mail1
boston-r1
boston-r2
boston-s1
boston-win1
brisbane-lin1
brisbane-r1

76 matches

[Reset the List](#)

Log of Event_Log   Sun 16:09

Log Name	Search String	Lines	Level	Sort	Group	Go
Event_Log	<input type="text"/>	50	ALL	<input type="text"/>	<input type="text"/>	<input type="button" value="Go"/>

Lines: [15](#) [25](#) [50](#) [100](#) [250](#) [500](#) [1000](#) Level: [ALL](#) [Fatal](#) [Critical](#) [Major](#) [Minor](#) [Warning](#) [Error](#) [Normal](#) [Unknown](#) [Summary](#) [Log List](#)

NMIS 20-Jan-2013 18:29:02 [warsaw-win1](#) [SNMP Down](#) [Warning](#) SNMP error

NMIS 18-Jan-2013 18:33:47 [london-r2](#) [SNMP Down](#) [Critical](#) SNMP error

NMIS 14-Jan-2013 15:43:52 [zurich-r1](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:08:20 New_sysUpTime=0:03:49

NMIS 14-Jan-2013 15:43:49 [warsaw-r1](#) [Node Reset](#) [Warning](#) Old_sysUpTime=10 days 20:08:17 New_sysUpTime=0:03:46

NMIS 14-Jan-2013 15:43:44 [singapore-r1](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:08:12 New_sysUpTime=0:03:41

NMIS 14-Jan-2013 15:43:42 [saratoga-r2](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:08:11 New_sysUpTime=0:03:39

NMIS 14-Jan-2013 15:43:40 [saratoga-r1](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:08:08 New_sysUpTime=0:03:37

NMIS 14-Jan-2013 15:43:37 [puebla-r1](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:08:04 New_sysUpTime=0:03:34

NMIS 14-Jan-2013 15:43:34 [munich-r1](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:08:02 New_sysUpTime=0:03:32

NMIS 14-Jan-2013 15:43:32 [milan-r1](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:07:59 New_sysUpTime=0:03:29

NMIS 14-Jan-2013 15:43:29 [mexicocity-r2](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:07:56 New_sysUpTime=0:03:26

NMIS 14-Jan-2013 15:43:29 [mexicocity-r1](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:07:56 New_sysUpTime=0:03:26

NMIS 14-Jan-2013 15:43:27 [lyon-r1](#) [Interface Up](#) [Normal](#) FastEthernet3 Time=00:05:00

NMIS 14-Jan-2013 15:43:25 [lyon-r1](#) [Node Reset](#) [Minor](#) Old_sysUpTime=10 days 20:07:53 New_sysUpTime=0:03:22

NMIS System Menu



 **NMIS 8.3.12G** NMIS Servers ▾ NMIS Modules ▾ NMIS8 ▾

Mon Jan 21 06:14:22 2013 EST User: nmis, Auth: Level0

Network Status Network Performance Network Tools Reports Service Desk

System Quick Select Help

System Configuration ▾
Configuration Check ▾
Host Diagnostics ▾

Access
Contacts
Escalations
IfTypes
Locations
Logs
NMIS Configuration
Node Configuration
Nodes (devices)
Models
Portal
PrivMap
Services
Users

Access to all the configuration and policy files.

The sixth menu item; “**System**” provides options for viewing and editing the NMIS configuration, checking the configuration and checking NMIS server performance.

 **NMIS 8.3.12G** NMIS Servers ▾ NMIS Modules ▾ NMIS8 ▾

Mon Jan 21 06:14:22 2013 EST User: nmis, Auth: Level0

Network Status Network Performance Network Tools Reports Service Desk

System Quick Select Help

System Configuration ▾
Configuration Check ▾
Host Diagnostics ▾

Check Event Flow
Check Event DB

 **NMIS 8.3.12G** NMIS Servers ▾ NMIS Modules ▾ NMIS8 ▾

Mon Jan 21 06:14:22 2013 EST User: nmis, Auth: Level0

Network Status Network Performance Network Tools Reports Service Desk

System Quick Select Help

System Configuration ▾
Configuration Check ▾
Host Diagnostics ▾

NMIS Polling Summary
NMIS Runtime Graph
NMIS Host Info
date
df
ps
lstat
vmstat
who

Checking NMIS server performance.

