



F5 Solutions Running on the Intel® NetSec Accelerator Reference Design

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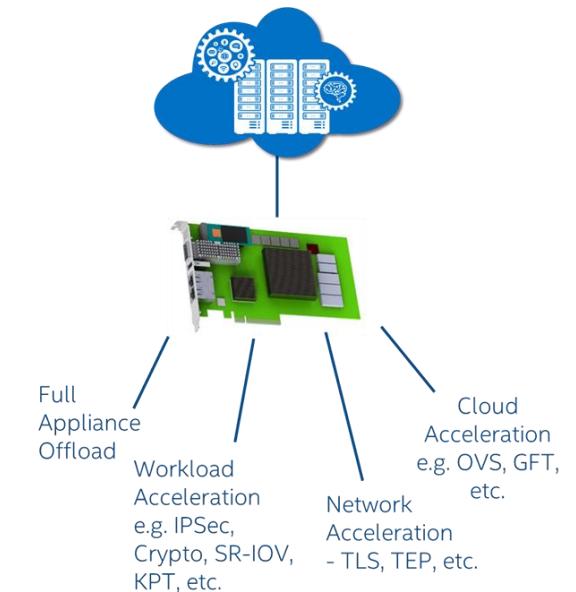
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What is an Intel® NetSec Accelerator?

- **Intel Supplied Reference Design**
 - Accelerator (server on a card) leveraging x86 SOCs for compute; networking and security focus
 - **Key values:**
 - x86 – **extensive codebase, easily portable**
 - Cryptography offload – Intel® QuickAssist Technology (**Intel® QAT**)
 - Integrated switching – CPU **Offload** for FastPath traffic
 - Integrated ethernet – **Smaller** physical footprint
 - Independently configurable – **Stand-alone server** with distinct **security** domains and **isolated** workload boundary
- Launched at RSA '22 with F5 Networks and Silicom

