Telecom COTS World

Broadband Broadcast IoT Convergence

Future Communications
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Cloud - Data Centers
Video Networks - Broadcast
Internet of Things

Jan-Feb 2017

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In this Edition

Daniel Dierickx
CEO & co-Founder
at e2mos
Acting Chief Editor

Dear Reader,

Here is your free copy of **Telecom COTS World**, one of our five e-magazines published by e2mos.

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Extreme Outdoor Server Intel® Xeon® based

![ADLINK TECHNOLOGY INC.]

Features

- Single/Dual Intel® Xeon® Processor E5-2400 v2 series
- Six memory sockets support VLP RDIMM DDR3-1333/1600 REG/ECC up to 96 GB
- Intel® C604 Chipset
- Dual 10G SFP+ ports
- Dual 10/100/1000 BASE-T ports
- IP65 water and dust proof
- Conduction cooled, aluminum chassis

ADLINK's new Extreme Outdoor Server is the first high-performance mobile edge computing (MEC) platform specifically designed for extreme environments and outdoor telecom/networking applications.

Based on the dual Intel® Xeon® E5-2400 v2 family of processors, the Extreme Outdoor Server MEC platform enables Telecom Equipment Manufacturers (TEMs) and application providers to deliver data center performance at the edge of the network. The Extreme Outdoor Server provides IT and cloud-computing capabilities within the Radio Access Network (RAN) in close proximity to mobile subscribers. This offers a service environment characterized by proximity, ultra-low latency, and high-bandwidth that allows content, services, and applications to be accelerated, maintaining a customer's high-level Quality of Experience (QoE).

The Extreme Outdoor Server mobile edge computing platform provides computing resources, storage capacity, connectivity and access to user traffic and real-time radio and network information. This allows operators to offer context-related services that can differentiate and monetize the user experience. In addition, since the data is processed at the edge in the RAN environment, the Extreme Outdoor Server reduces backhaul costs and improves the infrastructure's efficiency with more intelligent and optimized networks. And with the onset of network functions virtualization (NFV) infrastructure, having data center performance at the edge of networks can enable specific virtualized network functions (VNFs) closer to the consumer, improving QoE.

Attributes such as shock and vibration resistance, -40? to +55? operating temperature range, and IP65 water and dust ingress rating make the Extreme Outdoor Server an ideal solution for outdoor and extreme environments. The Extreme Outdoor Server can also utilize ADLINK's application ready intelligent platform (ARiP) software, which includes PacketManager, remote management functions, and system management APIs for application developers. ARiPs enable customers to focus primarily on their application instead of the IoT platform building blocks required for cloud computing. The Extreme Outdoor Server reduces maintenance costs by eliminating fans and filters and offering worry-free, weather-resistant, high-speed connections for copper or fiber options.

Video DEMO

WHITEPAPER Mobile Edge Computing Platforms for Outdoor Telecom Applications

Roadmap for Coexistence and Convergence in 5G
Market Research

Introduction and Objectives

5G intends to enable a seamlessly connected society in the 2020 timeframe and beyond that brings together people along with things, data, applications, transport systems and cities in a smart networked communications environment.

Several industry bodies are currently defining and working on 5G related topics, such as ITU, ETSI, 3GPP, NMGM, among others.

WBA have been working on the Carrier Wi-Fi roadmap development along with key work on bridging the cellular and Wi-Fi world together.

WBA vision is not to focus on the definition of 5G but rather on the use cases being discussed and how Wi-Fi and other unlicensed technologies can play a key role in enabling those in a 5G framework. Thus, WBA plan to issue in the near term the 5G <> Wi-Fi interfaces standardization. In fact, 5G is one of key streams under WBA's vision 2020 an its Members will focus on the following work streams:
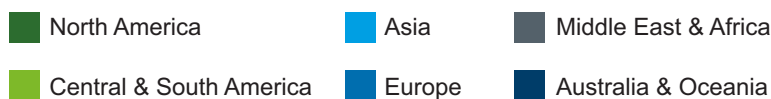
1) Summarize the definition of 5G networks and its components/technologies/architecture, leveraging on ongoing key forums work and use cases
2) Explore how 5G will increase network capacity, offload, services enablement, policy, etc.
3) Explore how to combine licensed and unlicensed technologies on the 5G architecture to meet the broad range of IMT-2020 requirements
4) Explore how to address gaps between the different technologies (authentication, user usability, devices management, etc.)
5) Foreseen Wi-Fi evolution to cope with 5G predicted requirements and use cases - How WBA Members (Vendors & Operators) can work together to promote upcoming Wi-Fi capabilities, including standardization of interfaces
6) Future vision of mobile networks evolution to cope with 5G
As a result, the objective of this market research is twofold, 1) provide an initial industry assessment on how unlicensed technologies will contribute to 5G framework definition and 2) invite the ecosystem to join this effort.

Market Assessment

The Wi-Fi industry has gone through a vast expansion in recent years. It is expected that public wide Wi-Fi deployment will ramp-up in the upcoming years according to the forecast.

Figure 1: Installed base of public Wi-Fi hotspots by region (WBA Industry Report 2015)

- North America
- Central & South America
- Asia
- Europe
- Middle East & Africa
- Australia & Oceania

5G umbrella network encompasses a virtually limitless number of verticals which will directly or indirectly leverage on Wi-Fi and other unlicensed spectrum technologies.

These market indicators and opportunities set the scene for a successful Wi-Fi evolution. Further industry engagement and alignment is needed.
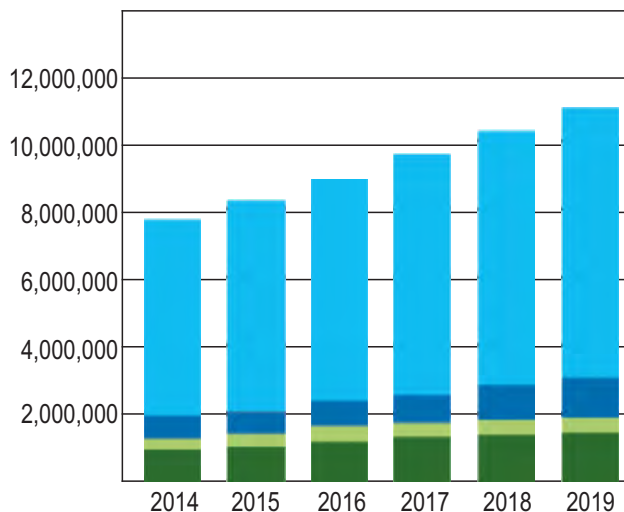
Figure 2: Virtually Limitless Number of Verticals, non-exhaustive (source: Beecham research)

Consumer Electronics · eAgriculture · Utilities · Health · Security · Professional Services · Wholesale Services · Track & Trace · Automotive · Public Sector · Finance & Insurance · Real Estate · Enterprise Management · B2C Retail · Transportation & Storage · Industry & Production Chain · Home Management · Education

