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Protect The Unprotected

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Sales Director North Western Europe

AMD
together we advance_

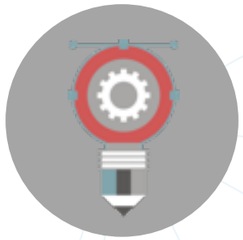
AMD
together we advance_

AMD is expanding its portfolio of high-performance and adaptive solutions to address exploding data center computing demand.

READ THE PRESS RELEASE

AMD is very keen on helping Pensando "double down" on the smart switch initiative together with Aruba and Aruba Partners.

World’s leading innovation team



- #1 market share, $1B run rate each
- Customer / partner driven
- Speed of innovation
- 8 major platforms
- Leapfrog the prior gen leaders
- Driving Innovation

Leading The Market as the Cloud Moves to the Edge

NEXT GEN HIGH PERFORMANCE DATA CENTER FABRICS

Flat networks, Spanning Tree, protocol agnostics

IP becomes the dominant protocol, routing integrated in switching

Core-Aggregation-Edge Design

Clos topology, Spine-Leaf Underlay and Overlay, VXLAN/VTEPs

Some stateless service, limited scalability

Spine-Leaf Underlay/Overlay

Rich collection of wire rate stateful services

No scalability limitations

Services co-located with overlay network, deliver in-line/per port

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DISTRIBUTED SERVICES AT THE EDGE

AMD | aruba a Hewlett Packard Enterprise company

“By 2023, one in three network interface cards shipped will be a FAC”

-Andrew Lerner, Gartner, Just the FACs, August 2020

DPU Custom solution for Hyperscalers and large Scale SP’s
(90.000 cards over 3 years min)

DPU for VMW Monterey
Sell through HPE and Dell today, Ent, SP, Pub, Commercial, SMB

FCS: this autumn

DC ToR Switch (DSS)

$6Bn TAM

Sell through HPE Aruba, Ent, SP, Pub, Commercial, SMB

EMEA: 1 to 2 New Customer / Week

“We believe this is a new category of switch.”

-650 Group

“These performance numbers are outstanding. You’re onto something here- SmartSwitch could be a whole new category.”

-Dell ‘Oro Group

A NEW SWITCHING CATEGORY

Distributed Services Switch: L2/L3/L4

ARUBA CX routing and switching

+

AMD Pensando L4-L7 Stateful Software Services

aruba
a Hewlett Packard Enterprise company

AMD

Unified services switching platform
Broadcom T3 and AMD Pensando Elba (7nm)

Aruba AOS-CX and Orchestration (AFC)
Full protocol stack, centrally managed at scale

Scale, Services, and Performance
Stateful firewall, DDoS, encryption, NAT, etc.

