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Telecommunication & ISP Perspective

The biggest challenge that telecommunication face will be to accommodate their subscribers within the existing infrastructures. With more advance wireless data communication technologies (3G -> 4G), the more bandwidth is utilized for better speed and performance. Telecom operators might face several issues, e.g., like certain areas might not have internet connection although there is wireless signal available.

On such situation, analyst will need to check and verify on each tower's connected routers to the internet. There are various gateways in the process of connecting user's phone to the internet via LTE. Each of the gateway's link are being monitored by a central network management system (NMS) to detect if there is service disruption.

If there is service disruption detected by NMS, then capture system may be activated based on the installed point of events and evidence to store monitored / tapped link's network traffic.

It is very crucial that the telecommunication infrastructure get constant monitoring and disruption detection for faster service recovery. It might be also useful to quickly find which of the gateway is faulty or performance degraded so that an upgrade could be suggested to remove overall system bottleneck:

i. **"Locking every traffic event regardless of network environment"**

In the case of service disruption, high performance capture system is able to record the detailed traffic events and protect the data at various monitored links. With nanosecond timestamp of each packet, the detailed information can be converted into effective raw material to pinpoint the root cause of the event.

ii. **"Performance thirst compatibility to 10GbE full duplex links"**

With dual 10GbE links, traffic on full duplex links are guaranteed to be 100% captured and impressive 20Gbps (40Gbps) write to disk performance. The quality of the pre-analysis data is essential when there are no loss in information during the capturing process ensuring efficient delivery of services recovery.

Contact Information:

ComWorth Co., Ltd.
2-35-7, Nishi Magome
Ohta-ku, Tokyo,
143-0026, Japan
Tel: +81 3 3777 0888
Fax: +81 3 3772 8497
info2@comworth.co.jp

ComWorth Solutions Pte. Ltd
81 Ubi Avenue 4,
#06-02 UB.One,
Singapore 408830
Tel 1: +65 6748 2260
Tel 2: +65 6909 5198
info@comworth.com.sg

ComWorth Europe GmbH
Gutenbergstrasse 5
D-65830 Kriftel
Germany
Tel +49 (0) 6192 922 4227
Fax +49 (0) 6192 922 4228
contact@comworth.eu
www.swiftwing.net

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iii. **"Intelligently filter to intended network traffic"**

In different links among infrastructure, the network traffic, that is being monitored, can be drilled down to the intended traffic profile to further assist in retrieval of meaningful data with the least redundant overheads. This results in more relevant capture data being stored into the system for future extractions and inspections.

iv. **"Distributed captures eased by RESTful API"**

In collaborative terms, the network traffic management becomes important when there are monitoring links located across different location in a corporation. Via RESTful API, network engineers are able to access the universally time synced capturing system when located at different places. This results a comprehensive series of capture files for after event analysis and reporting.

v. **"Graceful capture sessions management and manipulation"**

Stored capture sessions are chronologically displayed with captured files associated. Captured files operation such as view, split, merge, and ZIP can be performed with minimal supervision. Additionally, capture files can be transferred to remote location via FTP, SFTP and web download as well as RESTful API transfer for archiving.

vi. **"Seamless integration, unlimited opportunities in data collection"**

With zero tolerance against packet loss, the deployment assures higher chance of successful data mining with key information while illustrating higher level of representative data. Vision of the knowledge based analysis outcome can be better given such a detailed and quality inputs.