... to next page

Roadmap for Coexistence and Convergence in 5G

… from previous page

5G Roadmap Building Blocks

The industry was asked to indicate, from 2016 until 2020, what are the major building blocks to consider in the roadmap of 5G. The results are quite descriptive and include most of the topics currently being depicted in the industry - these can be divided in 5 key building blocks:

1) 5G Technologies
2) Convergence & Coexistence
3) Business Cases & Services
4) Spectrum
5) Standardization

DOWNLOAD the 18 pages WHITEPAPER

THE 5G ROADMAP MATRIX		
5G Technologies	**Convergence & Coexistence**	**Spectrum**
5G Core technology	Aggregation over licensed-unlicensed	3.5 GHz Spectrum Policy
60GHz Access Points / Pico-cells	Coexistence of licensed/unlicensed	Licenses
60GHz enabled mobile devices	Convergence	New spectrum
Antenna design and power levels	Extensible Authentication Protocol	Regulatory
Appliances	HetNet provisions	Restrict 5G licensed use only
Architecture	Interworking seamlessly with 4G	Rules for sharing un-lightly-licensed
Backhaul capacity	Legacy technology inter-working	Spectrum
Chip/Device Manufacturers	Non-SIM authentication	Spectrum Allocation
Chipsets	Policy	Spectrum allocation and usage
Connection management SW/MW	Vendor deployment and e2e testing	Spectrum Coexistence
Edge computing services	Wi-Fi - 5G integration	Spectrum Cost
Indoor MBB consumption	Wi-Fi Coexistence in 5.8GHz band	Spectrum Regulation
Infrastructure refresh and buildout		Spectrum worldwide allocation
IoT services	**Business Cases & Services**	Unlicensed 5G infrastructure
IoT-5G certification		
LAA/LWA/LWIP	Application Adoption	**Standardization**
Management systems (OSS)	Business case	
Massive MIMO	Business models for URLL & MMTC	3GPP New RAT Specification
Network densification	Deployment Strategy (Small Cells)	Complete standardization
Network intelligence	Ecosystem	Device Support
Network virtualization	Evolution building blocks	Industry agreement on standardization
New Radio Access	Financial proposition/ business case	LTE-u Standards
New Radio Technology	Get industry partners on board	New 3GPP R15 RAN technology
Next Generation Mobile Core	Improve coverage	New Radio specifications (e.g. 3GPP)
RF Components	Information value & monetization	Protocol Standardization
SDN/NFV	Infrastructure costs	Standardization
Security across access types	Multi-stakeholder partnerships	Testing and interoperability
Technical solutions	New Operators Business Models	Trials
Technology developments	Roadmap of activities	Who's doing what
Terminals	Use cases	Worldwide collaboration
TV White Space	Wi-Fi Coexistence in 5.8GHz band	Normalization
Virtualization		

China Unicom and Baicells Develop New Mobile Edge Computing (MEC) Virtual Reality (VR) Solutions for 5G Using Artesyn MaxCore™ Platform

Tempe, Ariz. — Artesyn Embedded Technologies today announced that its MaxCore™ platform has been selected by China Unicom Network Technology Research Institute and Baicells to demonstrate a new mobile edge computing (MEC) virtual reality (VR) live video solution using drone technology for 5G networks. China Unicom and Baicells joint research and development solution fuses together a number of today's most advanced technologies, including a panoramic video collage algorithm, a panoramic video transmission protocol, a MEC architecture, and an LTE/5G data channel quality of service (QoS) guarantee mechanism.

The panoramic video collage algorithm and transmission protocol ensures the panoramic VR video is seamless, while the MEC architecture brings the processing technology closer to the user for low latency and - combined with LTE/5G transmission - ensures a fluent, interference-free, high-speed transmission of the video data. The unmanned aerial vehicle (UAV) or drone in the demonstration features 360 degree panoramic high-definition cameras. The user can enter the panoramic video and manipulate it to achieve an unprecedented immersive live VR experience. Enabling the low transmission latency and seamless panoramic live HD VR broadcast is an MEC architecture gateway powered by the Artesyn MaxCore™ acceleration platform, a specialized hardware and software platform optimized for mobile edge computing.

"This end-to-end solution can be applied not only to concerts, sporting events, films and other entertainment industries, such as the Mid-Autumn festival, live CCTV broadcasts using VR panoramic technology, but it can also be applied to public safety, emergency communication, UAV inspection, and much more," said Mingyu Zhou, Baicells' research director. "We believe China Unicom and Baicells' joint research and development can help users experience live HD VR video transmissions more quickly and smoothly."

"MEC provides a distributed computing environment for application and service hosting, bringing cloud technologies closer to the radio access network (RAN) and ultimately, closer to consumers. Carriers are telling us that for these applications they need telco-grade features, which is Artesyn's expertise," said Linsey Miller, marketing vice president, Artesyn Embedded Technologies. "This demonstration shows that our MaxCore platform is the perfect hardware for high density MEC compute and acceleration, providing computing resources, storage capacity, low-latency connectivity and access to RAN information."

About Artesyn Embedded Technologies
Artesyn Embedded Technologies is a global leader in the design and manufacture of highly reliable power conversion and embedded computing solutions for a wide range of industries including communications, computing, medical, military, aerospace and industrial. For more than 40 years, customers have trusted Artesyn and has over 20,000 employees worldwide across ten engineering centers.
See more at: https://www.artesyn.com/computing/

Video DEMO [Click Here]

IFI CLAIMS Announces Top Recipients of U.S. Patents in 2016

- New record for most U.S. patents in single year
- IBM tops list again breaking its all-time high
- 50 percent of all Top 50 grants attributed to Asia

NEW HAVEN, Conn., Jan. 9, 2017 — IFI CLAIMS® Patent Services, a leading producer of global patent databases and innovative web services, today announced the 2016 IFI CLAIMS U.S. Top 50, an annual ranking of top patent recipients that is trusted throughout the world. Using proprietary algorithms to analyze U.S. Patent and Trademark Office (USPTO) data, IFI CLAIMS accurately ranks global patent assignees by number of utility patents received each calendar year.

2016 saw 304,126 utility patent grants, the most on record in a single year, according to IFI CLAIMS. IBM again holds the #1 slot, which it has for 24 consecutive years, with 8,088 patents—up nearly 10 percent over 2015 and the most any company has ever acquired in a calendar year. The other Top 5 recipients remain unchanged from 2015 with Samsung at #2, Canon at #3, Qualcomm at #4, and Google again at #5.

All of the patents generated by the IFI CLAIMS Top 50 are attributable to just 11 countries. The U.S. holds 41 percent of those patent counts followed by Japan at 28 percent; South Korea at 15 percent; Taiwan at 4 percent; Germany at 2.6 percent and China at 2.5 percent. At 17 each, the U.S. and Japan are tied for the most assignees in the Top 50. Asian companies, however, now represent 50 percent of the total Top 50 counts and occupy 26 slots.

Japan has long been a dominant player in the U.S. ranking, but according to IFI's 2016 U.S. Patent Trends & Insights, its patent activity appears to be shrinking a bit this year with 12 of its 17 Top 50 firms reporting patent count decreases compared to 2015. IFI data show that Brother, Canon, Denso, FUJIFILM, Honda, Panasonic, Ricoh, SELC, Sharp, Sony, Toshiba and Toyota all saw decreases.

