

29 May 2022



Protect The Unprotected!

APPS, CLOUD, SECURITY AND SERVICES ... ARCHITECTURES IN TRANSITION

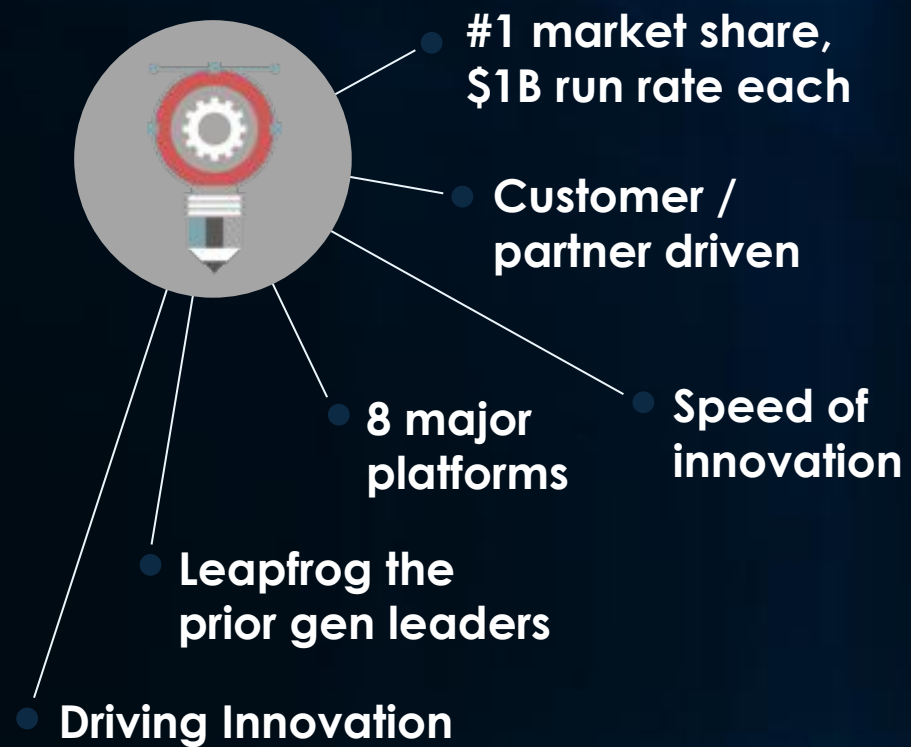
Bart Janssens Sales Director North Western Europe

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World's leading innovation team



Leading The Market as the Cloud Moves to the Edge

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

[READ THE PRESS RELEASE](#)

AMD  PENSANDO

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

The Enterprise Requires a New Architectural Approach

Distributed Services at the Edge

Distributed Services SmartNIC/FAC



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

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

Distributed Services SmartSwitch



“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

SWITCHING ARCHITECTURE EVOLUTION

1990

Layer 2
Switches



Flat networks, Spanning
Tree, protocol agnostics

2000

Layer 3
Switches



IP becomes the dominant
protocol, routing
integrated in switching

Core-Aggregation-
Edge Design

2010

Switching
Fabrics



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

Some stateless service,
limited scalability

2021

Distributed
Services Switch



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

A NEW SWITCHING CATEGORY: DISTRIBUTED SERVICES SWITCH

ARUBA CX ROUTING AND SWITCHING



Pensando L4-L7 Stateful Software Services



Stateful Network
Firewall



PENSANDO



Aruba CX 10000 Fixed Switch

1RU leaf/access form factor

ASICs & Processors

Broadcom T3 & Pensando Elba (7nm)

Port configuration

48p 25G, 6p 100G

Aruba AOS-CX & Orchestration (AFC)

Full protocol stack support
AFC Unified Network & Services Policy

Scale, Services & Performance

Stateful firewall, DDoS, encryption, NAT, etc

Orders of magnitude (100x) policy scale

beyond traditional switch platforms

FOR ANY WORKLOAD, SERVER OR DEPLOYMENT
WITH INDUSTRY LEADING SCALE AND PERFORMANCE



How can I protect my DC Network easily and cost efficient?

