

StableNet® Monitoring out of the Cloud

Using the unified
StableNet® OSS Solution
in a cloud-based environment

Steadily increasing IT complexity even in "non-IT" companies

Rapid developments in the last years have led to the fact that IT complexity is steadily increasing even in "non-IT" companies. The examples for this are manifold: the migration from classical PSTN to Voice over IP, centralized network devices, such as shared network printers, file servers, NAS systems that are now available off-the-shelf for everybody, or the distribution of more and more companies to multiple locations leading to an increased complexity of the used IT systems.

Besides that, cloudification is becoming more and more popular. Here, for economies of scale, many companies decide to outsource certain IT applications to the cloud. Finally, extended services and Internet of Things (building control, Smart TVs, heatings, etc.) can be mentioned as additional reasons increasing the IT complexity in companies.

Network Management as an integral part of any IT setup

The aforementioned IT changes in general bring large benefits. Voice over IP brings a better speech quality for usually lower costs, not even talking about the fact that with the recent IT developments finally also video conferencing has become affordable for smaller companies. Central network services simplify many common tasks in a company and thus, both help to improve workflows and save money due to shared devices. The outsourcing of applications to the cloud helps to save money and configuration effort. However, all these benefits rely on a very simple prerequisite: the devices/services need to be

up and running, where running implies running at a certain quality level as expected from the SLAs. If the services are not running or not running at the expected quality level, this can have serious consequences on a company's ability to work, and results in a large loss of money. Often, non-IT specialists are not able any more to configure, manage, and monitor the devices/services on their own. Therefore, network management is becoming an integral part of any IP setup. Figure 1 shows different example use cases for IT monitoring that are briefly explained in the following.

