FREE Download www.telecomcots.com

Telecom COTS World

Broadband Broadcast IoT Convergence

Telecom IT - HPC - A.I.
Infrastructures - SDN - NFV
Cloud - Data Centers - Storage
Video Networks - Broadcast
Internet of Things

Telecom COTS World is a Global Publication of e2mos

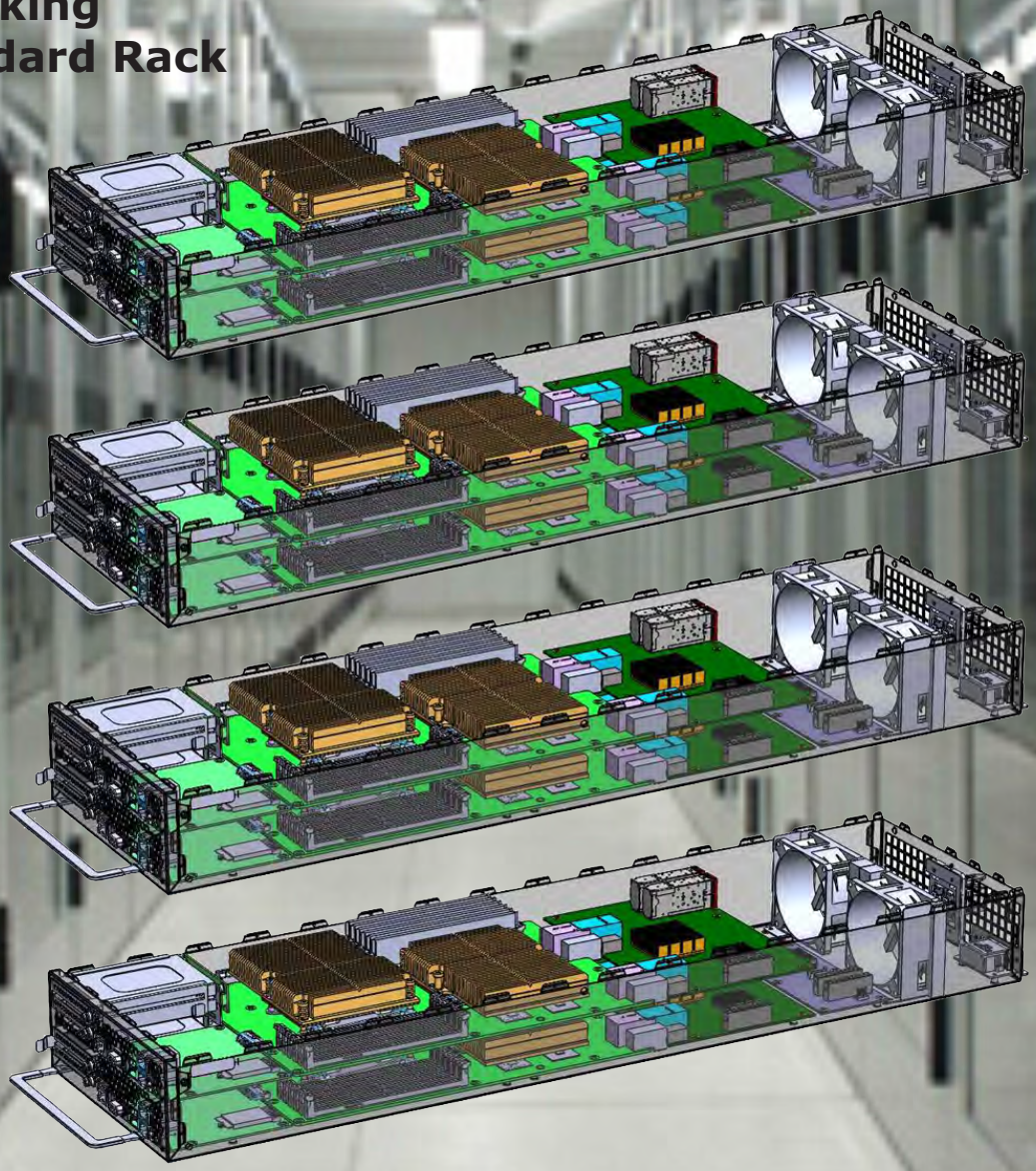
Nov-Dec 2017

OPEN Compute Project for Next-Gen DC

CG-OpenRack-19 OpenSled Server Scalable Carrier-Grade Rack Level System that integrates:

- **High Performance Compute**
- **Storage**
- **Networking**

in a Standard Rack



ADLINK TECHNOLOGY INC.

