NMIS8 Administration Training

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NMIS Administration Training Topics

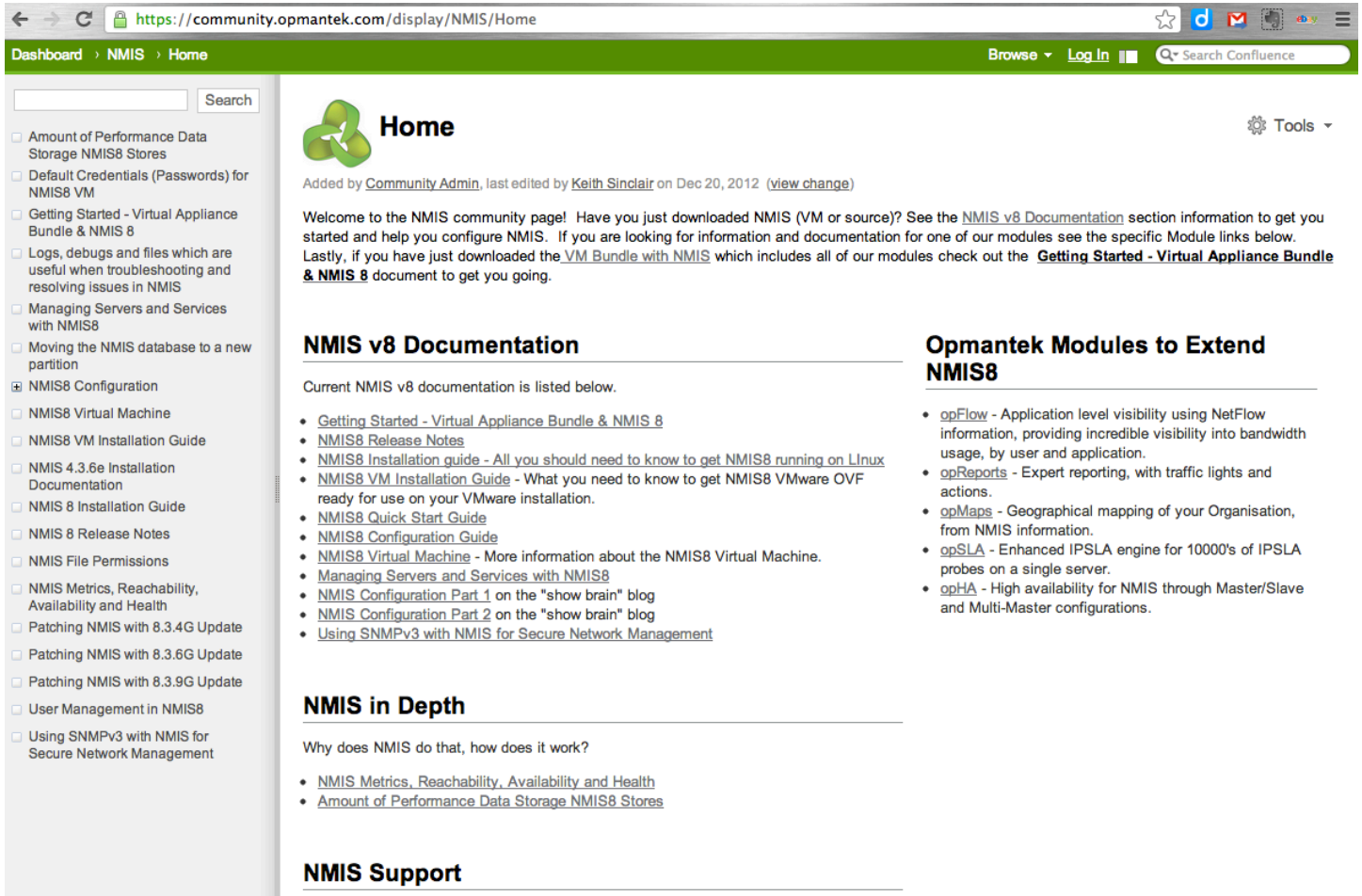
SSH access to an NMIS server

- 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