Intel Atom® P5700 processor family +
Intel® Ethernet 800 Series Controllers



intel

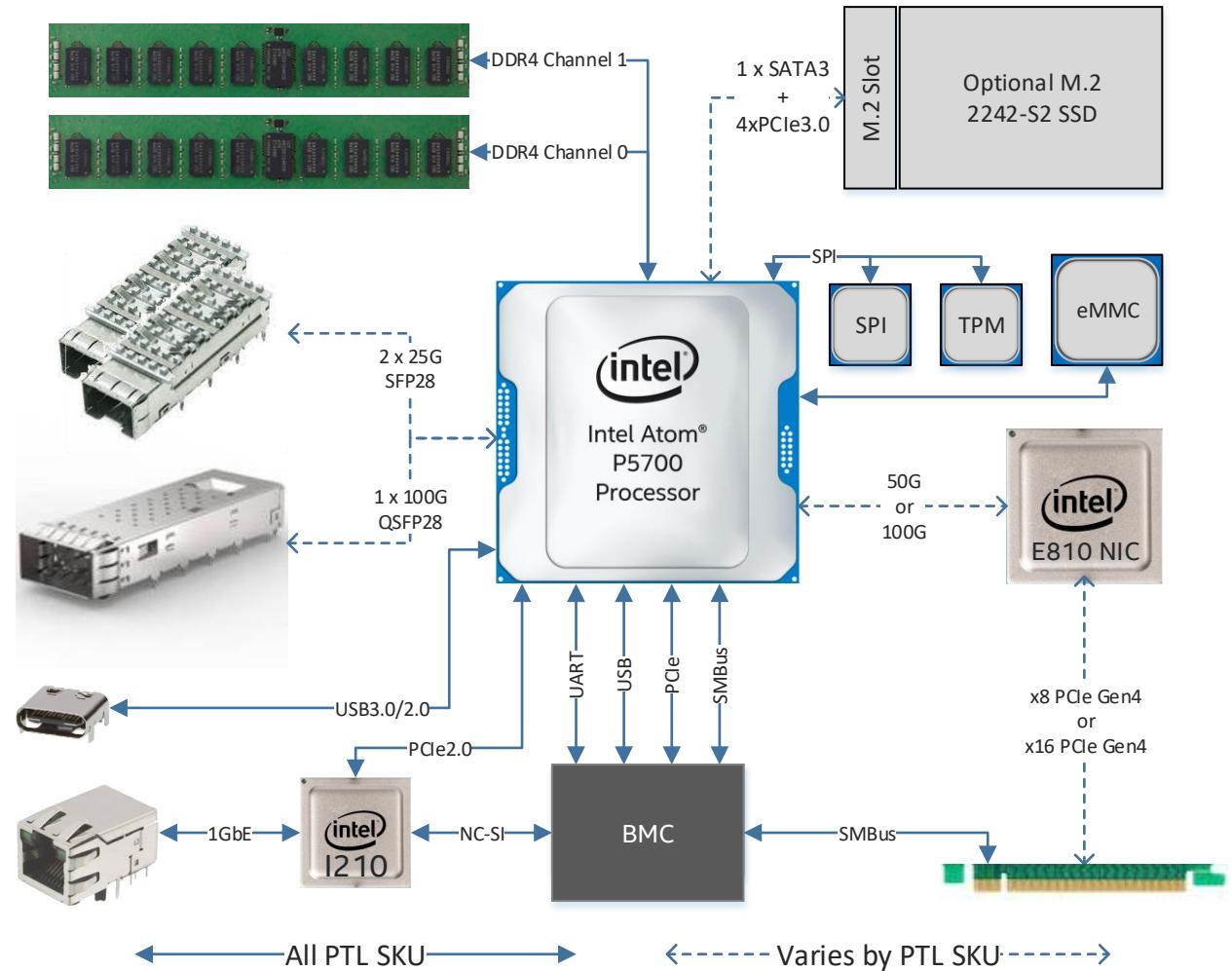
f5

Silicom
Ltd.
Connectivity Solutions

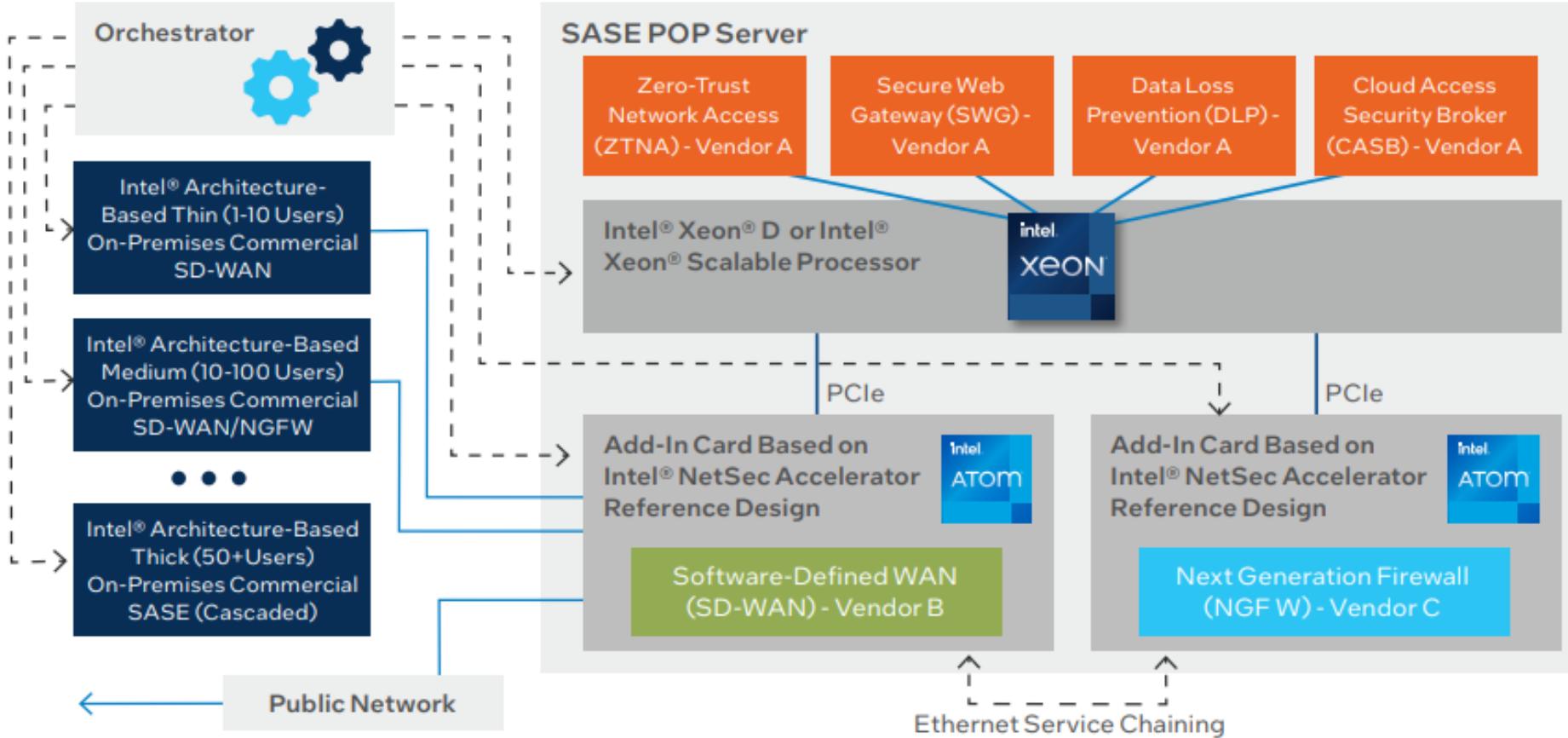
Intel® NetSec Accelerator Hardware Architecture



Intel® NetSec 8C P5721		Intel® NetSec 16C P5742	
Form Factor	Full Height, Half Length		
External Ports	2 x 25 GbE SFP28	1 x 100 GbE QSFP28	
Power Consumption	55W - 90W	70W - 115W	
Memory Capacity	Up to 32GB @ 2933 MT/s		
Host Interface	x8 PCIe Gen4	x16 PCIe Gen4	
Storage Capacity	Up to 256 GB eMMC		
Throughput Target (bi-direction offload)	25 Gbps	50 Gbps	
Throughput Target (uni-direction offload)	50 Gbps	100 Gbps	



Why Did Intel Develop The Intel® NetSec Accelerator?



- Workload Isolation
- Ease of Integration
- Density and Scale
- Configurability
- Compatibility



Security Applications

Intel's Expected Usage of the
Intel® NetSec Accelerator?



Any Application a Server Can Run!!!

