WIND RIVER

|

WIND RIVER
INTELLIGENT NETWORK PLATFORM

THE FUTURE OF THE NETWORK

How will the network handle…

- Tens of billions of connected devices and all the traffic each will generate?

- Rising security threats?

- Desire for more advanced services and revenue streams?

WIND RIVER

Industry Trends and Implications

The Digital Universe: 50-fold Growth from the Beginning of 2010 to the End of 2020

Traffic

TCO

ARPU

(Exabytes)

40,000
30,000
20,000
10,000

2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020
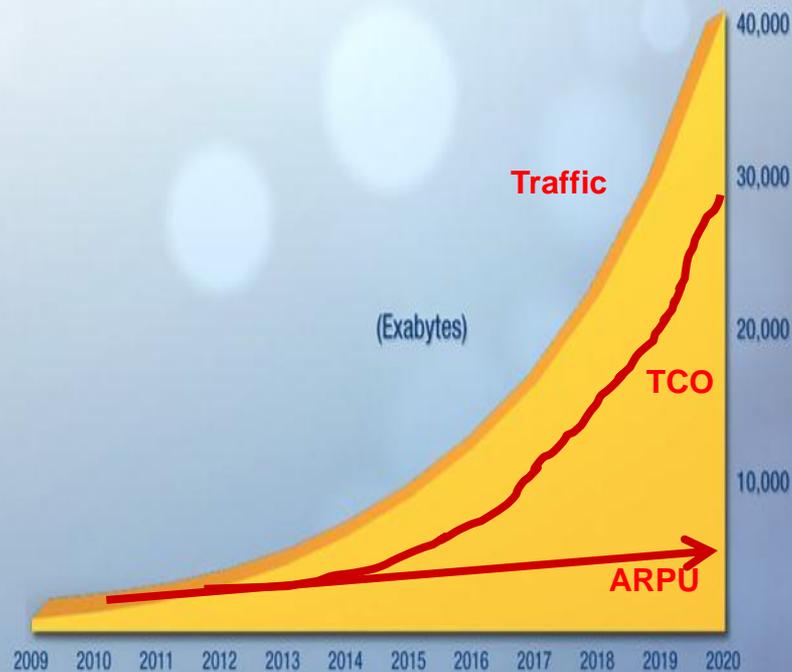
Source: IDC's Digital Universe Study, sponsored by EMC, December 2012

Solutions

Challenge #1: Meet Growth Demand

High performance hardware and software

Challenge #2: Lower Network TCO

Commercial off the shelf hardware and software

Challenge #3: Increase ARPU/ARPD

Network intelligence enables new revenue generating services

|

WIND RIVER

Building in Intelligence and Security

Deep Packet Inspection (DPI) is a new packet inspection, filtering, and classification technology intended for the network and security infrastructure

Security

- Pattern matching

- Scan for malware and security protection

Bandwidth Management

- IP Flow analysis and protocol parsing

- Application-based bandwidth management for value added service

WIND RIVER

Who Needs Intelligence, Performance, and Security?