Orders of magnitude (100x) policy scale
beyond traditional switch platforms

100x Scale, 10x Performance, 30% of TCO

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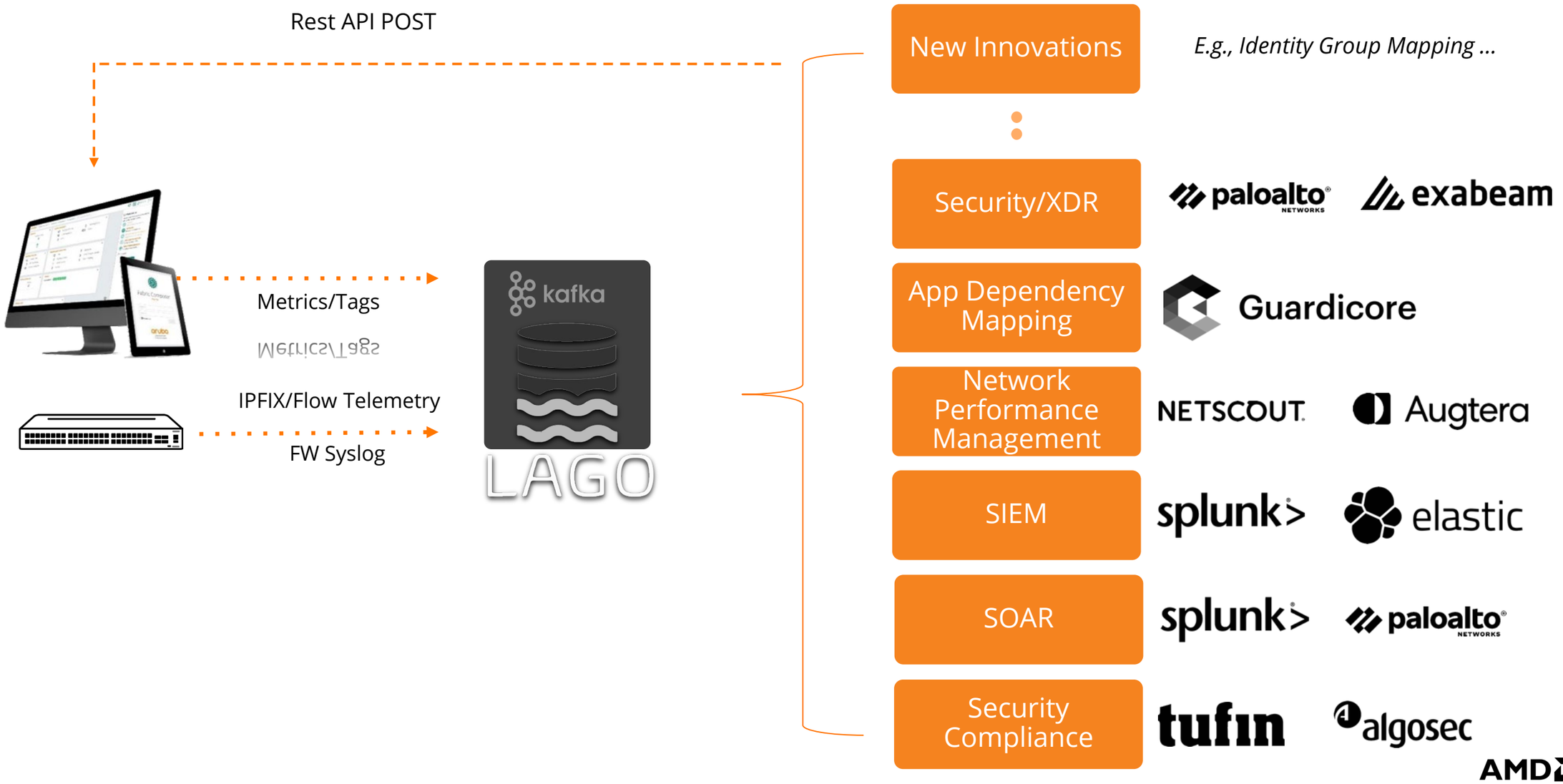
Simplifying and Scaling – EcoSystem Integration Model



Why to protect your Datacenter ?

What are the main goals of Cyber Security?

- Business Continuity
- Protection of IP
- Protection of Data

Start with protecting your crown jewels

- What enables your business continuity (Server, Machines, Connectivity), people ?
- What is your IP and how is it protected?
- Where is your crucial data and who can reach it??

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How to protect your DC network?

- Micro segmentation + Zero Trust
- Complexity
- Cost

10

Why aren’t you Micro Segmenting your network ?

- **Currently you have 3 options for Microsegmentation**
  - Physical Firewall
  - Virtual Firewall
  - Agent Based

- **Main problems**
  - CPU Consuming
  - Performance
  - Visibility
  - Not covering all
  - Price
  - Scalability

- **Physical Firewall Complexities(only Macro)**
  - How to redirect all traffic towards your Firewall? (Different applications need to go to different Vlans in order to inspect them)
  - Bottle neck in your network (all traffic needs to go to one place in your network)
  - **Expensive** → Big Firewalls cost a lot of money
  - Lack of Visibility
- **Virtual Firewall**
  - CPU Consuming
  - Containerization
  - Only for Virtual environments
  - No hypervisor
  - **Expensive**
- **Agent Based**
  - CPU Consuming
  - Not all devices can handle agents
  - **Expensive**
  - Complex in management and maintaining

