DRIVING NETWORK TRANSFORMATION

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GENERAL MANAGER COMMUNICATIONS INFRASTRUCTURE DIVISION
TRANSFORMING THE NETWORK

DATA IS EXPLODING – REQUIRES **HIGHER CAPACITY AND LOWER LATENCY**

NETWORK NEEDS TO BE **SMARTER – FLEXIBLE, CLOUD-READY AND DISTRIBUTED**

INTEL IS **WINNING – PARTNERING WITH OUR CUSTOMERS FOR TRANSFORMATION**
NETWORK INFRASTRUCTURE OPPORTUNITY

$24B Silicon TAM Opportunity (2022)²

² Source: IHS, Gartner, IDC, and Intel estimates
INTEL NETWORK TRANSFORMATION STRATEGY

WORKLOAD CONVERGENCE
Intel® Architecture
Performance + Scale

APPLICATION

CONTROL

PACKET

SIGNAL

NFV / SDN
Cloud Ready Networks

VNFs

NFVI

MANO

IA

OS

VMM

Optimized Ingredients

CUSTOMER & INDUSTRY COLLABORATION
Win Together

*Other names and brands may be claimed as the property of others.
Growing Share in Networking

Intel Network Silicon Revenue Grew 5X Market CAGR

INTEL COMMS SERVICE PROVIDER REVENUE

2014 – 2017 CAGR
~14% of DCG Revenue

2017
$19B
19% MSS

2014
$15B
8% MSS

22%

1H’18 (VS 1H’17)
~21% of DCG Revenue

31%
Network Virtualization is happening now.

Network TAM CAGR (2018-2022)

- Physical Network Appliance: 4% \(^1\)
- Virtualized Network Server: 16% \(^1\)

\(^1\) Source: IDC, IHS, Gartner, Intel Judgment
INNOVATE & INTEGRATE NETWORKING TECHNOLOGIES

**INTEL® XEON® SCALABLE PROCESSORS**
- Up to ~600Gb/s packet processing on a dual socket platform
- ~1.7X improvement compared to prior generation

**INTEL® XEON® D PROCESSORS**
- Up to ~200Gb/s packet processing
- 20W – 110W
- Integrated Ethernet & Acceleration

**INTEL® ATOM™ PROCESSORS**
- Up to 40Gb/s packet processing
- 7W – 32W
- Integrated Ethernet & Acceleration

**PLATFORM TECHNOLOGIES**
- Intel® Silicon Photonics
- Intel® FPGAs
- Intel® Ethernet Controllers
- Intel® Quick Assist Technology

Disclaimer: Performance results may not reflect all publicly available security updates. See configuration disclosure for details. No product can be absolutely secure. Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of these factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit [http://www.intel.com/performance](http://www.intel.com/performance).
ENABLING NETWORK TRANSFORMATION

INVEST
OPEN SOURCE AND STANDARDS

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#IntelDCISummit
ENABLING NETWORK TRANSFORMATION

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NFVI
NETWORK FUNCTIONS VIRTUALIZATION INFRASTRUCTURE

UCPE
UNIVERSAL CUSTOMER PREMISES EQUIPMENT

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DATA DRIVES EDGE COMPUTING

Drivers for Edge Computing:
- Latency
- Bandwidth
- Security
- Connectivity

Devices / Things:
- VIDEO
- HEALTHCARE
- DRONES
- RETAIL
- MANUFACTURING
- ENERGY
- TRANSPORTATION
- SMART CITIES
- PCs
- PHONES

Video drives Edge computing.

Network Hub or Regional Data Center: <10-40 ms

Core Network: < 60 ms

Cloud Data Center: ~100 ms

Latency:
- Varies <1 ms
- <5 ms
- <10-40 ms
- < 60 ms
- ~100 ms
GROWTH OPPORTUNITY AT THE EDGE

TODAY'S CENTRAL OFFICES (COs) = LEGACY EQUIPMENT

Transformation of the Central Office at the Edge

US: ~20,000 COs
China: ~70,000 COs

1 Source: Intel estimates based on 3rd party data
5G ACCELERATES NETWORK TRANSFORMATION

Next Generation of Wireless Networks

Higher Speeds, Greater Capacity and Lower Latency

Billions of Connected Devices and Things

2G

Cellular Comms

3G

Data and the App Revolution

4G

Faster Data & More Users

Enhanced Mobile Broadband

Ultra-Reliable and Low Latency

Massive Machine-To-Machine

Agility, Scalability and Intelligence Throughout the Network

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NETWORK TRANSFORMATION IS FOUNDATIONAL TO 5G

LATENCY REDUCED FROM 30S TO 0.5S
ACHIEVED 65-80% BACKHAUL SAVINGS

Intel is Leading 5G
SUMMARY

Network is a $24B opportunity

Network transformation is happening now

Edge & 5G are accelerants to network transformation that is underway

Intel is winning with technologies and industry partnerships
Statements in this presentation that refer to business outlook, future plans and expectations are forward-looking statements that involve a number of risks and uncertainties. Words such as "anticipates," "expects," "intends," "goals," "plans," "believes," "seeks," "estimates," "continues," "may," "will," "would," "should," "could," and variations of such words and similar expressions are intended to identify such forward-looking statements. Statements that refer to or are based on projections, uncertain events or assumptions also identify forward-looking statements. Such statements are based on management's current expectations, unless an earlier date is indicated, and involve many risks and uncertainties that could cause actual results to differ materially from those expressed or implied in these forward-looking statements. Important factors that could cause actual results to differ materially from the company's expectations are set forth in Intel's earnings release dated July 26, 2018, which is included as an exhibit to Intel's Form 8-K furnished to the SEC on such date. Additional information regarding these and other factors that could affect Intel's results is included in Intel's SEC filings, including the company's most recent reports on Forms 10-K and 10-Q. Copies of Intel's Form 10-K, 10-Q and 8-K reports may be obtained by visiting our Investor Relations website at www.intc.com or the SEC's website at www.sec.gov.

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