Fueled by IBM and a host of West Coast tech companies, the U.S. saw patent increases from 10 of its 17 firms on the list including Amazon, Apple, AT&T, Boeing, Cisco, Ford, IBM, Intel, Microsoft and Texas Instruments. Interestingly, Apple increased counts but remained at #11. Unchanged at 2835 grants, Google still held onto #5 with #6 Intel close on its heels by only 51 patents.

"Although it was a bit of a down year for Japan, Asia as a whole continues to make impressive gains with U.S. patents," said Mike Baycroft, CEO, IFI CLAIMS Patent Services. "American tech companies are similarly motivated but it will be interesting to see how this path plays out in five or ten years. At this rate, South Korea, China and Taiwan will likely capture an even larger share of the U.S. patent market."

Big gainers in 2016 include Nokia, up 74%; Hyundai up 39%; China's Huawei Technologies, up 50%; Amazon, up 46%; and Intel, up 36% over 2015.

The biggest mover, according to Larry Cady, Senior Analyst, IFI CLAIMS Patent Services, is #22 GlobalFoundries, up from #60 with an impressive 131 percent gain over 2015. Registered in the Cayman Islands with operations in Santa Clara, Calif., GlobalFoundries gained patent momentum from recent IBM semiconductor acquisitions to achieve 1,407 utility grants in 2016 compared to 609 in 2015.

The company also provides free online access to the IFI CLAIMS Top 1,000 rankings, a multi-year analysis of the global patentees that receive the most U.S. utility grants.

One of the oldest and most trusted patent analysis firms, IFI CLAIMS Patent Services is known throughout the world as the gold standard tabulator of U.S. and global patents. For more than 60 years, clients have turned to IFI to assist with patent analysis and more recently as a means of tracking "total portfolio ownership." The company tracks patent data worldwide including the U.S., Europe, Japan and China. For more information visit www.ificlaims.com.

See Top 50 Table next page

Enea top 5 contributor to the OPNFV project

Enabling architectural choice in the NFV community

STOCKHOLM, Sweden, February 1, 2017 – Enea® (NASDAQ OMX Nordic:ENEA) steps forward as a top contributor to the industry collaboration project OPNFV. In the latest OPNFV quarterly report on community activities, Enea is ranked as the fifth most active company and an Enea engineer is ranked as the third most active individual contributor. Overall, the report shows an active and productive community driving the enablement of NFV in large enterprise and telecom networks.

OPNFV is emerging as a de facto standard for NFV in the telecom industry, with several of the world's largest operators and equipment manufacturers as active project members. As one of the leading contributors, Enea takes an active part in transforming networks to enable virtualization of network functions with all the advantages it brings, including accelerated innovation and service deployment, reduced costs and increased flexibility and agility.

Many of Enea's contributions to OPNFV has centered on the ARM Band project which adds support for the ARM architecture. Multi-architecture support will offer architectural choice with greater flexibility to ensure a "best fit" for performance, cost and power consumption. Enea is a founding participant of the ARM Band project, which was awarded with the OPNFV Directors Award in 2016.

The full report can be accessed here: https://wiki.opnfv.org/display/DEV/Quarterly+Reports

About OPNFV and ARM Band
OPNFV is an open source project aiming to provide an integrated and tested reference platform for Network Function Virtualization Infrastructure (NFVI) and Virtualized Infrastructure Management (VIM). It integrates upstream projects and performs testing to ensure it is fit for its purpose.
The ARM Band project migrates OPNFV to the ARM architecture by integrating and testing components on ARM-based servers. The goal is to provide multi-architecture support in OPNFV by making it available on x86 as well as ARM servers.

For 24th straight year, IBM granted most U.S. patents, but Microsoft and Amazon are gaining

IFI CLAIMS Announces 2016 U.S. Patent Ranking

Top 50 USPTO Patent Assignees in 2016		http://www.ificlaims.com/index.php?page=misc_top_50_2016				
Rank 2016	Assignee	2016 Grants	2015 Grants	% Change	Rank 2015	Rank Change
1	International Business Machines Corp	8,088	7,355	9.97%	1	none
2	Samsung Electronics Co Ltd	5,518	5,072	8.79%	2	none
3	Canon KK	3,665	4,134	-11.34%	3	none
4	Qualcomm Inc	2,897	2,9	-0.10%	4	none
5	Google Inc	2,835	2,835	0.00%	5	none
6	Intel Corp	2,784	2,048	35.94%	9	3
7	LG Electronics Inc	2,428	2,242	8.30%	8	1
8	Microsoft Technology Licensing LLC	2,398	1,956	22.60%	10	2
9	Taiwan Semiconductor Manufacturing Co (TSMC) Ltd	2,288	1,774	28.97%	13	4
10	Sony Corp	2,181	2,455	-11.16%	7	-3
11	Apple Inc	2,102	1,938	8.46%	11	none
12	Samsung Display Co Ltd	2,023	1,838	10.07%	12	none
13	Toshiba Corp	1,954	2,627	-25.62%	6	-7
14	Amazon Technologies Inc	1,662	1,136	46.30%	26	12
15	Seiko Epson Corp	1,647	1,62	1.67%	16	1
16	General Electric Co	1,646	1,757	-6.32%	14	-2
17	Fujitsu Ltd	1,568	1,467	6.88%	19	2
18	Telefonaktiebolaget L M Ericsson	1,552	1,407	10.31%	20	2
19	Ford Global Technologies LLC	1,524	1,185	28.61%	24	5
20	Toyota Motor Corp	1,417	1,581	-10.37%	17	-3
21	Ricoh Co Ltd	1,412	1,627	-13.21%	15	-6
22	GlobalFoundries Inc	1,407	609	131.03%	60	38
23	Panasonic Intellectual Property Management Co Ltd	1,4	1,474	-5.02%	18	-5
24	Robert Bosch GmbH	1,207	1,142	5.69%	25	1
25	Huawei Technologies Co Ltd	1,202	800	50.25%	44	19
26	SK Hynix Inc	1,125	891	26.26%	39	13
27	GM Global Technology Operations LLC	1,123	1,315	-14.60%	21	-6
28	Koninklijke Philips NV	1,069	923	15.82%	37	9
29	Semiconductor Energy Laboratory Co Ltd	1,054	1,129	-6.64%	27	-2
30	Boeing Co	1,053	976	7.89%	34	4
31	Hyundai Motor Co	1,035	744	39.11%	50	19
32	Mitsubishi Electric Corp	1,016	896	13.39%	38	6
33	Siemens AG	984	1,011	-2.67%	32	-1
34	Cisco Technology Inc	978	960	1.88%	36	2
35	Brother Industries Ltd	926	1,187	-21.99%	23	-12
36	Honda Motor Co Ltd	922	1,031	-10.57%	31	-5
37	AT&T Intellectual Property I LP	921	885	4.07%	40	3
38	NEC Corp	890	792	12.37%	45	7
39	Texas Instruments Inc	887	808	9.78%	43	4
40	BOE Technology Group Co Ltd	870	285	205.26%	122	82
41	Micron Technology Inc	863	961	-10.20%	35	-6
42	Sharp Corp	829	997	-16.85%	33	-9
43	Broadcom Corp	823	1,085	-24.15%	28	-15
44	Hon Hai Precision Industry Co Ltd	803	1,083	-25.85%	29	-15
45	BlackBerry Ltd	771	1,071	-28.01%	30	-15
46	Denso Corp	756	778	-2.83%	46	none
47	KYOCERA Document Solutions Inc	742	692	7.23%	52	5
48	FUJIFILM Corp	699	747	-6.43%	47	-1
49	Nokia Technologies Oy	695	400	73.75%	88	39
50	Honeywell International Inc	672	746	-9.92%	48	-2