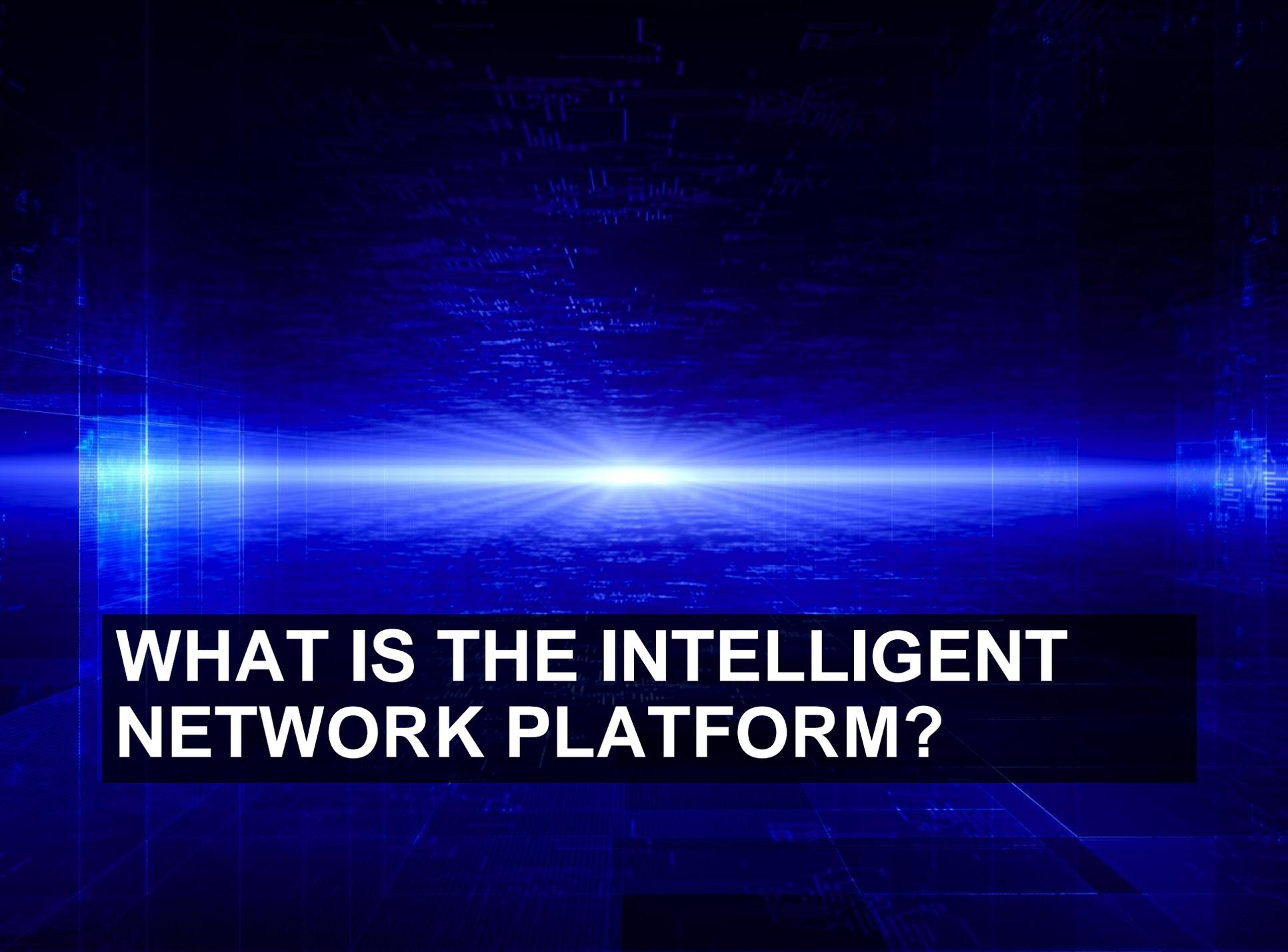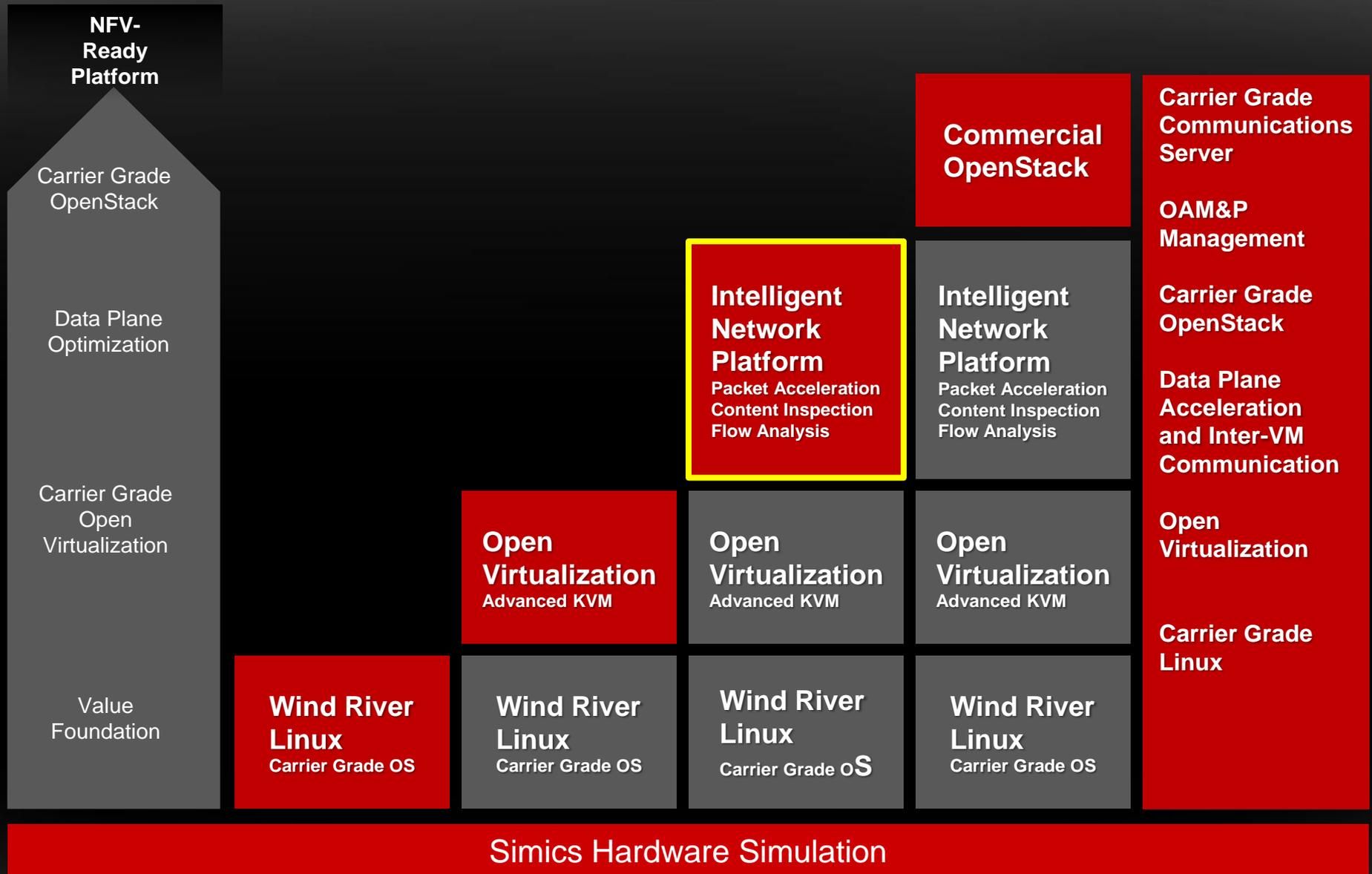|	
Security	• Network Security Appliances and Software • Content Security Gateway Appliances • Data Center Security Products
Subscriber Intelligence	• Policy Management Software • Service Delivery Platform Software and Services • Analytics - Deep Packet Inspection
Mobile and Wireless	• Data Center Network Equipment • Infrastructure
Data Center and Cloud	• Data Center Network Equipment

