

NeDi News

Remo Rickli



Where's NeDi from?



PAUL SCHERRER INSTITUT



Challenges we had...



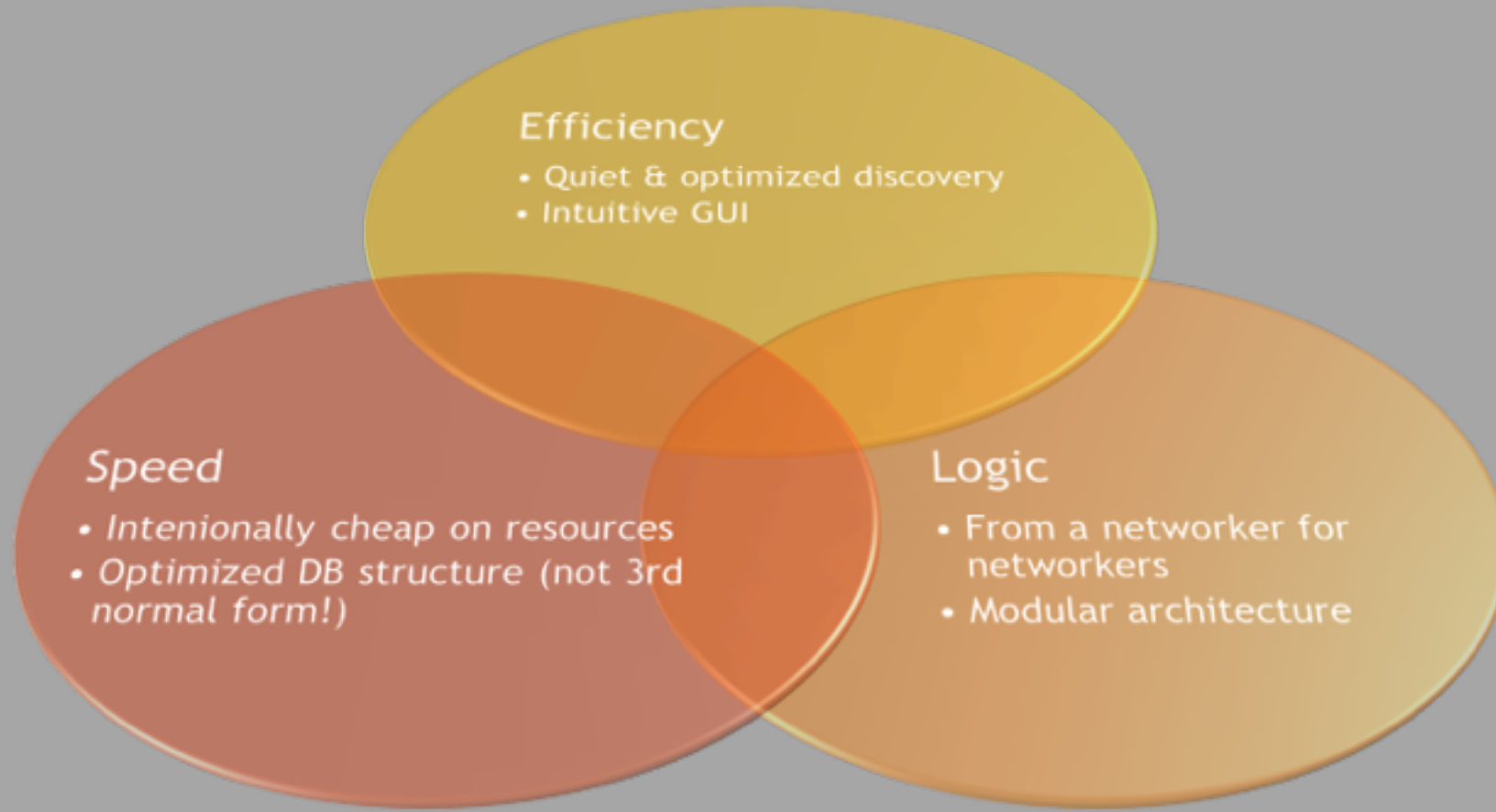
What is NeDi?



- Network Discovery, management & monitoring
- Locate & Track Computers
- Security audits & more
- VM, DC management
- Printer management
- Backup Configs
- IT Inventory
- IT Reports



NeDi's Focus



Netflow Support

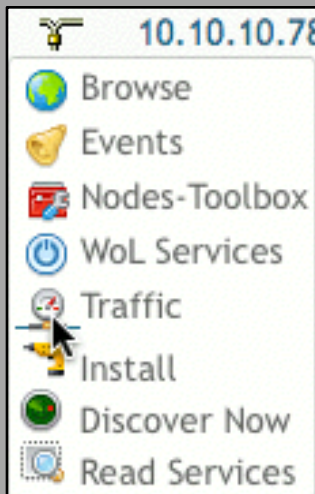


NFDUMP

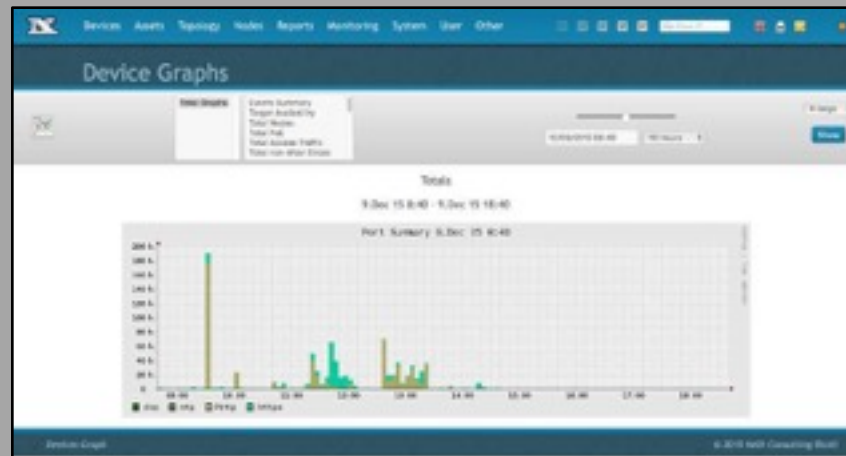
```
-rwxr-xr-x 1 root root 1017K Oct 10 20:17 /usr/local/bin/nfcapd  
-rwxr-xr-x 1 root root 874K Oct 10 20:17 /usr/local/bin/nfdump
```

Thanks Peter Haag!