HetNet Deployments & Trends
a forecast by Caroline Gabriel of Rethink Research, through to 2021

Densification in 2017 will be a real and urgent part of many cellular operators' strategies to turn the inexorable rise of mobile traffic into profits. In most cases this will be achieved with investment in HetNet (heterogeneous network) architectures, which create a single, integrated pool of capacity and coverage, using multiple cell sizes and base station form factors; multiple spectrum bands including unlicensed, licensed and shared; multivendor equipment; multiple air interfaces including 3G, 4G, WiFi and future 5G; and potentially multi-operator networks.

Until now, densification has not been necessary outside a few select environments such as transport hubs, where DAS (distributed antenna system) would often do the job.

Now MNOs are acknowledging that a layer of heterogeneous small cells, spanning licensed and unlicensed spectrum, including WiFi and cellular, and interworking with the macro network, is critical to their business model. They are nearing the capacity ceiling in some areas, affecting the consistent quality of experience which is the main way that high value customers choose their carrier.

Operators have spent vast sums on acquiring new spectrum in the past decade, via auctions and M&A, but with ARPUs under pressure, splashing out on airwaves is no longer attractive. This is why many operators are now committed to small cell densification.

A sample chart from our report, priced at US $2000 highlights the deployments of various equipments types in small cell sites 2014 to 2021.
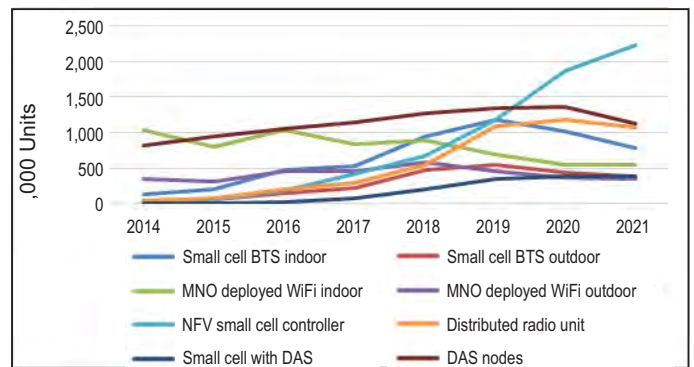

What is OpenStack?

OpenStack is a cloud operating system that controls large pools of compute, storage, and networking resources throughout a datacenter, all managed through a dashboard that gives administrators control while empowering their users to provision resources through a web interface.

Learn more about OpenStack's compute, storage, networking, take a tour of the dashboard, or dive in and learn how to get started with OpenStack today.

If you're looking for OpenStack related products and services such as Distributions, Appliances, Public Clouds, Consultants, or Training check out our OpenStack Marketplace.

All details: Click Here
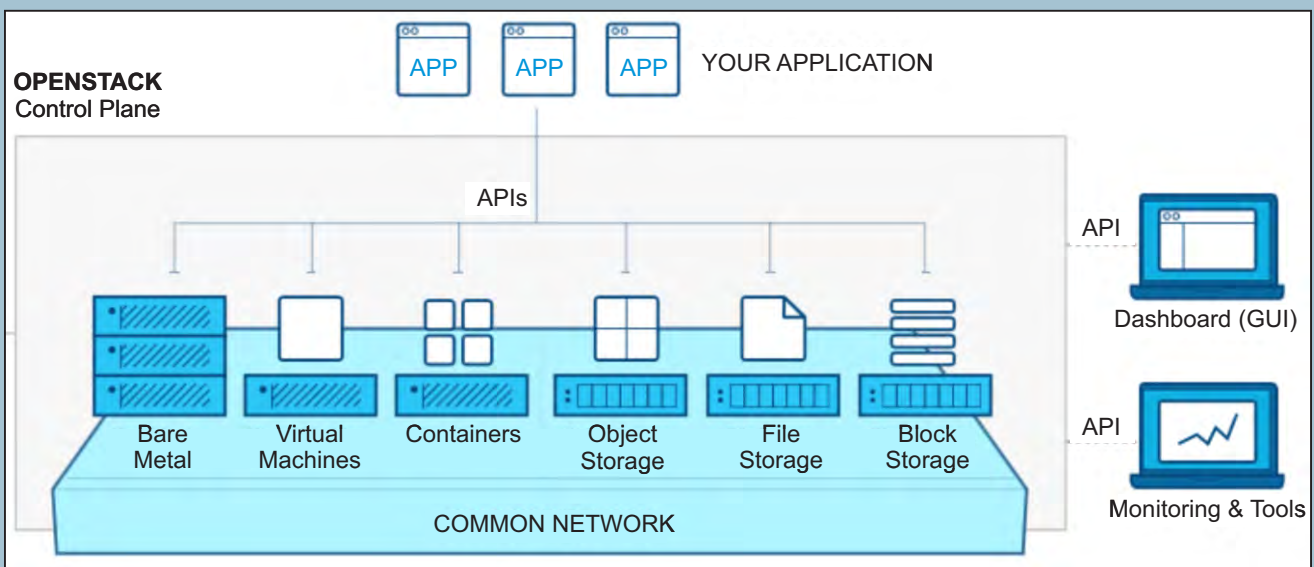
AT&T, KDDI, KPN, NTT DOCOMO, Orange, Telefonica, Telstra, TELUS and Verizon Back Deployment of LTE-M for Internet of Things

LTE-M : The evolution of LTE for IoT is expected to bring the very latest technology to IoT devices and applications across the globe

0900hrs CET, 27 February 2017: AT&T (US and Mexico), KPN (Netherlands), KDDI (Japan), NTT DOCOMO (Japan), Orange (29 countries in Europe, Middle East and Africa), Telefonica (Europe), Telstra (Australia), TELUS (Canada) and Verizon (US) confirmed support for the global deployment of LTE-M at the Mobile World Congress in Barcelona.

These operators are working to ensure that LTE-M supports roaming and standards-based local service delivery so that both enterprise and customer-oriented IoT objects, such as trackers or wearables, can be designed for worldwide markets.

The supporting operators are engaging in several activities including pilots, IoT Open Labs and launches of starter kits to support and accelerate the ecosystem of modules and objects.

