TelekomSlovenije

Monitoring IT infrastructure of Telekom Slovenia using Nagios

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Telekom Slovenije

Agenda

- Telekom Slovenije Group
- Monitoring definition
- Which monitoring tool
- Our monitoring system
- Avalibility and performance monitoring
- Collecting and Presenting Results
- Using Measurement Results
- SMARTS ubmrella system
- The future

Telekom Slovenije Group

Key Facts

- Telekom Slovenije is the leading Slovenian provider of electronic communications.
- Provides high-end mobile, fixed and IP communications, multimedia content, and services to residential and business users.
- Telekom Slovenije Group is present in several markets in SE Europe, in Macedonia, Bosnia and Herzegovina, Kosovo and Albania.
- Listed on the Ljubljana Stock Exchange.
- Stable ownership structure, with the Slovenian state as the majority shareholder (72,38%)

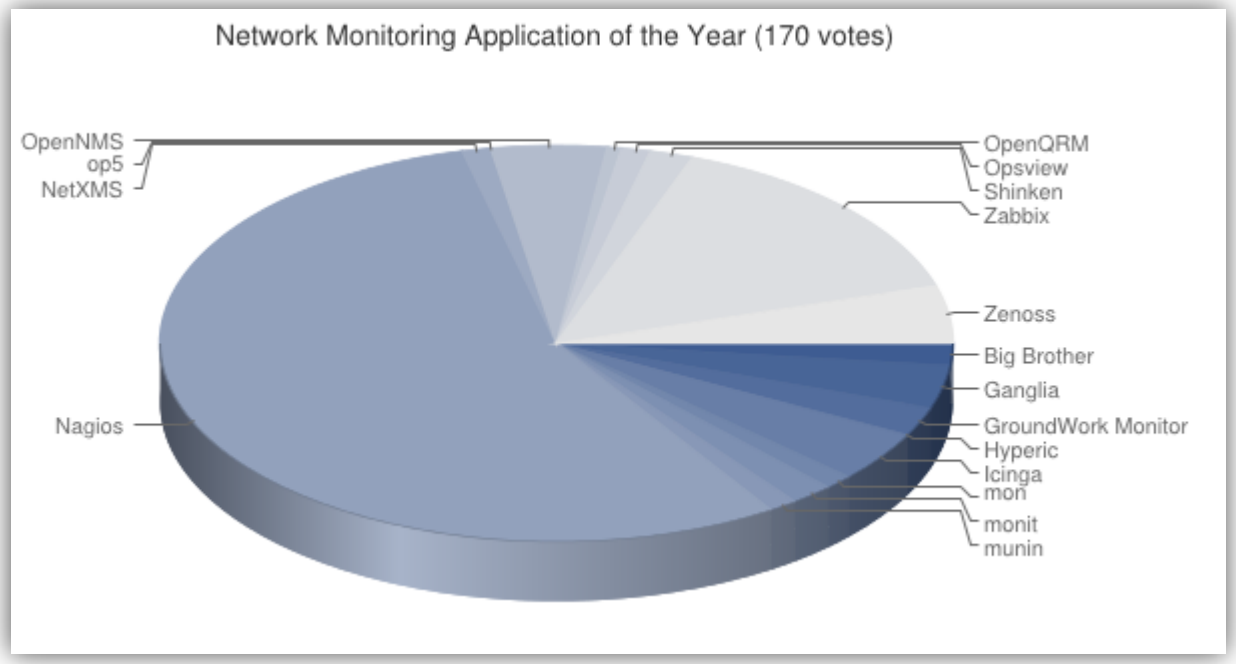
What is monitoring?

„Compare facts with expectations.“

Péter Koczkás
Solution Architect at IT Services Hungary Kft.

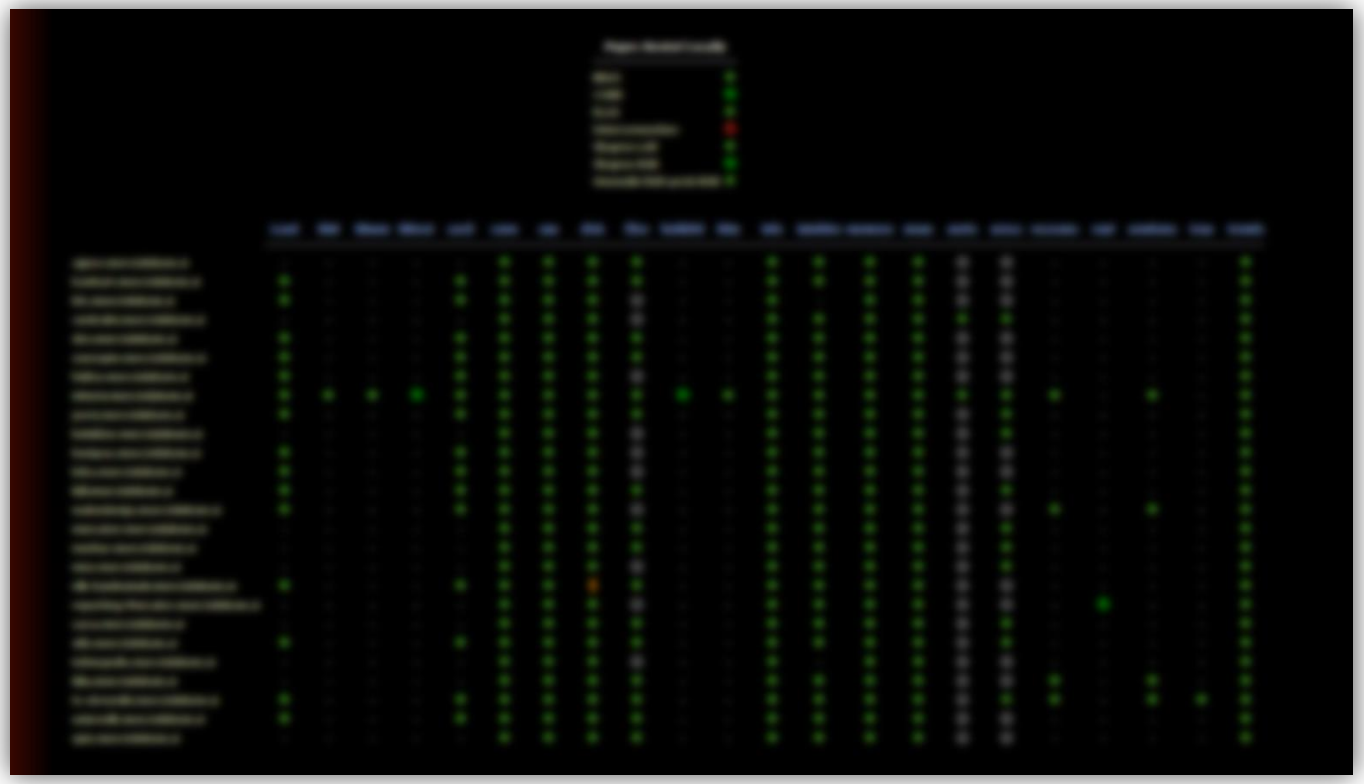
Nagios

- “Nagios Is The Industry Standard In IT Infrastructure Monitoring”