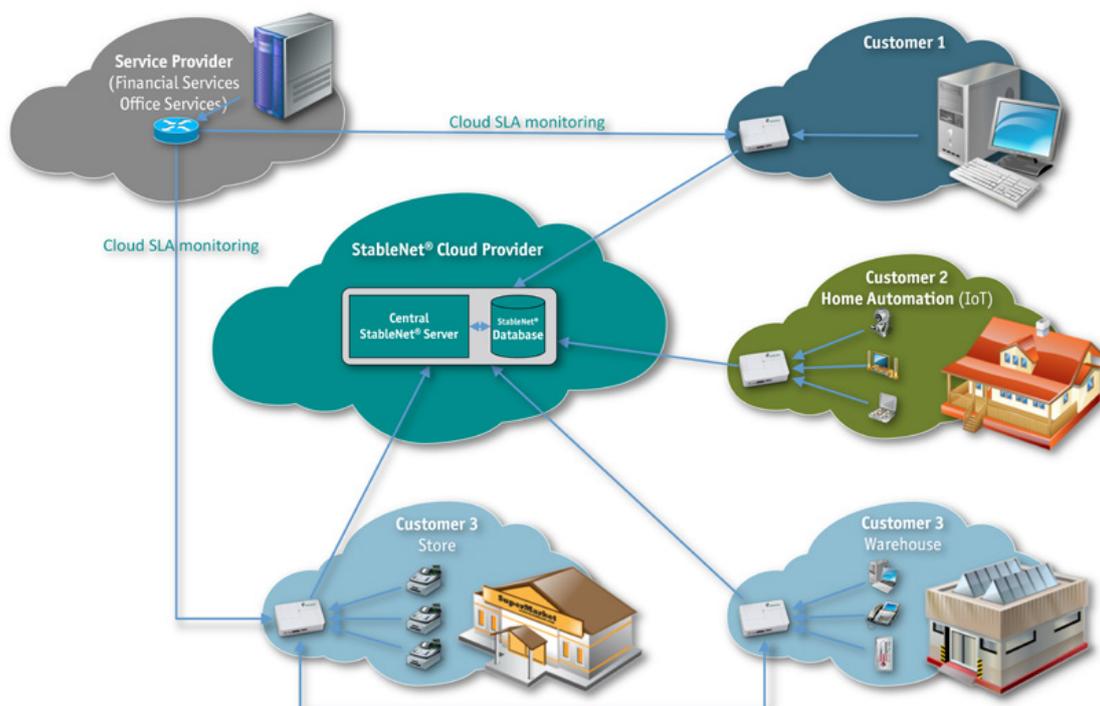


Figure 1: Different example use cases for IT monitoring using StableNet®

Customer 1 is a typical representation of an entrepreneur company using cloud services, such as, e.g., a tax adviser, a lawyer's office, or a travel agency. The local IT complexity of such customers in general tends to be rather low as only some single devices like PCs or printers are used. On the other hand, the IT service complexity is usually very

high. Often, the entire work of such companies is based on the availability of external services (Mail, CRM, Office, VDI, special purpose software, etc.). They heavily rely on their service provider to fulfill the necessary SLAs.

Customer 2 represents a company or household making use of Internet of Things based approaches, such as building control or home automation. The IT service complexity is assumed to be rather low, as there usually is no high dependency on central services besides normal e-mail. Meanwhile, the local IT complexity is very high, since various devices starting from classical PCs, servers, printers up to special purpose devices like Smart TVs, heating, fridges, building control, etc. need to be managed and monitored. Such customers therefore, have an increased demand on monitoring and reporting

for their local infrastructure, e.g., to find out how to save electricity, optimize heating costs, etc.

Finally, customer 3 represents a company distributed on several, usually geographically different sites. In this case, there is depending on the particular IT infrastructure both a high local IT and IT service complexity. Thus, both the SLA monitoring mentioned for customer 1, and the local IT service monitoring and reporting mentioned for customer 2 are important.

Monitoring challenges in a rapidly changing environment

The shown examples underline the fact that network management and monitoring are integral parts of any IT setup. However, due to the steadily increasing IT complexity, the choice of the right monitoring solution brings several challenges. In the following, three major ones of them are described in more detail.



Flexibility and extendibility

Nowadays, network monitoring is not anymore just about regularly checking the availability of a given server, measuring the answering time of a given machine, or tracking the bandwidth usage of a particular connection. These tasks are of course still an essential part of any network monitoring, but the rapidly changing environments demand more flexible approaches, End-to-End measurements, automatic provisioning, SLA monitoring, automated fault and impact analysis, the support of different, varying vendors, etc. Whenever a new service is introduced, an adequate monitoring has to be introduced as well. Furthermore, international security standards have to be met and known vulnerabilities have to be discovered and taken care of. Besides that, often a seamless integration with other systems is necessary. Altogether, this demands for a flexible, unified OSS solution.



Scalability and portability

Another challenge coming from the recent IT developments concerns the scalability and portability of monitoring and network management solutions. The number of devices and services is rapidly growing. This is not only the case when companies grow, but also a normal effect of more and more things going IT. A monitoring solution needs to be scalable enough to adapt to such developments and to also be available to manage ten times the number of devices in some years. Besides that, also portability or mobility is an issue. New company locations can be added or existing locations can be changed. More and more people do home office and work from their private home or other non-company locations. How to assure that the network and service monitoring can also adapt to these circumstances in which not all devices and services are running on a (geographically) static infrastructure?



Setup complexity, maintenance effort, TCO

One of the main objectives of each company is to continuously optimize costs. This obviously also applies to the costs of monitoring. Not only high initial investment costs should be avoided, but also operational expenses due to energy consumption, space requirements, maintenance, etc. Furthermore, especially in case of smaller, non-IT companies it might be economically not reasonable to setup a complete stand-alone monitoring suite and employ an administrator especially for monitoring the network and services. Other employees as well should be able to focus on their actual work as much as possible, and not on monitoring it. Therefore, a flexible, cheaper solution also for smaller companies is needed.