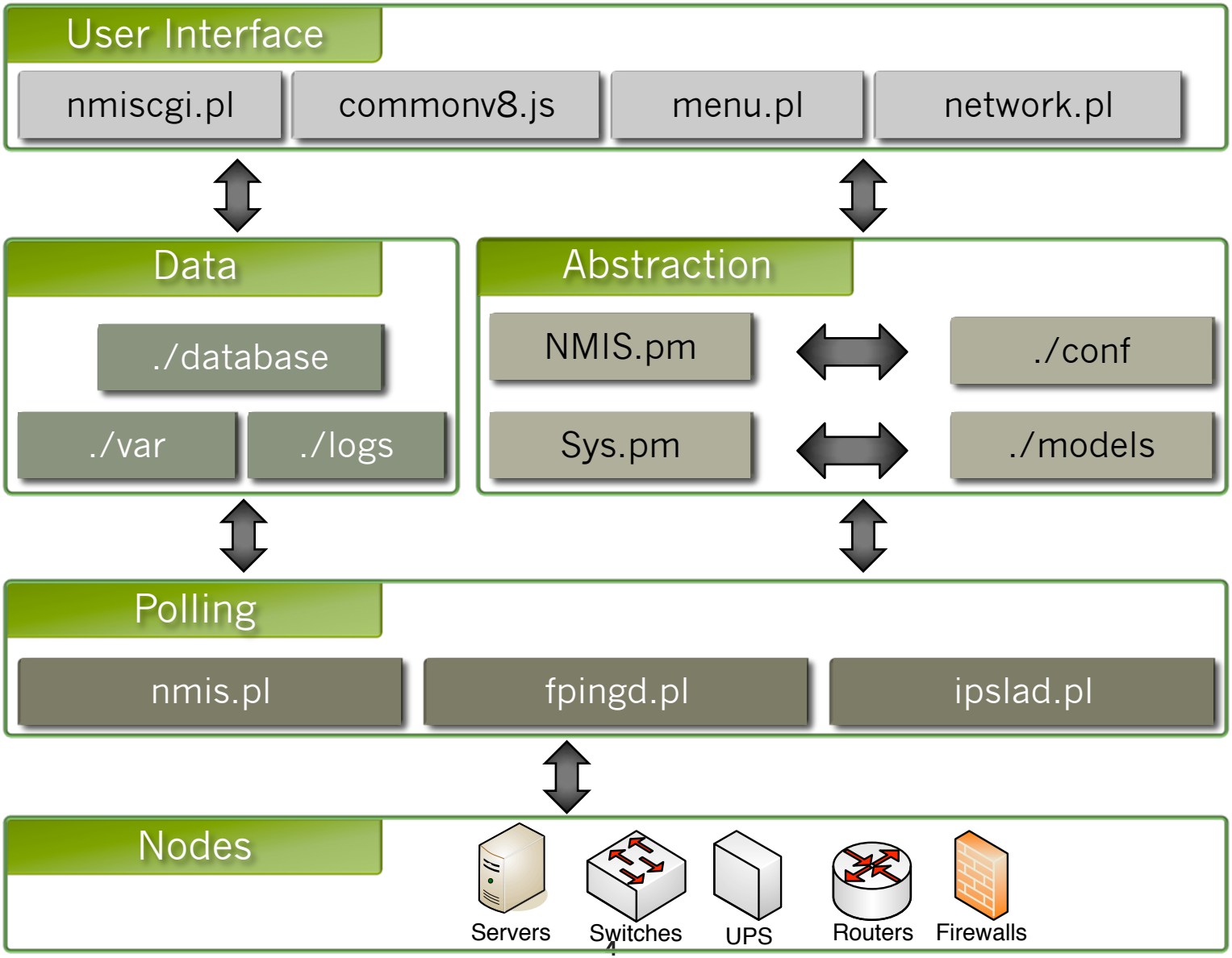
Opmantek Community Wiki

- Access all available documentation at the Opmantek Community Wiki. https://community.opmantek.com

- Register @ https://opmantek.com "Join Community" top right.