Products & Technology from Silicon to Application-ready Platforms

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.

Our aim is to provide you with relevant information directly in relation with your activity.

Those magazines are part of the e2mos « Go-to-Market Platform »

This GLOBAL Platform is a UNIQUE Set of Services for Telecom ICT, Video Broadcast, Embedded Computing, IoT and AI Vendors from Multicore Chips to Application-ready Systems & Rack Space Servers.

Our WORLDWIDE Services include:
- Business Discovery
- Customer Meeting Setup
- Telemarketing
- Call Campaigns
- e-mailings Worldwide
- and our 5 e-magazines, each magazines has its own Website (see below).

It is all based on:
- 30+ Years Customer Relationship and Market & Technology Expertise
- our PREMIER Database started in 1980 and maintained EVERY DAY using many sources and research.

Thank you, Daniel Dierickx

Editor/Publisher:
e2mos www.e2mos.com
Contact mgt@e2mos.com

FREE just Click on the LOGO

aiworld

IoT World

Telecom COTS World
Broadband Broadcast IoT Convergence

Embedded Systems World

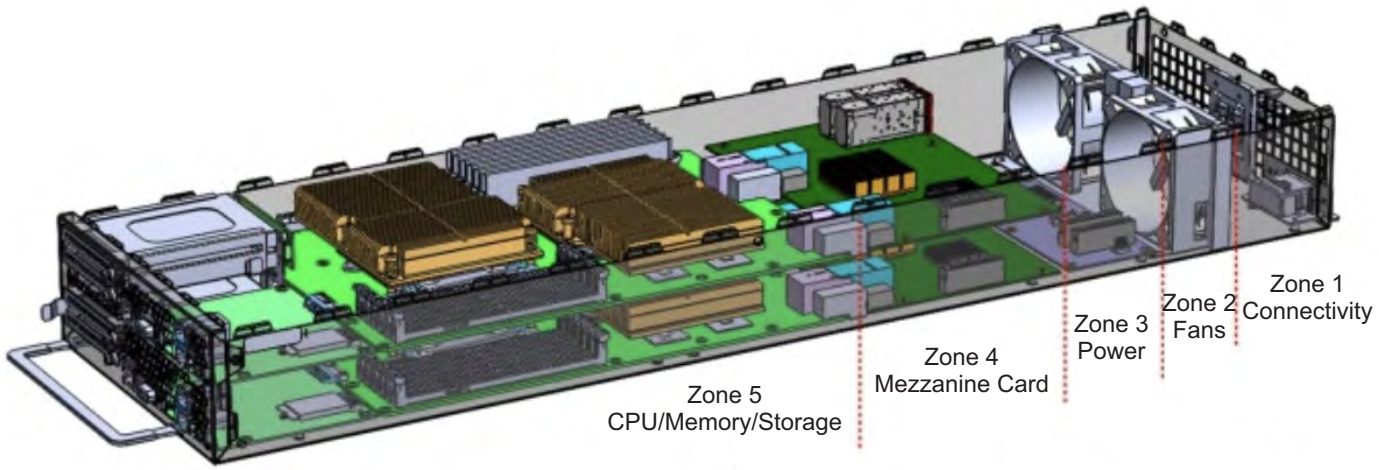
ATCA World

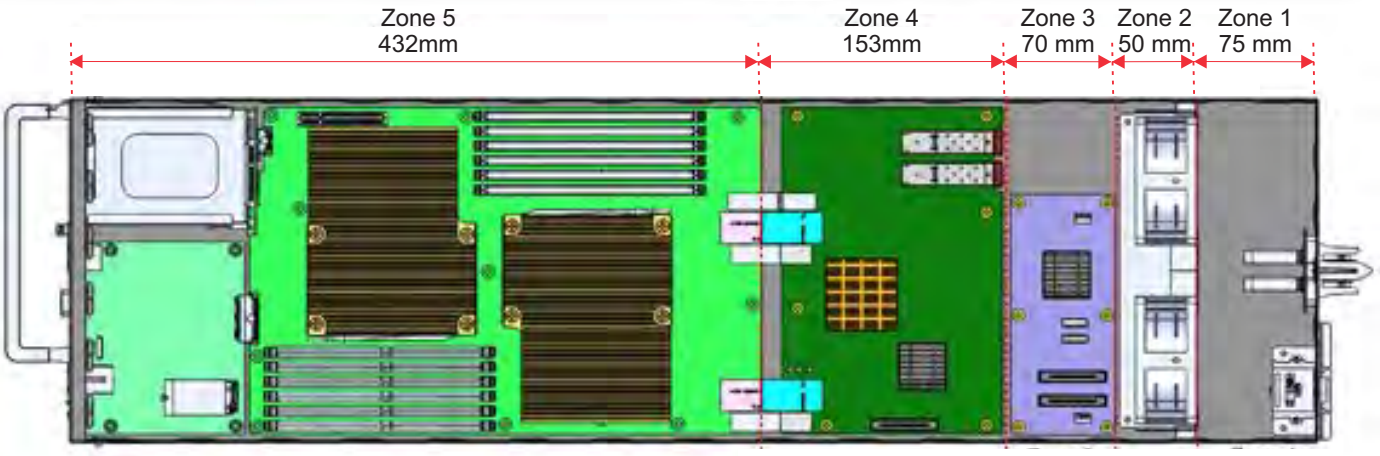
ADLINK Open Compute Project Specification Approved for Carrier Grade CG-OpenRack-19

OCP approves Open Sled Zone specification based on ADLINK's Open Compute Carrier-grade Edge Reference Architecture and Plan of Intent through 2020