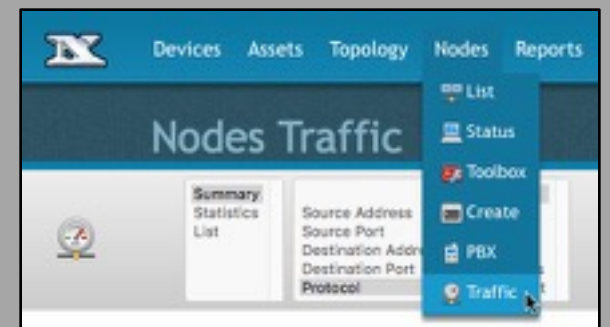
Nodes-Status



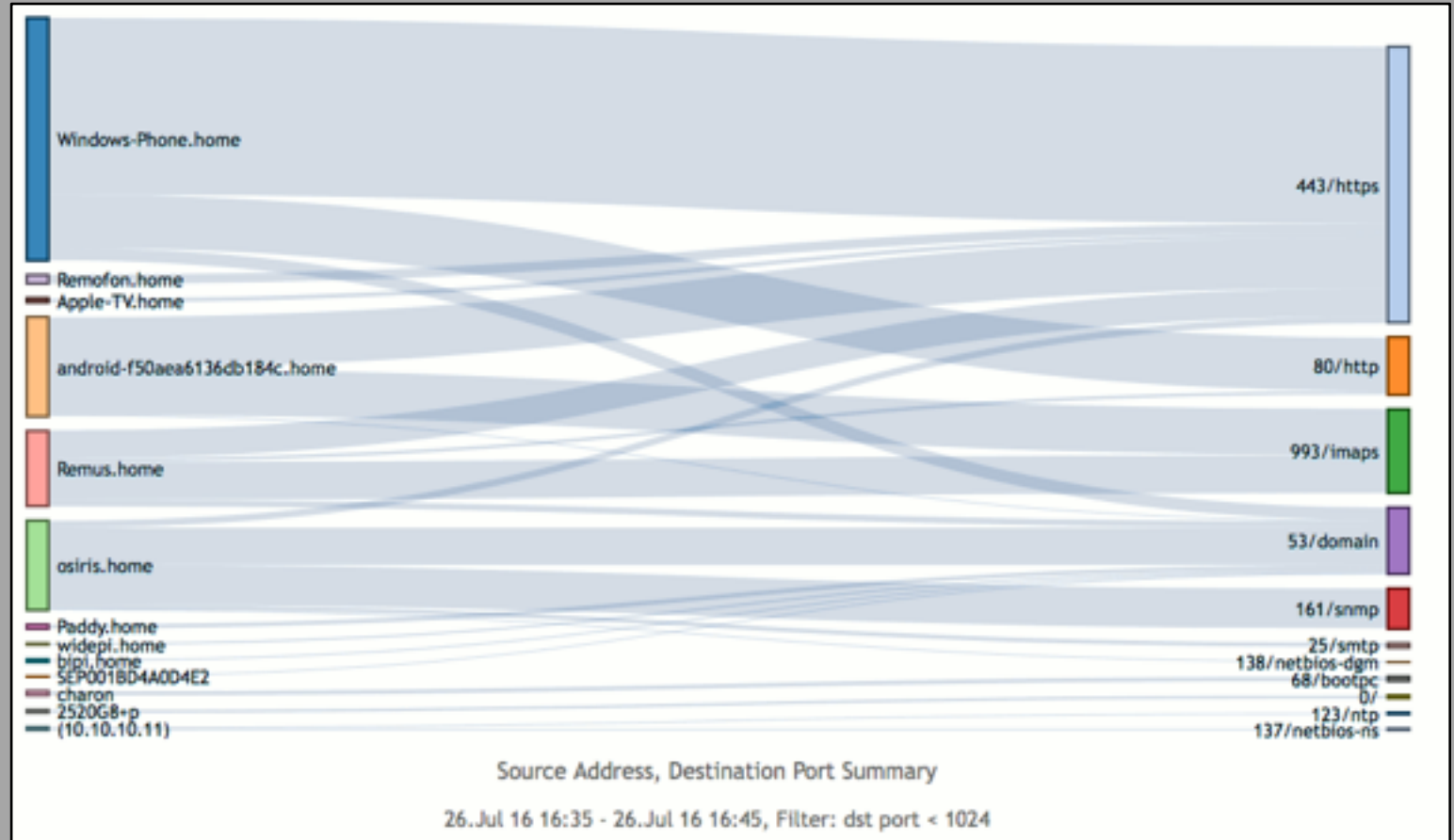
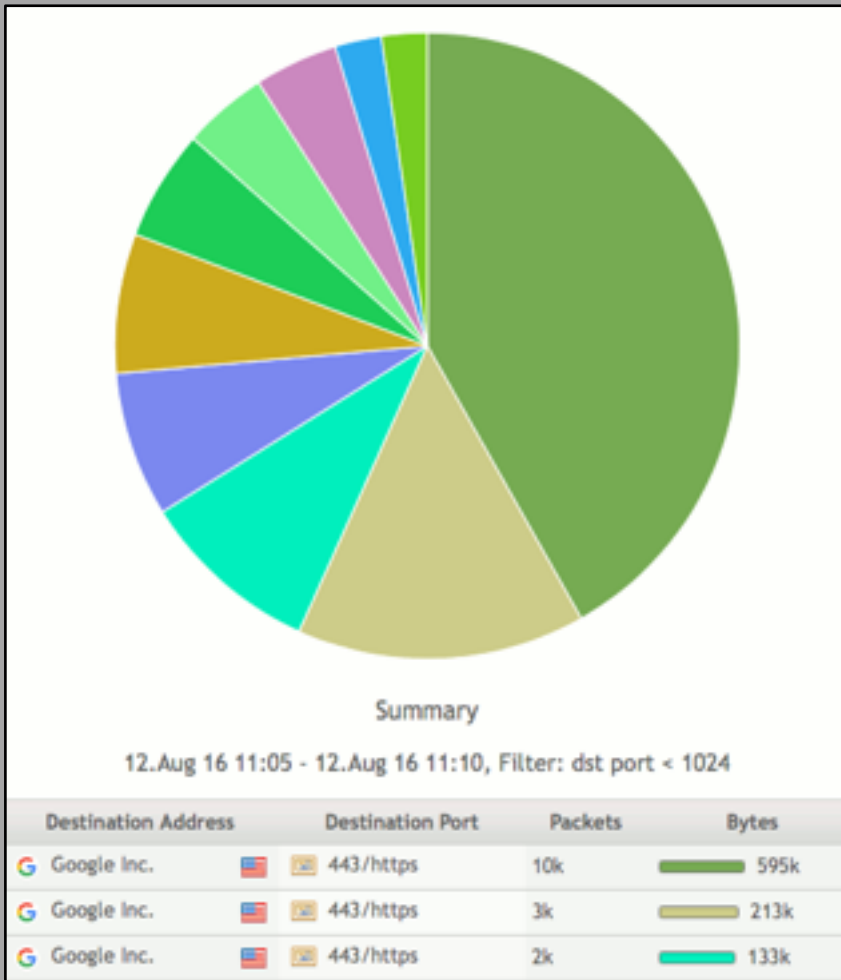
Device-GRaphs



Nodes-Traffic



Traffic Visualization



Traffic Alerts

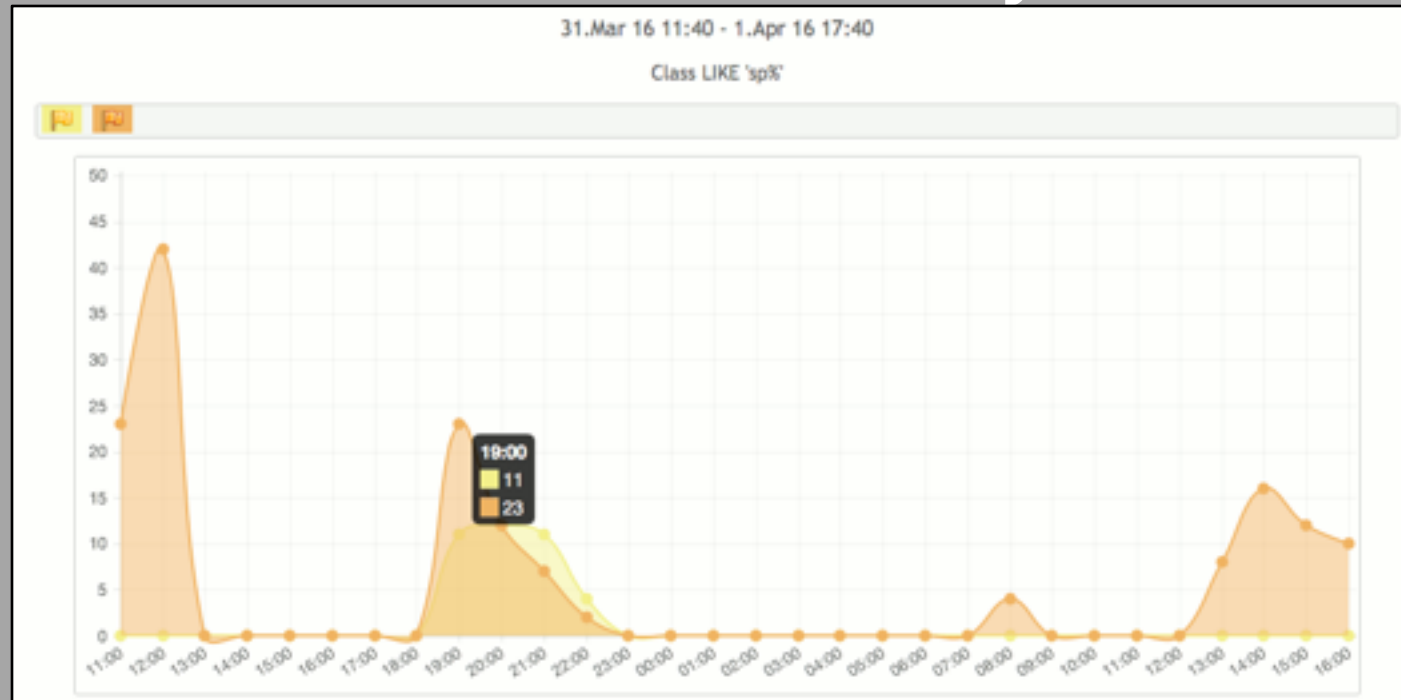


New Policies

Id	Status	Class	Target	Device	Port	Vlan	Action	Information	User	Time	Execute
19		Bytes	> 500000	Source:charon Filter:src host 10.10.10.109 Group:sa_da					admin	31.Mar 16 12:45	
15		Bytes	< 100	Source:charon Filter:src host 10.10.10.10 and port 5060 Group:sa				SIP underrun	admin	28.Mar 16 16:02	
17		Packets	> 1000	Source:charon Filter:host 10.10.10.109 Group:				Noisy Host	admin	28.Mar 16 17:47	