StableNet® Monitoring out of the Cloud

StableNet® is a fully integrated 4 in 1 solution in a single product and data structure, which includes Configuration, Performance, and Fault Management, as well as Network and Service Discovery. By combining the powerful StableNet® Server hosted in a cloud environment and the flexible and ultra-scalable StableNet® Agents, Infosim® now supports a new business case for monitoring out of the cloud. This business case is both interesting (1) for service and network providers offering services to their customers to extend their portfolio with an adequate monitoring solution, and (2) for end customers for whom a complete owned StableNet® installation is not reasonable.

Hosting the StableNet® Server in the cloud increases the economy of scales by possibly sharing hardware resources for different customers. The solution still offers full individuality due to completely customizable web portals. Regarding the necessary hardware at the customer side, each of the customers using the StableNet® Cloud only needs to deploy an adequate number of StableNet® Agents. Especially

for smaller enterprises the cost-effective Plug&Play StableNet® Embedded Agent (SNEA) is an interesting alternative as it offers high scalability and flexibility for a low total cost of ownership.

Figure 2 shows a typical usage example of a StableNet® Monitoring Cloud setup. A single StableNet® Server instance is shared by multiple customers. The administration is done using the StableNet® Rich Client. StableNet®'s user and rights management combined with secured VPN connections guarantee highest security and the isolation of the data of different users.

The customers provide their data to the central server by one or several StableNet® Agents. They can then access the information of StableNet® they are interested in via the StableNet® Web Portal. Individual views assure that each of the customers can get the kind of monitoring, reporting, or management information that is most relevant.