Driving the OCP CG-OpenRack-19 Open Sled spec as a specialized telecom sled enabling a multitude of options for custom, specialized solutions:

- Enables HW acceleration, additional silicon options, pre-integrated software, and the ability to reuse common sleds for a multitude of types of systems
- Focuses on key differentiations for Network deployed products for Telecom specific applications (DPI,Security, Policy, Media and Transcoding)





Definitions for half-width and full-width OpenSleds:

- Zone 1 - Open air for environmental area
- Zone 2 - Cooling and air flow definitions/requirements
- Zone 3 – Power module specifications and board layout
- Zone 4 – Mezzanine for NIC to ToR, provides additional options for acceleration and custom
- Zone 5 – Server/Memory/Storage and optional front panel definitions. 4 CPU's (2 sockets each)

... to next page

ADLINK Open Compute Project Specification Approved for Carrier Grade CG-OpenRack-19 ... from previous page

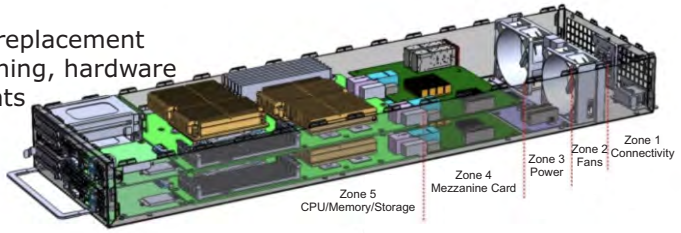
OCP approves Open Sled Zone specification based on ADLINK's Open Compute Carrier-grade Edge Reference Architecture and Plan of Intent through 2020

ADLINK Technology, Inc., a global provider of leading edge computing solutions that drive data-to-decision applications across industries, has successfully introduced its OpenSled specification, contributing to the evolution of the next generation of appliances that fit into the Open Compute Project (OCP) CG-OpenRack-19 specification.