3 Values

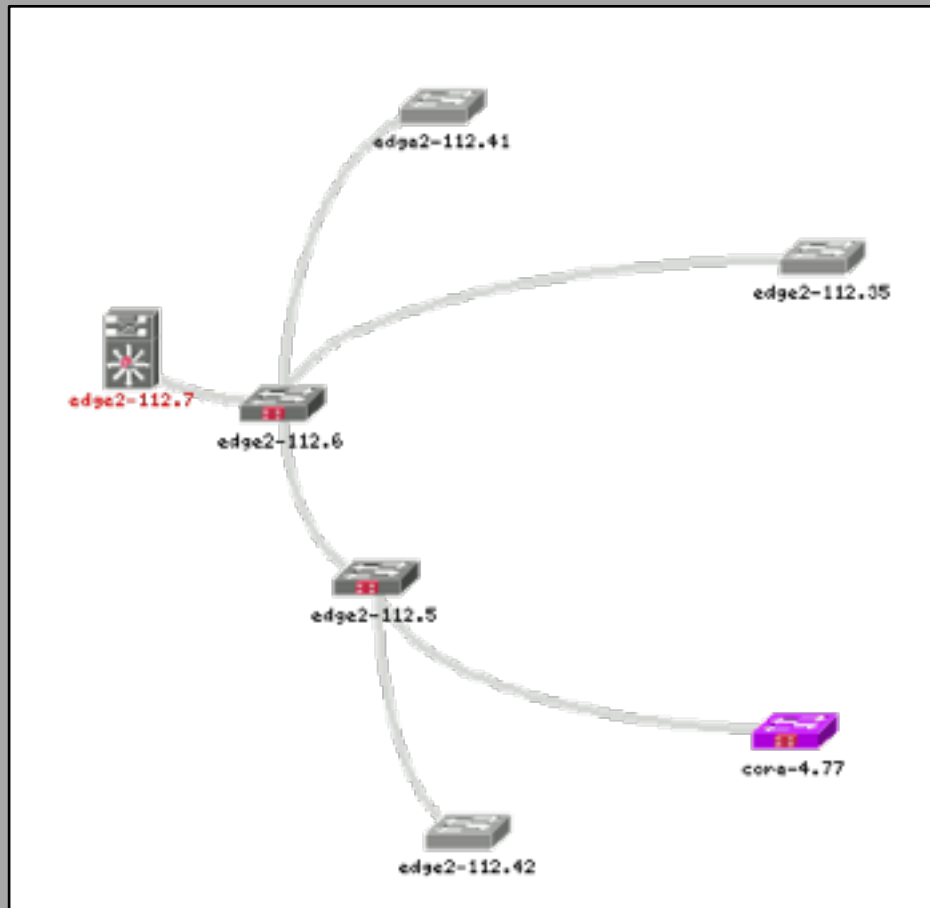
Timeline analysis



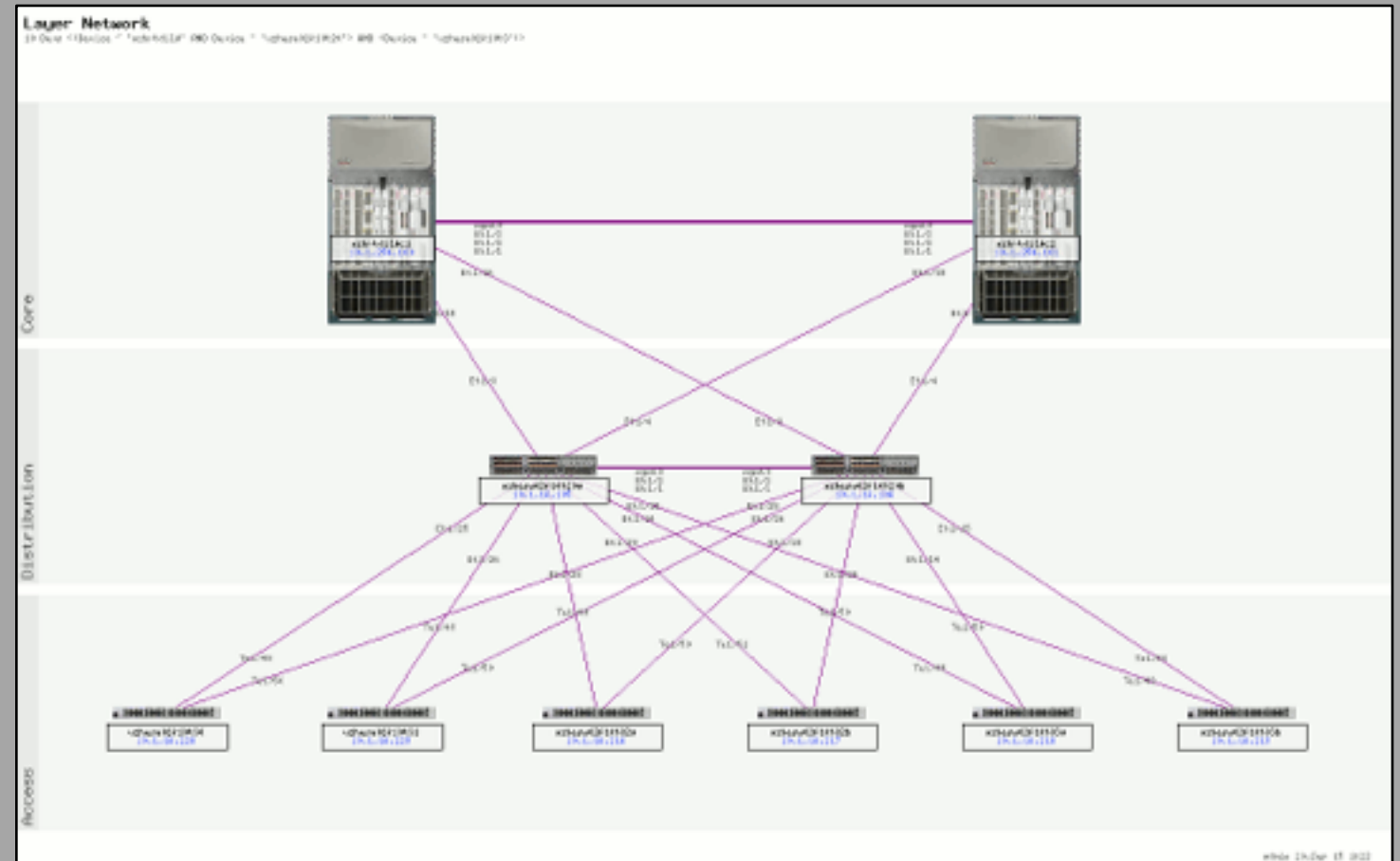
Map Enhancements



Neighbour Range



Layer Map

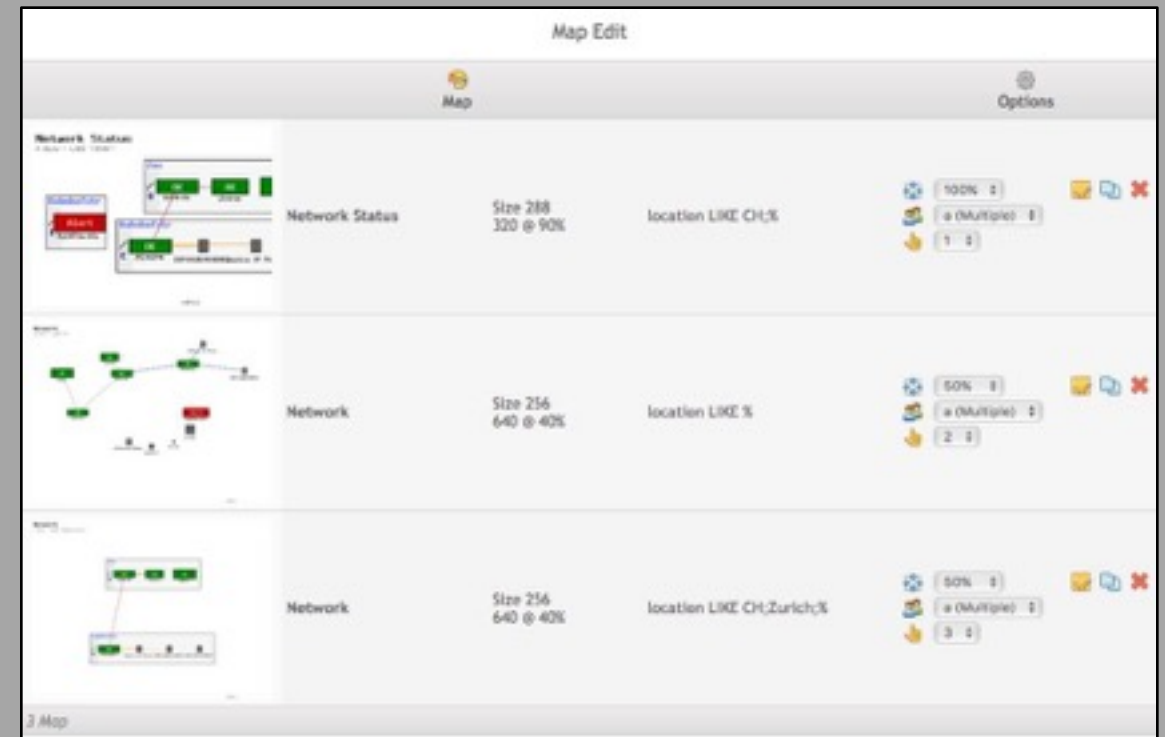


Monitoring Enhancements



Monitoring Map

Editor



Monitoring Enhancements Too



Dynamic Incident Display

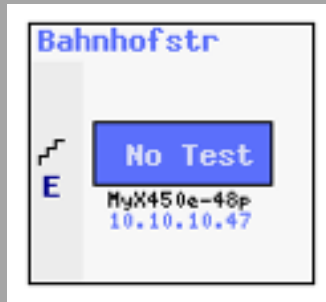
Monitoring Incidents										
New Incident List										
Incident		Target	Start	End	User			Information		
38		edge-226.232	Grp106 DE Berlin Warnstedtstrasse_3b	1.Apr 15 9:58	1.Apr 15 13:44	-	+	- New	<input type="text"/>	
36		edge-226.234	Grp106 DE Berlin Graeningstieg_4a	1.Apr 15 9:58	1.Apr 15 13:44	-	+	- New	<input type="text"/>	
30		edge-226.237	Grp106 DE Berlin Graeningstieg_6a	1.Apr 15 9:58	1.Apr 15 13:44	-	+	- New	<input type="text"/>	
29		edge-226.233	Grp106 DE Berlin Graeningstieg_8b	1.Apr 15 9:58	1.Apr 15 13:44	-	+	- New	<input type="text"/>	
27		edge-226.231	Grp106 DE Berlin Warnstedtstrasse_5b	1.Apr 15 9:58	1.Apr 15 13:44	-	+	- New	<input type="text"/>	
22		edge-226.235	Grp106 DE Berlin Grningstieg_2b	1.Apr 15 9:58	1.Apr 15 13:44	-	+	- New	<input type="text"/>	
21		edge-226.230	Grp106 DE Berlin Warnstedtstrasse_7b	1.Apr 15 9:58	1.Apr 15 13:44	-	+	- New	<input type="text"/>	


7 Values, Limit 25

More Enhancements



Maintenance Mode



	10.10.10.2	 210235A393B088000014
	10.10.10.47	 0850G-80599

Vlan Distribution

Vlan Distribution

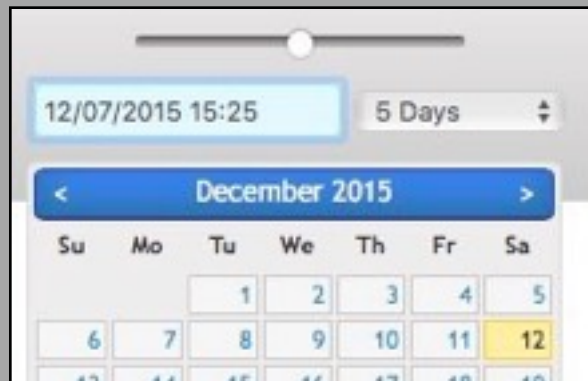