StableNet® Rich Client mostly used by administrative users / cloud provider

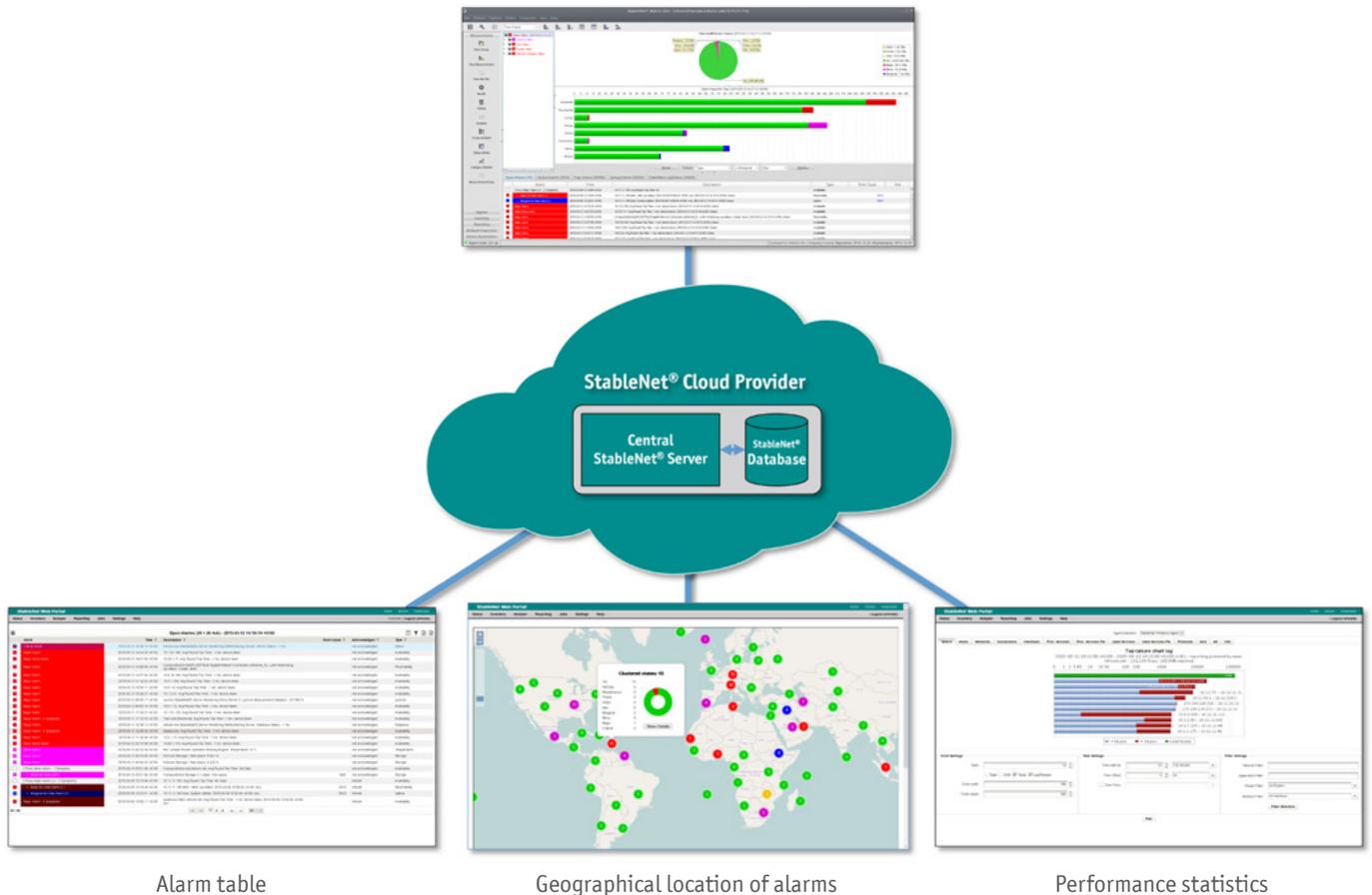


Figure 2: Different StableNet® Web Portal views depending on a customer's particular demands

Key benefits of the StableNet® Monitoring Cloud Solution

The StableNet® Monitoring Cloud Solution brings several benefits, some of which are addressed in the following.



Outsource monitoring – Focus on your service, not on monitoring it!

With the possibility to use StableNet® run in a cloud environment and the flexible and ultra-scalable StableNet® Agents, especially smaller, non-IT companies can now use StableNet® "as a Service" with minimum necessary owned hardware requirements. Different levels of outsourcing are possible. Companies may decide to only outsource the monitoring infrastructure itself but take care of discoveries, backup, and reporting on their own. Another possibility would be to outsource all these services as well and have the cloud provider or any third partner take care of maintenance, configuration, monitoring, etc. Of course, also any hybrid approach partially outsourcing and partially self-managing can be realized and is actually a typical use case.



Reduce costs, maximize revenue

By using the possibility of StableNet® Monitoring out of the cloud, the monitoring costs can be significantly reduced. First of all, there are almost no initial setup costs for expensive monitoring hardware, servers, etc. In small setups, only a hand of, or even a single SNEA might be enough to gather the necessary data and to start the StableNet® Monitoring. Besides the initial expenditure, also the operational expenses can be drastically reduced. Depending on the level of outsourcing, there should not be any need for additional employees taking care of monitoring. Furthermore, especially when using SNEAs, there is almost no regular on-site maintenance of the monitoring system necessary.



Different monitoring and management tasks – one solution

The StableNet® OSS Solution consisting of the monitoring cloud and the local StableNet® Embedded Agents offers all flexibility and elasticity needed to face the rapid change of today's IT environments. The same setup and infrastructure can be used for different monitoring tasks, including the automated monitoring of cloud and network services and the automated monitoring of the local infrastructure, including Internet of Things. The entire power realized from the standalone StableNet® products can be revealed to check on vulnerabilities, policy violations, to integrate with other systems, and to support various vendor-specific devices and services. Furthermore, not only monitoring but also Fault Management, Performance Management and Configuration Management can be enabled without the need of any additional product.



Providers, prove your SLAs! Customers, monitor yours!

The solution consisting of a central shared server and a possibly large number of distributed StableNet® Agents brings benefits not only for the end customers using StableNet® for monitoring their infrastructure but also for service providers offering StableNet® Monitoring as part of their portfolio. Both parties have better possibilities to handle the SLAs done between each other. Whereas service providers are usually in the need to prove the quality of their services to the customers, the customers are looking for a system to monitor the quality they actually get. The monitoring and reporting possibilities offered by StableNet® provide to both worlds neutral and objective information about SLA compliance.