Standards development around networking and communications frameworks has become increasingly important with the growing utilization of edge, cloud and fog computing architectures that support the OT/IT/CT convergence critical to driving business value. OCP's CG-OpenRack-19 specification is used as a guideline for OCP suppliers and carriers to implement a standards-based computer system within central office environments utilizing an OCP-based infrastructure. This latest OCP- approved OpenSled spec is based on ADLINK's OCCERA(Open Compute Carrier-grade Edge Reference Architecture), which provides the definitions for the internal configuration options of the CG OpenRack Sled, including options for key appliances to utilize additional components inside the sled. These options could include, but are not limited to, multi-host controllers, PCIe switching, software and hardware accelerators & storage solutions.

ADLINK's OCP OpenSled specification enhances the OCP-AcceptedTM CG-OpenRack-19 specification submitted by Radisys in December 2016. Radisys laid the foundation for defining the frame, power, interconnect and sled dimensions. ADLINK's OCP OpenSled specification provides:

- A common architecture for OCP CG-OpenRack-19 allowing suppliers to build a standard central office product.
- A one-half width sled for a multitude of options & high component density, with a full width spec to be defined soon
- Zone definitions to give operators confidence that the sled is an open standard, while also providing many options for sled use cases
- An optional removable or hinged front panel for internal board replacement
- A mezzanine zone for Network Interface Modules (NIMs), switching, hardware acceleration, and PCIe expansion slots for off the shelf components
- Zones for server, memory, storage, etc
- Ability to add multi-host controllers, MR-IOV functionality, switching and hardware acceleration for additional capabilities



"ADLINK's their business strategy, aligns perfectly with the mission of the Open Compute Project to extend our open hardware collaboration to our carrier and communications service provider members," said Bill Carter, Chief Technology Officer at the OCP Foundation. "We were excited when ADLINK began working with OCP's Telco project community last year to author and validate the OpenSled specification that builds upon the CG-OpenRack-19 mechanical, power, and interconnect specification contributed by Radisys in 2016. This week, the foundation's incubation committee formally accepts that work effort. **Both Radisys and ADLINK, working with many service providers around the globe, have defined and contributed an open rack architecture that shares the efficiency, openness, and scale of our OpenRack specification, with adjustments for central office environments. The shared effort by ADLINK is a testament to how open collaboration is enabling the transformation of the telecom market."**

ADLINK's focus on edge computing is a natural evolution from embedded systems to connected embedded computing that facilitates data acquisition and analysis to improve business operations. ADLINK is actively involved in several networking and communications standards organizations, including OpenFog Consortium, Network Intelligence (NI) Alliance, European Telecommunications Standards Institute (ETSI) for NFV and MEC, OpenNFV, OpenEdge Computing, Telecom Infra Project, Edge Computing Consortium and Central Office Re-architected as a Datacenter (CORD). In addition, ADLINK is a part of the Wind River Titanium Cloud Partner Ecosystem, a program dedicated to accelerating the deployment of solutions for NFV, and provides Wind River's Titanium Server software as an integrated solution on ADLINK's OCCERA(Open Compute Carrier-grade Edge Reference Architecture) and SETO-1000 extreme outdoor server; the integrated solution targets NFV/ software defined networks (SDN), MEC and IIoT deployments.

"Over the past several years, ADLINK has moved toward developing networking and communications platforms that enable the current requirements for edge and cloud computing architectures for telecom operators and data centers," said Yong Luo, General Manager of ADLINK's Networking, Communication and Public Business Unit. "We are very excited to work with OCP to drive innovation, customization and choices that enhance and simplify networking and communications infrastructure."

Founded in 2011, the OCP is a collaborative community geared toward reimagining the design of server, storage, networking and other data center hardware with the goal of driving scalable computing through sharing of information and technical specifications. ADLINK has been a Gold Member since May 2016.

To download ADLINK's OCP OpenSled specification, please visit the OCP website
www.opencompute.org/wiki/Telcos#Approved
For more information on ADLINK's OCCERA, please visit www.adlinktech.com/OCCERA/

Japan-Philippines-US subsea cable commissioned

Telco consortium teams with Amazon and Facebook to fund the 60Tbps JUPITER system

31-Oct-2017 - By Dylan Bushell-Embling: online news editor for Telecomasia.net. He is an ITC freelance journalist based in Melbourne

A consortium of operators and internet companies have announced plans to build a high-capacity subsea cable linking Japan, the Philippines and the US.