AT&T
AT&T switched on North America's first LTE-M enabled commercial site in October 2016 and plans nationwide U.S. deployment of its LTE-M network ahead of schedule in the second quarter of 2017 and in Mexico by the end of the year. The roll out will ultimately support a North American footprint covering 400 million people in the U.S. and Mexico. LTE-M will put AT&T on the path toward 5G with enhanced features such as low-power, longer battery life, smaller modules and better coverage underground and deep inside buildings.
http://soc.att.com/2kPJot5

KDDI
KDDI plans to introduce this technology in its fiscal year 2017. KDDI leads the Japanese IoT market, serving nine of the 10 utilities in Japan using its nationwide LTE network with advanced metering infrastructure services. KDDI will evolve its LTE network with this technology. KDDI, aiming to transform into a "Life Design Company" in all business fields, will provide diverse and beneficial products and services boosted by IoT for the different stages of our customers' lives.
http://www.kddi.com/english/

KPN
As the first operator in Europe, KPN successfully trialled the new Internet of Things (IoT) technology LTE-M in November 2016 (also known as LTE Cat-M1). The LTE-M technology is complementary to the recently introduced LoRaWAN network of KPN as well as to existing Machine-to-Machine (M2M) use cases on 4G. KPN is planning a nationwide LTE-M roll-out by the end of 2017.
https://www.kpn.com/

NTT DOCOMO
NTT DOCOMO provides innovative, convenient and secure mobile services that enable smarter living for each customer and is a leading developer of a 5G network that it plans to deploy by 2020. DOCOMO has already deployed various IoT services via its cellular network and soon will support eDRX for longer battery life. DOCOMO is committed to further enhancement of IoT services by launching LTE-based IoT technologies such as LTE-M.
www.nttdocomo.co.jp/english.

Orange
Orange has primarily chosen LTE-M to be progressively deployed on its 4G networks in Europe, starting with Belgium and Spain this year before the rest of the Group's European footprint. Orange is also launching Europe's first LTE-M IoT Open Lab in France in April. Orange is providing IoT Starter Kits to help IoT developers accelerate their discovery of LTE-M and build a functional prototype faster. The Group has also announced two pilots in 2017 – one will be run in the smart metering domain to connect LTE-M-based electric meters to remotely control power consumption and adapt user subscriptions. A second pilot will test LTE-M-enabled wearable devices that can measure an individual's movement, heart rate, temperature and other health-related information.
www.orange.com

AT&T, KDDI, KPN, NTT DOCOMO, Orange, Telefonica, Telstra, TELUS and Verizon Back Deployment of LTE-M for Internet of Things   ... from previous page

Telefónica
Telefónica is fostering all GSMA LPWA technologies in line with its promise to offer the best IoT connectivity. In the space of LTE-M, On 14th of February 2017, Telefónica completed the first live LTE Cat M1 data call in Europe involving major players of the IOT ecosystem. From 2017 2nd quarter onwards, according also to devices availability, Telefónica in Europe will be ready to support the first customer experiences using the new protocol. Telefónica is running a GSMA LTE-M open Lab in Madrid (https://www.5tonic.org/) and has plans to connect it with its entrepreneurs ecosystem accelerator Telefónica Open Future (https://www.openfuture.org/en) to give access to the LTE-M network technology, devices and support from experts. During MWC Telefónica will showcase in Barcelona the first live LTE-M network demonstrating a variety of use cases (waste management, electricity metering and wearables) which leverage on the advanced capabilities of LTE-M.
https://iot.telefonica.com/

Telstra
Cat M1 can enhance LTE coverage for underground and in-building areas that challenge existing coverage. Combined with Telstra's existing leading LTE coverage, customers can deploy a range of near real time applications in logistics, utilities, medicine, transport, mining, agriculture, manufacturing and many more. As Cat M1 devices and solutions become commercially available, Telstra is set to support their operation across its expansive 4G network which covers over 98% of the Australian population.
www.telstra.com

TELUS
TELUS is actively involved in developing 5G wireless technology, and is committed to all the foundational pillars of 5G: Enhanced Mobile Broadband (i.e. HetNet, PicoCell, C-RAN, 30 Gbps wireless speeds), Reliability & Latency, and IoT, including Low Power Wide Area (LPWA) Network Technologies. As a result, TELUS is committed to a standards-based deployment of LPWA LTE-M with pilot customers in the second half of 2017. In 2016, TELUS successfully demonstrated a Smart Parking application as part of its LPWA plan.
www.TELUS.com

Verizon
Verizon became the first carrier in the world to deploy LTE Cat M1 commercially, launched in December 2016. Verizon will complete nationwide U.S. coverage of LTE Cat M1 by the end of Q1 2017. The carrier works with industry-leading partners, and in 2016, certified the world's first Cat M1 chipset and module.
www.verizon.com

Addressing LPWA connectivity requirements of key verticals
TE-M is part of Mobile IoT solutions based on 3GPP standard release 13 released in June 2016. It introduces a new Category M1 device optimised for the IoT able to address the LPWA connectivity requirements of key verticals. Thanks to the easy roll-out capability of LTE-M technology (via software upgrade of existing 4G LTE networks), customers will benefit from a coverage in these respective countries at the time of the launch of LTE-M in respective markets.
LTE-M technology will connect, in a secure and scalable way, a wide variety of IoT devices/ objects such as smart utility meters, asset monitoring trackers, vending machines, alarm systems, fleet of vehicles, heavy equipment, mHealth, oil and gas monitoring and control, agriculture and wearables.

Key features expected from LTE-M are:
☐ Cat M1 Chipset / module optimised for IoT with a target reduction of complexity and cost over existing LTE Cat 4/1 modules
☐ Longer battery life; up to 10 years for certain enabled IoT devices when using additional features such as Power Saving Mode, eDRX feature
☐ Extended coverage compared to LTE for IoT devices underground and deep inside buildings
☐ Support of Mobility and Voice services enabling the use for wearables and safety related object

About AT&T
AT&T Inc. (NYSE:T) helps millions around the globe connect with leading entertainment, business, mobile and high speed internet services. We offer the nation's best data network* and the best global coverage of any U.S. wireless provider.** We're one of the world's largest providers of pay TV. We have TV customers in the U.S. and 11 Latin American countries. Nearly 3.5 million companies, from small to large businesses around the globe, turn to AT&T for our highly secure smart solutions. Additional information about AT&T products and services is available at http://about.att.com. Follow our news on Twitter at @ATT, on Facebook at http://www.facebook.com/att and YouTube at http://www.youtube.com/att. © 2017 AT&T Intellectual Property. All rights reserved. AT&T, the Globe logo and other marks are trademarks and service marks of AT&T Intellectual Property and/or AT&T affiliated companies. All other marks contained herein are the property of their respective owners. *Claim based on the Nielsen Certified Data Network Score. Score includes data reported by wireless consumers in the Nielsen Mobile Insights survey, network measurements from Nielsen Mobile Performance and Nielsen Drive Test Benchmarks for Q3+Q4 2016 across 121 markets. **Global coverage claim based on offering discounted voice and data roaming; LTE roaming; and voice roaming in more countries than any other U.S. based carrier. International service required. Coverage not available in all areas. Coverage may vary per country and be limited/restricted in some countries.