StableNet® Embedded Agent (SNEA)

With the StableNet® Embedded Agent (SNEA), Infosim® now offers all the powerful features the customers appreciate from the StableNet® Agent in a Plug&Play "black box" appliance. The SNEA is shipped preconfigured and completely ready to deploy. Only Ethernet and power need to be connected. An example of the SNEA is shown below.



Technical Details

- Linux OS
- 1 Gigabit Interface
- ARM Cortex-A7 Dual Core CPU
- 1 GB DDR3 RAM
- 8 GB SD
- Power over Micro USB

Capabilities

- Typically more than 1000 measurements
- More than 200 MBit/s VoIP traffic with Multimedia Script
- Availability of all Java business processes
- Availability of all measurement types

Main SNEA benefits: Reduction of

- initial setup costs (no need to buy expensive hardware)
- space requirements ("on the rack", not "in the rack")
- complexity (Plug&Play)
- maintenance effort (no mechanical parts)
- power requirements (powered over USB)
- setup time (just 3 easy steps)

SNEA Setup - It's as easy as 1-2-3

1. Order

Order the desired number of pre-installed devices from Infosim® or one of its certified partners.

2. Scan Barcode

Register all devices at the StableNet® Server by scanning each device's individual barcode.

3. Plug & Play

Distribute the devices to the desired locations and have them plugged in. Done!

Additional SNEA Use Cases

Besides the use case of StableNet® Monitoring out of the cloud, the StableNet® Embedded Agent is also an ideal enabler for other use cases. One example could be to deploy a large number of SNEAs to conduct highly distributed measurements of a service from various

geographical locations. Another one could be detailed hop-by-hop monitoring by placing SNEAs at each hop of a certain connection. Having your SNEA use case in mind and looking for more information? Please contact us to discuss more details!

About Infosim®

Infosim® is a leading manufacturer of automated Service Fulfillment and Service Assurance solutions for Telcos, ISPs, Managed Service Providers and Corporations. Since 2003, Infosim® has been developing and providing StableNet® to Telco and Enterprise customers. Infosim® is privately held with offices in Germany (Würzburg - Headquarter), USA (Austin) and Singapore.

Infosim® develops and markets StableNet®, the leading unified software solution for Fault, Performance and Configuration Management. StableNet® is available in two versions:

- Telco (for Telecom Operators and ISPs) and
- Enterprise (for Corporations)

StableNet® is a single platform unified solution designed to address today's many operational and technical challenges of managing distributed and mission-critical IT infrastructures.

Many leading organizations and Network Service Providers have selected StableNet® due to its rich set of features and reduction in OPEX & CAPEX. Many of our customers are well-known global brands spanning all market sectors.

At Infosim®, we place paramount focus on customer satisfaction. We uphold an indomitable spirit for innovation and high quality products.

Why Infosim®?

- Quality software design you can trust and rely on
- Proven solution with a large number of installed sites
- Unified solution which covers Configuration, Fault/RCA and Performance Management in a single product
- Reduction in OPEX & CAPEX via product consolidation, step-by-step migration and retirement of existing legacy element management solutions
- Automated Service Delivery directly from your Integrated Service Catalogue
- Configuration & Policy Governance that maximizes Service Availability and reduces MTTR
- Rapid ROI by reduction in OPEX & CAPEX and customer service credits realized via greater Service Availability
- SOA-based technology, meaning it is highly integrable and flexible

Differentiation

StableNet® is a 3rd generation highly automated Network Management System. The key differentiation of StableNet® to other legacy type Operational Support Systems (OSS) is that StableNet® is a unified OSS system with three integrated functionalities that focus on Fault, Performance and Configuration Management, with automated Root-Cause-Analysis (RCA). StableNet® can be deployed on a Multi-Tenant, Multi-Customer, or Dedicated platform and can be operated in a highly flexible and dynamic environment like a Cloud or dynamic flex-compute environment.

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We look forward to hearing from you!

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