F5 BIG-IP





Intel® NetSec Accelerator Reference Design delivers:



Scalability



Intelligence



Low TCO



Durability



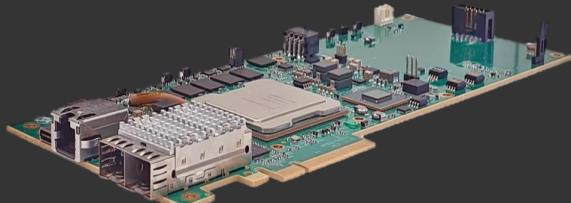
**With performance
that gives you:**

100 Gbps

inline IPsec throughput
with Intel® QuickAssist™
technology

240×

the AI performance
vs the prior generation



Silicom IAONIC Micro Servers (8C, 16C) based on Intel® NetSec Accelerator Reference Design optimizes:



Flexibility



**Power efficiency
and density**



Silicom IAONIC optimizes:



Flexibility

Works in:



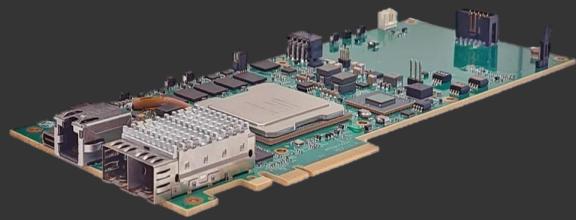
Legacy
systems



Modern
systems



Edge
devices

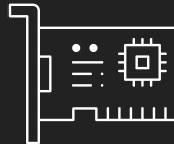


Silicom IAONIC optimizes:

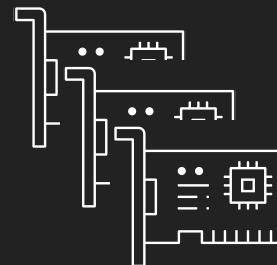


Flexibility

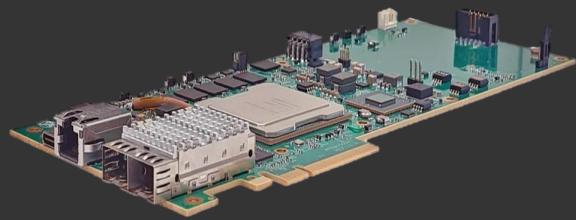
Works in:



Single slot
configurations



Multi-slot
configurations

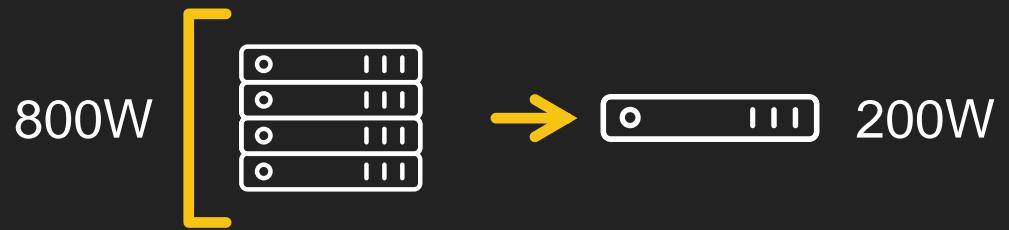


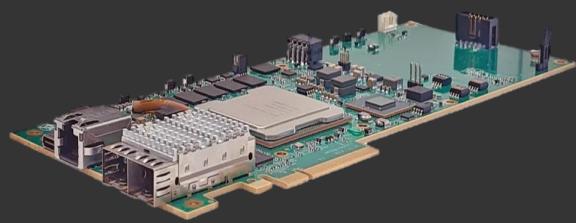
Silicom IONIC optimizes:



**Power efficiency
and density**

By reducing the number of servers required, the Intel® IONIC saves 200W in power usage per server through power supply losses

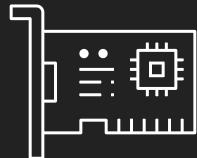




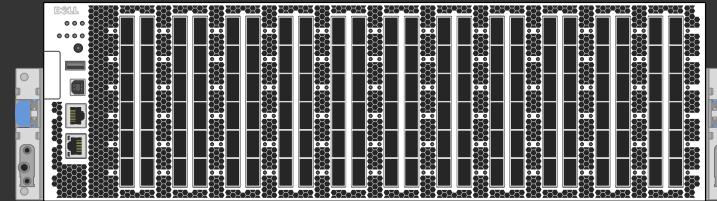
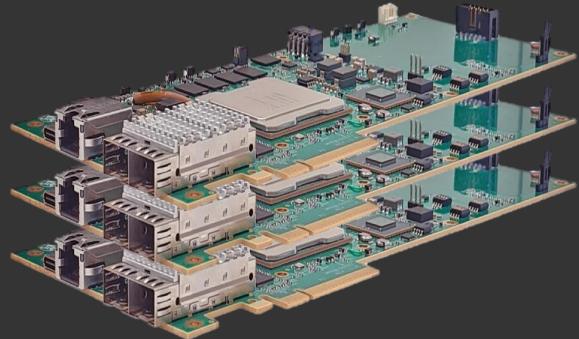
Silicom IAGONIC optimizes:



Power efficiency
and density



Only
55W–71W
to power each Silicom IAGONIC

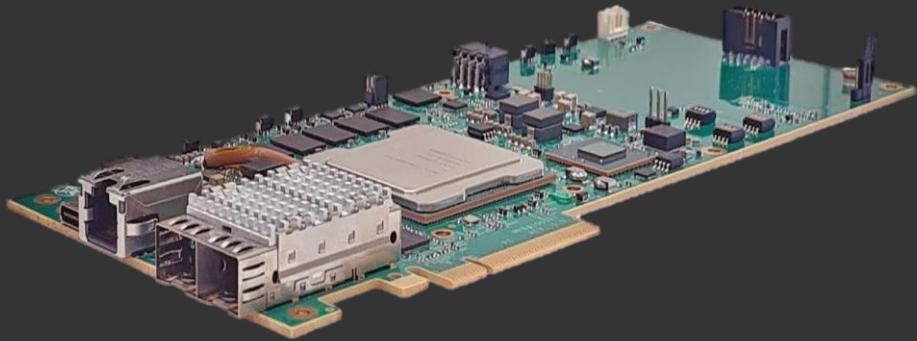


Intel® NetSec Accelerator Reference Design enables
Intel Architecture-based services on a PCIe card.
**It's like having a blade server in every 1U slot
creating a micro security cloud.**



NGINX[®]

Part of F5



**NGINX security services running natively on the
Silicom IOANIC based on the Intel® NetSec
Accelerator Reference Design**

NGINX using QAT acceleration

Why use NGINX App Protect?