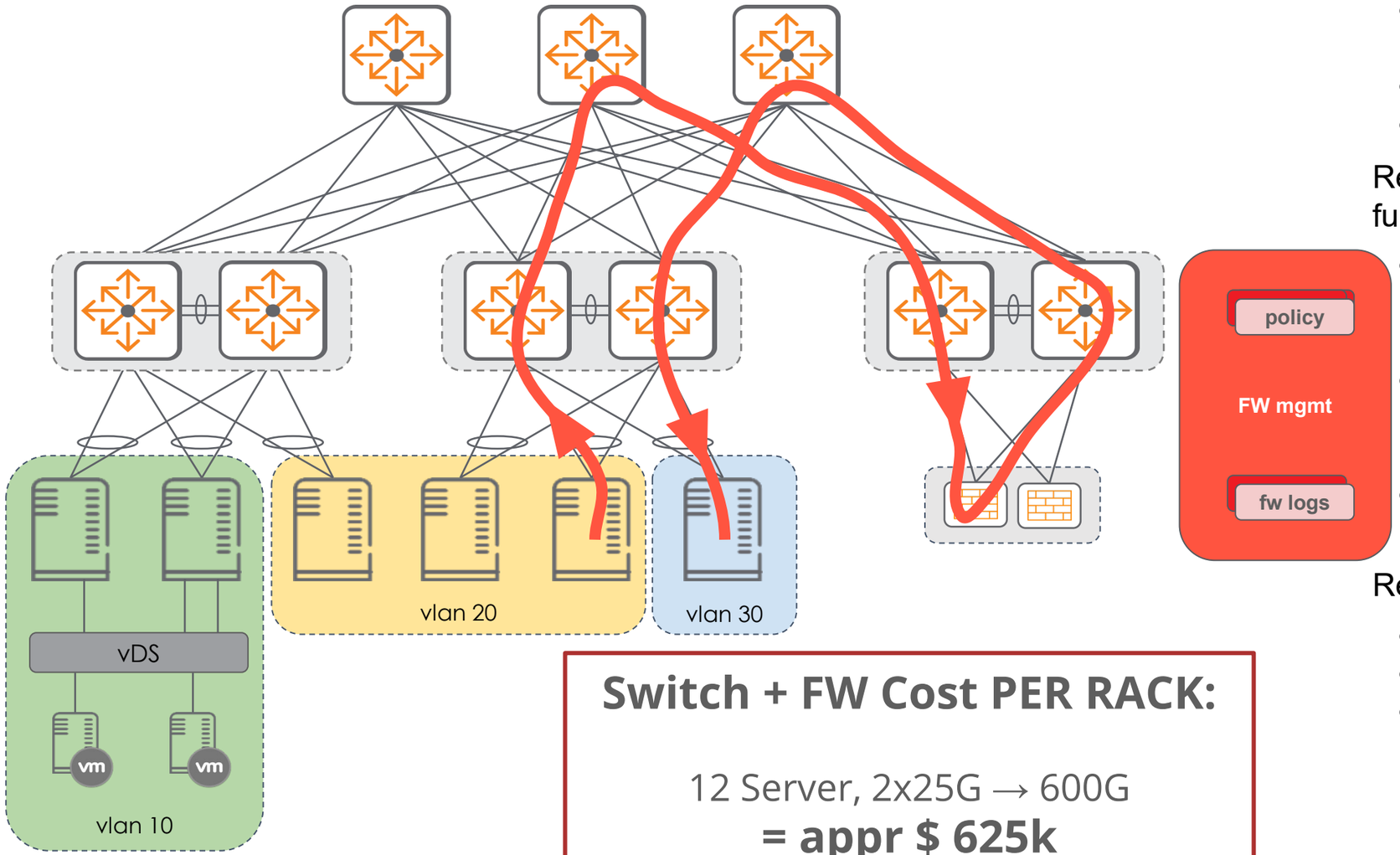
What would solve these problems?

- **Visibility**
  - You need a device that sees all the traffic (in line)
- **Performance**
  - You need a very performant device that can handle big amounts of traffic so that you can secure everything
  - Shouldn’t consume server CPU
  - Scalability
- **Distributed Architecture**
  - You need to avoid bottlenecks in your network
- **Price**
  - It should create a low TCO

CX10K

- Sees all traffic and brings visibility of all the flows
- 800 GB of Stateful L4- Firewall in HARDWARE PER SWITCH
- It can secure **ALL** traffic (Bare Metal, Appliances, Back Up, Storage, Virtualized, …)
- TCO

Centralized Services Architecture



Switch + FW Cost PER RACK:

12 Server, 2x25G → 600G

= appr $ 625k

(2x $300k FW + 2x $12k ToR)

Centralized Stateful Firewall Services

- managed from a **single Management Instance**
- provide seamless failover
- **collects firewall logs**