NMIS8 Architecture



NMIS8 User Interface Recap

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

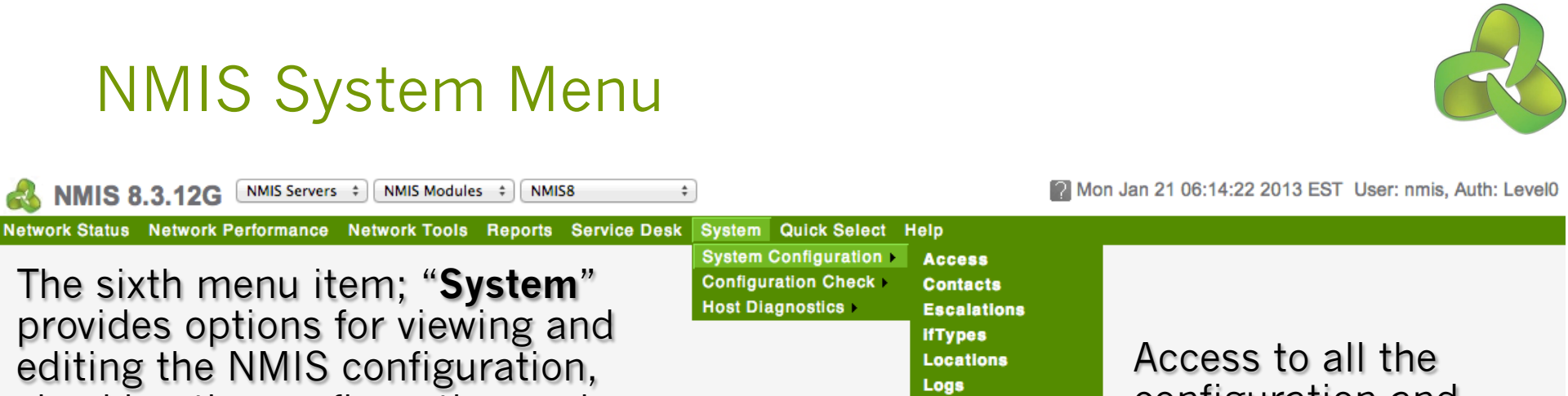
Log of Event_Log — Sun 16:09

Log Name: Event_Log | Search String | Lines: 50 | Level: ALL | Sort | Group | Go

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

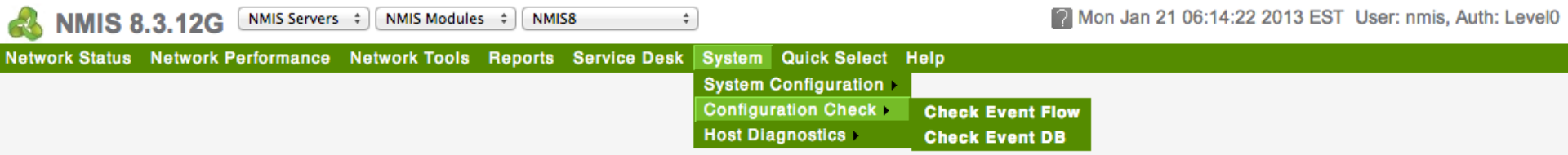
NMIS 20-Jan-2013 18:29:02 warsaw-win1 SNMP Down Warning SNMP error
NMIS 18-Jan-2013 18:33:47 london-r2 SNMP Down Critical SNMP error
NMIS 14-Jan-2013 15:43:52 zurich-r1 Node Reset Minor Old_sysUpTime=10 days 20:08:20 New_sysUpTime=0:03:49
NMIS 14-Jan-2013 15:43:49 warsaw-r1 Node Reset Warning Old_sysUpTime=10 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