Device	1	2	3	4	5	10	11	13	20	30	40	50	100	101	102	103	110	120	133	134	168	200	300	301	302	500	999	1001
chb-homeoffice	✓				↔	↔	↔	↔	↔											⊗	↔	↔	↔	↔				↔
ChB-priv	↔				↔			↔												⊗		⊗	↔					
HP-2530-8G-PoEP	⊗																											
sw-1-1-wdh	⊗	↔	↔		⊗		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔						↔			↔	
sw-1-2-wdh	⊗	↔	⊗		↔		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔						↔			↔	
sw-1-3-wdh	⊗	↔	↔		↔		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔						↔			↔	
sw-2-1-wdh	⊗	↔	⊗		↔		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔						↔			↔	
sw-2-2-wdh	⊗	↔	⊗		↔		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔						↔			↔	
sw01	⊗	↔			↔	↔	↔		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔										
sw01-bremen	⊗	⊗	↔	↔					↔																			
switch01-bhv	↔	↔			↔	↔																		↔	↔	↔	↔	
switch02-bhv	↔	↔			↔	↔																		↔	↔	↔	↔	

127 Vlans (Limit 500), 12 Devices, Sort: Device

Other Enhancements



Timeframe Entry



List Devices with SNMPGET

A screenshot of a web interface showing a list of devices. The interface includes a search bar with '2029:25', a dropdown menu for 'Device', and buttons for 'Show', 'Monitor', and 'Delete'. The main content area displays a table of devices with columns for 'Device', 'Main IP', 'Device Type', and 'SNMP Get'.
























Device	Main IP	Device Type	SNMP Get
2520G8-vp	10.10.10.4	HP 2520-8G-PoE	5348932
C2960-8	10.10.10.3	WS-C2960-8TC-L	6807445
MSR20	10.10.10.2	MSR20-11	6807266