The JUPITER cable system will span 14,000km between the three markets. It will use 400Gbps WDM technology to deliver an initial design capacity of 60Tbps, making it the fastest cable between Japan and the US.

The cable is being constructed by a consortium comprising Japan's NTT Group and SoftBank, the Philippines' PLDT, PCCW Global – the international arm of Hong Kong's HKT, Amazon and Facebook.

It will link up with NTT Com's part-owned Asia Submarine cable Express (ASE), Asia-Pacific Gateway (APG) and Pacific Crossing 1 (PC-1) subsea cables to provide a redundant three-route structure linking major cities in Asia and the US.

JUPITER will use cutting edge submersible ROADM (reconfigurable optical add-drop multiplexer) and WSS (wavelength selective switch) technologies for a gridless, flexible bandwidth configuration. The cable is expected to launch in early 2020.

PLDT will invest nearly 7 billion pesos ($135.5 million) in the JUPITER project, according to the company's CEO Manuel V Pangilinan.

"We are investing in this new cable system in anticipation of the continued explosion of data traffic over the next few years, as households and businesses in the Philippines adopt more and more digital services," he said.

"Along with our other technology initiatives, this new project will enable PLDT to gear up for the emerging 'Gigabit Society' where ultra-high-speed connectivity will support a wide range of bandwidth-heavy, low-latency digital applications and IoT services."

The cable will use PLDT's landing station in Camarines Norte in the Philippines and SoftBank's landing station in Maruyama in Japan alongside landing stations in Shima Japan and California in the US.

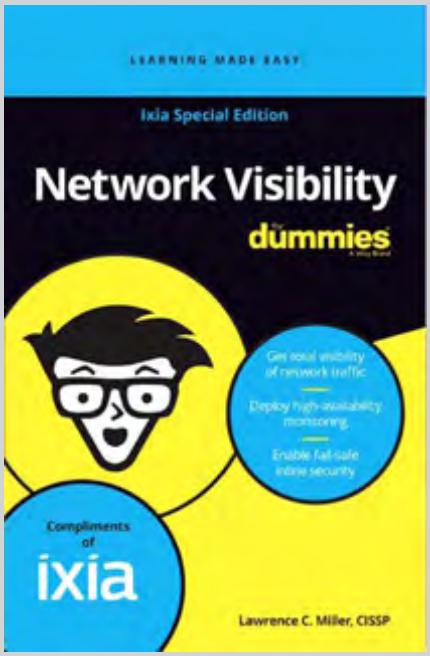
IXIA Network Visibility For Dummies

Advanced cyber threats, cloud computing, and exploding traffic volume pose significant challenges if you are responsible for your organization's network security and performance management.

The concept of 'network visibility' is frequently introduced as the key to improvement. But what exactly is network visibility and how does it help an organization keep its defenses strong and optimize performance? This e-book, presented in the straight-forward style of the For Dummies series, describes the concept from the ground up.

Download this guide to learn how to use a visibility foundation to access all the relevant traffic moving through your organization and deliver the information you need to protect and maximize customer experience.

DOWNLOAD



By Lora O'Haver Senior Solutions Marketing Manager at Ixia

If vendor-speak has left you in the dark about the meaning of network visibility, you're not alone. Get all your questions answered in the new e-book, "Network Visibility For Dummies: Ixia Special Edition" produced by Wiley Publishing in partnership with Ixia.

ixia
A Keysight Business

Google CEO Sundar Pichai says will invest more in India, Asia « Anand J | TNN | October 28, 2017, 11:41 IST »

To help millions of people, we are building products specifically designed for local markets in Asia, said Sundar Pichai.