WIND RIVER

WHAT IS THE INTELLIGENT NETWORK PLATFORM?

A Component of Wind River's Full Network Portfolio

NFV-Ready Platform

Carrier Grade OpenStack

Data Plane Optimization

Carrier Grade Open Virtualization

Value Foundation

Commercial OpenStack

Intelligent Network Platform
Packet Acceleration
Content Inspection
Flow Analysis

Intelligent Network Platform
Packet Acceleration
Content Inspection
Flow Analysis

Carrier Grade Communications Server

OAM&P Management

Carrier Grade OpenStack

Data Plane Acceleration and Inter-VM Communication

Open Virtualization

Carrier Grade Linux

Open Virtualization
Advanced KVM

Open Virtualization
Advanced KVM

Open Virtualization
Advanced KVM

Wind River Linux
Carrier Grade OS

Wind River Linux
Carrier Grade OS

Wind River Linux
Carrier Grade OS

Wind River Linux
Carrier Grade OS

Simics Hardware Simulation

WIND RIVER

Intelligent Network Platform

| Application Acceleration Engine (AAE) | Content Inspection Engine (CIE) | Flow Analysis Engine (FAE) |

A software platform for the development of high performance, secure and intelligent network applications. Optimized for Intel Architecture through integration with the Intel Data Plane Development Kit (DPDK.) The platform includes 3 software engines delivering fast packet acceleration and DPI capabilities.