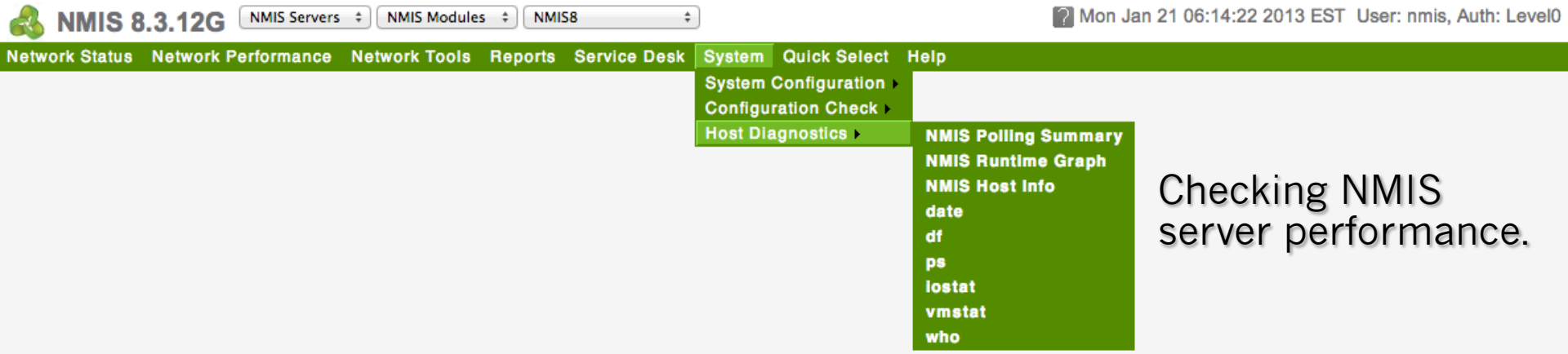
NMIS System Menu



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

Access to all the configuration and policy files.





Checking NMIS server performance.

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)

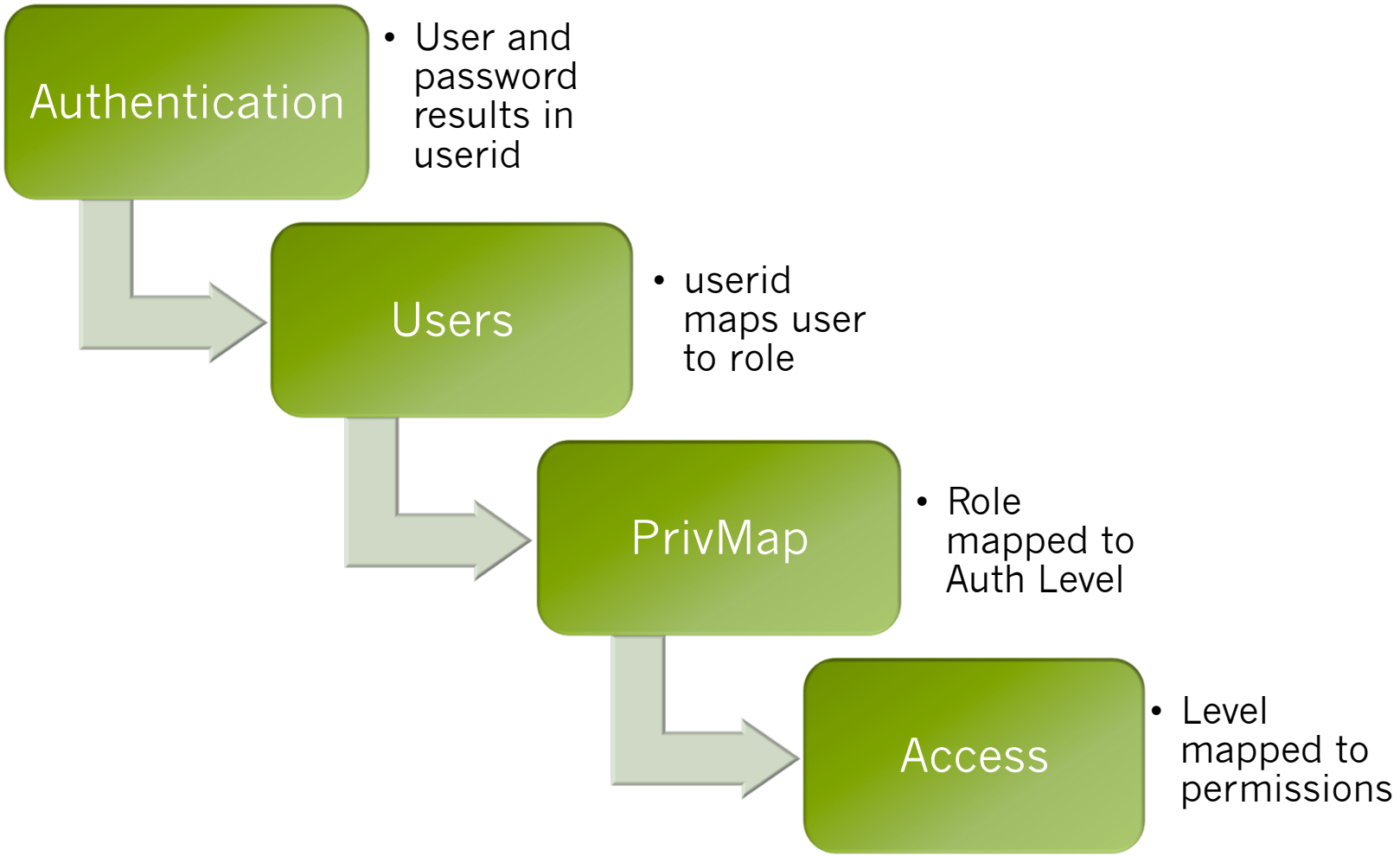
NMIS8 is usually installed into /usr/local/nmis8

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	Configuation 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.