A cartoon character with brown hair, glasses, and freckles is peeking over a large light blue rectangular sign. The character is holding the sign with both hands. The background is a green field with a city skyline in the distance under a blue sky.

NMIS8 Directories and Files



List and Profile of NMIS8 Directories

NMIS8 is usually installed into /usr/local/nmis8

Directory	Description	Size	Backup	Change
admin	Useful scripts for administration	Small	Optional	Low
bin	All the NMIS8 shell executables	Small	Optional	Low
cgi-bin	All the NMIS8 cgi executables	Small	Optional	Low
conf	Configuration directory	Small	Backup	Low
database	RRD and other database files	Large	Backup	High
htdocs	Web file root	Small	Optional	Low
install	Template configuration files	Small	Optional	Low
lib	NMIS8 Perl libraries	Small	Optional	Low
logs	NMIS8 and other logs	Large	Optional	High
menu	NMIS8 menu files, css and js	Small	Optional	Low
mibs	MIB files loaded by NMIS8	Small	Optional	Low
models	NMIS8 Model files	Small	Backup	Low
var	NMIS8 “variable” files	Medium	Backup	High



List of NMIS Configuration Files

NMIS8 is usually installed into /usr/local/nmis8

File	Description	Change
Access.nmis	Access levels for Authorisation System	Low
Config.nmis	Main NMIS8 configuration file.	Medium
Contacts.nmis	Contacts information used for notifications.	Low
Enterprise.nmis	List of “vendors” SNMP OID prefixes	Low
Escalations.nmis	Escalation policy, how notifications will happen	Low
Links.nmis	List of Links in the network.	Low
Locations.nmis	List of Locations	Low
Logs.nmis	Log viewer configuration file	Low
Modules.nmis	Opmantek modules integration	Low
Nodes.nmis	Main NMIS8 Nodes file	High
Outage.nmis	Current planned outages	Low
Portal.nmis	Portal configuration for internal integrations	Low



List of NMIS Configuration Files (cont)

NMIS8 is usually installed into /usr/local/nmis8

File	Description	Change
PrivMap.nmis	Privilege mappings for authorisation	Low
Services.nmis	Services configuration file	Low
Toolset.nmis	External tools configuration file	Low
Users.nmis	Users authorisation mappings	Low
ifTypes.nmis	List of standard interface types from IANA	Low
logrotate.conf	Configuration for Log Rotation.	Low
nodeConf.nmis	Customised node configurations	Medium
scripts	Scripts directory for polling	Low
users.dat	Local user database for apache and htpasswd authorisation methods.	Low

