NOC Tools / TL1 Toolkit

Monday 17 October 2005
Utrecht

Introduction

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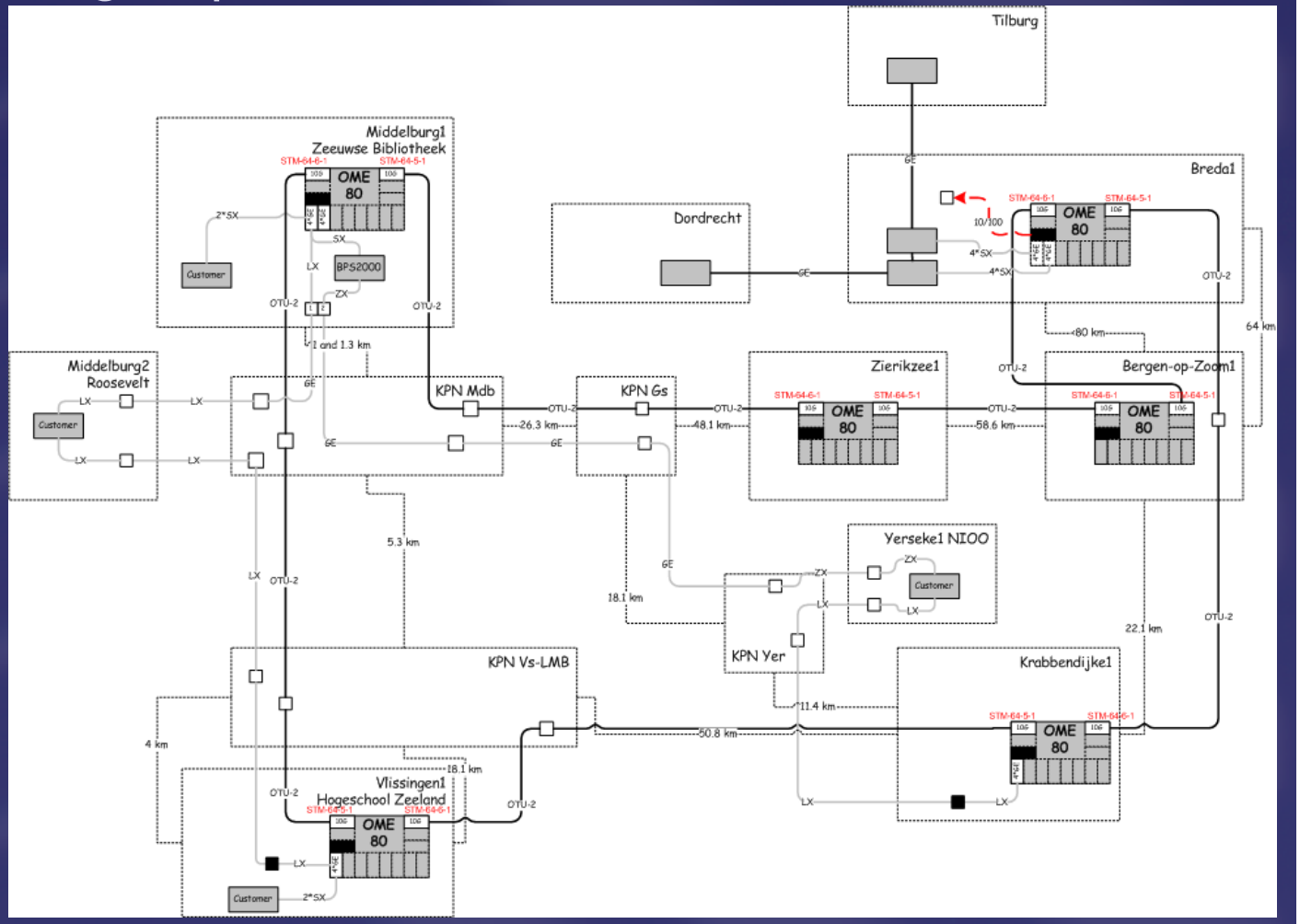
- Nortel Experience until now
- Preside Network monitoring
- Shortcomings
- TL1
- Example applications