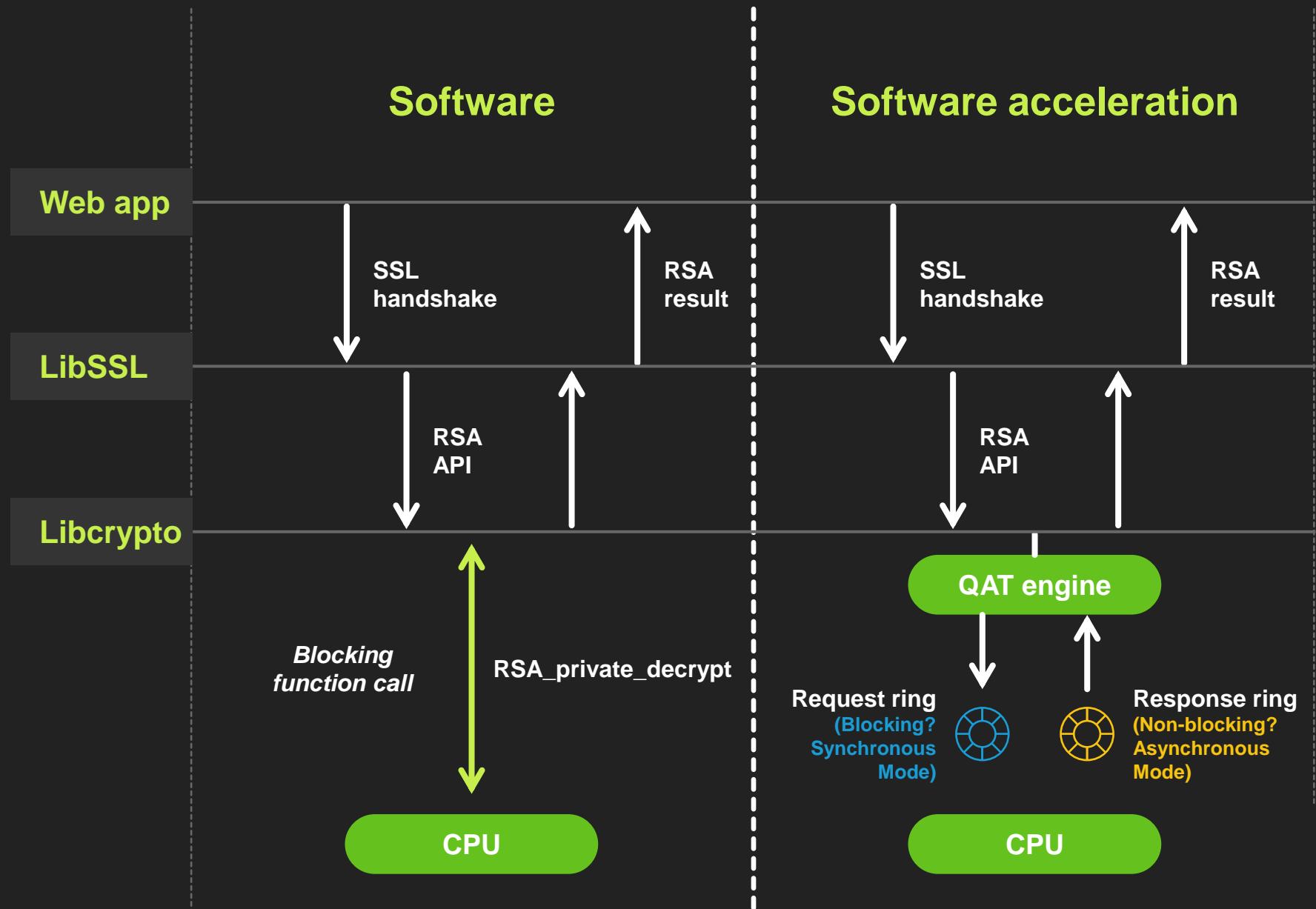
Seamless NGINX integration

Defense and visibility

DevOps integration

Powerful lightweight WAF

Level 7 DoS security



NGINX using QAT acceleration

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How much faster?

vCPUs running NGINX + Intel® QuickAssist Technology (Intel® QAT) improves compute, power, and operations vs. standard configs

Processing Volumes

vCPUs running F5 solutions	Transactions/sec without Intel® QAT	Transactions/sec with Intel® QAT	Improvement
2	1.4k	15.2k	10.8x
4	3.0k	31.2k	10.4x
8	6.3k	65.4k	10.4x
12	9.5k	92k	9.7x