LinuxQuestions.org Members Choice Award 2013

5 years ago



- Slow
- Not scalable
- Limited use

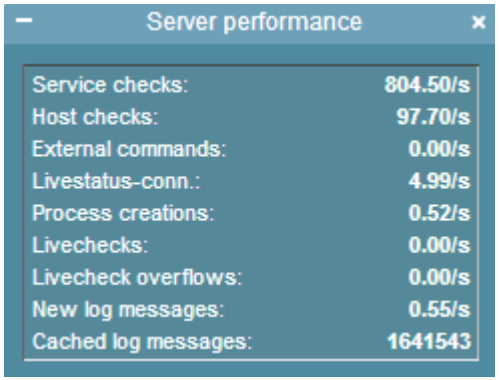
Today

- Using Nagios Core 3
- IP/MPLS Core & Access
- +18 Nagios instances

- Summary:
  - 11500 hosts
  - 500 000 services

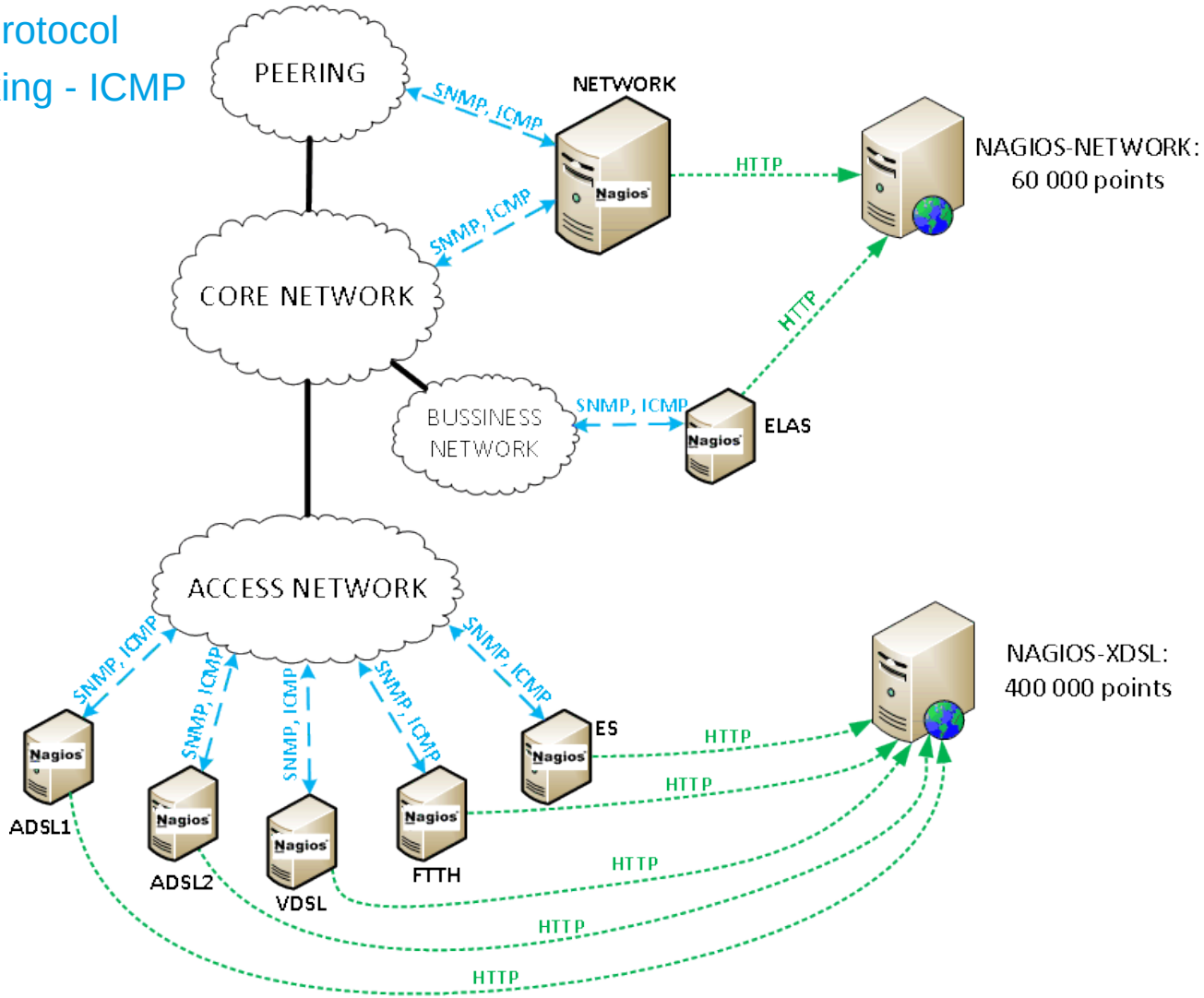
Our monitoring system

- Is fast
- Is scalable
- Reduces downtimes and bussines loss
- Monitors network and IT infrastructure
- Fault & performance management
- Fast and simple overview