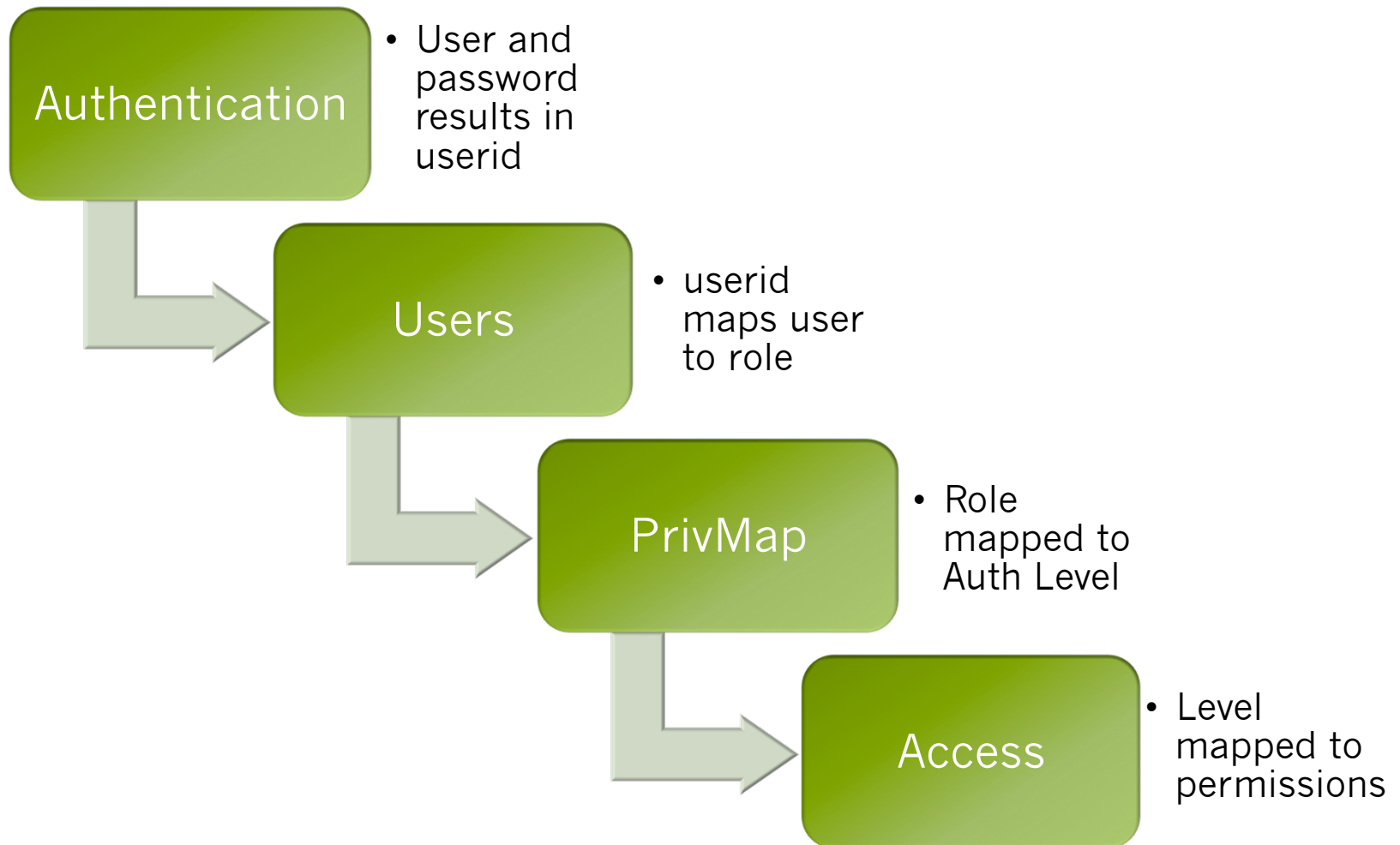


Authorisation and Authentication

How to get NMIS8 to send alerts when it finds events.