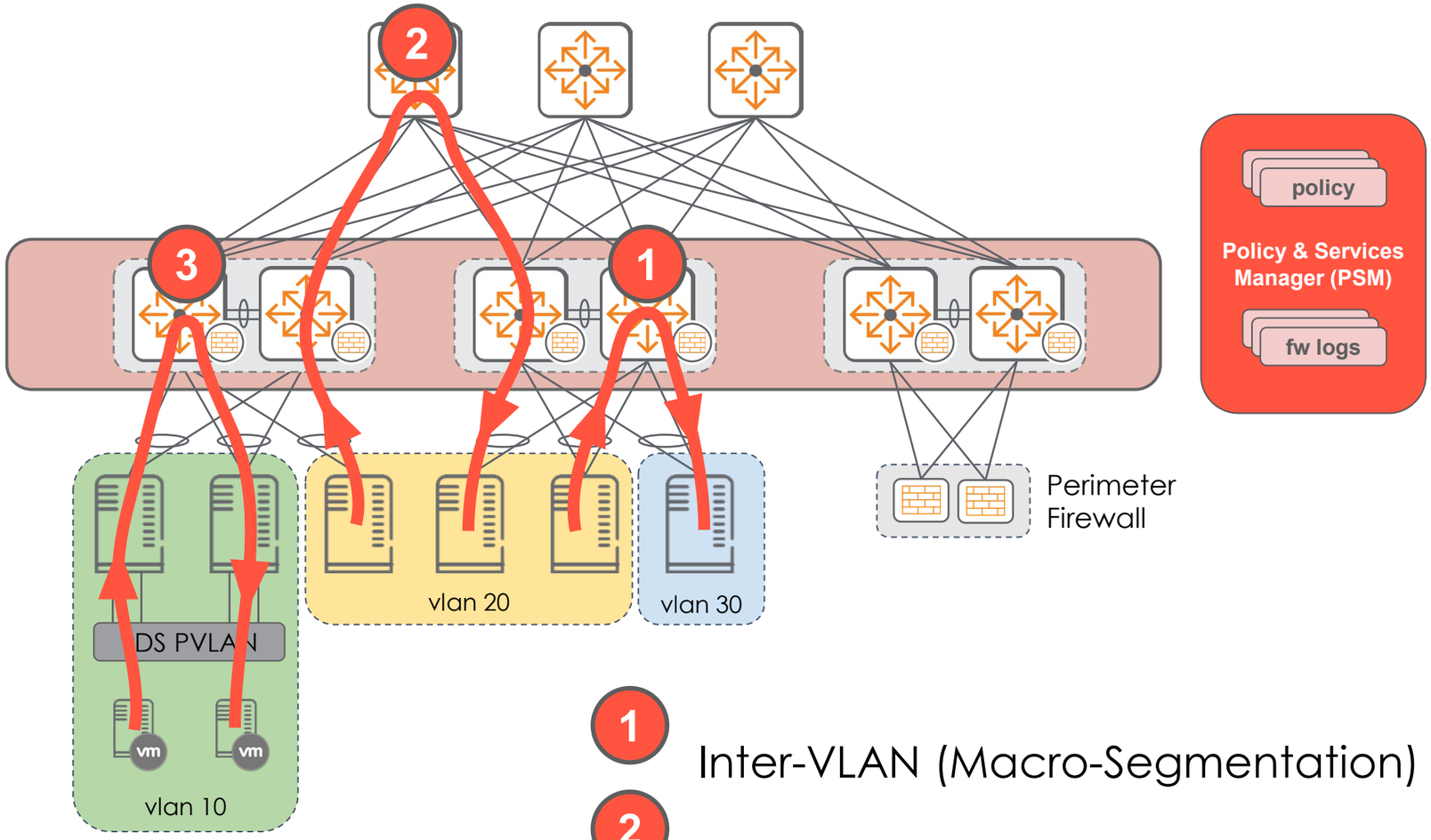
Requires a Network Design that supports the functionality

- Firewall provide Default Gateway functionality on the Network to **route the traffic through the Firewall**
- **IP Addressing Scheme** needs to reflect the separation for the stateful policy enforcement
- Application Tiers **stretch multiple Firewalling Zones**

Redirect to Firewall

- Increases **Latency**
- Consumes Network **Bandwidth**
- Adds **Complexity**

Distributed Services Architecture



1. Inter-VLAN (Macro-Segmentation)
2. Intra-VLAN (Micro-Segmentation)
3. Intra-VLAN-Intra-Hypervisor

Distributed Stateful Services

- are provided in path, **without redirection** to a centralized appliance
- Programmable ASICs provide **hardware offloading** capabilities AND flexibility for different Use Cases