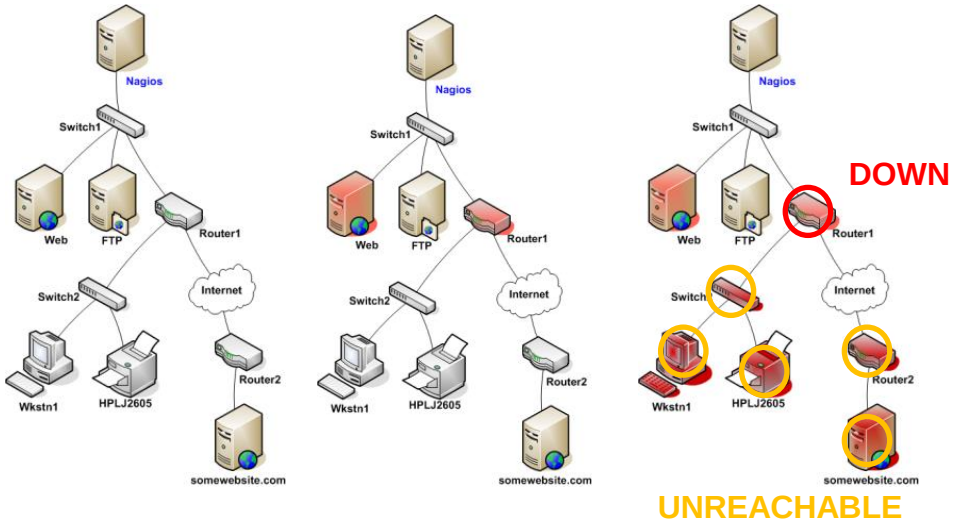
Monitoring Core and Access Network

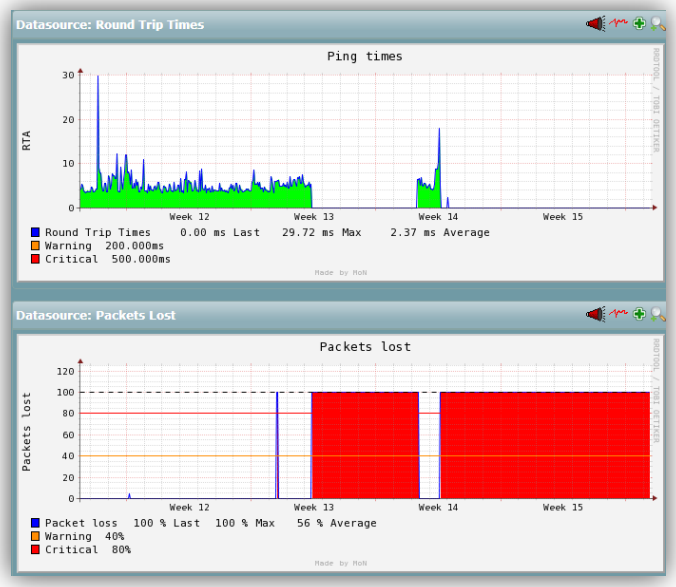
- Polling - SNMP protocol
- Availability checking - ICMP



Avalibility

- ICMP
  Check devices avalibility

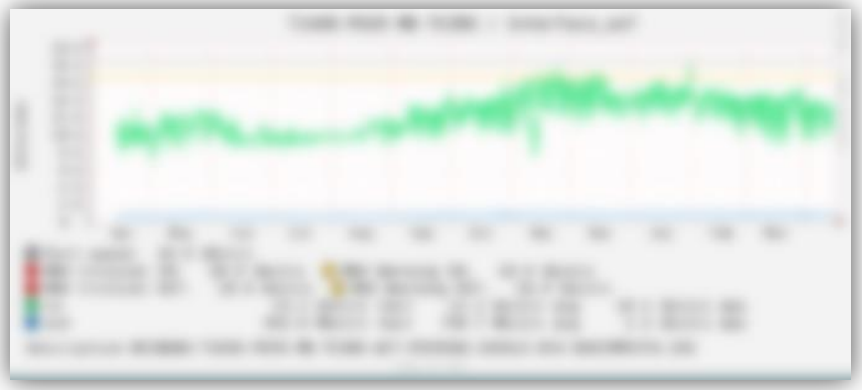




MS opens an alarm based on thresholds
- Packet loss
- RTT

Performance monitoring

- SNMP polling



Collecting couter data from monitored objects

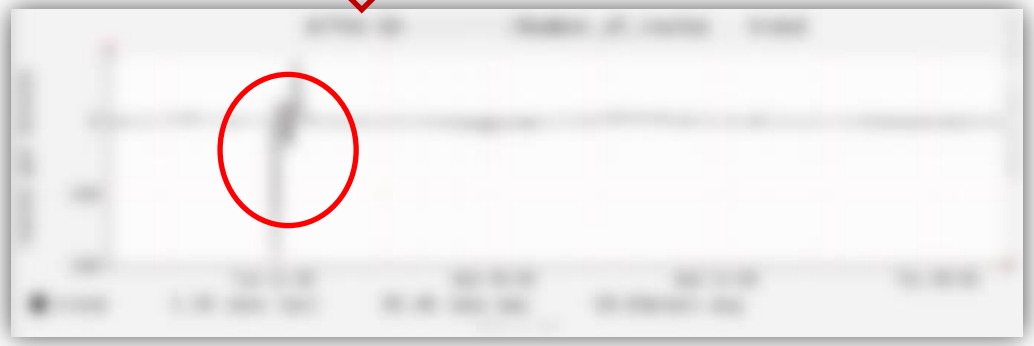
MS opens an alarm ticket based on thresholds