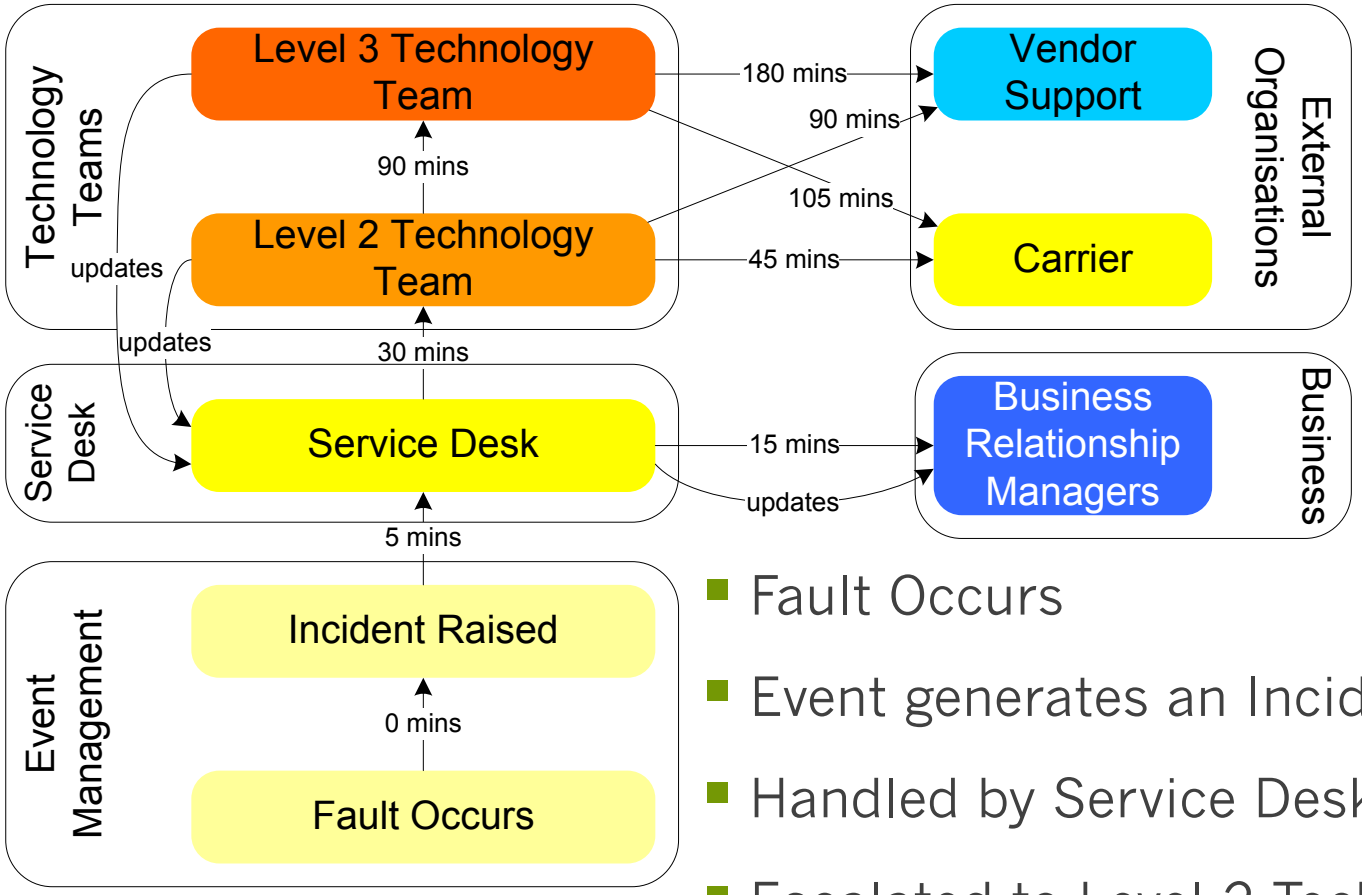
Authentication and Authorisation