About KDDI
KDDI, a comprehensive communications company offering fixed-line and mobile communications services, strives to be a leading company for changing times. For individual customers, KDDI offers its mobile communications (mobile phone) and fixed-line communications (broadband Internet/telephone) services under the brand name au, helping to realize Fixed Mobile and Broadcasting Convergence (FMBC). For business clients, KDDI provides comprehensive Information and Communications services, from Fixed Mobile Convergence (FMC) networks to data centers, applications, and security strategies, which help clients strengthen their businesses. For more information please visit http://www.kddi.com/english.

About KPN http://www.kpn-international.com/
KPN is the leading telecommunications and ICT provider in The Netherlands, offering fixed and mobile telephony, fixed and mobile broadband internet and TV to retail consumers. KPN is also market leader in The Netherlands in ICT services, infrastructure and network related ICT solutions to business customers, including other telecommunications operators. KPN also provides wholesale network services to third parties and operates an IP-based infrastructure for international wholesale customers through iBasis.

About Orange
Orange is one of the world's leading telecommunications operators with sales of 40,9 billion euros in 2016 and 155,000 employees worldwide at 31 December 2016, including 96,000 employees in France. Present in 29 countries, the Group has a total customer base of 263 million customers worldwide at 31 December 2016, including 202 million mobile customers and 18 million fixed broadband customers. Orange is also a leading provider of global IT and telecommunication services to multinational companies, under the brand Orange Business Services. In March 2015, the Group presented its new strategic plan "Essentials2020" which places customer experience at the heart of its strategy with the aim of allowing them to benefit fully from the digital universe and the power of its new generation networks. Orange is listed on Euronext Paris (symbol ORA) and on the New York Stock Exchange (symbol ORAN). For more information on the internet and on your mobile: www.orange.com, www.orange-business.com

About Telefónica
Telefónica is one of the largest telecommunications companies in the world by market capitalization and number of customers with a comprehensive offering and quality of connectivity that is delivered over world class fixed, mobile and broadband networks. As a growing company it prides itself on providing a differential experience based both on its corporate values and a public position that defends customer interests. The company has a significant presence in 21 countries and over 349 million accesses around the world. Telefónica has a strong presence in Spain, Europe and Latin America, where the company focuses an important part of its growth strategy. Telefónica IoT is the Internet of Things global business unit at Telefónica, dedicated to developing and implementing IoT solutions in all industry segments. For more information about Telefónica IoT: visit iot.telefonica.com

About Telstra
Telstra is a leading telecommunications and information services company. We offer a full range of services and compete in all telecommunications markets in Australia, operating the largest mobile and Wi-Fi networks. Globally, we provide end-to-end solutions including managed network services, global connectivity, cloud, voice, colocation, conferencing and satellite solutions. For more information visit www.telstra.com.

About TELUS
TELUS (TSX: T, NYSE: TU) is Canada's fastest-growing national telecommunications company, with $12.8 billion of annual revenue and 12.7 million subscriber connections, including 8.6 million wireless subscribers, 1.7 million high-speed Internet subscribers, 1.4 million residential network access lines and more than 1.0 million TELUS TV customers. TELUS provides a wide range of communications products and services, including wireless, data, Internet protocol (IP), voice, television, entertainment and video, and is Canada's largest healthcare IT provider. In support of our philosophy to give where we live, TELUS, our team members and retirees have contributed over $482 million to charitable and not-for-profit organizations and volunteered more than 1 million days of service to local communities since 2000. TELUS' 12 Canadian community boards and 5 International boards have led the Company's support of grassroots charities and have contributed more than $60 million in support of 5,595 local charitable projects, enriching the lives of more than 2 million children and youth, annually. TELUS was honoured to be named the most outstanding philanthropic corporation globally for 2010 by the Association of Fundraising Professionals, becoming the first Canadian company to receive this prestigious international recognition. TELUS has been named to the Dow Jones Sustainability Index for the past 16 years, a feat unequalled by any other North American telecommunications company. As detailed in our TELUS Sustainability Report, our commitment to sustainability is inspired by nature to ensure a healthier future for us all. For more information about TELUS, please visit TELUS.com

About Verizon
Verizon Communications Inc. (NYSE, Nasdaq: VZ), headquartered in New York City, has a diverse workforce of 160,900 and generated nearly $126 billion in 2016 revenues. Verizon operates America's most reliable wireless network, with 114.2 million retail connections nationwide. The company also provides communications and entertainment services over mobile broadband and the nation's premier all-fiber network, and delivers integrated business solutions to customers worldwide.
Verizon's Online News Center: News releases, feature stories, executive biographies and media contacts are available at Verizon's online News Center at www.verizon.com/news/. News releases are also available through an RSS feed. To subscribe, visit www.verizon.com/about/rss-feeds/.

Video Optimization Leader Beamr Announces New Funding from Verizon Ventures

TEL AVIV, ISRAEL – December 6, 2016 – Beamr Imaging Ltd., the only video and image encoding and processing company with commercially deployed content adaptive optimization technology, announced it has secured an additional $4 million in funding from Verizon Ventures. Joining existing investors Eric Schmidt's fund Innovation Endeavors, Marker LLC, and Disruptive, Verizon Ventures' investment will support Beamr's contribution to improved network performance and video quality. This new funding enables Beamr to accelerate development of solutions that will feature the company's highly regarded and patented perceptual quality measure technology.

As continuously improving display technologies boost consumers' expectations of video quality, and with the rise of 4k, HDR, VR and 360 video formats, Beamr's H.264 and H.265/HEVC video optimization technology and encoders are finding their place in critical video workflows such as OTT streaming services, cable and satellite systems, and managed IP networks. Through the application of Beamr Optimization, large network operators are seeing the tangible effects of reducing video traffic and storage costs by 20% or more.

"Beamr's vision has always been to merge standards-based encoding technologies with the benefits of our perceptual quality measure, so the industry can meet the heightened consumer expectations for video quality while staying within network constraints," commented Sharon Carmel, CEO and Founder of Beamr.
"Our approach to bitrate reduction has attracted an industry-leading customer base where network capacities and media storage requirements are under pressure, but where exceptional video quality must be maintained."

Building on the acquisition of Vanguard Video earlier this year, Beamr's industry leading video optimization solution, Beamr Video, has combined two highly regarded HEVC and H.264 software encoders that are in use by dozens of leading media & entertainment companies, broadcasters, streaming video distributors, and OEMs. **The products are available as software running on all major platforms and operating systems, and may be deployed on most cloud services including Microsoft Azure and AWS.**

"The competitive nature of consumer video services today is forcing everyone to improve and we believe Beamr's perceptually driven optimization technology delivers benefits to the network and ultimately, the bottom line," said David Famolari, Director at Verizon Ventures. "Beamr significantly addresses the pain and costs of storing and delivering high bandwidth video content over increasingly congested networks, with no loss in visual quality. As more HD and ultra-HD content becomes available, Beamr's technology can be critical to delivering superior end-user quality of experience."