The Policy & Services Manager (PSM)

- provides **centralized management** of policies and services
- **distributes the configuration** to all stateful services switches
- **collects fw logs**, alarms, telemetry and statistics
- **integrates in Ecosystems**

MIGRATION PATH - NETWORK

Step-by-Step to a more secure datacenter environment

1

Network Lifecycle

Replace existing network
or
enhance existing network

2

Redirect for Visibility

Leverage the Visibility for Policy Creation and Troubleshooting

3

Introduce Security

Enable the created Policy, leverage FW logging capabilities for compliance

Aruba CX10K Distributed Services Switch - with integrated 800G Firewall!

For Protection of ANY traffic inside the Data Center

Protect the Unprotected!

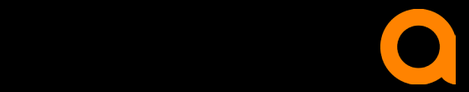
- The **DAMAGE** of cyber attacks must be **limited**
- **Network Segmentation** solves the problem
- **CX10K has an 800G L4- Firewall** - in HW - build in and integrates in existing environments
- **Compared to existing solutions, the CX10k delivers 100x scale, 10x Performance and**

1/3 TCO**

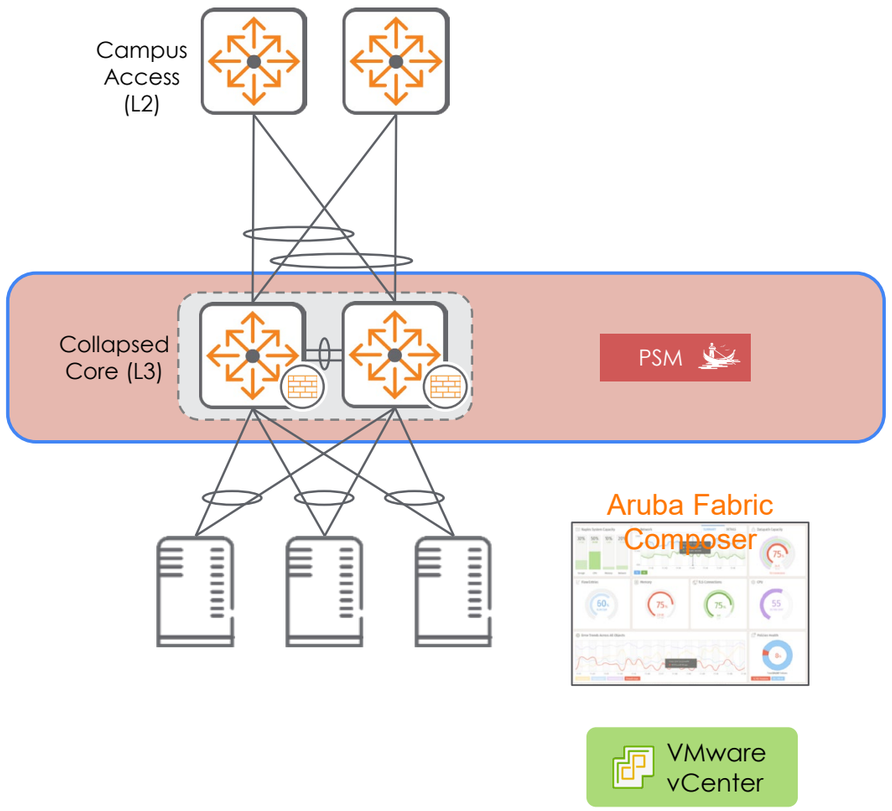
- * https://www.forbes.com/sites/louiscolumbus/2019/10/27/improving-endpoint-security-needs-to-be-a-top-goal-in-2020/?sh=7c244f25608e
  https://www.rapid7.com/blog/post/2016/03/31/idc-says-70-of-successful-breaches-originate-on-the-endpoint/
  https://www.intelligentciso.com/2021/04/09/expert-says-cisos-need-to-take-lateral-movement-seriously/#

**Pensando TCO Calculations

THANK YOU



Use Case: CX10k Collapsed Core Deployments



CX10000 replacing the existing core switches (L2 and L3 functionality)

AFC for simpler management of connectivity and security - including the integration into vCenter

Stateful Firewall to protect the Servers, Appliances and Virtual Machines attached to the Collapsed Core Switches

VSX for Redundancy and Software Upgrades