PENSANDO

Reducing Data Center Total Cost of Ownership with the Distributed Services Platform

Introduction

The Pensando Distributed Services Platform not only provides tangible benefits for the data center in terms of better security, observability, and operational flexibility; it also saves both CapEx and OpEx costs as compared with traditional data center architectures with legacy technologies.

Network Monitoring TCO Savings

Traditional network TAP approaches add significant complexity and cost to the data center. To reliably capture server communications and rapidly troubleshoot problems, fiber TAPs are placed at critical server connections, typically feeding into an independent TAP network with additional aggregation switches and monitoring devices.
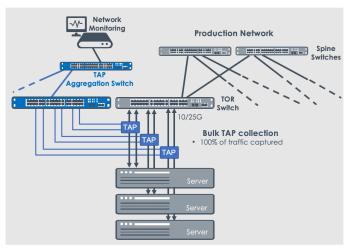

Figure 1. *Traditional TAP network*

With the Pensando platform, monitoring can be enabled at any network port, with source filtering on desired flows to manage the volume of TAP traffic more efficiently. Not only can costly TAPs be eliminated, but also the additional layer of aggregation switches and associated transceivers and cabling along with them.
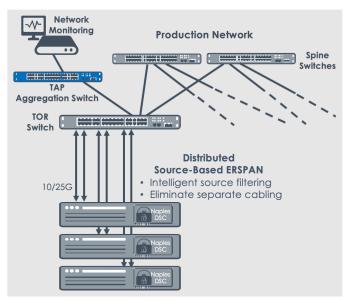

Figure 2. *Evolved intelligent network monitoring*

Network Security TCO Savings

A distributed approach to 'East-West' security means that multiple traditional firewall appliances can be retired, along with their associated yearly support and maintenance costs. This also holds for legacy micro-segmentation licenses or other virtual security solutions. The Pensando platform places all of these features directly at the server edge, where they are most effective, and streamlines the expense and complexity of "Multi-Vendor Bloat" into a single, holistically-managed system.

The Pensando platform simplifies the network by eliminating traffic tromboning in and out of discrete security appliances. No more network zones and complicated routing on the network: as the platform streamlines *network* services, *security* functions are also easily distributed, with policy and configuration dictated by the central policy manager.
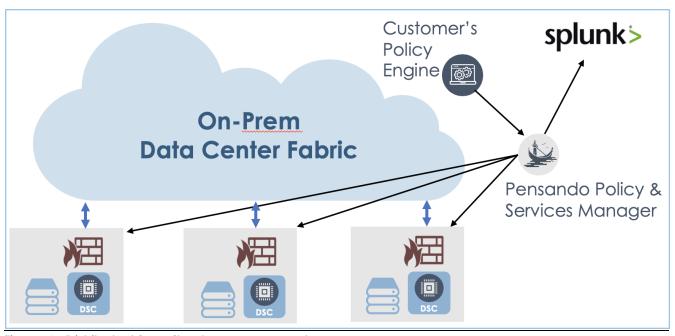

Figure 4. *Distributed Security at every server edge*

Operational Simplicity Savings

Aside from the 'hard cost' savings from eliminating legacy networking / security solutions and their associated yearly support costs, substantial savings can also result from simplified data center management and reductions in network downtime. With a "flatter" network topology and unified policy model, new application and workload deployment can be achieved in 15-30% shorter time, freeing IT staff hours for innovation and rolling out new services.

We can examine a case study of a large financial services enterprise leveraging the Pensando solution, with Distributed Services Cards (DSCs) installed in the servers and the Policy and Services Manager (PSM) managing all of the nodes.

Table 1 summarizes the data center technologies that are replaced by the Distributed Services Platform.

Pensando Distributed Services TCO

Legacy Elements Replaced by Pensando Distributed Services Platform		
Network Monitoring		
Fiber TAP Module, $365 for 1 port		
19" TAP Shelf, $560 for 8 modules		
25G Optic Transceiver, $25 per TAP port		
TAP Aggregation Switch, $7935 for 24-port switch (1 per rack)		
E-W Firewall		
Firewall Appliance, $26,500 for 50 servers (2x redundant)		
Firewall Support & Maintenance, $9400 for 50 servers (3yr support)		
Micro-Segmentation		
Software License per Server, $260		
Network Adapter		
Current 10G/25G Network Adapter $230 (replaced by DSC-25)		
	3yr Cost savings per 1000 servers:	$856,000
	Savings with Pensando:	31%

Table 1. *TCO Savings from eliminating legacy rlements*

In addition to the above TCO savings, the software-defined Pensando platform can be upgraded with more services over time (e.g. encryption, distributed load balancing), adding more value and further improving the cost benefit of the solution.

Other factors such as the reduced risk of a network security breach, or improved Mean-Time-to-Repair metrics are further areas to realize TCO savings.

Pensando has developed a TCO Calculator tool that allows customizing an analysis and breakdown of the Total Cost of Ownership factors when adopting the Distributed Services Platform solution. Contact your sales representative for further information.