About Beamr
Beamr is the leading provider of encoding, and optimization solutions for the world's top MSOs, OTT streaming service providers, Hollywood studios, web publishers, and social content publishing platforms. Founded in 2009 by a team of leading imaging experts, Beamr's suite of high-performance H.264 and H.265/HEVC video processing solutions are fully scalable for use in on-premise and cloud implementations.

Beamr's flagship product, Beamr Video, represents the industry's first content adaptive perceptual quality measure driven optimizer that significantly reduces the bitrate of video streams and files without sacrificing quality. Beamr's encoder product line includes broadcast quality H.265/HEVC and H.264 codec SDK's for x86 and ARM platforms, while supporting popular operating systems like Windows, Mac OS X, and Linux. Beamr is headquartered in Tel Aviv with offices in Palo Alto and St. Petersburg, Russia. For more information, visit www.beamr.com or follow us on Twitter @BeamrVideo and Facebook @BeamrVideo.

Contact: Mark Donnigan, VP Marketing, Beamr Imaging, Ltd.
mark@beamr.com

CEVA Introduces the World's Most Advanced Communication DSP, Providing Cutting-Edge Performance for Multi-Gigabit Class Connectivity

MOUNTAIN VIEW, Calif., Feb. 23, 2017 /PRNewswire/ -- CEVA, Inc. (NASDAQ: CEVA), the leading licensor of signal processing IP for smarter, connected devices, today introduced the world's most advanced communication DSP to meet the extreme performance requirements of multi-gigabit class modems. Capitalizing on the company's long-standing relationships with world-leading wireless vendors and its unique expertise in DSP architecture design, the CEVA-XC12 is purpose-built from the ground up to solve the most critical challenges of efficiently implementing 5G, gigabit LTE, MU-MIMO Wi-Fi and other multi-gigabit modems. Already licensed to a leading wireless OEM, the CEVA-XC12 delivers up to 8x performance improvement and consumes 50% less power than its predecessor, the CEVA-XC4500, for a complete 5G baseband modem.

Technologies designed for wireless standards such as 5G will be capable of delivering a peak data rate of up to 20 Gbps under ultra-low latency of 1 millisecond. This is achieved utilizing innovative and extremely complex processing techniques such as Massive-MIMO and advanced 3D dynamic beamforming. DSP processors deployed for today's LTE-Advanced Pro and multi-gigabit wireless standards are simply not capable of efficiently delivering the speed, latency and overall DSP performance required to address the massive technology leap to 5G.

MORE http://www.ceva-dsp.com/

The Linux Foundation Announces Merger of Open Source ECOMP and OPEN-O to Form New Open Network Automation Platform (ONAP) Project

February 23, 2017

Top Carriers and Vendors Back Groundbreaking Global Initiative Uniting Two Major Networking and Orchestration Projects

SAN FRANCISCO, February 23, 2017 – The Linux Foundation, the nonprofit advancing professional open source management for mass collaboration, today announced the merger of **open source ECOMP** and **Open Orchestrator Project (OPEN-O)** to create the new **Open Network Automation Platform (ONAP) Project**. ONAP will allow end users to automate, design, orchestrate, and manage services and virtual functions.

AT&T, China Mobile and the world's leading operators are driving ONAP with a diverse group of founding members. Founding Platinum members include Amdocs, AT&T, Bell Canada, China Mobile, China Telecom, Cisco, Ericsson, GigaSpaces, Huawei, IBM, Intel, Nokia, Orange, Tech Mahindra, VMware and ZTE. Silver members of ONAP are ARM, BOCO Inter-Telecom, Canonical, China Unicom, Cloudbase Solutions, Metaswitch and Raisecom.

"By combining two of the largest open source networking initiatives, the community is able to take advantage of the best architectural components of both projects," said Jim Zemlin, Executive Director of The Linux Foundation. "We're excited to see the industry coalesce around ONAP with this unprecedented merger. Such a broad effort and investment will expedite our vision to deliver an open platform for network automation."

Alignment of the two projects creates a harmonized and comprehensive framework for real-time, policy-driven software automation of virtual network functions that will enable software, network, IT and cloud providers and developers to rapidly create new services. By consolidating member resources, ONAP is well positioned to deliver a unified architecture and implementation, with an open standards upstream focus, faster than any one project could on its own.

The Linux Foundation will establish a governance and membership structure for ONAP to nurture a vibrant technical community. A Governing Board will guide business decisions, marketing and ensure alignment between the technical communities and members. The technical steering committee will provide leadership on the code merge and guide the technical direction of ONAP.

Many ONAP members and developers working to advance this sophisticated automation platform will be participating in the upcoming Mobile World Congress, to be held February 27-March 2 in Barcelona, and Open Networking Summit (ONS), to be held April 3-6 in Santa Clara, CA.

Industry Support for ONAP:

Amdocs
"The merging of open source ECOMP and OPEN-O will create the de facto industry standard for NFV/SDN automation and accelerate industry adoption by service providers and the vendor ecosystem. Open source ECOMP brings a holistic approach based on production-proven software--the foundation upon which ONAP is being developed. As co-creator of ECOMP along with AT&T, we bring core platform expertise and a unique end-to-end perspective that enables the ONAP project to deliver tangible value to global service providers and provide innovative virtual services faster."
--Anthony Goonetilleke, Group President, Amdocs Technology

AT&T
"AT&T is excited to be working with a larger team on the future, open source network operating system for SDN automation. Creating a combined team of the initial open source ECOMP members with existing OPEN-O members bodes well for the project's success. I want to thank the people at CMCC and Huawei, along with Jim Zemlin and Arpit Joshipura at The Linux Foundation who worked so hard with us to make this happen. We expect more consolidation in this space, and we expect many more service providers and other technology leaders to join us in this important work, which benefits the entire industry."
--Chris Rice, SVP of Domain 2.0 Architecture and Design at AT&T

Bell Canada
"Bell Canada believes broader industry coordination and the creation of ONAP is the fastest path to development of a winning orchestration platform. We are excited to see the industry unifying around open source and a new network approach that is faster, more efficient and ultimately more responsive to the needs of businesses and consumers."
--Petri Lyytikainen, VP Network Strategy, Services and Management at Bell Canada

China Mobile
"It is well accepted that SDN/NFV plays a key role to the carrier transformation, where automation of management and orchestration is one of the most critical enablers. Hence China Mobile has long been investing resources in the orchestrator development, and launched OPEN-O open source project with partners. In order to cohere efforts, to avoid fragmentation, and to accelerate the transformation of operators, China Mobile, AT&T and The Linux Foundation, finally reached consensus after several rounds of discussion. We are pleased to embrace the birth of the new project ONAP. It is our firm belief that, as the world's two largest telecom operators, the close collaboration in ONAP between China Mobile and AT&T, will accelerate the carrier network evolution with a strong impact on the industry globally. We sincerely hope that more industry partners would join hands with us in ONAP to promote industrial prosperity."
--Madam Yang Zhiqiang, Deputy General Manager, China Mobile Research Institute