Presenting Results

- Calculated data presented **in a different way**

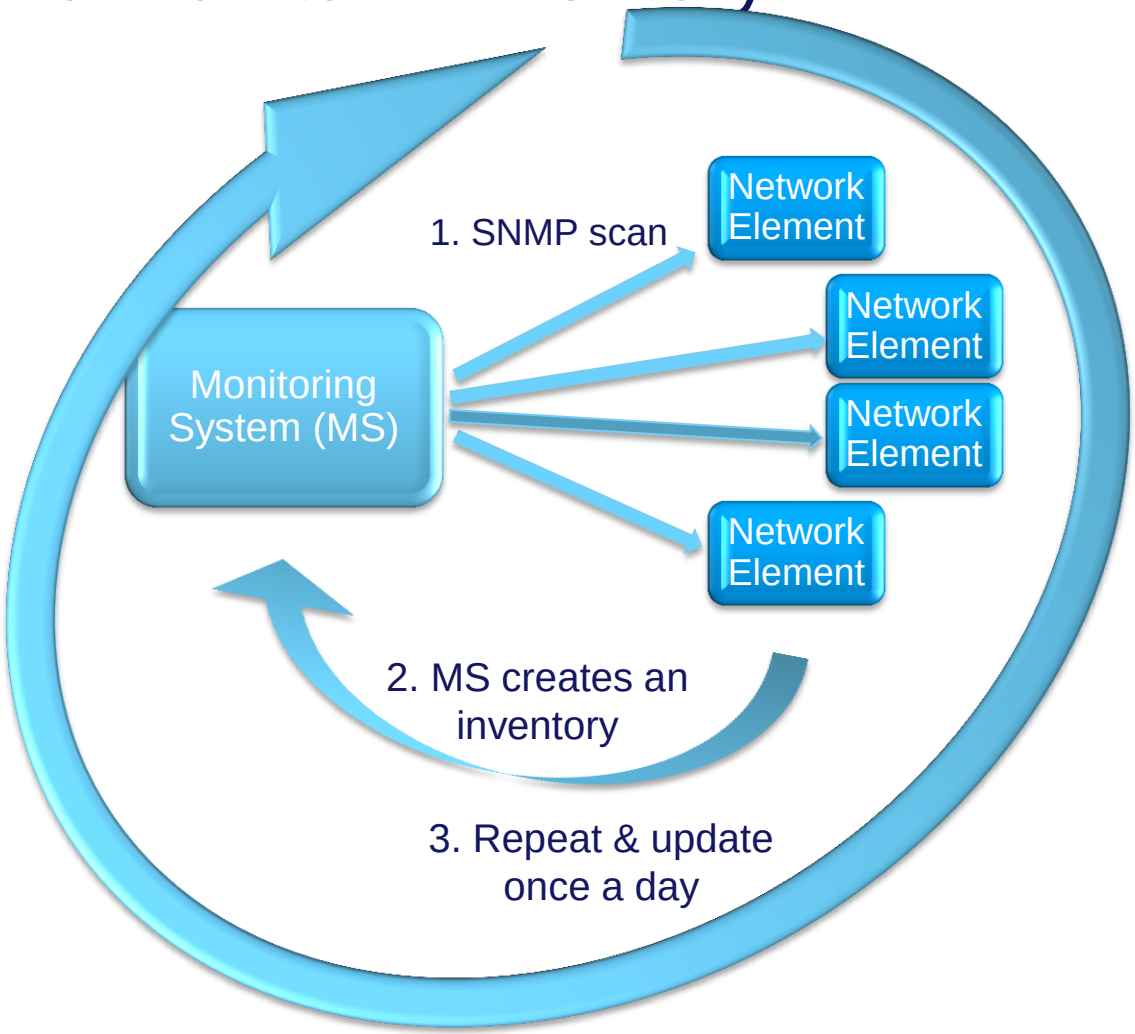
This does not look interesting?

(last result) – (previous result) = **trend**



Fast change indicates problem in lower layers of the network

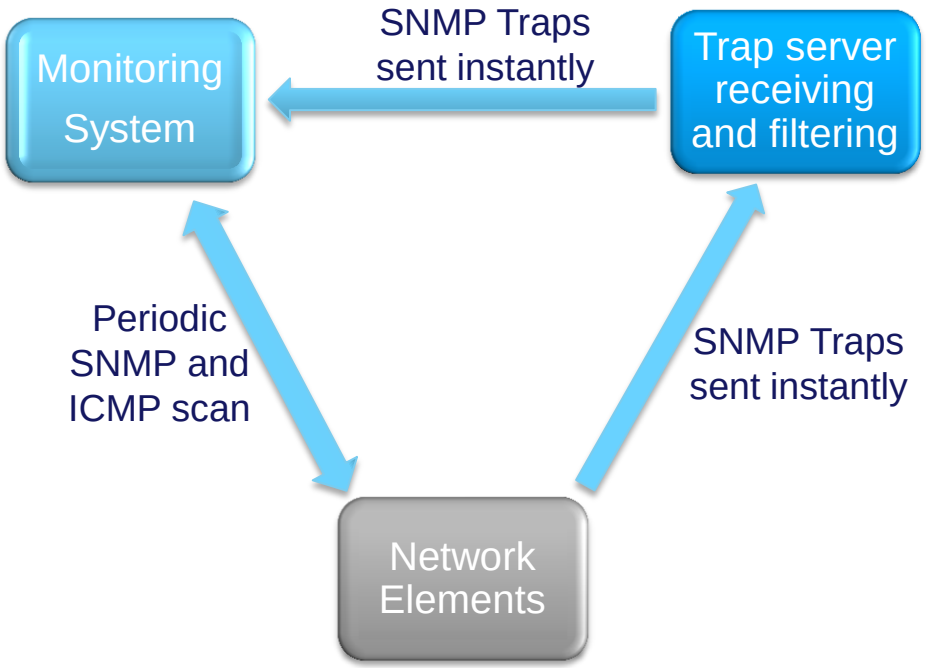
Built and Maintain Inventory



Result: Automatic updated MS!