3 Devices, Sort: device, Limit: 250

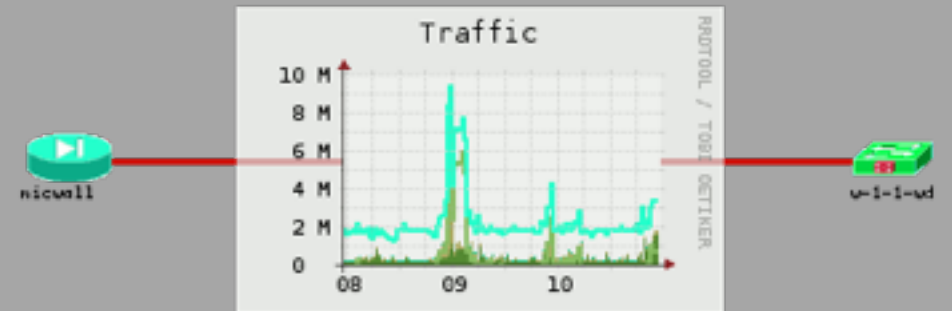
Visual Enhancements



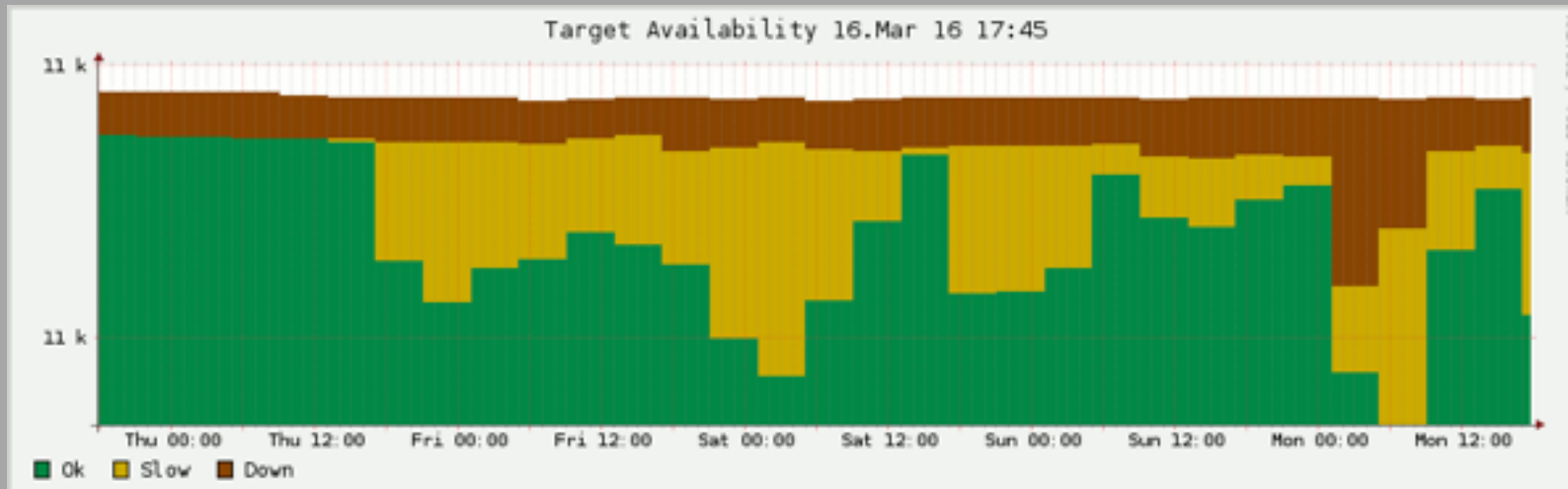
NEW ICONSET

 charon	 35084/
 Google Inc.	  443/https
 AMS3	  443/https
 Chromecast.local	 36134/
 Remus.local	 64291/
 Chromecast.local	 0/
 charon	 0/
 Remus.local	 64301/
 Chromecast.local	 44866/
 ROLOTEC	  80/http

Prettier RRDs



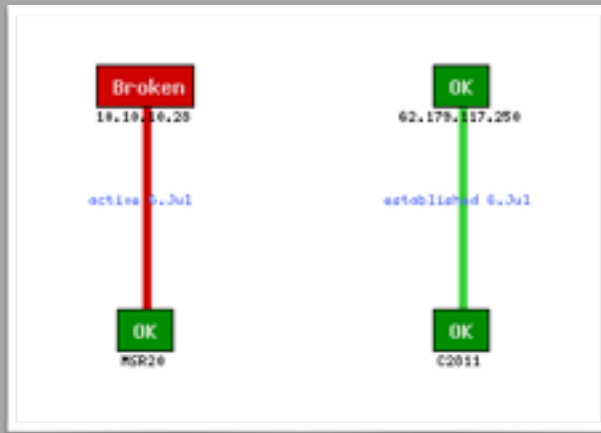
Better RRDs



Under Investigation



BGP Peer Monitoring

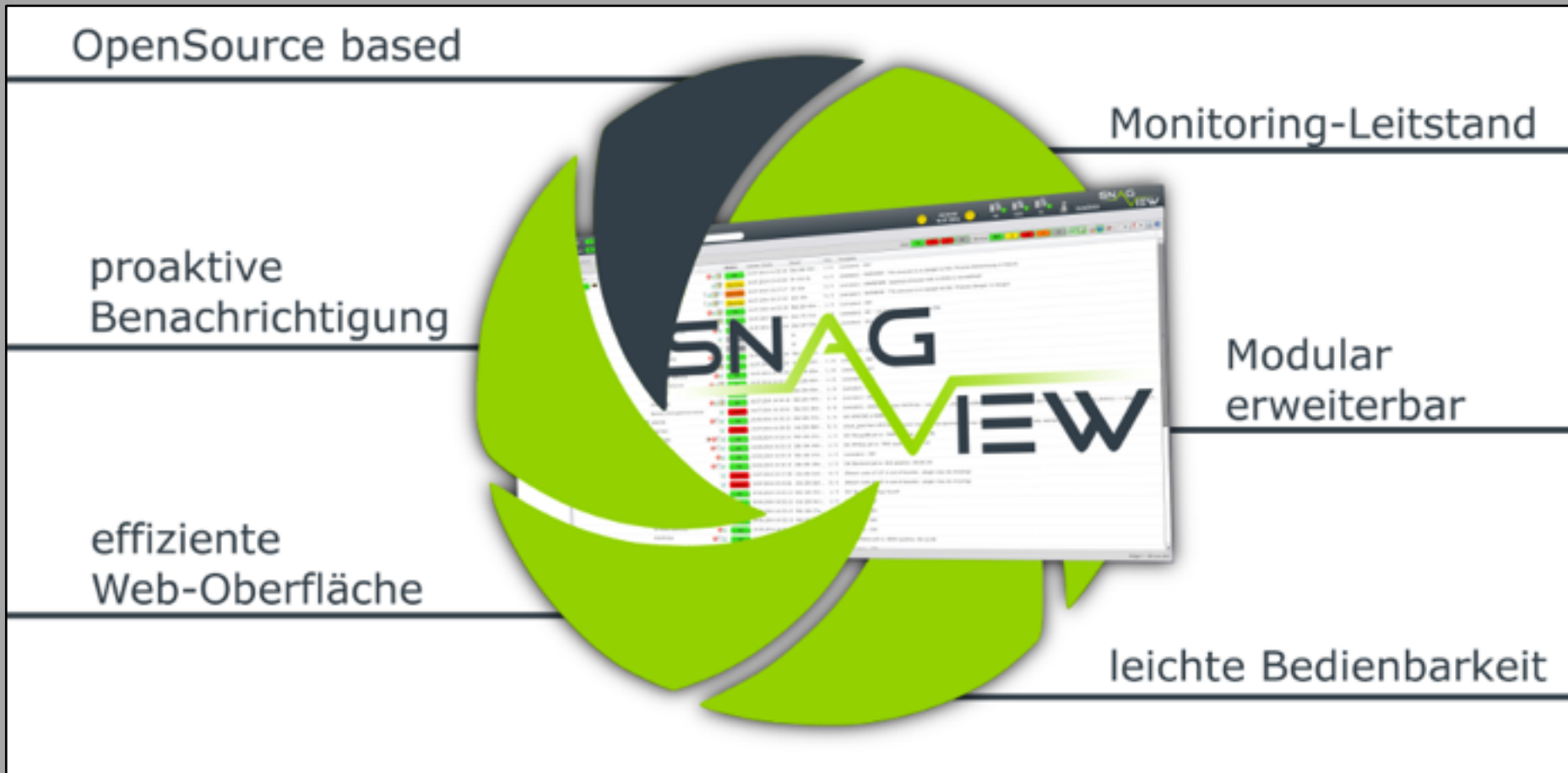


Leaflet Heatmaps



Id	Level	Time	Source	Class
289		7.Jul 16 15:57	C2811	BGP peer status is established
286		7.Jul 16 15:53	C2811	BGP peer status is active
285		7.Jul 16 15:53	C2811	BGP peer status is idle
280		7.Jul 16 15:39	C2811	BGP peer status is active

