Summary of Requirements

Capture Server

Hardware	CPU	Intel®Xeon® Processor E5-2667v3 (3.20GHz/20MB/8core) ×2 or higher
	Memory	192GB or higher
	Disk	300GB or higher
	Ethernet Card	Dual port LAN card (10GBASE) ×3 or higher
OS		Red Hat Enterprise Linux 6.5 (for Intel64)

Data Storage Server

Hardware	CPU	Intel Xeon Processor E5-2430v2 (2.5GHz/15MB/6core) ×1 or higher
	Memory	64GB or higher
	Disk	SATA Disk (4TB) ×12
	Ethernet Card	Dual port LAN card (10GBASE) ×1 or higher
OS		Red Hat Enterprise Linux 6.5 (for Intel64)

Search Server

Hardware	CPU	Intel Xeon Processor E3-1231v3 (3.40GHz/8MB/4core) ×1 or higher
	Memory	64GB or higher
	Disk	1TB or higher
	Ethernet Card	Dual port LAN card (10GBASE) ×1 or higher
OS		Red Hat Enterprise Linux 6.5 (for Intel64)

L2 Switch

Port numbers	1000BASE-T	1 port or higher
	10GE	24 ports or higher
Performance	Switch bandwidth	30Gbps or higher
	Forwarding rate	10 million pps or higher

FUJITSU Network Virtuora TC

Software for network traffic capture at full line rate,
data accumulation and simultaneous high-speed searching

- Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation in the United States and/or other countries.
- Ethernet is a trademark or registered trademark of Xerox.
- Linux is a trademark or registered trademark of Linus Torvalds.
- Red Hat and Red Hat Enterprise Linux are trademarks or registered trademarks of Red Hat Inc., registered in the United States and/or other countries.
- All company names, brand names, and product names are trademarks or registered trademarks of their respective holders.

The information in this document is subject to change without notice.

This datasheet is printed on FSC® Certified Paper as designated by the Forest Stewardship Council ® in order to help preserve forestry resources.

First Edition, September 2015

FUJITSU LIMITED

shaping tomorrow with you

Features of FUJITSU Network Virtuora TC

- Virtuora TC is software that can capture up to 20Gbps of network traffic data at full line rate, accumulate data and simultaneously undertake high-speed searching. It enables complete communications data-trail management through high-speed searching for required information from the data accumulated.
- The accumulated communications data can be used by various analysis systems, such as those that manage the quality of communications lines and cloud services, or for security and other purposes, through the API provided by Virtuora TC.
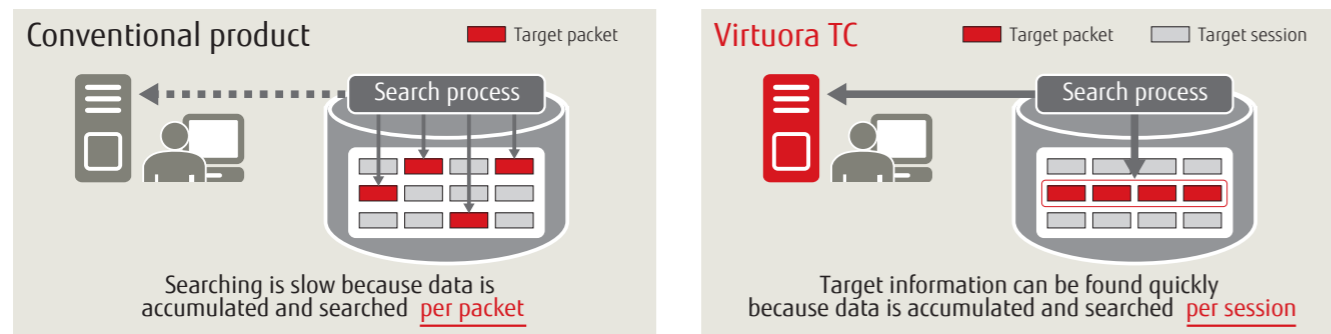
Usage scenarios

Quality management for communications services | Quality management for cloud services | Big data analysis | Forensics and security

API [*3]

Virtuora TC

Data storage server scale-out

Capture wide area network traffic at full line rate (max 20Gbps) [*1]

High-capacity accumulation (max 702TB) [*2]

Information in the field

Network

Communications data

Business servers

(*1) It can capture up to 10Gbps of network traffic data (total wire speed is 20Gbps, including up-link and down-link) at full line rate.
(*2) When 10Gbps network traffic data (total wire speed of 20Gbps, including up-link and down-link) is flowing at peak network capacity, around three days' worth of network traffic data can be accumulated for the communications data trail. When the upper limit is reached, the oldest data is automatically deleted first.
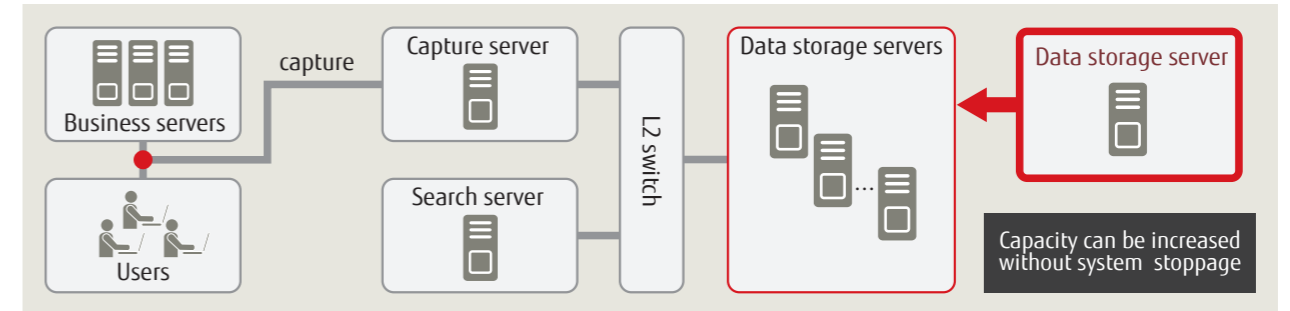(*3) It can use the accumulated network traffic data in the form of pcap (packet capture) via a web-based API.