SNMP Traps

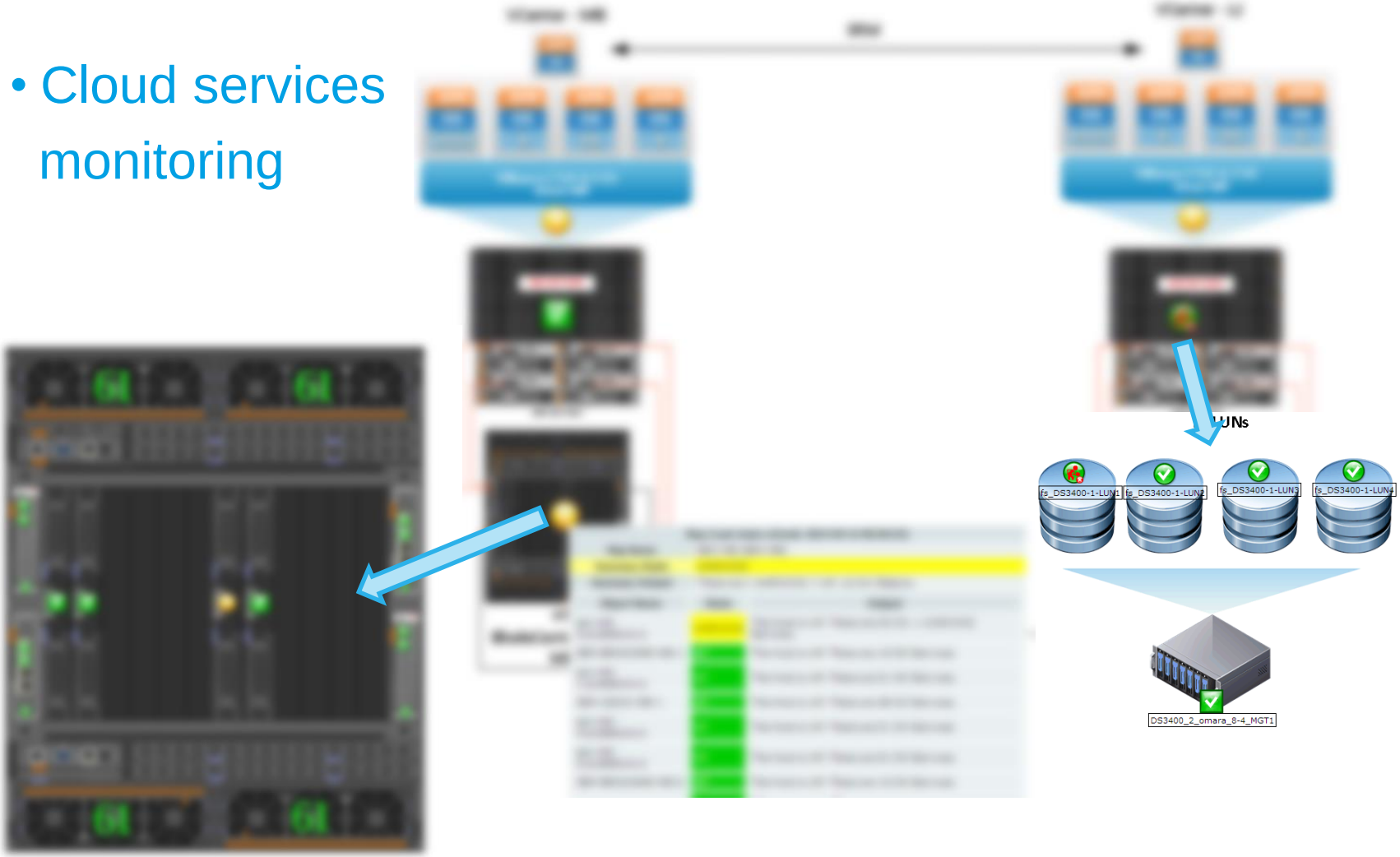
- Resolves problems with Collecting results and Processing results
- Using seperate Trap server filtering traps avoids MS *event storms*



- Result: Real-Time monitoring!