WIND RIVER

Intelligent Network Platform

Customer Applications

Performance	Secure	Intelligence

Application

AAE	CIE	FAE

Software

Wind River Linux – Carrier Grade Linux OS

Operating System

Processor (intel Xeon inside)	NIC

Intel Hardware

WIND RIVER

Packet Acceleration

AAE

Performance

What

- Built on top of the Intel DPDK and includes:
  - A fast path
  - A network stack
- Accelerates the delivery of packets from the NIC to the application layer
- Built for applications that require high-performance packet delivery

Why

- Demand for network bandwidth is exploding
- AAE is up to 11X faster than native Linux

WIND RIVER

Deep Packet Inspection: Pattern Matching

CIE

Security

What

– Uses Intel HyperScan as a foundation
– Pattern Matching Deep Packet Inspection
  - Regular Expressions
  - Fixed Strings
– Used to identify malware
– Built for Applications that require security

Why

– Network security is critical
– Pattern matching is moving from Hardware to Software

WIND RIVER

Deep Packet Inspection: Flow Classification

FAE

Intelligence

What

– Flow Classification Deep Packet Inspection
  - Identify Protocols
  - Application Awareness
  - Provide Metadata
– Built for Applications that require intelligence

Why

– Monitor and learn network behavior to better handle Advanced Persistent Threats
– Manage bandwidth by prioritizing data flows
– Enables new services $$$

WIND RIVER

INP USE CASES

Some INP Use Cases

- Next Generation Firewall

- Application Delivery Controller

- Intrusion Detection & Prevention

- Media Sever Acceleration and Flow Insertion

- Pattern Matching

- LTE Network Infrastructure

- Secure Cloud/VPN Gateway

One Platform….Scales for Many Uses, Across Product Lines

WIND RIVER

The Do-It-Yourself Inflection Point

| © 2014 Wind River. All Rights Reserved.

WIND RIVER
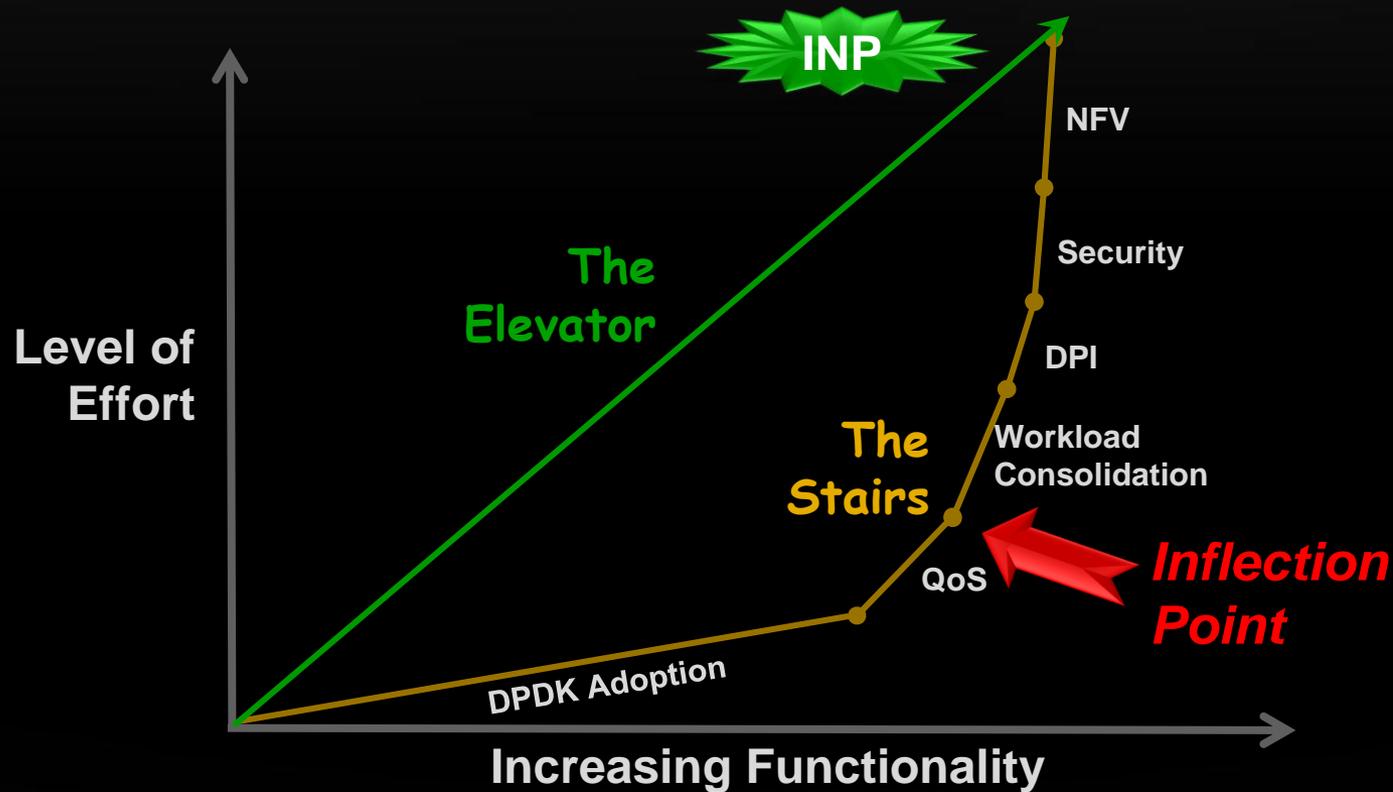
Case Study – Network Appliance Vendor