Nortel Experience until now

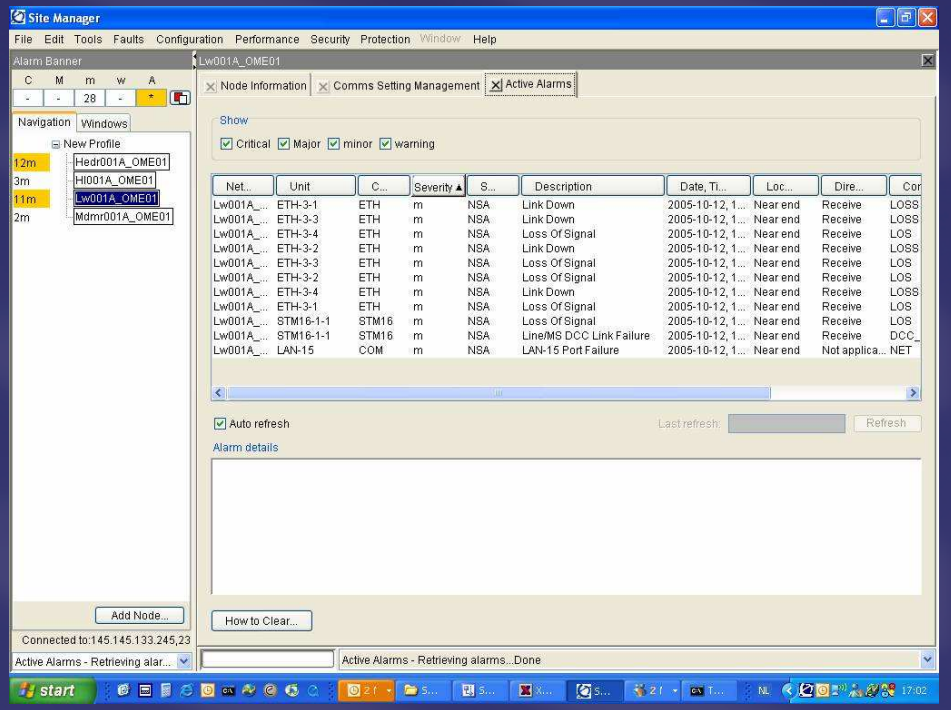
- Zeeland ring September 2004

Nortel OME6500



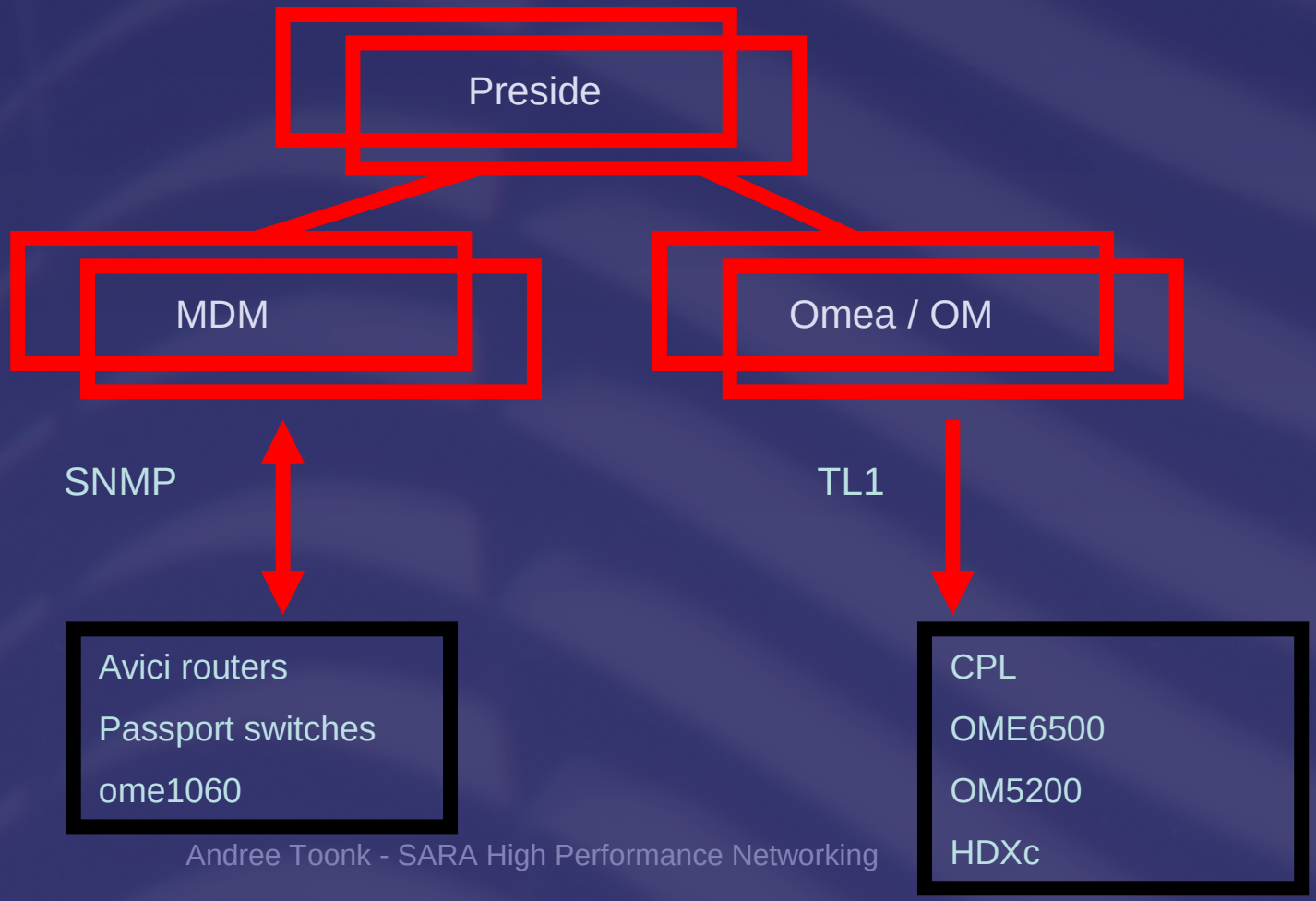
Nortel Experience until now

- Configuration with SiteManager
  - Provisioning circuits
  - Retrieving alarms
  - Changing user accounts
  - Etc…
  - Only on per node basis



Preside Network monitoring

- Preside network management system
  - Relies heavily on MDM and OMEA



Transaction Language 1 (TL1)

- set of ASCII-based instructions, or "messages"
- TL1 is the dominant management protocol for controlling telecommunications networks
- Not really human friendly
- Let’s look at an example

Human Friendly?

```
< ACT-USER:"Asd001A_OME4T":xxx:120253::xxxx;IP 120253
<

  "Asd001A_OME4T" 05-10-13 12:21:00
M  120253 COMPLD
;
< RTRV-ALM-ALL:"Asd001A_OME4T"::ANDREE:::;IP ANDREE
<

  "Asd001A_OME4T" 05-10-13 12:21:11
M  ANDREE COMPLD
  "LAN-1-15,COM:MN,NET,NSA,09-29,09-42-38,NEND,NA:\"LAN-15 Port
Failure\":0100000033-5003-0536,:YEAR=2005,MODE=NONE"
  "OC192-1-12-1,OC192:MN,LOS,NSA,09-30,08-33-09,NEND,RCV:\"Loss Of
Signal\":0100001888-0008-0279,:YEAR=2005,MODE=SDH"
  "L2SS-1-3,EQPT:MN,EQPT_MISMATCH,NSA,09-30,12-27-04,NEND,NA:\"Circuit
Pack Mismatch\":0100002318-0063-0036,:YEAR=2005,MODE=NONE"
;
< CANC-USER:"Asd001A_OME4T":xxx:1;IP 1
<

  "Asd001A_OME4T" 05-10-13 12:22:00
M  1 COMPLD
;
<
```

Shortcomings

- In the beginning there was no preside/omea
- Preside only shows active alarms
- Not a good possibility to add comment to a specific alarm
- Provides only performance monitoring and alarms.

We want to:

- Correlate alarms with possible solutions
- “Do things” with this data
- Scenario: add new user, check software level, execute specific commands…, in current situation we need to login to > 100 NE manually and check.

