



## Case study: 100G DIY load balancer solution benefits OEM vendor

### Client challenge

As a network OEM vendor was developing a DPI security monitoring solution for a global client, they needed to optimize resource usage. To enable the heavy traffic analysis, they had to distribute the traffic load from 100G links between numerous appliances.

The OEM vendor wanted a fully scalable solution that would give them the needed agility to tune their system to changing industry needs. They were not looking to invest in a costly full-fledged platform with an abundance of unnecessary capabilities - but rather to integrate dedicated load distribution capabilities to supplement their own solution without adding undesired

proprietary limitations. Napatech was brought on to engineer the needed technology.

### Our solution

The solution was based on two 100G Napatech SmartNICs, guaranteeing zero packet loss and nanosecond time precision. The solution both needed to address the load distribution at CPU level to enhance the performance of the DPI load distribution appliance, but also needed to facilitate efficient distribution across external monitoring appliances. To accommodate these needs, a number of advanced in-line features were added to the Napatech SmartNICs.

### Challenge

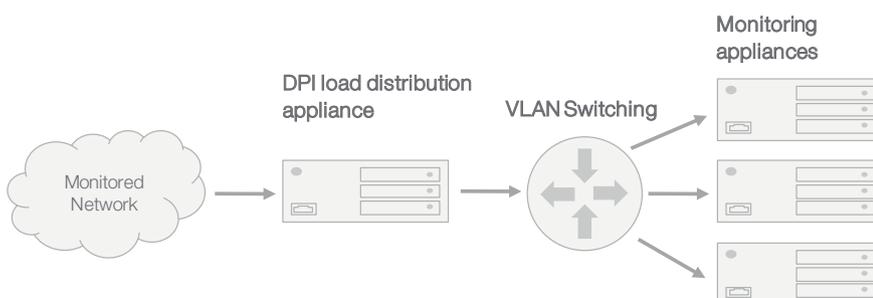
A network OEM vendor needed a flexible data delivery solution to distribute the traffic load on their DPI appliance and across numerous external monitoring appliances.

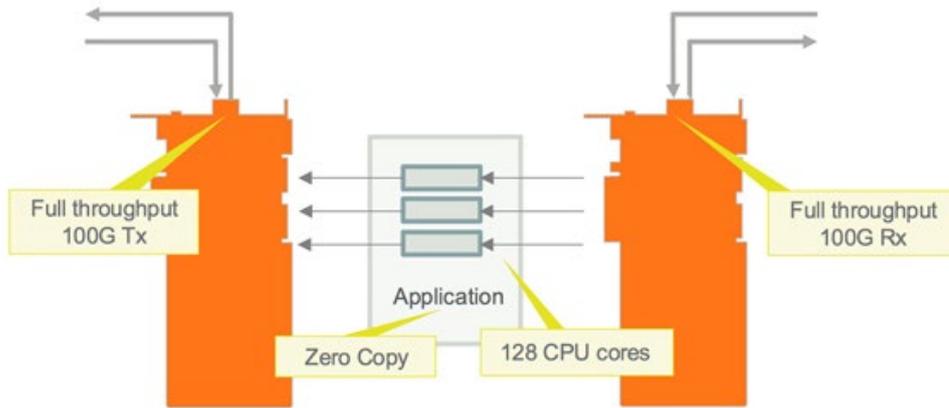
### Solution

In accommodating this need, Napatech expanded the key SmartNIC feature set with a number of new advanced in-line features. This enabled efficient traffic load distribution at CPU level within the DPI appliance and across external appliances.

### Benefits

The solution helped the OEM vendor to use their valuable compute resources on revenue-generating SW-processing – while providing them freedom to customize and scale as desired.





By combining two Napatech SmartNICs, the full 2x100G bandwidth is available - thereby ensuring a system with no bottlenecks.

### In-line support: Full parallel processing - no bottlenecks

To enable intelligent traffic load distribution within the DPI appliance, the following features were developed:

- 128 Rx/Tx streams in hardware, enabling parallel processing with up to 128 CPU cores
- Full sustained throughput 100G Rx and 100G Tx for any packet size
- Customizable hash based load distribution

### Advanced protocol API

To facilitate the traffic redirection and load distribution to the external monitoring appliances, an advanced API was engineered for prepending each individual packet with meta-data. This made it possible to apply VLAN IDs to retransmitted packets and redirect them via VLAN switching to the appliances dedicated to processing the traffic further.

### Benefits

The solution helped the OEM vendor to use their valuable compute resources on revenue-generating SW-processing instead of packet-forwarding – while providing them freedom to customize and scale as desired.

### Napatech

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