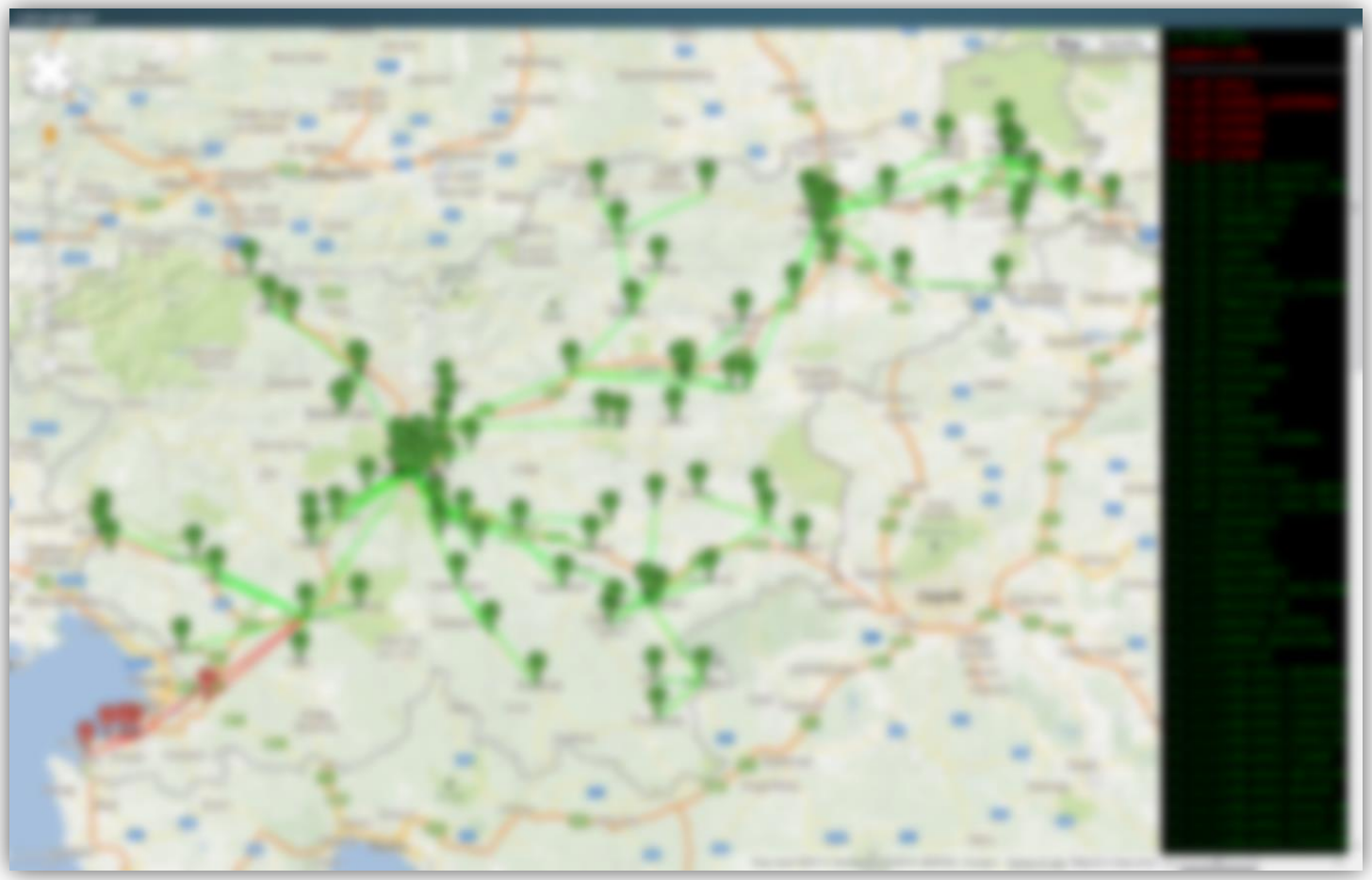
Weathermap

- Cloud services monitoring



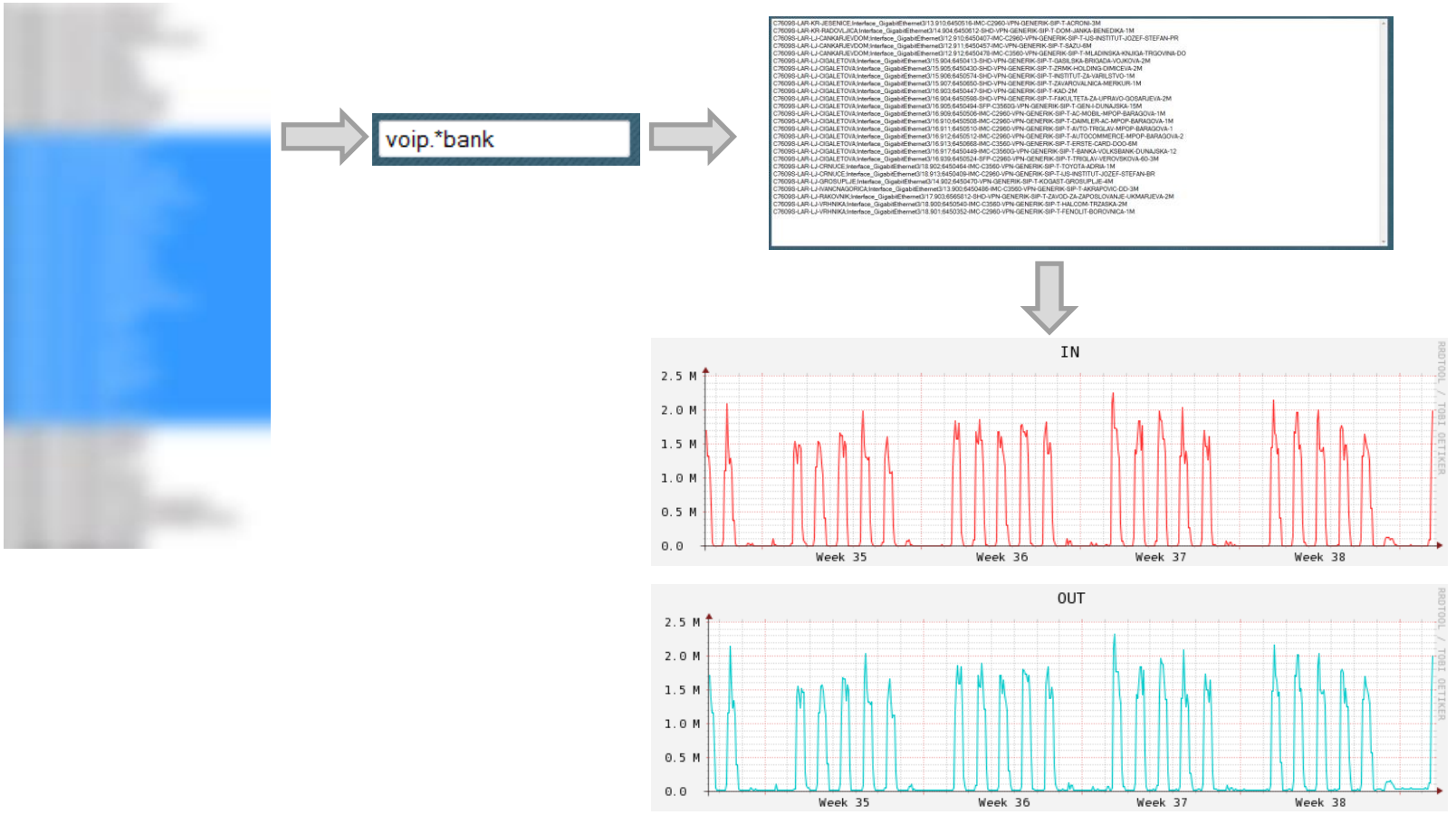
Maps Integration

- Using maps to show status of hosts and services



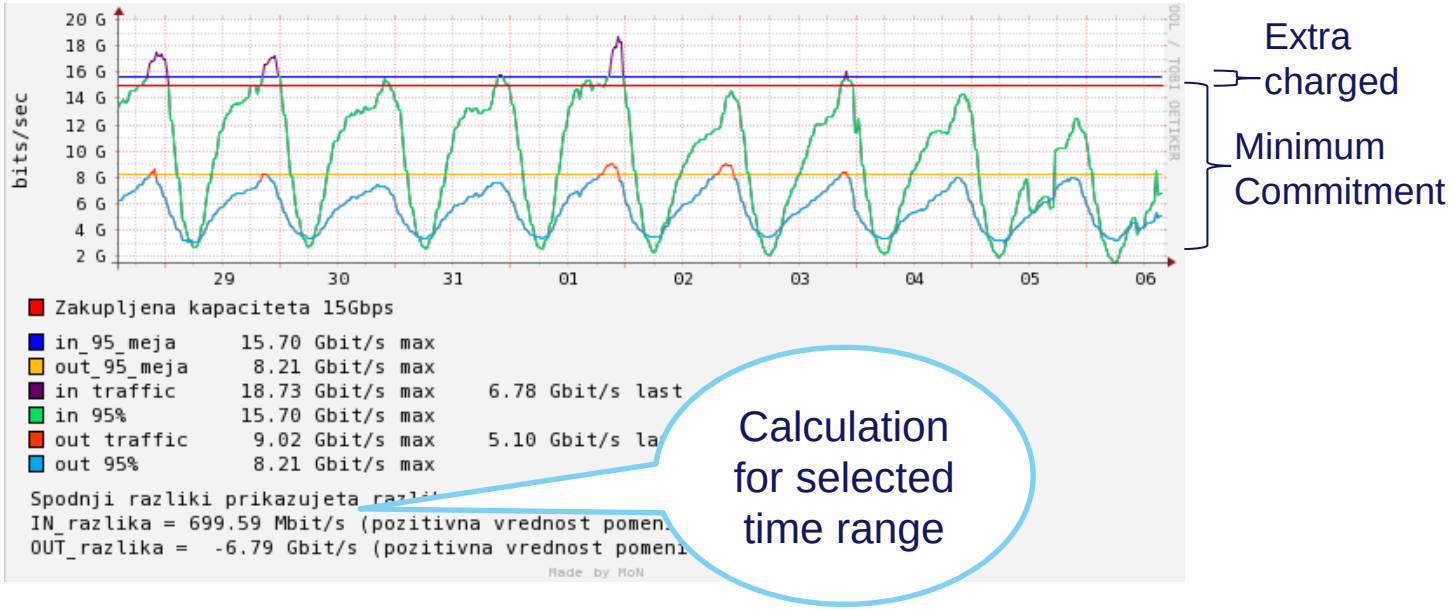
Traffic Engineering

