

Case study: Fujitsu partnering with Napatech to tackle the 200G challenge



Fujitsu in brief

Fujitsu is the leading Japanese information and communication technology (ICT) company offering a full range of technology products, solutions and services. Approximately 162,000 Fujitsu people support customers in more than 100 countries.

The 200G challenge

With the increasing number of telecom carriers migrating to 100G solutions and the persistent emergence of smartphones and cloud services, there is a growing need to enhance network performance. But monitoring and analyzing 200G of communication brings certain challenges. A common approach is to combine 100G upstream and downstream links via devices such as smart taps, but this typically requires a comprehensive system of numerous 10G lines connected to a range of appliances. This escalates both complexity and cost.

The Proactnes II QM Solution

In addressing this issues, Fujitsu has developed the Proactnes II QM 200GbE network quality monitoring

& analysis solution. By adapting the Napatech 100G accelerator, this solution can directly analyze 2 x 100G lines with just a single server.

By connecting two accelerators, upstream and downstream data can be intelligently merged and specific information can be directed to the right CPU core. This greatly lowers the processing load on the CPUs and enables the application to efficiently analyze the target data.

As the solution is able to analyze network and application quality in real time while monitoring communication packets at 200G, it can instantly detect any deterioration of network quality and accurately identify a problem area. By analyzing the communication behavior without dropping a single packet, it is possible to determine whether a degradation in service quality, such as a response delay, is caused by the network or an issue in the application.

Challenge

With the increasing number of telecom carriers migrating to 100G solutions, there is a growing need to enhance network performance. But managing 200G of data brings a number of challenges. The common approach typically requires a wider system of 10G lines – which escalates both complexity and cost.

Solution

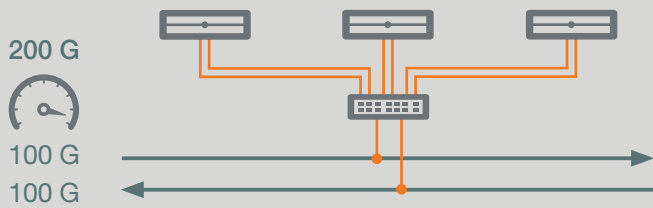
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Benefits

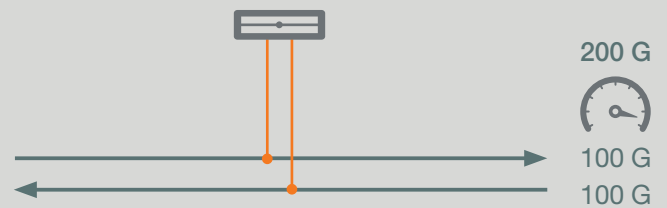
Increased analytical efficiency and reduced costs achieved through:

- 100% packet capture
- Optimized performance
- Intelligent CPU distribution
- 100G compatibility

Traditional approach



The Fujitsu Proactnes II QM Solution



Key benefits

Full line-rate packet capture

With Napatech accelerators, the Proactnes II QM Solution is optimized to capture network traffic at full line-rate. This means the data provided for analyzing the network quality will be completely accurate.

Optimized memory performance

With Napatech accelerators, the Proactnes II QM Solution not only captures data at high speeds, it also delivers data efficiently to the application by ensuring that the relevant data is batched and sent directly to the cache memory of the server CPU core running the application.

This ensures that the data is available in the fastest memory. And since all the data in the cache is relevant, it allows the CPU to pre-fetch data to further expedite processing.

Intelligent multi-CPU distribution

The Proactnes II QM Solution uses all the processing resources available in the server, creating a need for smarter workload balance amongst the available CPU cores. Napatech accelerators can identify the types of

data that need to be directed to specific CPU cores and efficiently distribute this data to up to 128 cores, allowing massive parallel processing of large amounts of data.

100G compatibility

By enabling parallel processing with reduced CPU load, the Napatech accelerators facilitate analytical processing performance of 2 x 100G lines without changing the software architecture.

Napatech 200G Performance Solution

Napatech 200G Performance Solution is based on two PCI-SIG® certified accelerators, each providing a single 100G port with full throughput and zero packet loss under all conditions.

Product highlights

- 100% packet capture enabling analysis of 2 x 100G Ethernet at full line rate
- Enables analysis persistently at speeds of 200G
- Improves application performance
- Timestamp with nanosecond precision
- Supports multiple clock synchronization schemes

For further information, visit:

www.napatech.com/products/accelerators

Find more use cases at:

www.napatech.com/resources/case-studies

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