

Anritsu Advancing beyond

Virtual Network Master

MX109030PC

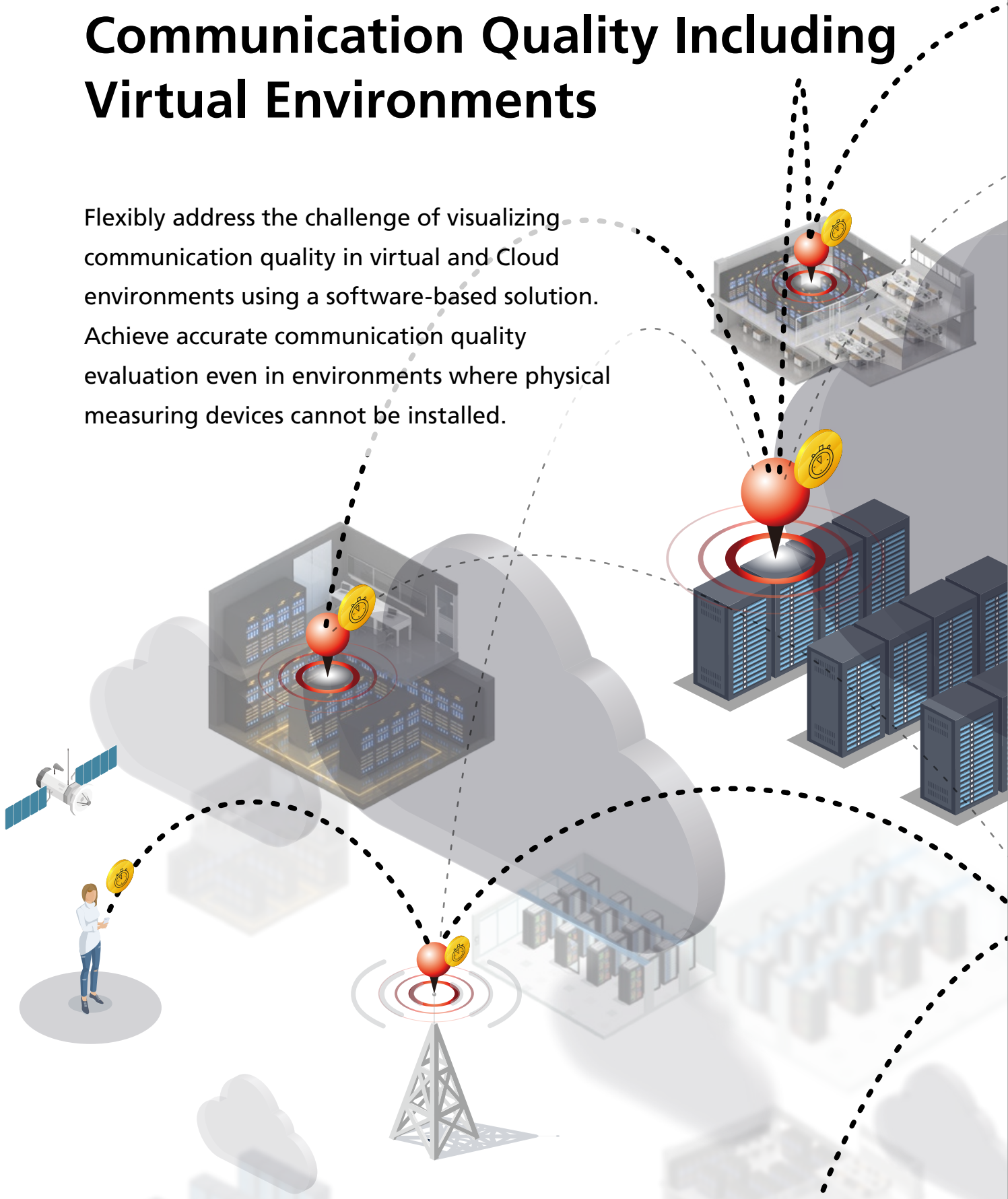
Virtual Network Master for AWS

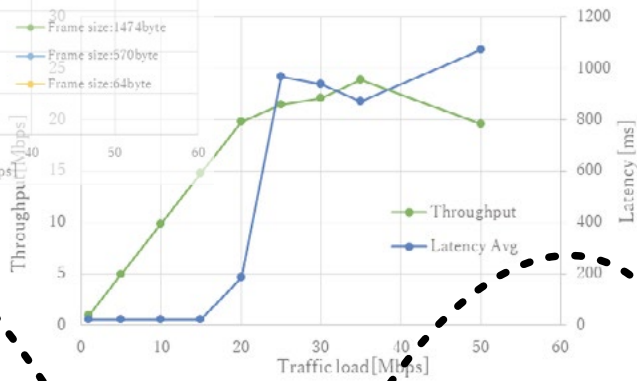
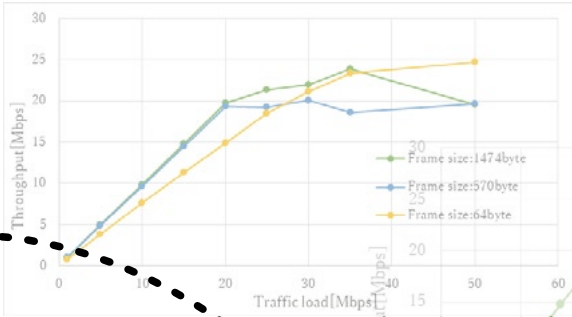




Accurately Evaluate Network Communication Quality Including Virtual Environments

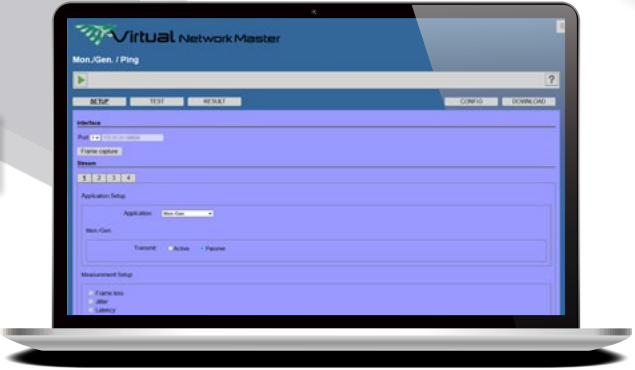
Flexibly address the challenge of visualizing communication quality in virtual and Cloud environments using a software-based solution. Achieve accurate communication quality evaluation even in environments where physical measuring devices cannot be installed.