- On demand traffic summarization



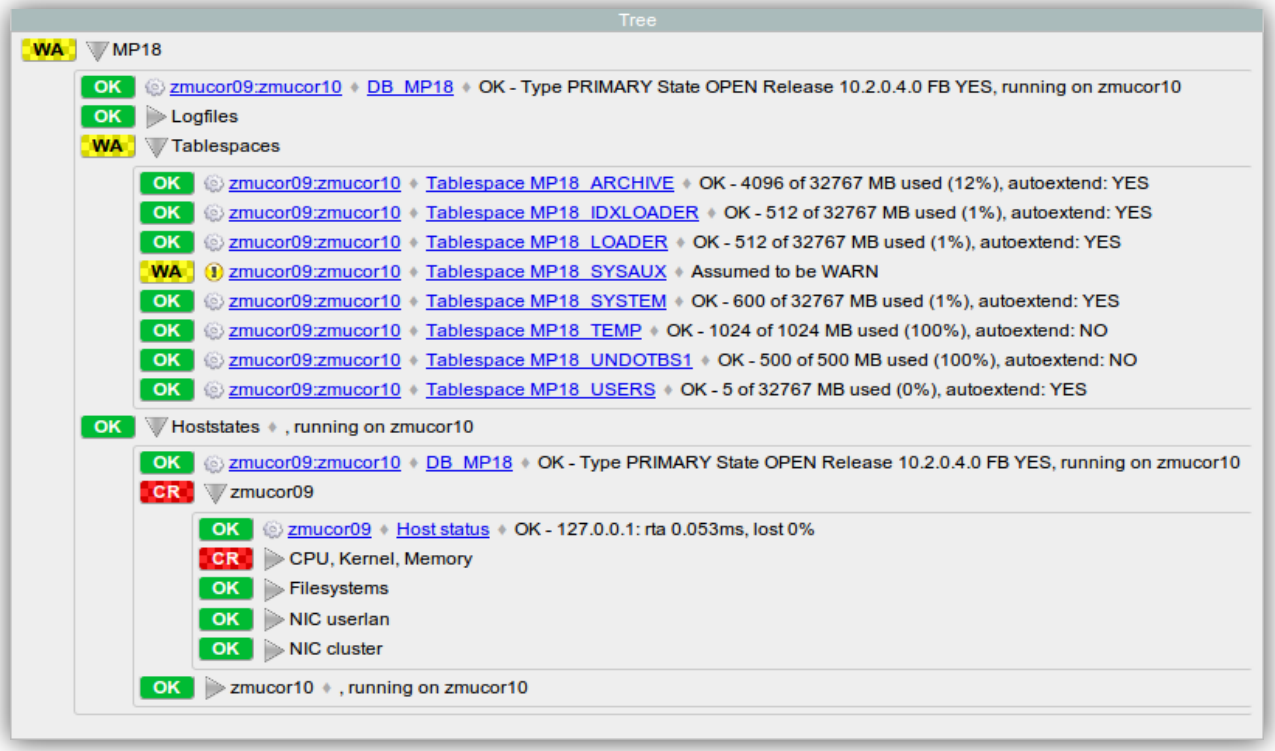
Burstable Billing

- Measuring bandwidth based on peak use
- Using 95th percentile to evaluate regular and sustained use of a network connection
- Avoid traffic burst on rented links