Business Issues

- Multiple product lines that require intrusion detection and prevention (IDS/IPS) capability

- Time to market is critical

- Spent years building in-house pattern matcher to enable IDS/IPS

- Focused on customer satisfaction and retention

Wind River Delivers Success

- Can implement solution today

- INP delivers 5x better performance on pattern matching

- INP's small memory footprint makes it easy to continue support clients on legacy products

- Can now re-deploy team to other value-add projects (accelerating MIPS to IA conversion from 5 to 3 years)

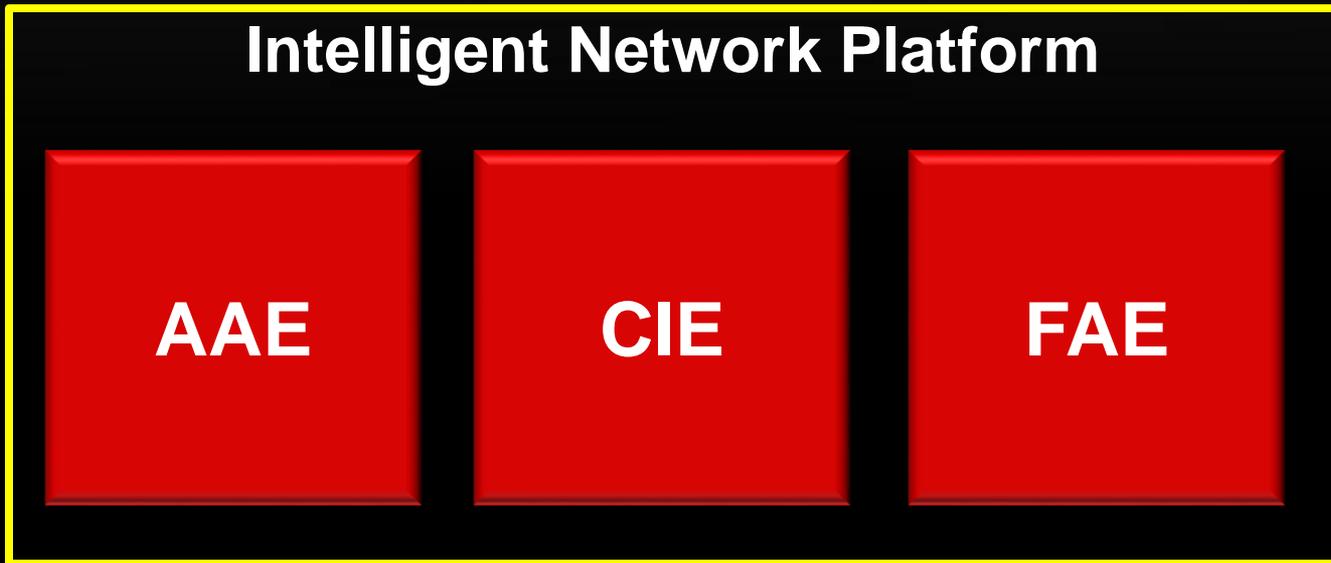**WIND RIVER**

Case Study – Silicon Valley Start-up

Business Issues

- Stealth-mode Startup with Limited Capital

- Time to Market is critical

- Confident in ability to build, but evaluated buy option to ensure best use of resources

- Need Security and Intelligence

Wind River Delivers Success

- 9 month exhaustive evaluation conclusion: CIE and FAE the best tools on the market

- Can immediately implement CIE and FAE as key components of their Application Delivery Controller product lines

- Deployed in physical appliance *and* in the cloud

WIND RIVER

Click Below For More Information:

Intelligent Network Platform

AAE **CIE** **FAE**

www.windriver.com/products/platforms/intelligent-network/

|

WIND RIVER

WIND RIVER