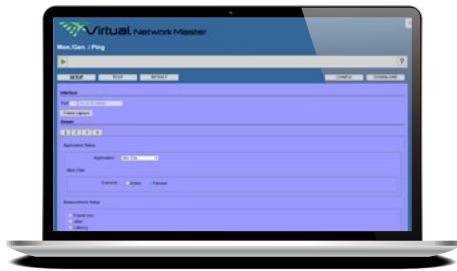


For Evaluating Cloud Services Requiring High-Precision Measurements

- Cloud
- Data Center



Communication Quality Measurement in Cloud/Virtual Environments



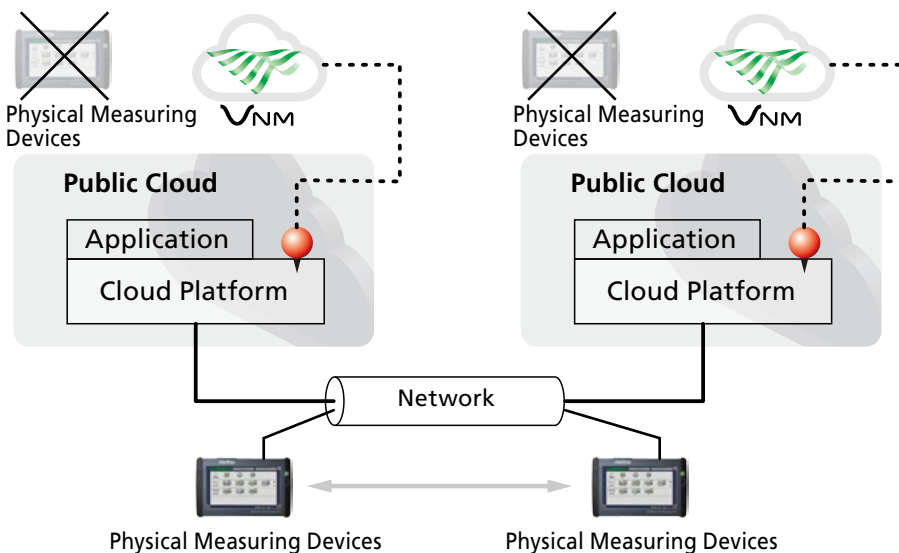
 Virtual Network Master

With the growth of Cloud computing and virtualization, communication quality between applications is significantly affected by the virtual layer, making measurement that includes virtual environments increasingly important. The Virtual Network Master is the ideal communication quality test solution for Cloud/virtual environments.

1 Accurately Measure Communication Quality, Including Cloud/Virtual Environments

Since it is difficult to install physical measuring devices in Cloud/virtual environments, it is challenging to determine the communication quality between applications in virtual environments with the same high precision as measurements using physical measuring devices.

The Virtual Network Master converts the functions of physical test devices into software and operates on Cloud platforms, making it possible to set measurement points on communication paths within virtual environments.



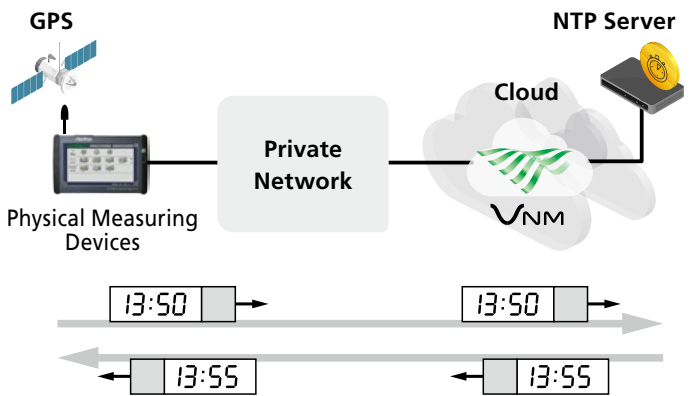
Generating stable traffic and achieving high-precision latency measurement support accurate evaluation of end-to-end communication quality including Cloud/virtual environments.

2

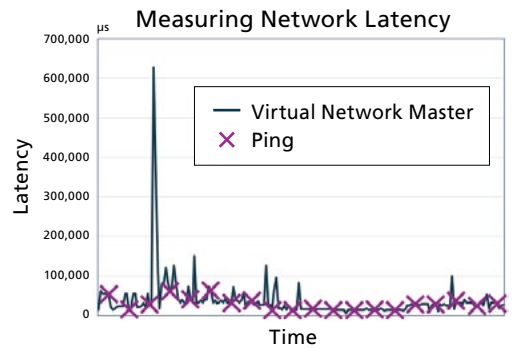
Accurate Measurement Tailored to Applications

The Virtual Network Master evaluates communication quality including virtual environments by active testing using similar traffic to applications in virtual environments. Applications such as video transmission where traffic load differs between uplink and downlink require measurement with different parameters in each direction. The Virtual Network Master measures latency and frame loss individually for uplink/downlink, offering detailed quality evaluation that matches actual application behavior.

One-way Latency Measurement by Synchronizing Time Using NTP

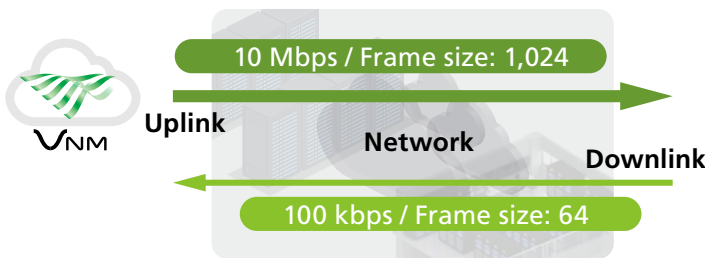


One-way latency measurement is possible by synchronizing time with an NTP server and adding time information to all measurement frames.