TL1 framework

- September 2004 first scripts were written to retrieve alarms from the ome6500 in Zeeland
- Netherlight: Nortel HDXc and Cisco ONS15454
- May 2005 First subnetworks ready, no adequate monitoring

- Scripts were extended
- TL1 framework
  - Easy Parsable output
  - Easy to add new commands to a library

retr-all-alarms()
add-new-user()
Retr-power-level()

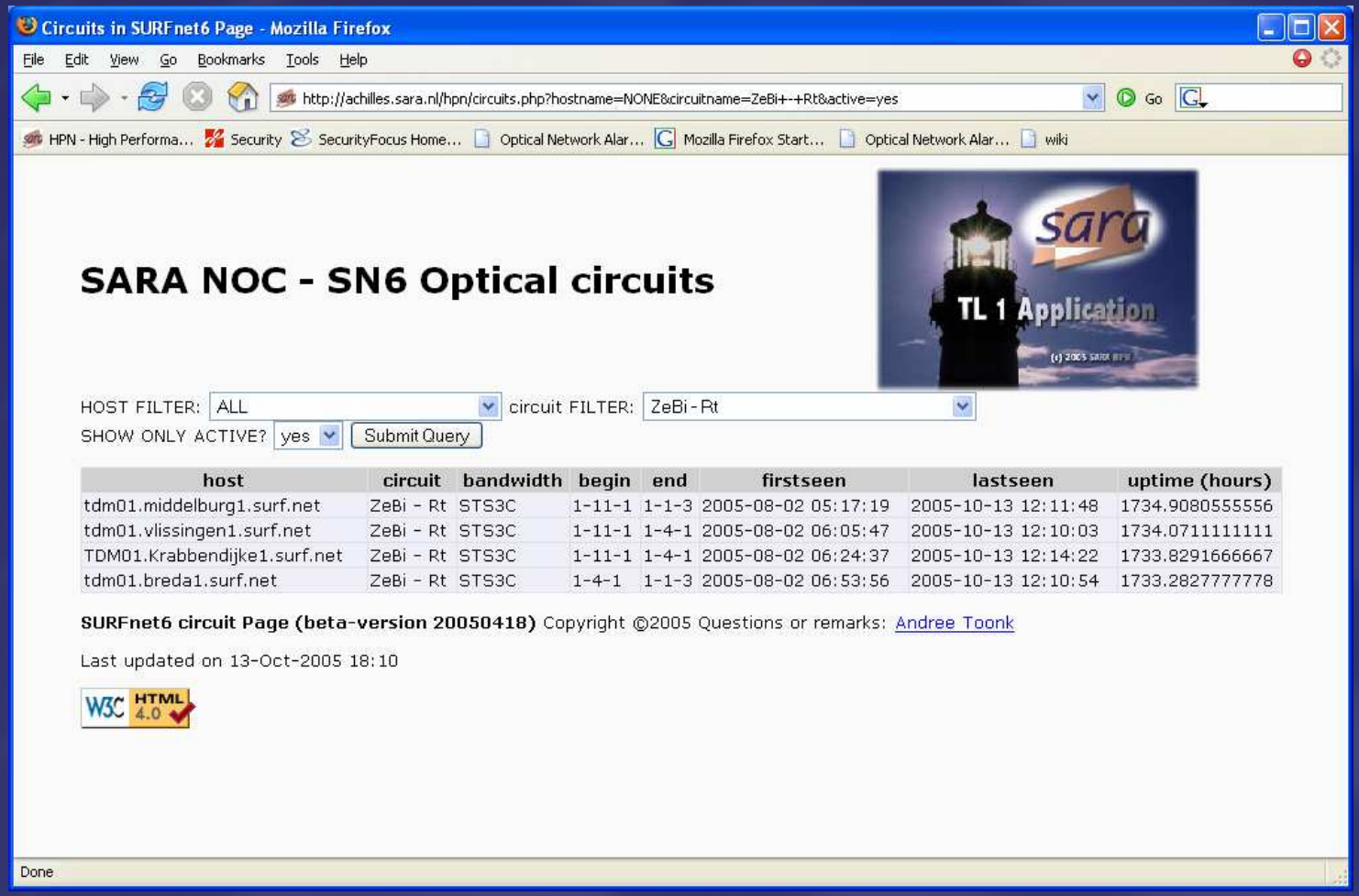
TL1 framework

- First scripts: bash and perl

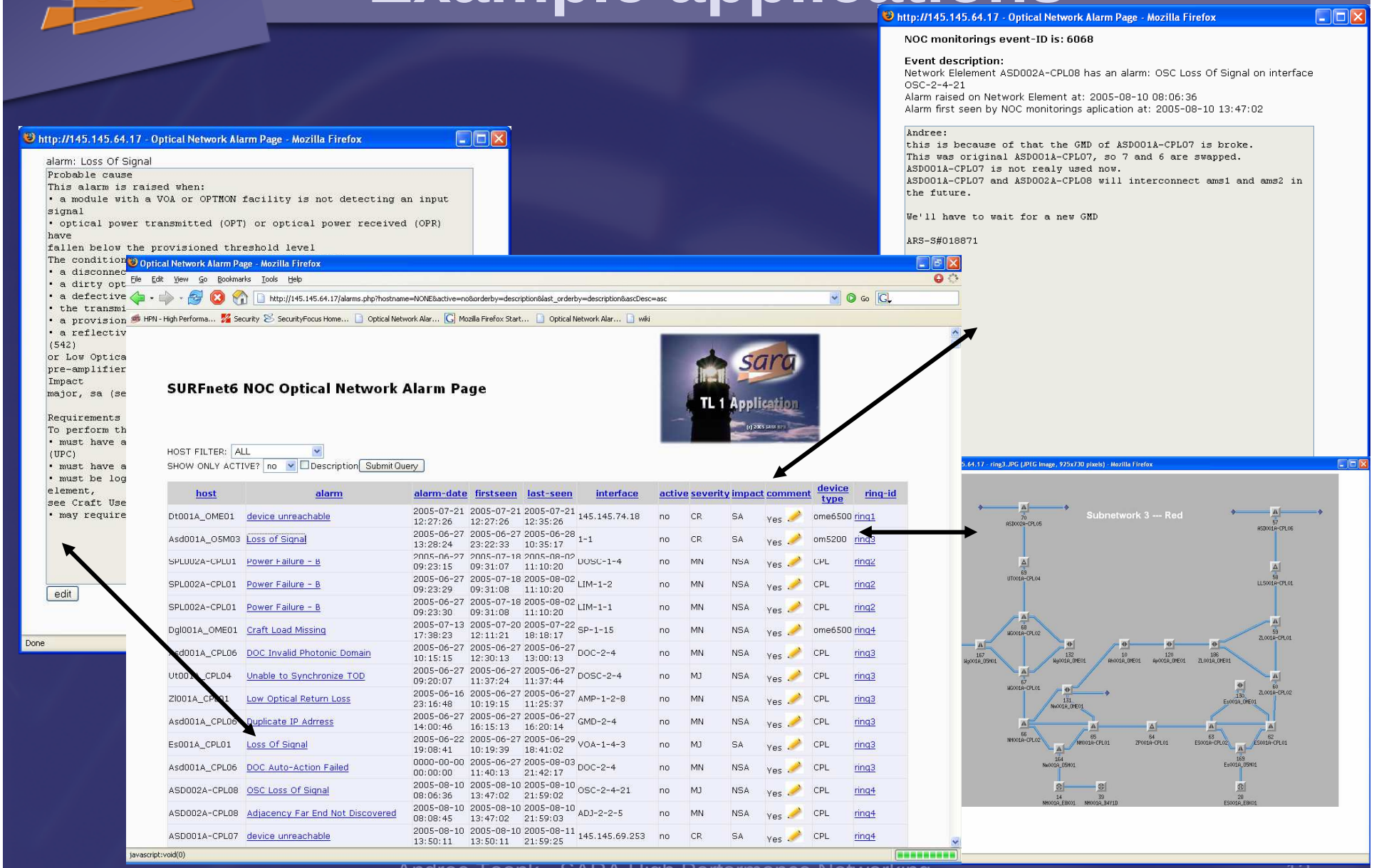
- Perl Net::TL1
- Perl Net::TL1::Alcatel (same author)
- Perl Net::TL1::Nortel

- Goal is to have one interface for all NE's

Example applications



Example applications



The end

Thats all Folks!