Google CEO Sundar Pichai on Friday said that the company will launch more regional products in Asia and was committed to making big investments in the region. He cited the success of Google's recently launched mobile wallet Tez in India. Pichai was speaking to investors and analysts at the quarterly earnings call. This is the first time India is figuring in a big way at the search giant's earnings call.

"To help millions of people, we are building products specifically designed for local markets in Asia. In India last month, we launched Tez, a mobile payments and commerce app that already has more than 7.5 million users who have made more than 30 million transactions. I'm really excited about the potential this brings for India's mostly cash-based economy," said Pichai, the India-born and educated CEO.

Google's mobile wallet Tez was launched last month and uses local financial tech nology platform UPI for enabling transactions. Tez is expected to add card support by the end of this year by integrating the technology of its global mobile payment platform Android Pay.

"We are investing more in Asia as well in addition to our go-to-market teams. We are building out great product and engineering teams.That's what has led us to improve core products like Search, Maps, YouTube, etc, to work better in those regions.So I think, overall, that's creating a good virtuous cycle and I'm looking forward to having more momentum there," Pichai said.

Pichai said there was a differentiated opportunity in emerging markets. He said that many of these markets characteristics were due to those being mobile first. "It gives rise to different ways users are adopting our products. So I think we see a way to look at these markets with a lot more thought and address them for the opportunity that they have, not just apply our global products there," he said.

Pipeline Recognizes Empirix at Innovation Awards

Empirix named Runner Up in Customer Experience Management

BILLERICA, MA – June 7, 2017 – Empirix, Inc., the recognized leader in end-to-end network performance visibility with the unique ability to analyze customer behaviors by application in real time, was named Runner Up for the 2017 Innovations in Customer Experience award from Pipeline magazine. The awards were announced on Monday, May 17 at a gala dinner held at Le Negresco in Nice, France.

Combining industry-leading probe technologies with advanced data discovery, Empirix provides clients with a unified view of both mobile and fixed networks. By taking a subscriber-centric approach, Empirix helps its clients deliver excellence in customer experience, empowering them to make network and business decisions that reduce risk and drive revenue increases.

"We are honored to be recognized by Pipeline as an industry leader in customer experience," said Franco Messori, Chief Strategy Officer, Empirix. "This acknowledgement aligns with client feedback that our solutions provide what they need to maintain excellent customer experiences in this demanding technology market."

Empirix was recognized for its deep customer experience management capabilities, including the collection and analysis of data for proactive initiatives to maintain a high quality of experience (QoE) for customers. Its solution pinpoints data tied to outages or network issues, ensuring that service providers are armed with information they can use to take the appropriate steps to prevent future incidents. This functionality has proven invaluable for Empirix clients around the globe.

"Each year, the Pipeline Innovation Awards recognize the technology companies that are leading the industry with significant technical advancements," said Scott St. John, Managing Editor of Pipeline. "The competition was especially fierce this year, with hundreds of nominations being reduced to less than thirty semi-finalists and just two finalists per category. Empirix's placement as the Runner Up in the Innovations in Customer Experience category is a strong indication of the level of innovation in its products, and this has been proven true through a rigorous and objective evaluation process."

About Empirix

Empirix is the recognized leader in end-to-end network performance visibility with the unique ability to analyze customer behaviors by application in real time. We help service providers, mobile operators and enterprises optimize business processes to reduce operational costs, maximize customer retention and grow top-line revenue. Through monitoring, analytics and intelligence, Empirix helps companies around the world realize the full value of their technology investments. For further information, please visit www.empirix.com

Telco Systems, NXP and Arm Introduce New uCPE Offering

Oct 10, 2017

Companies collaborate to address market requirement for multi-technology and multi-vendor uCPE white box options

MANSFIELD, MA and AUSTIN, TX October 10, 2017 — Telco Systems, the leading provider of innovative SDN/NFV, CE 2.0, MPLS and IP solutions, together with NXP Semiconductors (NASDAQ:NXPI), a worldwide leader in advanced secure connectivity solutions, today announced the industry's first Arm-based uCPE solution available in the market. In close collaboration with Arm, the solution combines a rich uCPE feature set on a multicore communications platform in the LS2088A that enables a performance, power and cost point not available in the market with existing architectures.