China Telecom
"China Telecom is now undertaking CTNet2025 network transformation, aiming to build up a concise, agile, open and integrated network. This new combined ONAP platform will enable the full lifecycle management of cloud-centric, software-controlled networks, and consequently expedite the design of a new network operation system, which is considered to play a critical role in our plan. As a founding member of ONAP, China Telecom will continuously work together with other operators and partners in the community to further promote technological innovation. We have great confidence the in prosperity of the future ecosystem."
--Ms. Shaoai Shen, Deputy General Manager,Technology Department of China Telecom

Cisco
"The movement up-stack in Open Source Networking is a fantastic path towards a full umbrella architecture for Service Providers and Enterprises. ONAP is a great opportunity for the industry to work together towards the goal of a new operational model that includes network-wide orchestration and automation. This project along with other projects like ODL, FD.io, OPNFV and PNDA that we have invested heavily, have proven the value of open innovation and created a developer community around networking. We are very excited to be working with our colleagues and the developer community and enabling ONAP."
--David Ward, CTO of Engineering and Chief Architect at Cisco Systems

Ericsson
"Ericsson promotes and leads development of open source ecosystems for next generation technologies, accelerating adoption and industry alignment in key areas of Ericsson's 5G vision. Ericsson welcomes open source initiatives for SDN, NFV and Cloud and has been actively driving industry alignments through various open source activities, for example OPNFV, to benefit customers and partners. Management and Orchestration provides a natural extension of the OPNFV and virtualization ecosystem creating a platform for innovation and collaboration. Through our participation in ONAP, Ericsson will continue to take the lead in areas of network automation, service enablement, and analytics to help our customers to succeed in their digital transformations."
--Ulf Ewaldsson, SVP, CSO & CTO, Head of Group Function Strategy and Technology, Ericsson Group

GigaSpaces
"In creating ONAP, The Linux Foundation—supported by AT&T and China Mobile—have fused two key open networking projects, marking a tectonic industry shift. Cloudify is a founding member of OPEN-O, and Project ARIA is the common TOSCA partner in OPEN-O. ONAP is a major step toward delivering an interoperable foundation upon which cloud-native applications and network functions operate. This is critical, as it allows more rapid innovation further up the stack and at scale, which is the next frontier in cloud services delivery. Cloudify is committed to ONAP, continuing our work on networks powered by open code, standards and orchestration."
--Nati Shalom, Founder and CTO, GigaSpaces

Huawei
"The consolidation of OPEN-O and open source ECOMP under a unified ONAP represents a key milestone in our telecom industry towards building a strong open ecosystem to empower the accelerated network cloud transformation. The model-driven end-to-end architectural framework of ONAP provides a great foundation for future active community engagement across service providers and system vendors based on an agile, collaborative and open source development model. It will enable operators to rapidly design and launch the on-demand provisioning of new services and realize more efficient closed-loop operations. Furthermore, it would accelerate the digital transformation of operators aiming to bring ROADS (Real-time, On-demand, All-online, DIY and Social) experience for end users."
--Xiao Ran, Strategy & Business Development VP of Products & Solutions, Huawei

IBM
"IBM has been committed to open source for over 17 years and works with service providers to accelerate their digital reinvention. Collaborative initiatives, like the Open Network Automation Platform, will help us further drive NFV innovations in the marketplace. ONAP provides a framework for service providers and system integrators to advance cloud-based network solutions adoption. IBM will provide strong cloud capabilities, cognitive solutions, agile and open development environments and NFV-specific products."
--Steven L. Canepa, General Manager, Global Telecommunications, Media and Entertainment, IBM

Intel
"As the communications industry advances the digital transformation of business services, collaboration through open source projects like ONAP is critical for accelerating deployments. Becoming a founding member of ONAP is consistent with Intel's long-standing investment in and support of community-based development as a way to enable ecosystems to deliver innovative solutions faster. We are encouraged to see the industry converging open source management and orchestration (MANO) efforts, as well as investing in the development of mature, deployment-ready commercial solutions."
--Sandra Rivera, Vice President and General Manager, Network Platforms Group at Intel

Nokia
"Open standards have and will continue to drive a lot of innovation in our industry. We are excited about collaborating with AT&T and China Mobile along with leading service providers and vendors. By working together, we are confident ONAP aligned with the ETSI work will move the industry towards more automated network operations on a faster time scale than any one organization could by itself."
--Bhaskar Gorti, President of Applications and Analytics, Nokia

Orange
"Our close collaboration with AT&T during the past year, and the broader new scope of the ONAP project is we believe a unique opportunity for our industry to make the SDN/NFV ecosystem scale while avoiding its fragmentation. This 'network operating system' will enable fast growing, innovative and interoperable network and application services at a global scale. We are very proud to contribute to this project."
--Alain Maloberti, SVP of Orange Labs Networks

Tech Mahindra
"We will now truly live our COPA (Co-creation, Open source, Platform and Automation) strategy. In the coming days, emergence of ONAP would prove 1+1=3. We are not looking at ONAP as merely automation of Orchestration and Management of the networks, it will pave the way for effective collaboration across industry and catapult TSPs (Technology Service Providers) into Digital Enterprises."
--Manish Vyas, CEO Network Services, Tech Mahindra

VMware
"Bringing OPEN-O and ECOMP together under the common ONAP effort will have a tangible impact on defining a common approach to network orchestration and automation. VMware is pleased to serve as a founding and Platinum member to this seminal effort, building on our tradition as a leader in and contributor to major open source projects. We will help define a common, encompassing and extensible foundation for orchestration of software-defined networks and network functions, bringing the same innovation engine that made virtualization and cloud computing commonplace. Together with the ONAP community, VMware expects to see accelerated progress that will enable seamless interoperability across technology vendors and service providers, and bring significant qualitative and quantitative benefits to the industry."
--Constantine Polychronopoulos, VP & CTO, Telco and NFV at VMware

ZTE
"ZTE, an OPEN-O Premier member and second largest code contributor in the OPEN-O SUN release, believes this combination will extend the scope of the original OPEN-O project and introduce more capabilities of traditional OSS (Operation Support Systems) to the SDN/NFV orchestration and management platform. This in turn will accelerate commercial deployments of the next generation, cloud-centric SDN/NFV network. ZTE committed to join the merged ONAP community as a Platinum member, and will work in a comprehensive manner with partners in the ecosystem in modeling, architecture, code development and marketing. We also believe our contributions to the OPEN-O code base, especially the approach to MANO, which conforms to the ETSI NFV specification, will help the rapid improvement of ONAP."
--You Yan, Director of Technical Planning, Vice President of ZTE

Others are invited to participate in ONAP by getting involved in the technical community and by joining as members. For more information, visit https://www.onap.org.

About The Linux Foundation

The Linux Foundation is the organization of choice for the world's top developers and companies to build ecosystems that accelerate open technology development and commercial adoption. Together with the worldwide open source community, it is solving the hardest technology problems by creating the largest shared technology investment in history. Founded in 2000, The Linux Foundation today provides tools, training and events to scale any open source project, which together deliver an economic impact not achievable by any one company. More information can be found at www.linuxfoundation.org.

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