NeDi & SNAG View

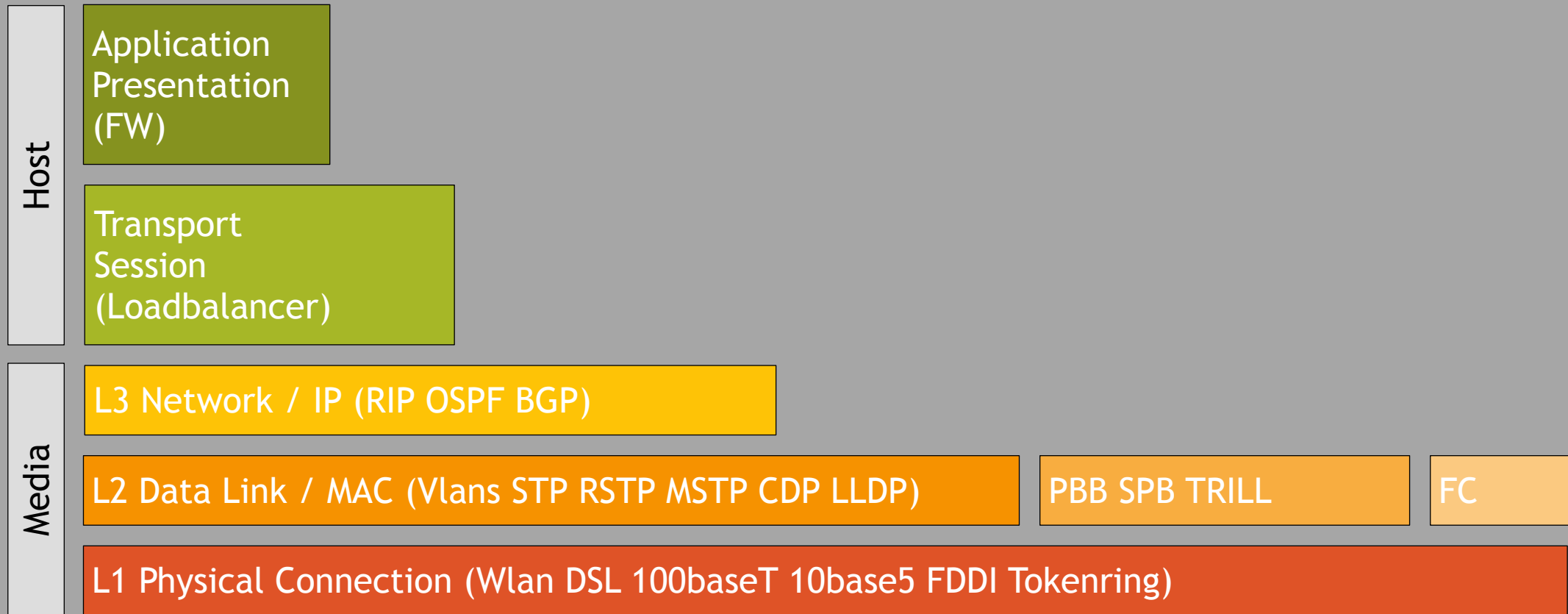


NeDi 4 Nerds

Remo Rickli



A little OSI Exursion



What HW vendors sell



- Solutions!
- Best in class, best of breed...
- SDN, NFV with or without Openflow
- Automation with everything
- No expensive know-how required anymore



What you want



1. A stable solution!
2. Address actual needs
3. Scalable for future needs
4. Open & “standard” mgmt
5. Easy operation (Debug, ISSU)
6. Not end of development

```
Image                Size (bytes) Date    Version
-----
Primary Image       :    7649429 02/25/13 J.15.09.0014
Secondary Image     :    6052873 07/27/09 J.14.01

Boot ROM Version    : J.14.05
Default Boot       : Primary
```

```
Device ID: SEP001BD4A0D4E2
Entry address(es):
  IP address: 10.10.10.69
Platform: Cisco IP Phone 7970, Capabilities: Host Phone
Interface: FastEthernet0/1, Port ID (outgoing port): Port 2
Holdtime : 123 sec

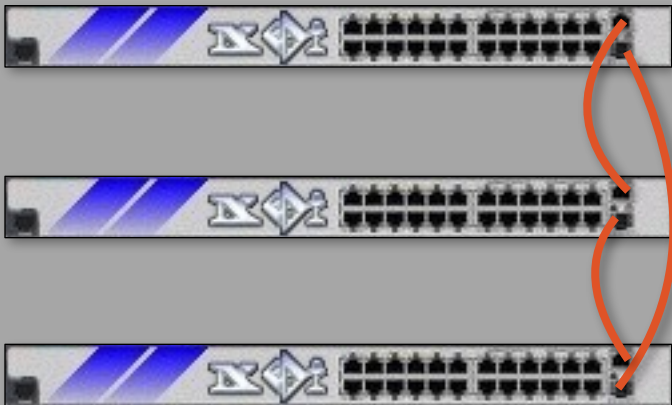
Version :
SIP70.8-5-2S

advertisement version: 2
Duplex: full
Management address(es):
```

