AutoMon
automon-projekt.de

Automated Performance Monitoring

Challenge: reliable network operations

- Enterprise networks are business critical
- Performance issues impact productivity
- Visibility of network state and traffic flows is mandatory

Visibility with proactive monitoring

- Passive measurement of traffic characteristics
- Active measurements between network locations
- Tracking of component behavior

Technical challenges

- Data collection and processing geographically distributed
- Up to 1 Million flow records per second and location
- More than 10 Billion records per day
- Record and data collection are vendor-specific

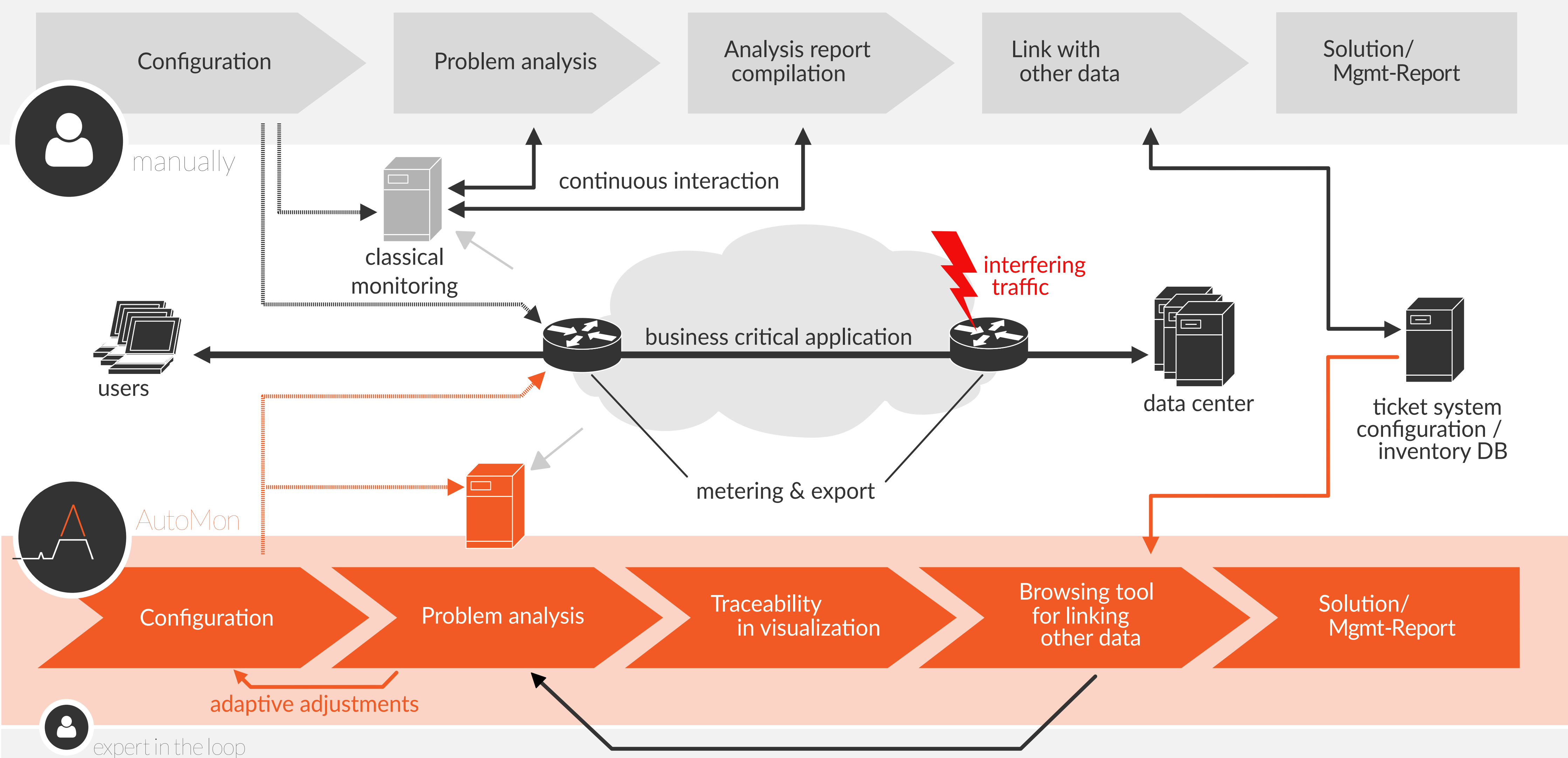## Today: Monitoring with manual interaction

Manual parameter settings for collection and processing
→ Effort for adjusting measurements

Alignment of measurements with current requirements hard to achieve
→ Available data often not suitable

Step-by-step interactive analysis using the network monitoring system
→ Waiting time

Manual compilation of traceable analysis results
→ Effort

Correlation with external data sources
→ Requires experts from every domain

Configuration → Problem analysis → Analysis report compilation → Link with other data → Solution/Mgmt-Report

manually

continuous interaction

classical monitoring

users

business critical application

interfering traffic

data center

metering & export

ticket system configuration / inventory DB

AutoMon

Configuration → Problem analysis → Traceability in visualization → Browsing tool for linking other data → Solution/Mgmt-Report

adaptive adjustments

expert in the loop

AutoMon Approach

- Application of semantically evaluatable data formats (IPFIX, Yang)
- Usage of flexible configuration mechanisms (NetConf, RestConf, SDN controllers)
- Rule-based algorithms and machine learning
- Topology-based root-cause analysis
- Adaptive data visualization
- Business Intelligency analysis with external data sources

Advantages

Early detection and classification of network issues
→ Minimize impact of network issues

Automatic closed loop control of configuration
→ Find optimal assignment of measurement and processing resources

Automatic configuration of measurement and flexible processing approach
→ Low configuration effort

Enrichment of reports due to Business Intelligence functionality
→Well-founded information for investment decisions