Recording the latency time of each frame and aggregating maximum, minimum, and average values at one-second intervals visualizes network latency fluctuations accurately and even instantaneous latency peaks can be captured with high precision.

Active Testing With Line Load and Frame Size Tailored to Applications



UDP packets are generated with individually specified line load and frame size for uplink/downlink for individual measurement of asymmetric uplink/downlink traffic.



Open-source network performance measurement tools are used commonly for general communication-quality evaluation, but the Virtual Network Master supports one-way latency measurement and allocates dedicated cores for transmission and reception, supporting stable traffic generation and measurement without effects from other applications. The quality of communications including virtual environments is evaluated accurately by using active testing with similar traffic to applications in virtual environments.

Product Introduction

The Virtual Network Master for AWS MX109030PC test application software runs on AWS Cloud servers. Linking this application to the Network Master Pro MT1000A/MT1040A or MX109030PC measures communication line throughput, frame loss, latency time, and packet jitter every second. The MX109030PC can measure up to four data streams.

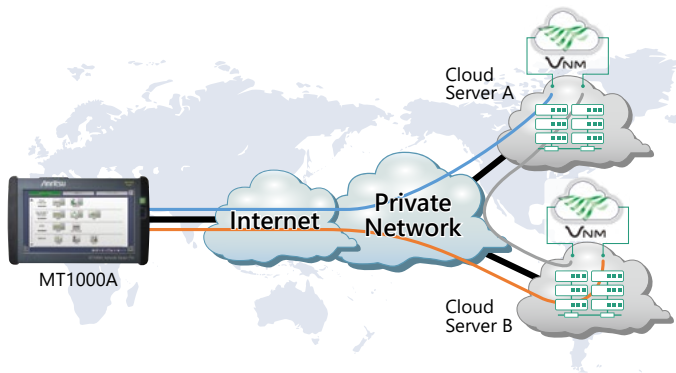
It requires a software license consisting of a basic license and time-limited licenses. Time-limited licenses are valid for 3 months or 1 year and the software is disabled when the license expires. You control measurement and view measurement results by deploying the application on an AWS Cloud server and linking to the web application via a web browser.

Use Cases

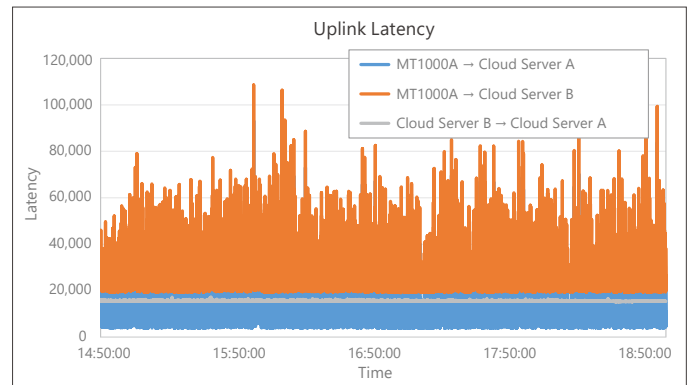
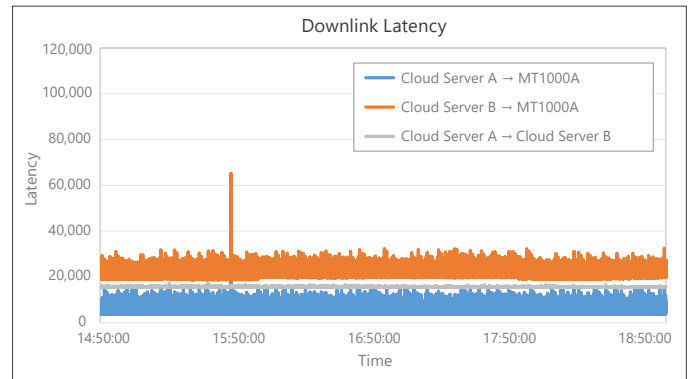
Communication Quality Between Cloud Servers

The communication quality of different routes can be measured simultaneously by deploying the MX109030PC on multiple Cloud servers. Visualizing the differences between internet routing and inter-Cloud regional network routing can assist switching decisions on redundant configurations and backup-route reliability.