Authentication and Authorisation



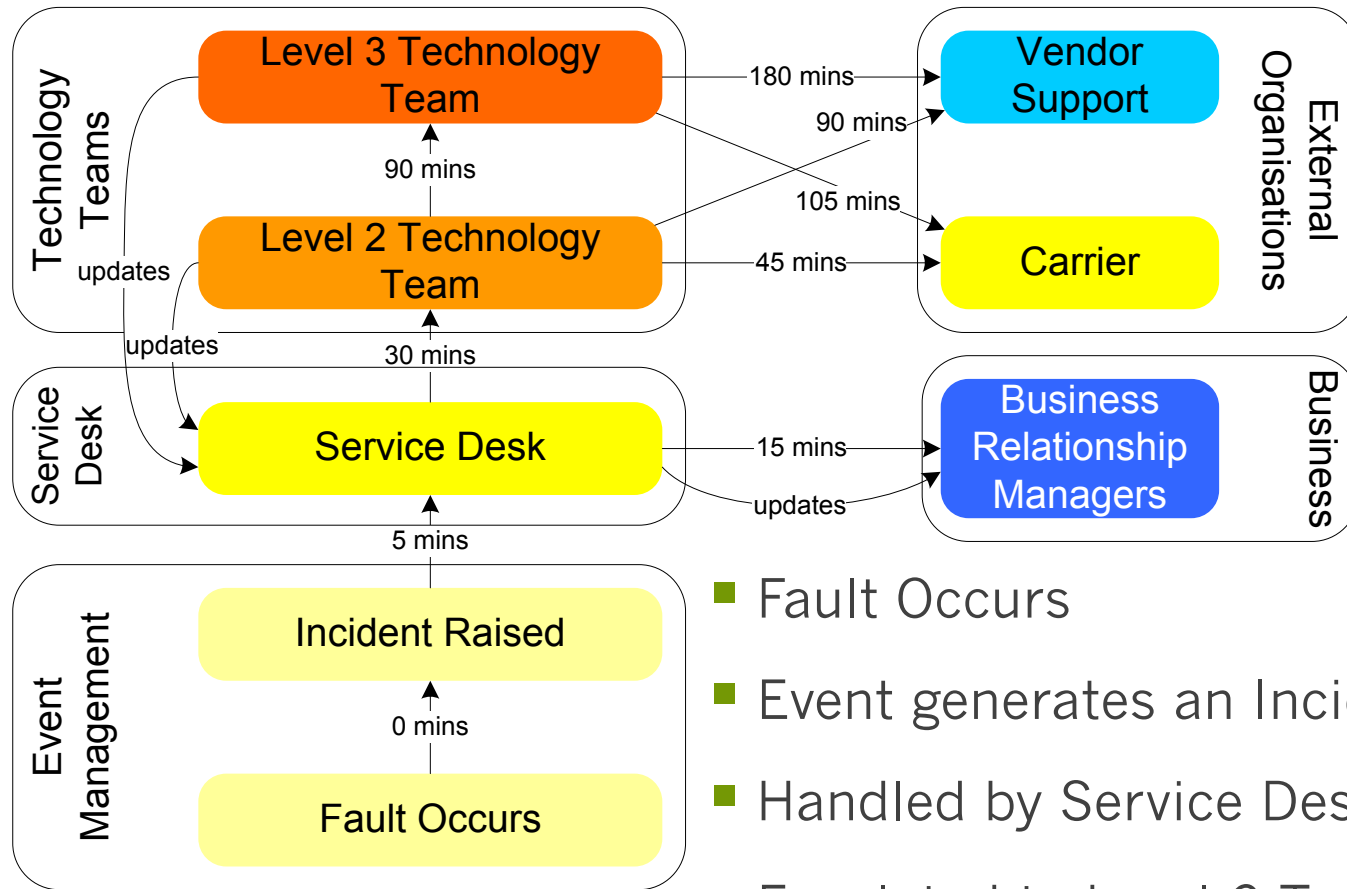


Events, Escalations, Contacts and Notifications