This advanced solution fulfills a market demand for multi-technology and multi-vendor uCPE white box solutions that enable telecom and managed service providers with more options to choose the best technology to address their operational environment and business targets.

By using NFVTime as the common uCPE NFVi OS software for Arm-based and other popular white box devices, service providers are now able to introduce this Arm uCPE without complicating the operation processes or compromising functionality and service capabilities at the MANO integration layer.

"Our new uCPE offering provides additional options for our customer to deploy NFV services and to address their specific operational requirements and business goals," explained Raanan Tzemach, Vice President of Product Management and Marketing at Telco Systems. "We are proud to lead market innovations by working with strong market players like NXP and Arm."

Telco Systems' NFVTime is an open uCPE that includes a hardware agnostic NFVi-OS and uCPE MANO software solutions. NFVTime is service-ready with out-of-the-box support for SD-WAN, managed router, managed security, and other VNFs, which can be added remotely at any time.

The advanced uCPE white box offering is based on the Layerscape® LS2088A processor with eight 64-bit Arm Cortex®-A72 Cores. The processor cores in combination with integrated hardware acceleration for cryptographic processing, virtual forwarding and traffic management provide performance to support multi-gigabit routing and network services. Like all NXP Layerscape processors, the LS2088A includes Trust Architecture technology, which provides a secure hardware root of trust to ensure the integrity of operating software and network communications.

"NXP is pleased to enable the market and Telco Systems was the right partner to help expand the variety of uCPEs available and to highlight the functional advantages of our Layerscape platform," said Noy Kucuk, vice president of product marketing for NXP. "This advanced uCPE will enable service providers to deploy securely multiple VNFs with high performance in multi-vendor environment."

"A commercially deployable Arm-based uCPE solution from Telco Systems and NXP highlights the scalability and performance advantages of the Arm architecture and will accelerate our growing NFV ecosystem," said Drew Henry, senior vice president, Infrastructure Business Unit, Arm. "Collaborating with these two networking leaders further expands the breadth of efficient and flexible Arm-based uCPE platforms for operators and service providers."

At the SDN World Congress in The Hague, Netherlands on October 9-13, Arm has demonstrated this joint uCPE offering at booth, number B27. At this event, Telco Systems has also been demonstrating this joint offering at Booth C9 as well as NXP at Booth B37.

Telco Systems
A BATM Company

NXP ARM

World's first 5G service to be launched by KT Corporation at Pyeongchang 2018

By Daniel Etchells -- Sunday, 29 October 2017

The world's first 5G network services are set to be displayed at the next year's Winter Olympic Games in Pyeongchang, it has been revealed.

KT Corporation, South Korea's largest telephone company, confirmed it has succeeded in interconnecting 5G demonstration networks with Samsung Electronics' 5G terminals at the Olympic Stadium and other sports venues designated for next year's Games.

"Displaying 5G network services for the first time in the world at the 2018 Pyeongchang Winter Olympic Games has become possible because of our technological prowess and pre-emptive investments in the field of ICT (information and communications technologies)," Oh Seong-mok, head of the KT Corporation's network department, was reported as saying by Korea Bizwire.

"We will continue our efforts to prepare even more thoroughly to provide the best and most stable communications services and a variety of 5G services enough to astonish visitors from all around the world at the Winter Olympic Games."

KT Corporation's pilot to transmit bulk images through 5G services was also fruitful.

It marked the first time 5G services were successfully demonstrated when connected with real terminals, and not with test equipment, on 5G networks.

Working in collaboration with Samsung, KT Corporation has recently been testing interconnectedness between the 5G Research and Development Centre in Seoul and the 5G Center in Pyeongchang.

In July, Pyeongchang 2018 announced KT Corporation and Coca-Cola as its first sustainability partners.

KT Corporation will provide IT services beyond the Games' boundaries.

It is hoped their work will improve the "tourism readiness" of the province.

They will introduce IT services to Uiyaji Wind Village, which will connect a rural area with the rest of the world for the first time.