1 Reduced data analysis time

It typically takes half a day or more to search for the required information from the huge volume of network traffic data. However, Virtuora TC creates indexes for each session, enabling the required information to be found in a few seconds or less than a minute. This significantly reduces the time required for data analysis.

Conventional product — Target packet — Search process

Searching is slow because data is accumulated and searched per packet

Virtuora TC — Target packet — Target session — Search process

Target information can be found quickly because data is accumulated and searched per session

2 Scalable data accumulation capacity without system stoppage

Virtuora TC makes it possible to increase data accumulation capacity without system stoppage. Therefore, data storage(*4) can be added without losing any network traffic data.

Business servers — capture — Capture server — L2 switch — Data storage servers — Data storage server
Users — Search server — Capacity can be increased without system stoppage

(*4) Up to a maximum of 36 data storage servers can be used.

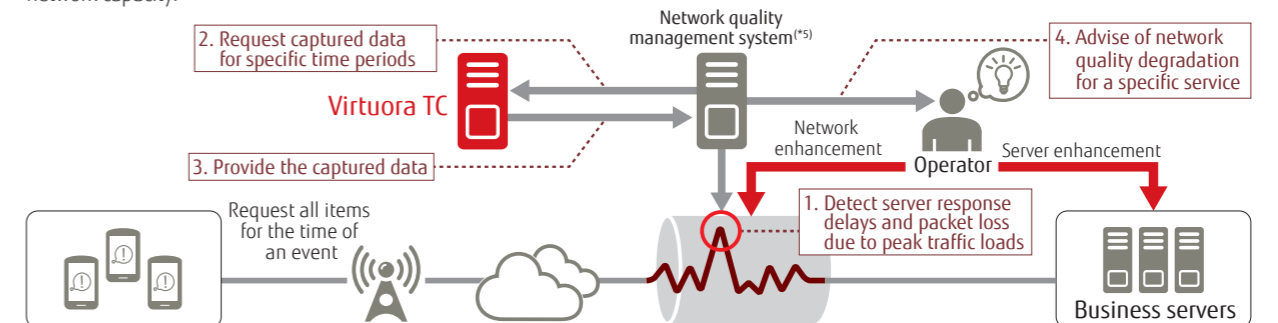## 3 Minimal initial capital expenditure

With conventional systems, expensive dedicated equipment is required to capture network traffic data from a broadband network at full line rate. Fujitsu has developed Virtuora TC as a software offering bundled with a versatile server. This solution can therefore reduce the capital expenditure outlays typically needed to deploy a network quality management system.

Usage Scenarios

The following usage scenarios resulted from implementing the Virtuora TC network quality management system in customer networks.
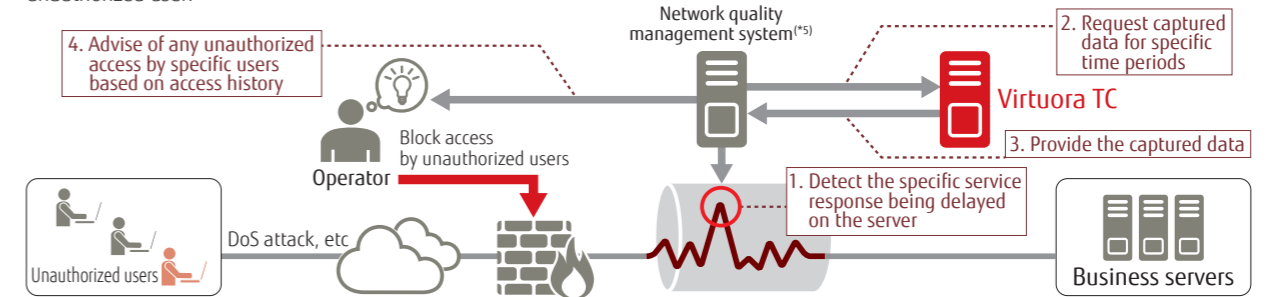
1) System enhancement for traffic data increases

In conjunction with the network quality management system, Virtuora TC can analyze the traffic data in detail and find the target information in a few seconds or less than a minute. Virtuora TC assists network operators with faster decision making to dramatically enhance server and network capacity.

2. Request captured data for specific time periods
Virtuora TC
3. Provide the captured data
Network quality management system(*5)
Network enhancement
Operator — Server enhancement
4. Advise of network quality degradation for a specific service
1. Detect server response delays and packet loss due to peak traffic loads
Request all items for the time of an event
Business servers

2) Blocking unauthorized access

Events such as DoS (denial of service) attacks, enabled by unauthorized access, can bring down MVNO and ISP web services. Virtuora TC can analyze unauthorized access based on the access history information it gathers on every user's activities. The operator can then block any unauthorized user.

4. Advise of any unauthorized access by specific users based on access history
Network quality management system(*5)
2. Request captured data for specific time periods
Virtuora TC
3. Provide the captured data
Block access by unauthorized users
Operator
1. Detect the specific service response being delayed on the server
Unauthorized users — DoS attack, etc
Business servers

(*5) Network operations can be enhanced by deploying together with FUJITSU Network Proactnes II QM – network quality management software.