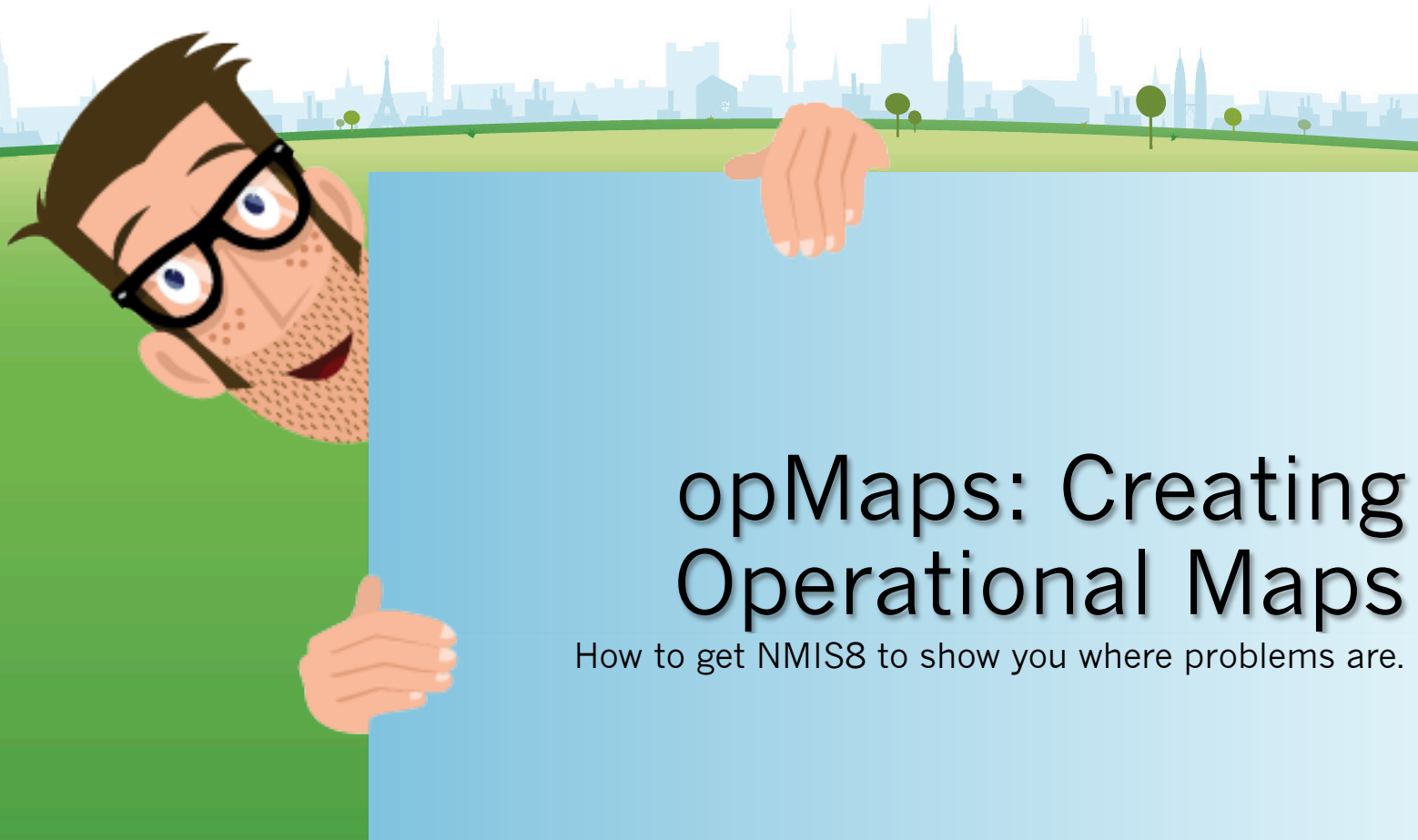
How to get NMIS8 to send alerts when it finds events.