■ Evaluating System Between Cloud Servers



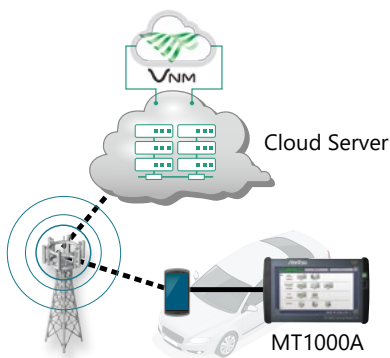
■ Comparing One-Way Latency Of Each Route



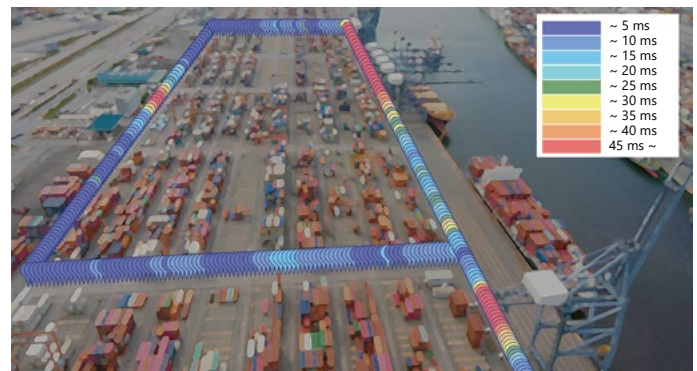
Benchmarking Cellular Network Latency

Services in advanced societies require quantitative evaluation of the latency inherent to the cellular network foundation for reliability evaluation of mission-critical systems, such as autonomous driving, and optimized service quality. Deploying the MX109030PC on a Cloud server and measuring end-to-end communication quality with mobile terminals facilitates identification of latency to assist optimized system design and determine acceptable levels.

■ Cellular Network Evaluation System



■ Route and Latency Heat Map



* Heat map created using external tools

Specifications

Operating Environment

Platform	Amazon Web Services (AWS)*1
AWS Services	Amazon Elastic Compute Cloud (Amazon EC2)
Amazon EC2 Instance Type	C5, C6i (Recommended*2 C5.xlarge, C6i.xlarge, C6i.8xlarge)
Virtual Machine Requirements	Number of CPU cores: 4 min., RAM: 8 GB min., Storage: 16 GB min., Elastic Network Interface (ENI): 2
Required Networks	IPv4, NTP

*1: Amazon Web Services and AWS are registered trademarks of Amazon.com, Inc. or its affiliates.

*2: Ask us about other non-recommended configurations.

Control Method

Control Method	Web GUI, Web API
Recommended Web GUI	OS: Windows 11 Web Browser: Google Chrome

Functions/Performance

Test Items	Frame loss count, frame loss rate, throughput, latency, jitter
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Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

Model/Code	Name
MX109030PC*1, *2	Virtual Network Master for AWS
MX109030PC-TL003*3	3 Months License
MX109030PC-TL011*3	1 Year License

*1: In addition to MX109030PC, purchase either the MX109030PC-TL003 or MX109030PC-TL011.

*2: You must agree to the Term License Agreement before purchase.

Additionally, there are countries/regions where this product cannot be used. For details, refer to the Term License Agreement below.

<https://www.anritsu.com/en-us/test-measurement/support/downloads/manuals/dwl21349>

*3: To extend the usage period, purchase the MX109030PC-TL003 or MX109030PC-TL011 separately.



Specifications are subject to change without notice.

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