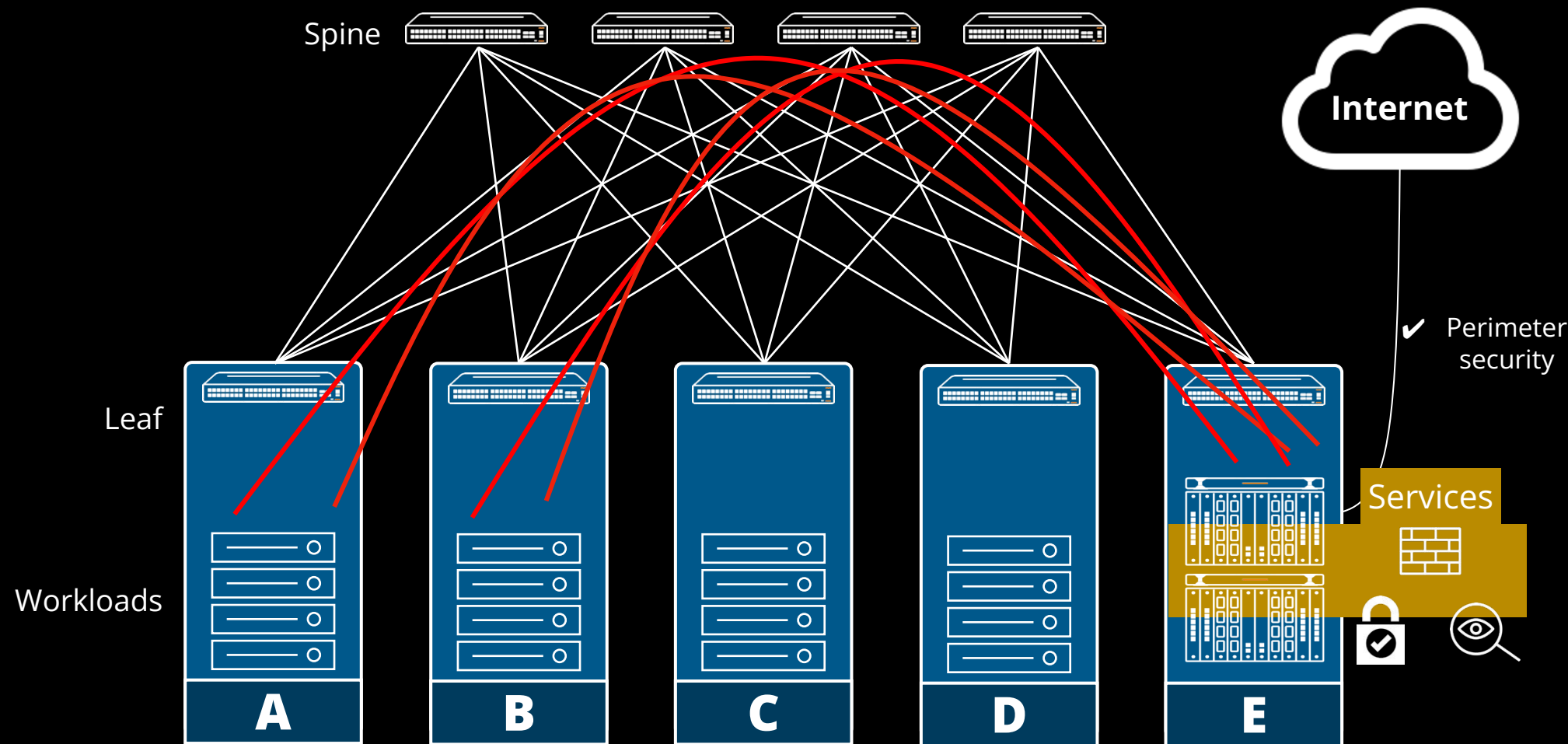
- ❖ Network segmentation + Zero Trust
- ❖ Complexity
- ❖ Cost



- The CX10k ToR Switch has a **800G** L4-Firewall build in - in HW
- It can secure **ANY traffic**
- **Lowest Cost Option for Segmentation** - Only 25% Uplift vs Classic ToR = +/- 70% TCO Savings
- It analyses the Network and helps you enabling **Zero Trust**
- It fits **for all customer sizes** and can be used in Switch mode only first