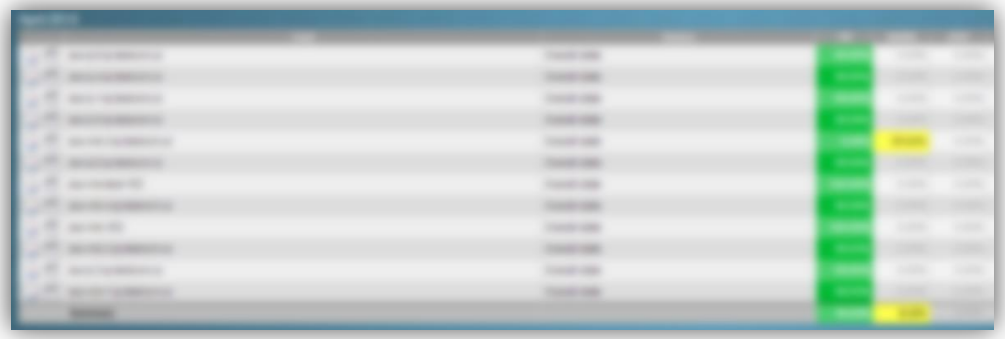
Service monitoring

- Top-level aggregated views
- Shows general status of service



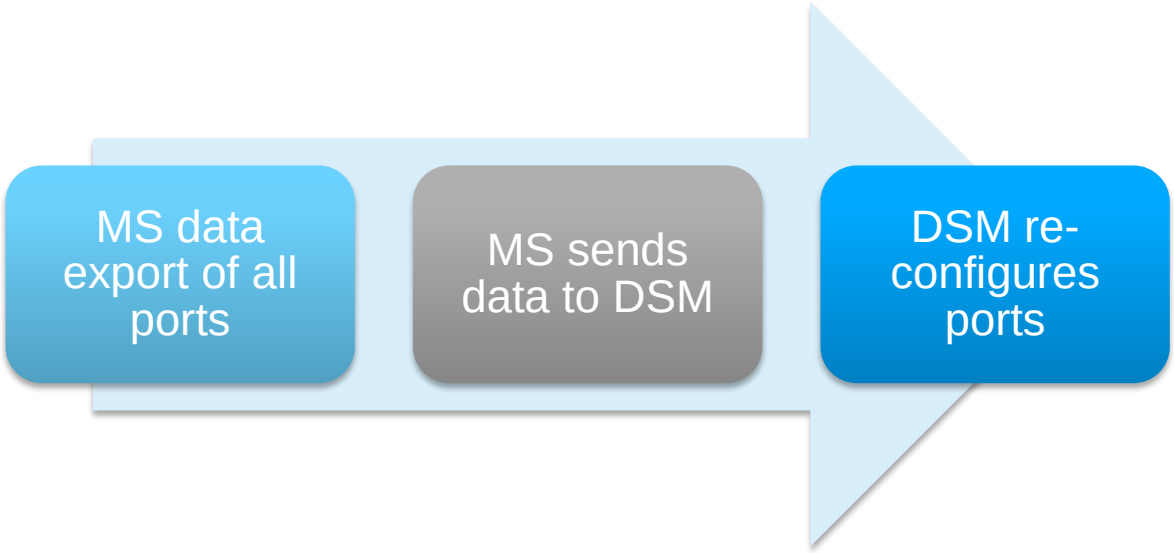
Reporting

- Create SLA reports
- Custom email weekly reports
- Top utilization interfaces



Automatic Re-configuring User ADSL Ports

- Connecting Access Network MS with DSM
- Eliminates Near-End-Crosstalk (NEXT)



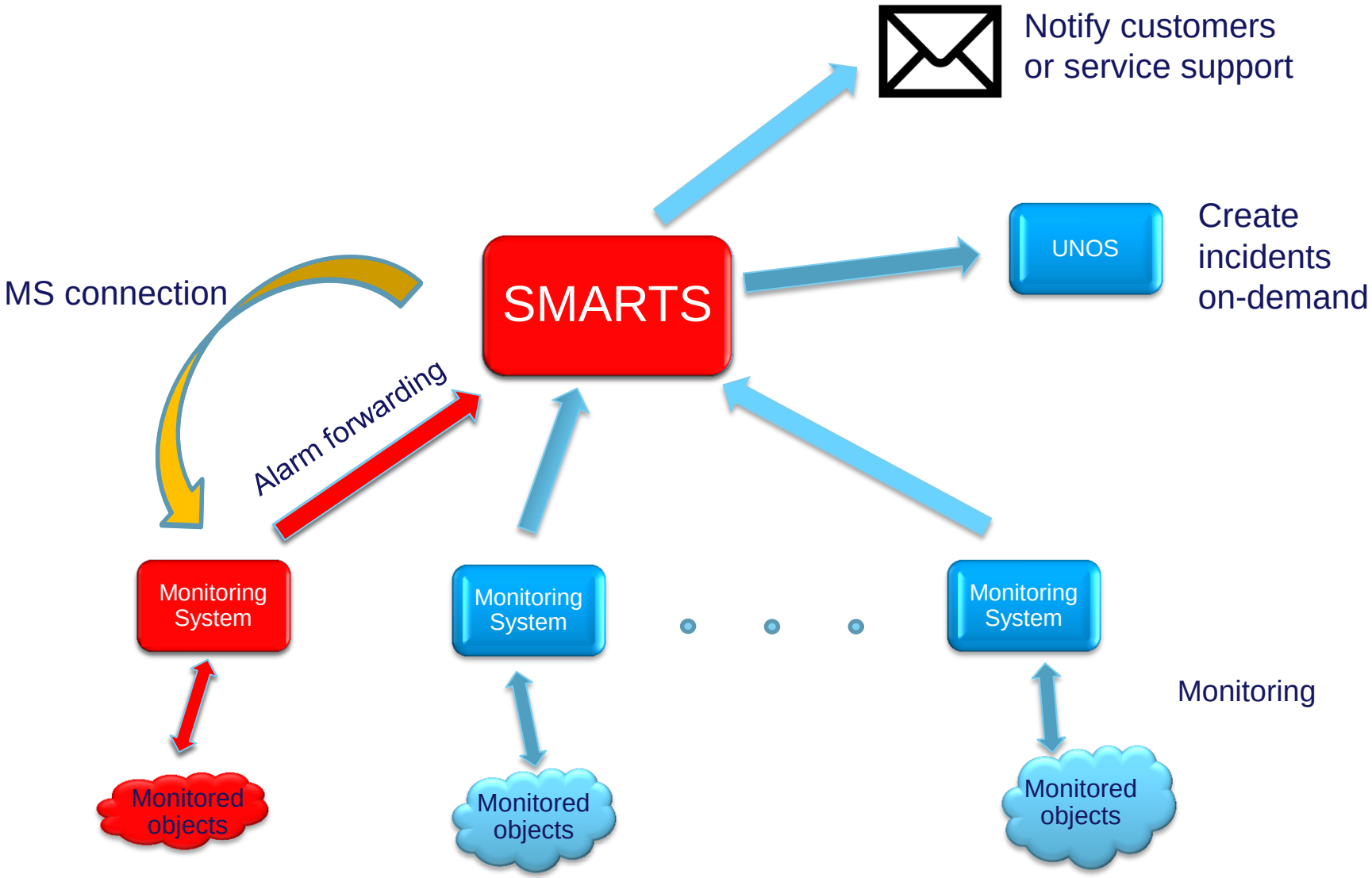
- Long term result: Better IPTV-user experience!

Introducing SMARTS

- Fast&Stable umbrella monitoring system
- Scalable
- In-House development

- Features:
  Open incidents on-click
  Notify customer
  Acknowledge events
  Can easily handle 1000 alarm msg/s
  Fast webinterface

SMARTS: alerting



Tommorow

- Using SMATS as umbrella monitoring system
- Monitor TS Group IT infrastructure
- 10+ starting projects for monitoring clients IT and network infrastructure

- Goal:
  Reduce number of MS in TS group
  Use Nagios for every system devices that supports ICMP/SNMP or agent monitoring

„Network monitoring is far more strategic than its name implies. It involves watching for problems 24/7, but it's also about optimizing data flow and access in a complex and changing environment.“ (cio.com)

Thank you

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