NGINX®

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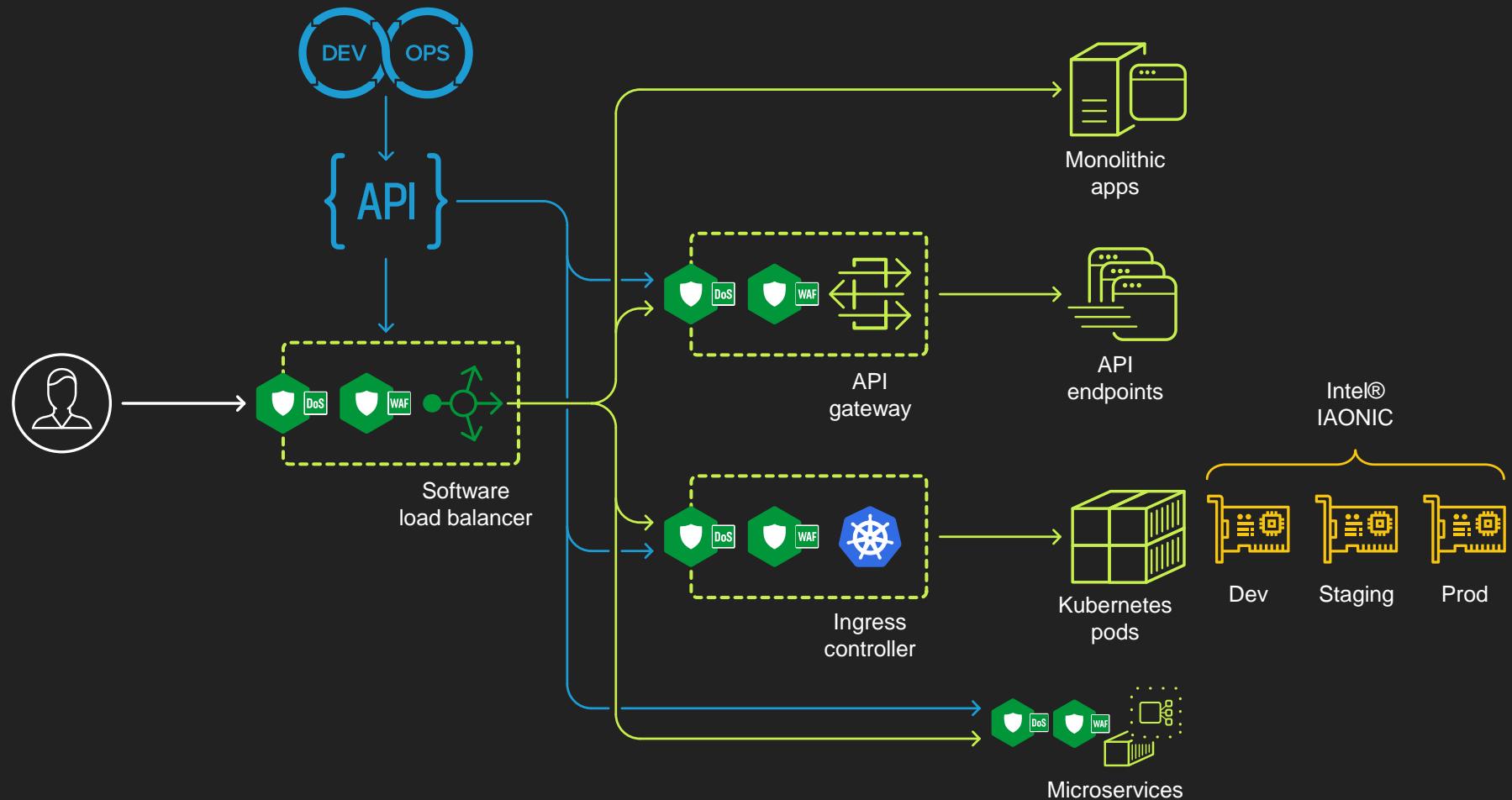
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Part of F5