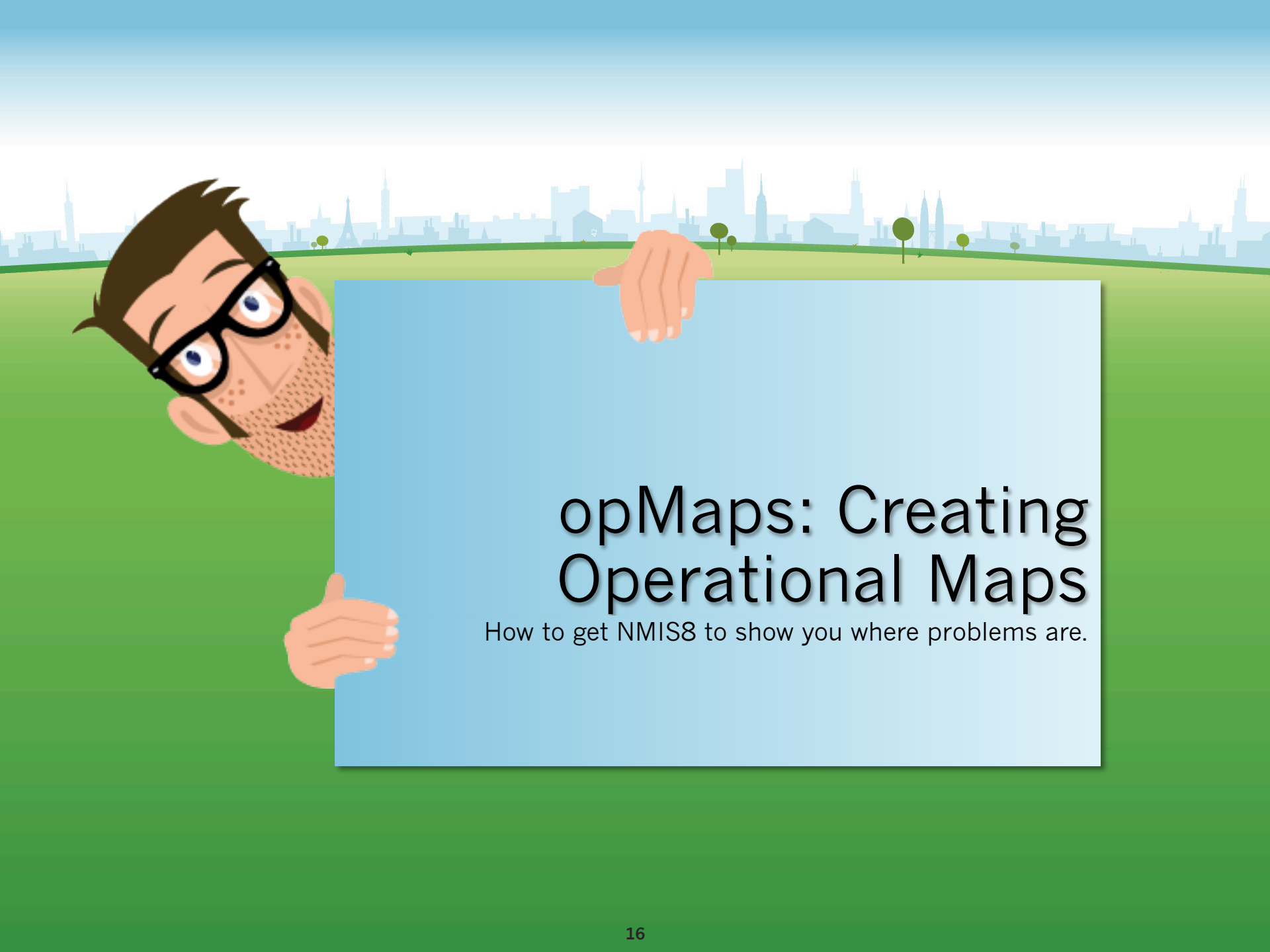
Events, Escalations, Contacts and Notifications

