The Virtuous cycle of growth

Vipul Shah
Regional Director
Intel Asia Pacific & Japan
50 BILLION
CONNECTED THINGS ARE COMING
Data is exploding

Tera → Peta → Exa

- 1.5 GB Per day
- 3,000 GB Per day
- 4,000 GB Per day
- 40,000 GB Per day
- 1,000,000 GB Per day
Network Traffic in the dc is doubling every 12 months.
Intel’s Priorities:

Cloud, AI & Network

5G, memory, fpgas

Data-rich things
The case for 5G

- Next Generation Wireless
- Faster with lower latency
- Distributes intelligence throughout the network

2G
Cellular Comms.

3G
Data and the ‘app’ revolution

4G
Faster data rates

5G
Reactive, smart, and connected devices
Intel strategy: 5g end-to-end

Cloud
Core Network
Access Network
Wireless Technology
Smart Devices

Intel's Scale Meets 5G Scope
The case for **better memory & storage**

- **Intel 3D NAND technology**
  - lower cost & higher density

- **Intel® Optane™ Technology**
  - Higher performance

- **Intel® 3D NAND SSDs**
- **Intel® Optane™ SSDs**
- **Hard Disk Drive**

- Lower COST
- Higher Performance
- Less DELAY
- More Capacity
Incredible density

1PB IN 42U
w/2 TB HDDs

1PB IN 1U
w/INTEL® 3D NAND SSDs
The case for accelerators: **FPGAs**

**Diverse Data Center Demands**

FPGA Acceleration Improves Many of These Workloads
FPGAs: smart choice for network offloads

- **General Purpose**
  - Xeon Processor
    - General purpose applications
  - Xeon Phi Processor
    - Parallel applications

- **Optimization Point**
  - FPGA
    - Offload for changing algorithms

- **Targeted**
  - ASIC
    - Offload for stable algorithms

*Source: Intel estimates*
The case for Artificial intelligence

Capabilities

- MACHINE/DEEP LEARNING
- REASONING SYSTEMS
- Programmable solutions
- COMPUTER VISION
- Depth sensing
- TOOLS & STANDARDS

Experiences

AI Compute Cycles will grow **12X** by 2020
Intel® Nervana™ Portfolio
Common Architecture for AI Implementations

Intel® Xeon® Processors
Most widely deployed machine learning platform (>97%)

Intel® Xeon Phi™ Processors
Higher performance, general purpose machine learning

Intel® Xeon® Processor + FPGA
Best in class neural network performance

Intel® Xeon® Processor + Lake Crest
Higher perf/watt inference, programmable

Targeted acceleration
The case for **Software Defined Infrastructure**

*Intel advancing SDI through open source, standards, and ecosystem to accelerate cloud ready networks*

**Infrastructure Attributes**
- Power
- Performance
- Security
- Thermals
- Utilization
- Location

**Resource Pool**
- Storage
- Network
- Compute

**Automation**

**IT Convergence Network Admin**

**OPEX Savings**
- IaaS
- PaaS
- SaaS

**New Revenue**
- Traditional Cloud Services
  - Firewall
  - VPN
  - Router

- Network Services
  - Data Sovereignty
  - NW Big Data

- Telco Unique Services
  - MVNO, IOT

**Intel**

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Intel® IT SDI Journey—So Far

- >$1B Savings in server hardware
- >40% Reduction in Network Costs
- Increased Flexibility and Agility

*Other names and brands may be claimed as the property of others.*
Cisco ASAP Data Center

1. Optimize Infrastructure
   - Nexus
   - UCS
   - Next-gen Firewalls
   - Converged/Hyperconverged
   - Performance
   - Scale
   - Security

2. Simplify Operation
   - Automation
   - Unify Policy
   - 50+ ecosystem

3. Build Cloud-native App
   - Containers
   - Self-Service
   - DevOps Tools

4. Choose your Hybrid Cloud
   - Benchmark
   - Extend
   - Managed
   - Public

5. Real-time Analytics
   - Monitor every flow/transaction
   - App
   - Securely move data & dependencies
Building A STRONG PARTNERSHIP:

From the edge → Through the intelligent network → to the data center

IoT/IoE
Switching, Security & Routing
Servers

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Thank you
Balanced Data center investments

Intel® Xeon® Processor Family

Intel® Connectivity Solutions

Intel Storage Solutions
Intel® NVMe and 3DXP Solid-State Drives
Tiered Intelligence Software

COMP UTE

NETWOR RK

STOR A GE