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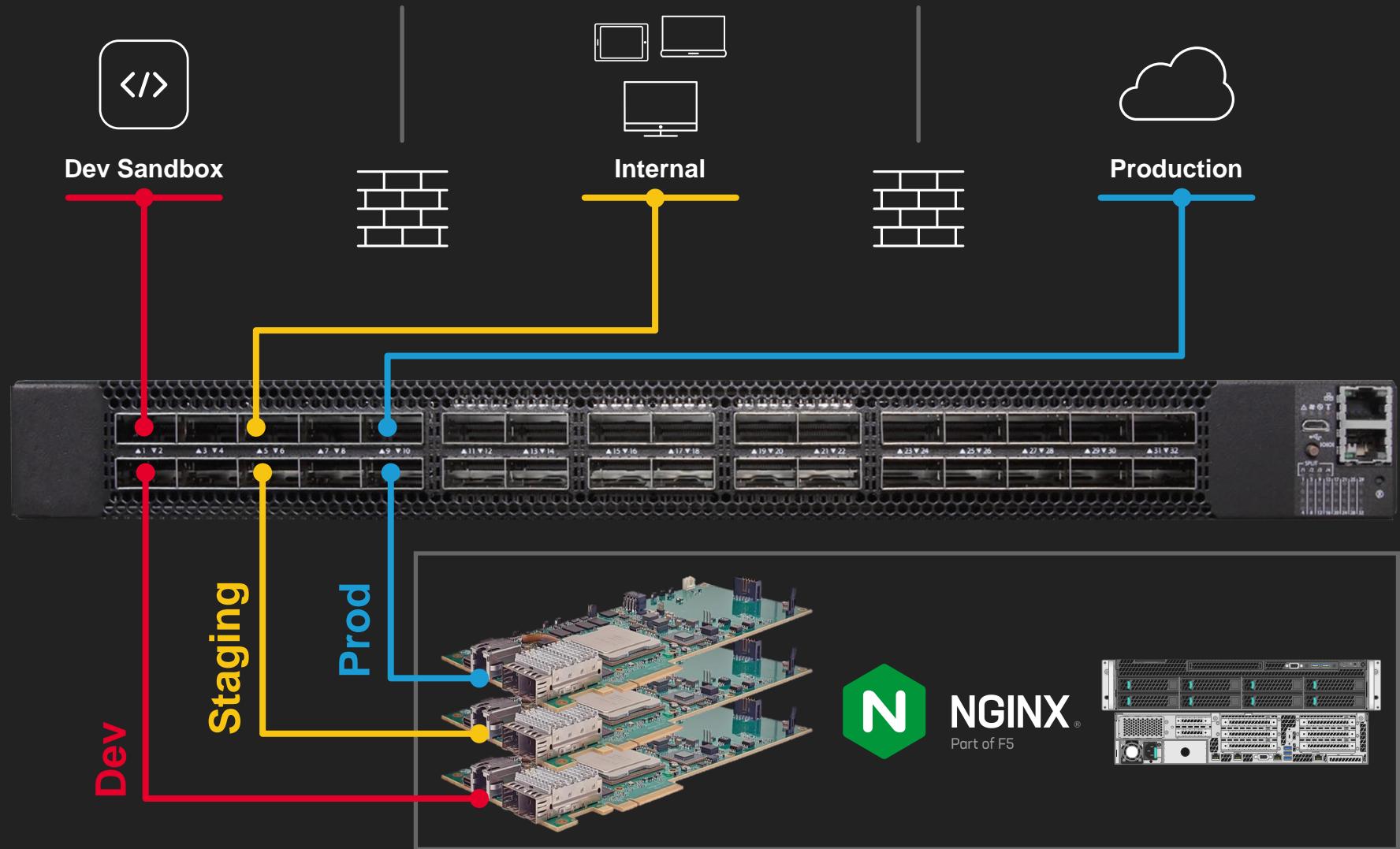
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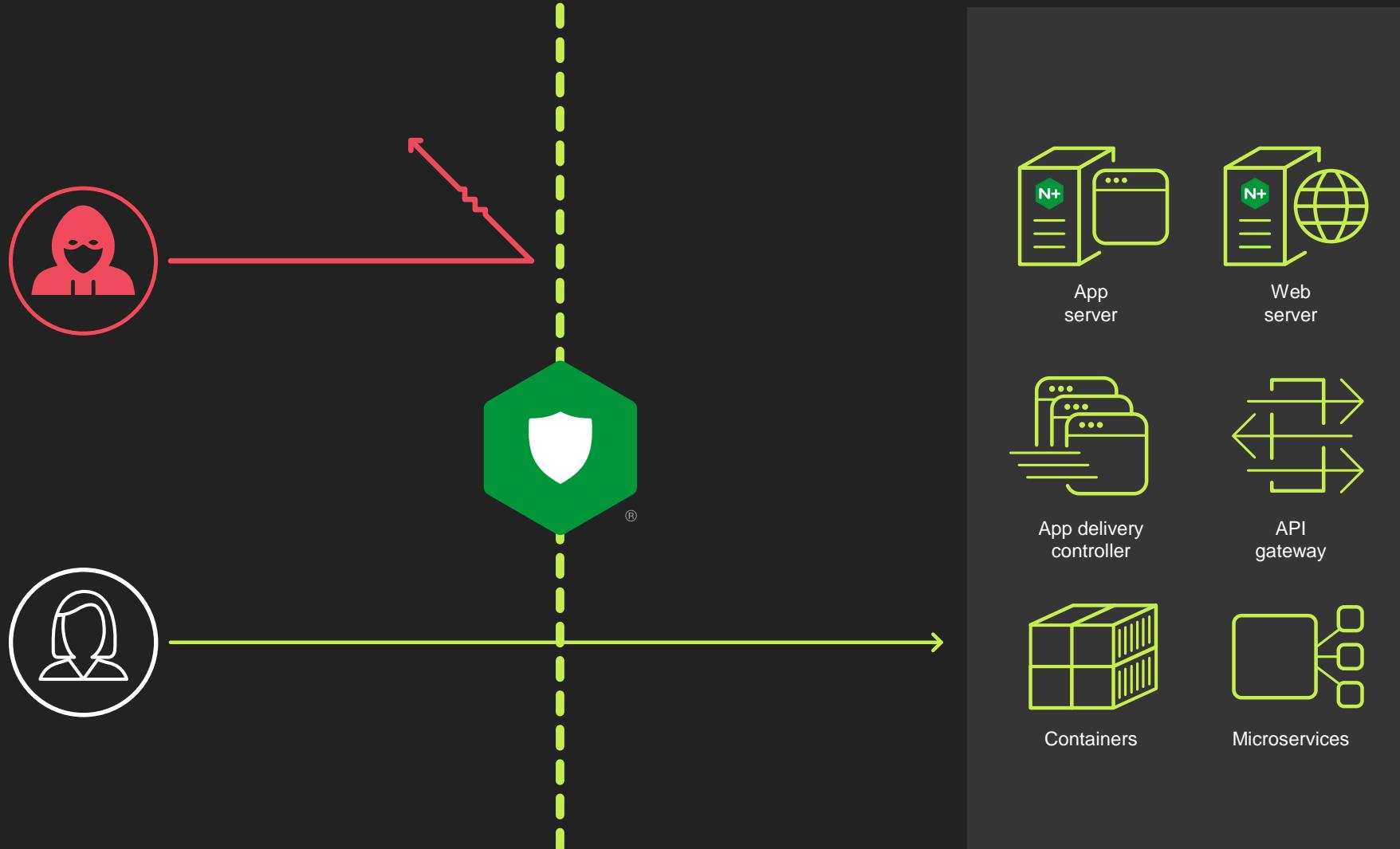
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