Incident Escalation Example



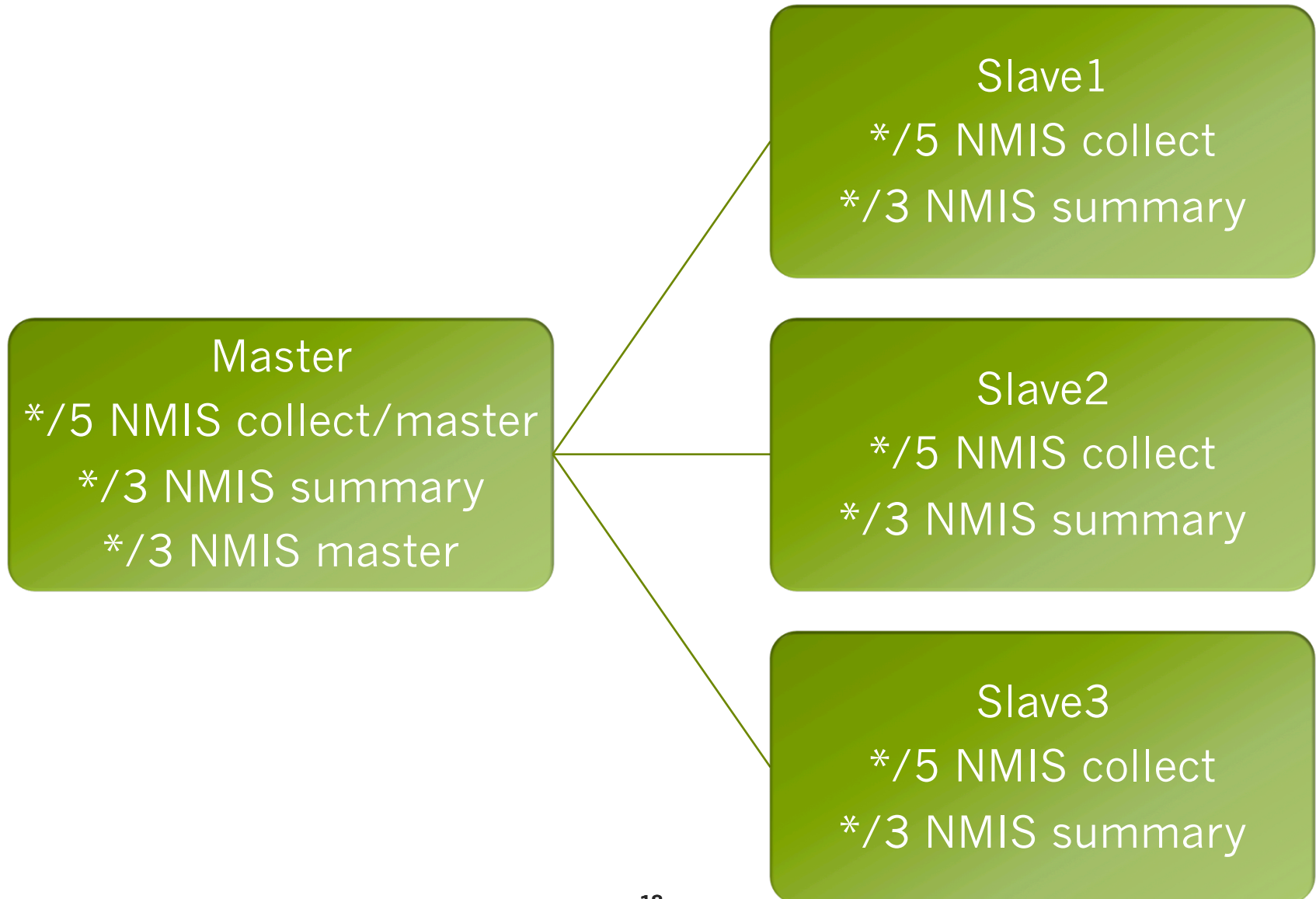
- Fault Occurs
- Event generates an Incident
- Handled by Service Desk
- Escalated to Level 2 Technology Team
- Escalated to Level 3 Technology Team
- Can be escalated to carrier or vendor as needed







Polling and Summary





Required System Maintenance

- Check and Audit the configuration, these commands tell you what folders and permissions are incorrect, and then just fix it.

```
/usr/local/nmis8/bin/nmis.pl type=audit  
/usr/local/nmis8/bin/nmis.pl type=config
```

- Check the NMIS code base for syntax and dependancies.

```
/usr/local/nmis8/admin/check_nmis_code.pl
```

- Log rotation is the most important factor

- Verify logrotate.conf is running in cron and setup for your files.

- Cleaning up old RRD files periodically

```
cd /usr/local/nmis8/database  
find . -name "*rrd" -mtime +30 -print -exec rm {} \;  
find . -name "*rrd" -size 0 -print -exec rm {} \;
```

- Check the runtime graphs

- Check for zombie processes



Running NMIS from the command line

- `nmis8/bin/nmis.pl type=update node=name debug=true`
- `nmis8/bin/nmis.pl type=collect node=name debug=true`
- `nmis8/bin/nmis.pl type=collect node=name model=true`



Log files for troubleshooting

- `/usr/local/nmis8/logs/nmis.log`
- `/var/log/httpd/error_log`