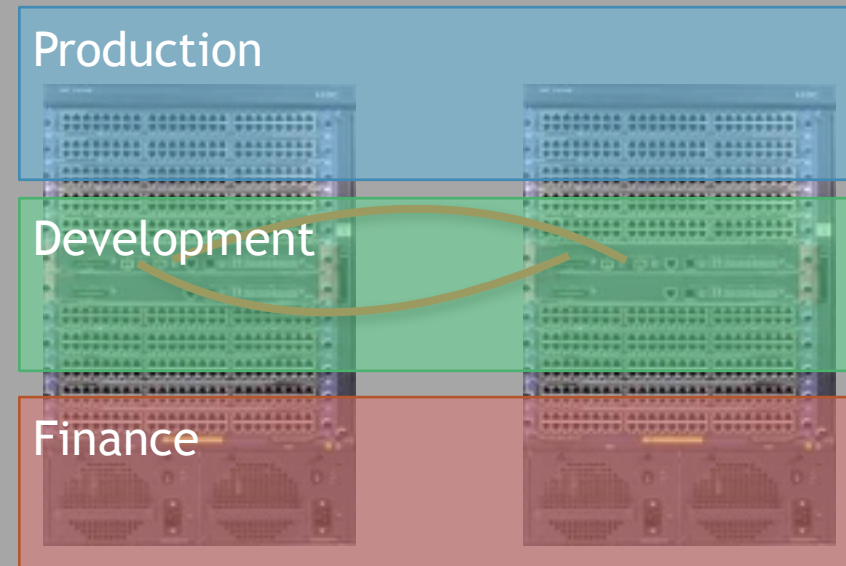
Interesting Concepts



Stacking, FEX



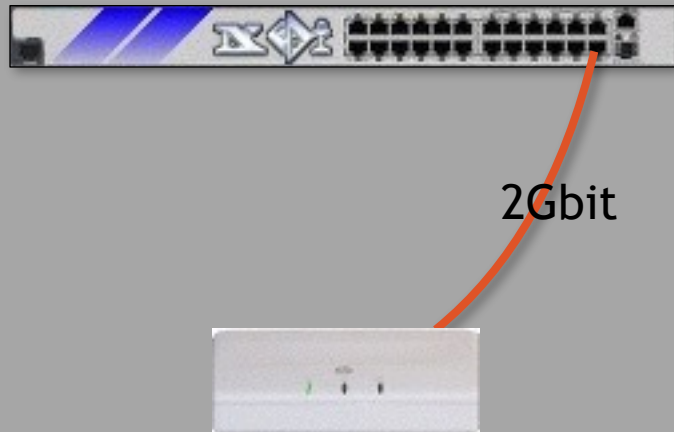
Partitioning



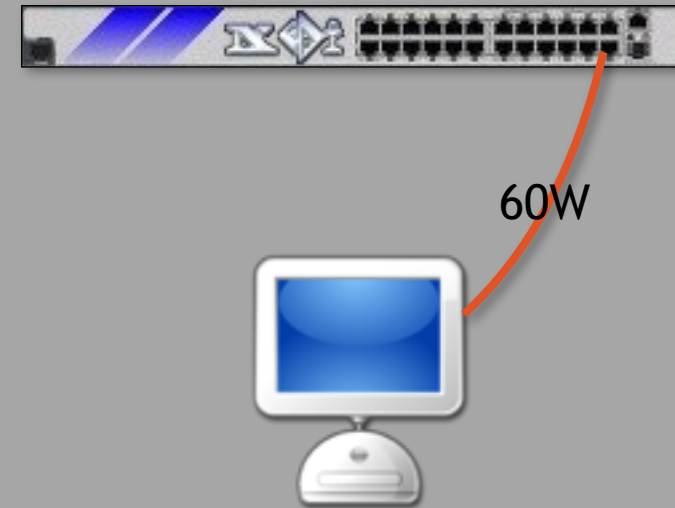
More Interesting Concepts



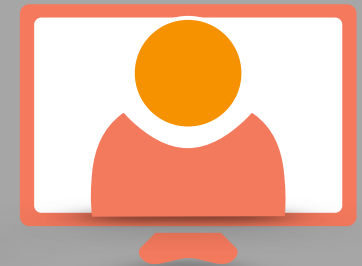
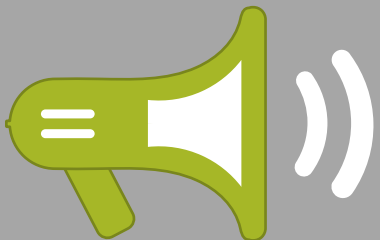
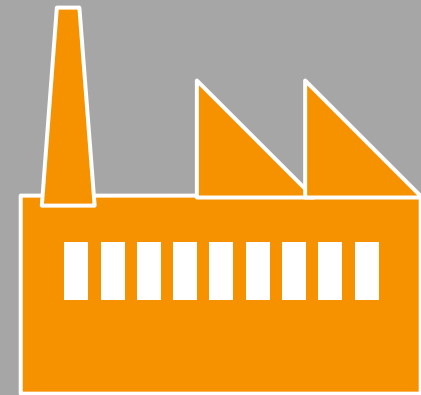
xG baseT



PoE++



Vendor Management



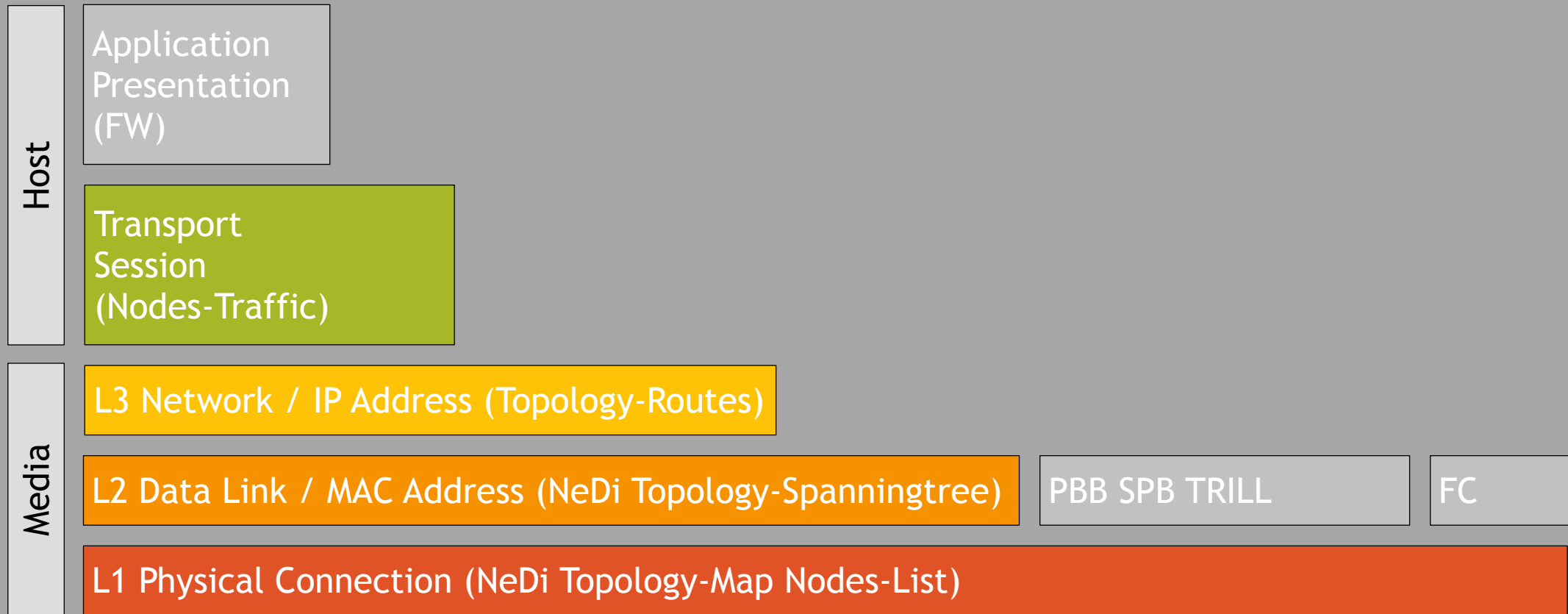
Real Management Needs



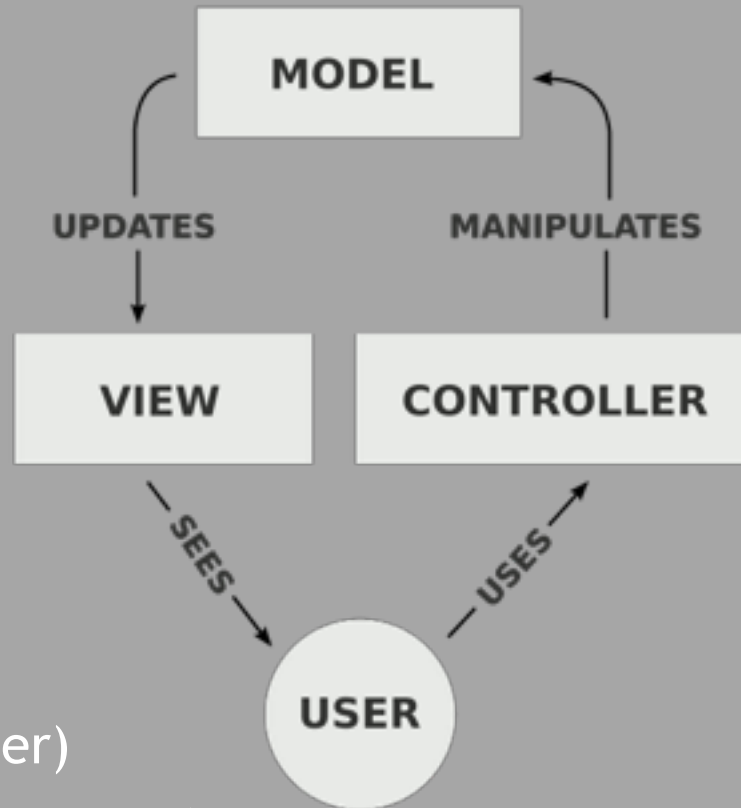
- SW Management
- Lifecycle Management
- Maintenance Management
- Topology Development
- Simple & usable Reporting

Fex-105 Nexus2248 Chassis	Fabric Extender Module: 48x1GE,	11 25 12
Fex-105 Nexus2248 Chassis	Fabric Extender Module: 48x1GE,	19 29
Fex-106 Nexus2200HP Chassis	Fabric Extender Module: 16x10GE	
Fex-106 Nexus2232 Chassis	Fabric Extender Module: 32x10GE	16 16
Fex-106 Nexus2248 Chassis	Fabric Extender Module: 48x1GE,	37 11
Fex-106 Nexus2248 Chassis	Fabric Extender Module: 48x1GE,	30 18
Fex-106 Nexus2248 Chassis	Fabric Extender Module: 48x1GE,	27 21
Fex-107 Nexus2200HP Chassis	Fabric Extender Module: 16x10GE	Active
Fex-107 Nexus2232 Chassis	Fabric Extender Module: 32x10GE	5 27