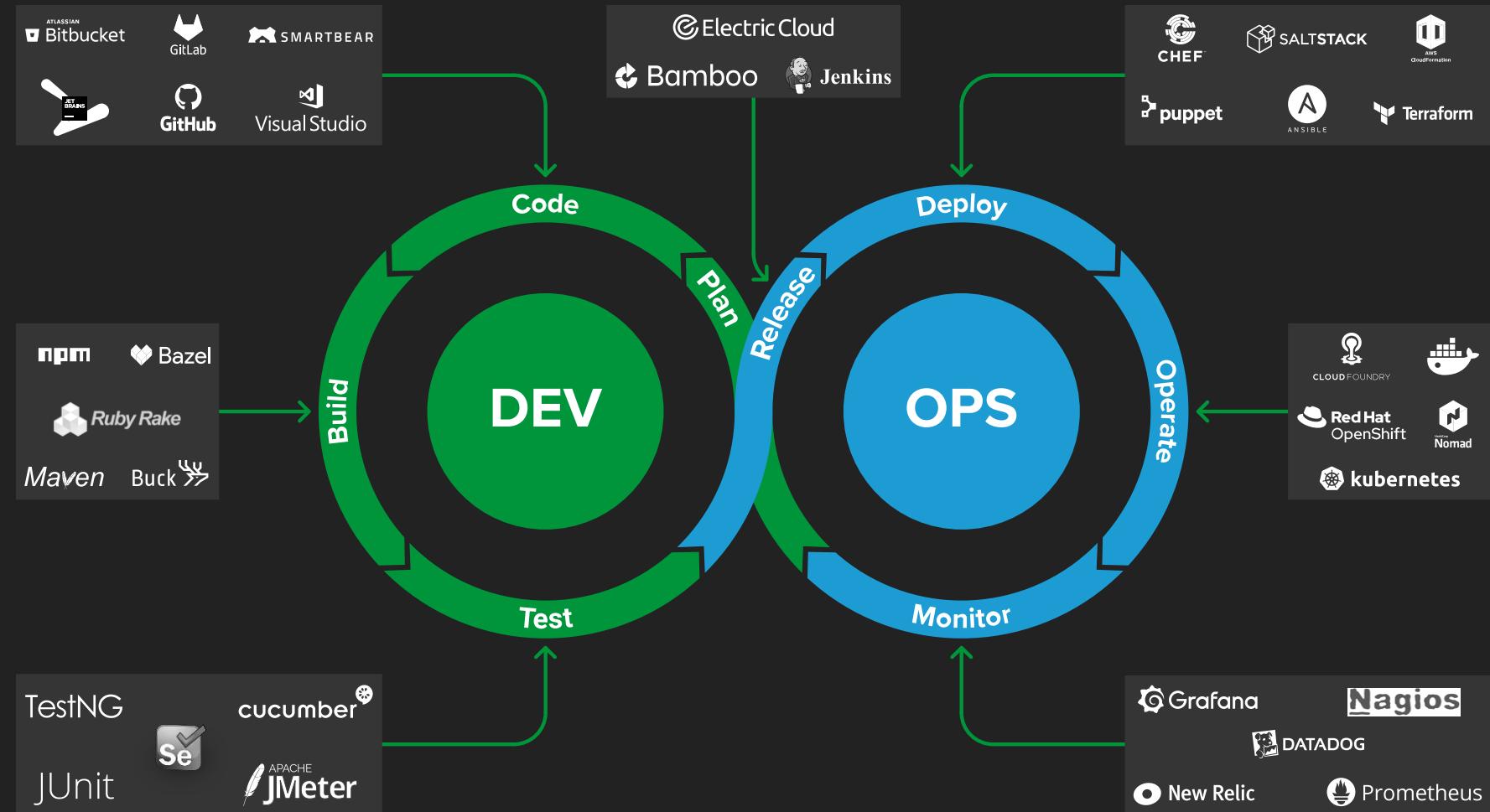
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NGINX using QAT
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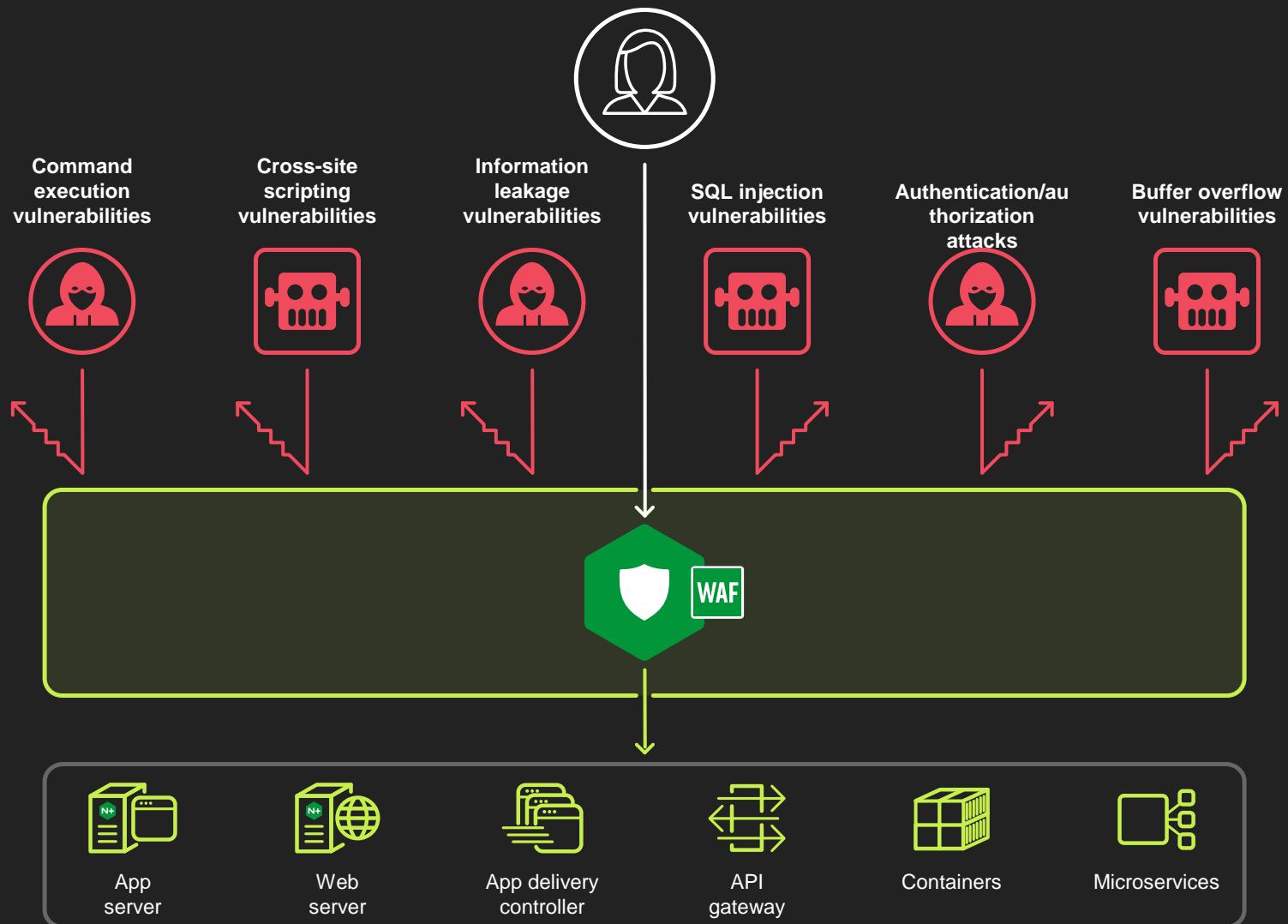