CENTRALISED SERVICES ARCHITECTURE



Centralized Services
Additional Bandwidth Needed
High Latency
Operation is Complex
Very High Capex and Opex

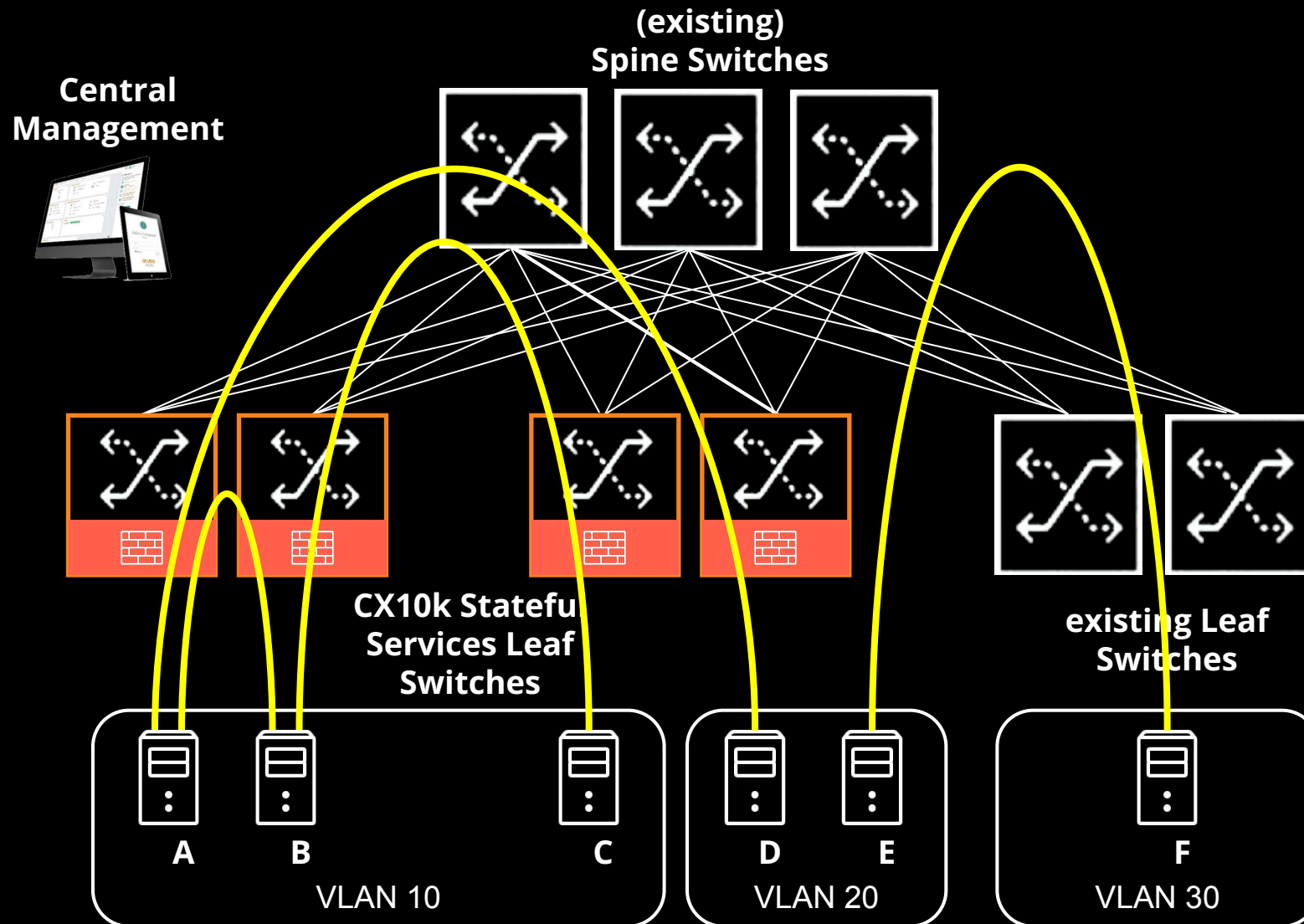
Switch + FW Cost PER RACK:

12 Server
2x25G
→ 600G
= appr \$ 625k
(2x \$300k FW + 2x \$12k ToR)



STATEFUL NETWORK FIREWALL

Protect the Services Inside your Data Center



Protect the Unprotected

- No replacement of existing Perimeter Firewall!
- Protects ANY TRAFFIC INSIDE the DC
- No matter if Server, Storage, Management or Backup

Switch + FW Cost PER RACK:

12 Server
2x25G
→ 600G
= appr \$ 60k
(2x \$30k Aruba CX10k
ToR)



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

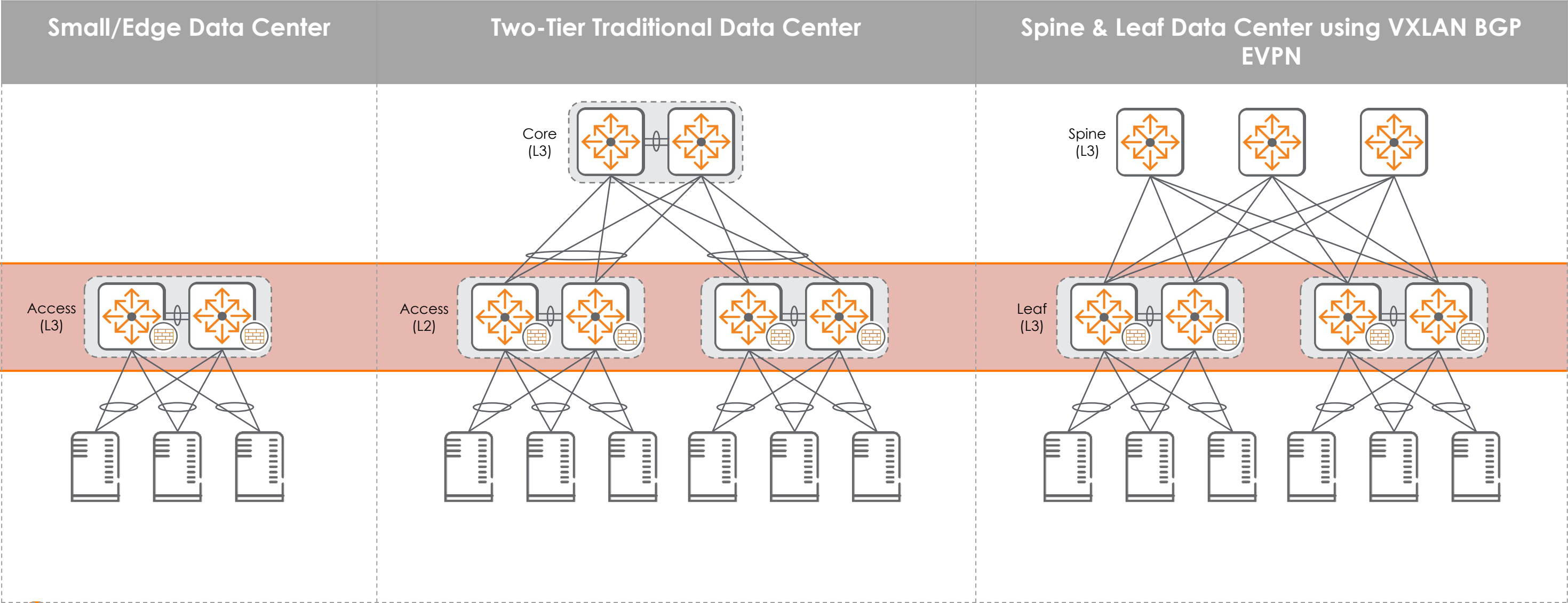
Leverage the Visibility for
Policy Creation and
Troubleshooting

3

Introduce Security

Enable the created Policy,
leverage FW logging
capabilities for
compliance

Support Active-Active Stateful Network Firewall For All DC Designs



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

For Protection of ANY traffic inside the Data Center

- The damage of Ransomware 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

+/- 70% TCO Savings**

**Protect the
Unprotected!**

* <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