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

Incident Escalation Example

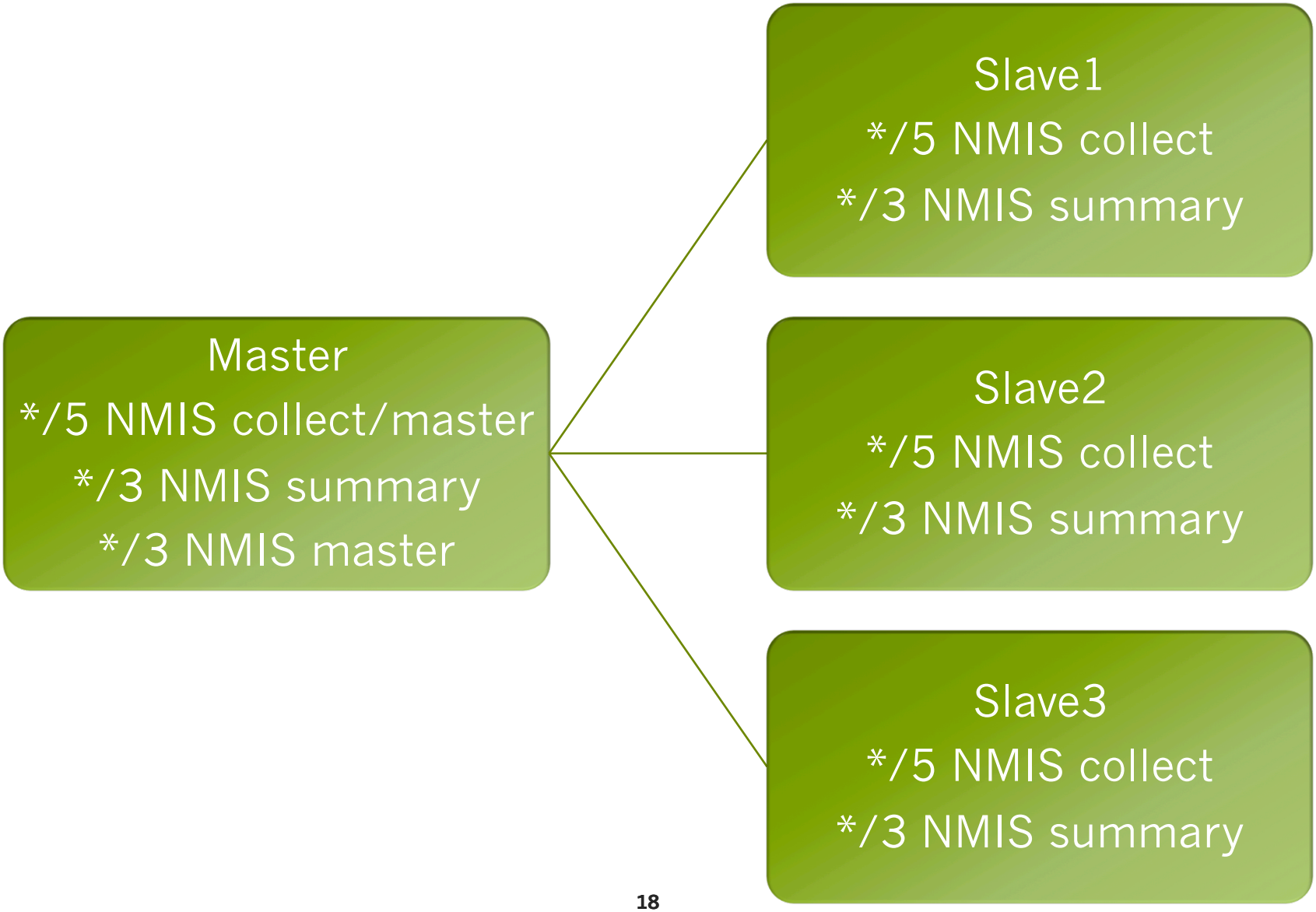


- Fault Occurs
- Event generates an Incident
- Handled by Service Desk
- Escalated to Level 2 Technology Team
- Escalated to Level 3 Technology Team
- Can be escalated to carrier or vendor as needed


opMaps: Creating Operational Maps
How to get NMIS8 to show you where problems are.

System Maintenance

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`

Conclusion/Summary