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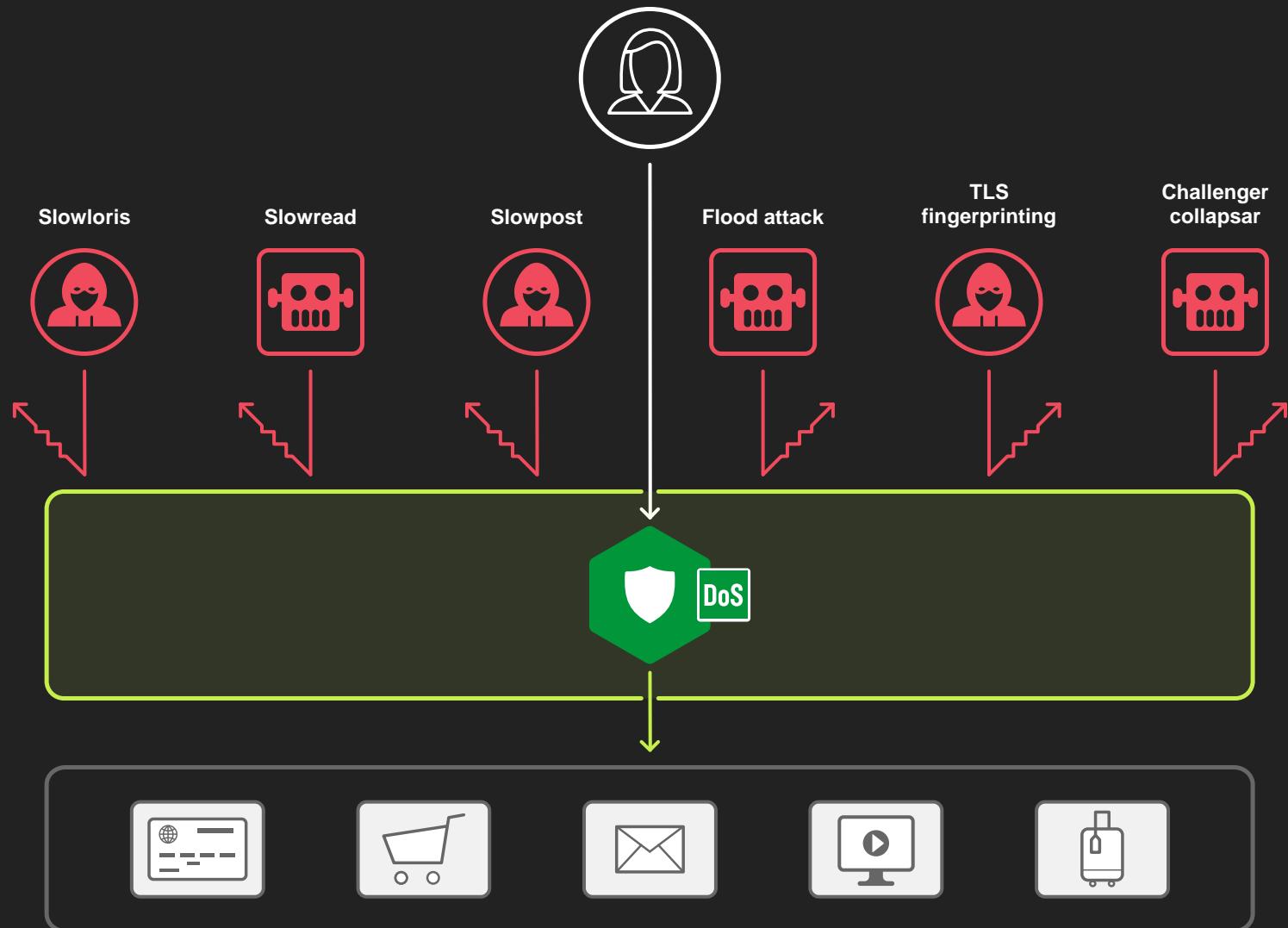
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**For more information, please contact
your F5 or Intel Representative**