How NeDi sees IT



Coding these Days

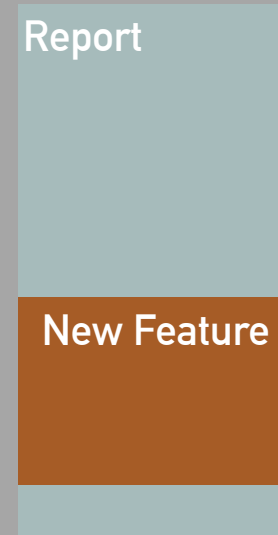
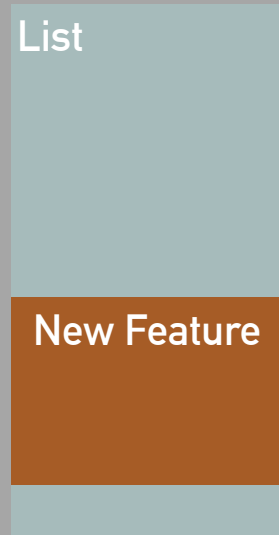


from Wikipedia

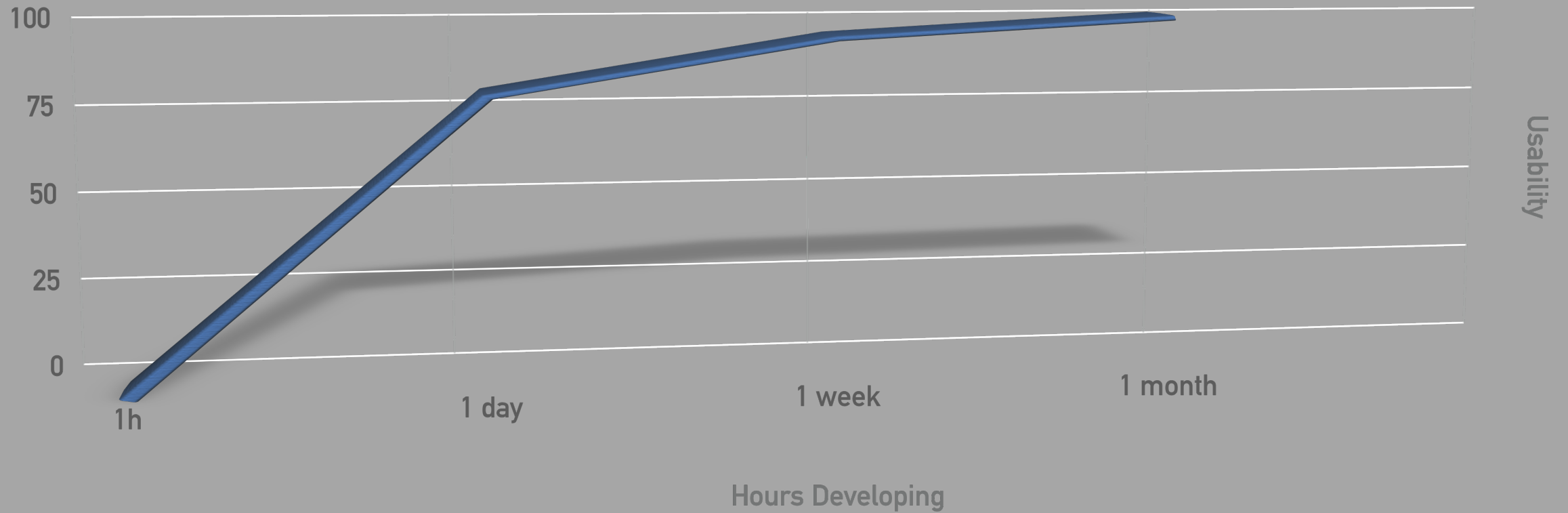
- Object oriented
- Interactive AJAX
- Responsive CSS (Bootstrap)
- MVC (Model, View, Controller)
- Javascript Framework (jQuery etc.)

```
<!DOCTYPE html>
<html class=" tab-strict x-viewport">
  <head></head>
  <body id="tab-element-1" class=" tab-gecko3 ext-linux x
onpageshow="event.persisted&&(function(){var x=tab-ITOR
  <div id="heatab-panel" class=" tab-nel tab-nel-noborde
  <div id="tab-marksidebar" class="tab-nel tab-ee tab-rd
none;"></div>
  <div id="gtab-box" class=" x-tab-tab-l x-border-panel"
  <div id="ext-tab-6" class="x-tab-panel-tab-er x-unse
  <div id="ext-tab-7" class="x-tab-panel-bwrap">
  <div id="ext-tab-8" class="x-tab-panel-body x-tab-p
  <div id="dashboard" class=" x-tab-l x-tab-l-nobor
  <div id="ext-cotab-011" class="tab-nel tab-nel-nol
  <div id="ext-tab-19" class="tab-nel-bwrap">
  <div id="ext-tab-20" class="tab-nel-tbar x-pany
  <div id="ext-tab-21" class="tab-nel-body x-pany
  <div id="ext-comtab-12" class="tab-nel x-grid
  <div id="ext-tab-09" class="tab-nel-bwrap">
  <div id="ext-tab-10" class="tab-nel-body x
  <div id="ext-tab-14" class="tab-id3" hid
  <div id="ext-tab-15" class="tab-id3-vie
  <div id="ext-tab-16" class="tab-id3-h
  <div id="ext-tab-17" class="tab-id3-s
  <div id="ext-tab-19" class="tab-id3-
  <div class="x-tab-3-row x-grid3-ro
  <table class="x-tab-3-row-table"
  <tbody>
  <tr>
  <td class="x-tab-3-col x-grd
tabindex="0" style="width: 9
  <div class="x-tab-3-cell-is
Userdata
</div>
```

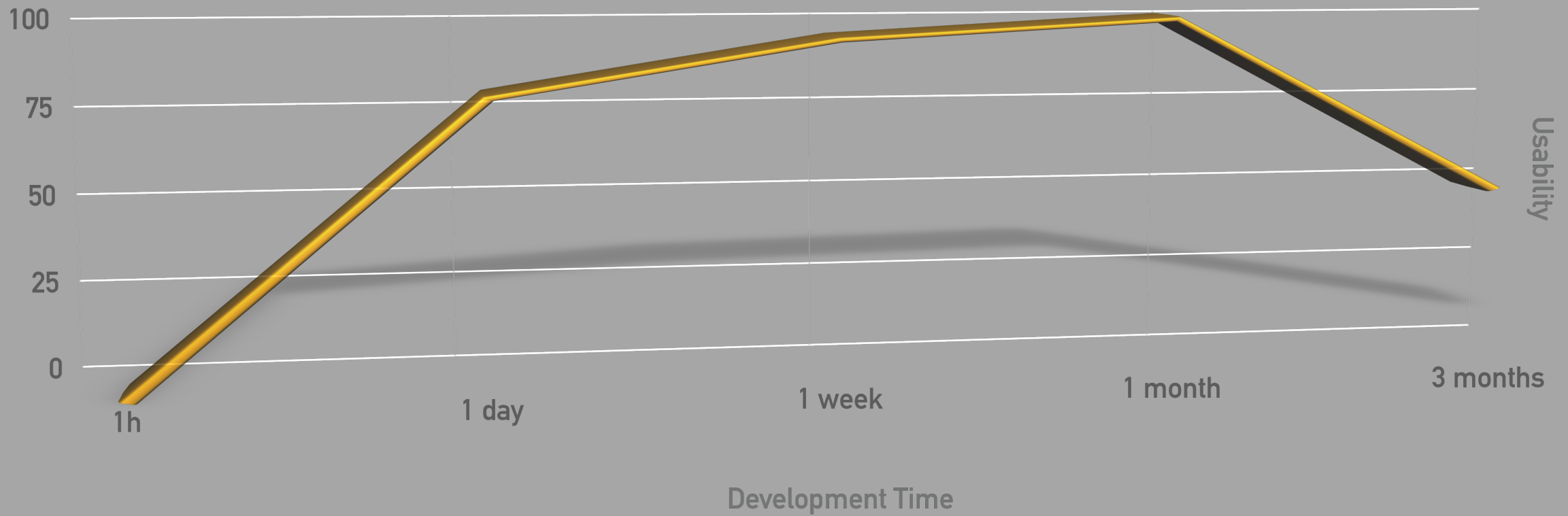
Integrating new Features



My Experience



Often Observed





Thank you...

NeDi Consulting

Remo Rickli

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rickli@nedi.ch