KT Corporation was announced as Pyeongchang 2018's first local marketing partner in 2014, to provide telecommunications services for the Games.

This includes wireless communications, broadcasting facilities and other technology-based infrastructure, while they will help create the first-ever 5G Games.

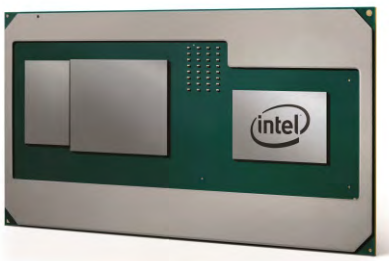
Yeo Hyung-koo, Pyeonchang 2018's secretary general, has previously claimed the initiatives will benefit the local area in the years after the Games, due to take place from February 9 to 25.

About the author

Daniel Etchells Reporter daniel.etchells@insidethegames.biz
Daniel Etchells graduated from the University of Huddersfield with a BA honours degree in Media and Sports Journalism in 2010. Before joining insidethegames.biz, Daniel covered football for various national newspapers through the Wardle Whittell Agency and undertook placements writing for the official website of his beloved Manchester United, the Manchester Evening News and BBC Sport.

Intel and AMD in One Chip

New Intel Core Processor Combines High-Performance CPU with Custom Discrete Graphics from AMD to Enable Sleeker, Thinner Devices



New Intel Design and Packaging Innovations Reduce Silicon Footprint by More Than 50%, Enable Real Time Power Sharing Across CPU & GPU for Optimal Performance

By Chris Walker -- 06-Nov-2017 -- We often talk about our focus on driving innovation for the enthusiast community, a targeted but growing segment of the PC market. This point is underscored by what we have been delivering with our Intel® Core™ X-series processors, Intel® Core™ H-series mobile processors and, more recently, the first of our 8th Gen Intel® Core™ desktop processors. Each product line offers a range of new capabilities, workloads and form factors to cater to the diverse needs of enthusiasts.

But as we looked at this lineup, we recognized an opportunity: thinner, lighter, more powerful enthusiast mobile platforms that deliver a premium experience. Currently, most enthusiast mobile PCs have Intel Core H-series processors plus higher-powered discrete graphics1, resulting in systems that average 26 mm in height. Compare this to thin and light laptops that are trending down to 16 mm or less, with some even as thin as 11 mm.

We wanted to find a way to improve this. A way to deliver a stronger combination of performance-level processors and discrete graphics that open the door to even smaller form factors. And, we knew we could do it by combining our Embedded Multi-Die Interconnect Bridge (EMIB) technology with a new power-sharing framework.

Today, we're sharing initial details on a new product that does exactly that, reducing the usual silicon footprint to less than half that of standard discrete components on a motherboard. That's more freedom for OEMs to be creative and deliver innovative thin and light designs with improved thermal dissipation. It also delivers space to add new features, create new board layouts, explore new cooling solutions or increase battery life.

The new product, which will be part of our 8th Gen Intel Core family, brings together our high-performing Intel Core H-series processor, second generation High Bandwidth Memory (HBM2) and a custom-to-Intel third-party discrete graphics chip from AMD's Radeon Technologies Group* – all in a single processor package.

It's a prime example of hardware and software innovations intersecting to create something amazing that fills a unique market gap. Helping to deliver on our vision for this new class of product, we worked with the team at AMD's Radeon Technologies Group. In close collaboration, we designed a new semi-custom graphics chip, which means this is also a great example of how we can compete and work together, ultimately delivering innovation that is good for consumers.

"Our collaboration with Intel expands the installed base for AMD Radeon GPUs and brings to market a differentiated solution for high-performance graphics," said Scott Herkelman, vice president and general manager, AMD Radeon Technologies Group. "Together we are offering gamers and content creators the opportunity to have a thinner-and-lighter PC capable of delivering discrete performance-tier graphics experiences in AAA games and content creation applications. This new semi-custom GPU puts the performance and capabilities of Radeon graphics into the hands of an expanded set of enthusiasts who want the best visual experience possible."

At the heart of this new design is EMIB, a small intelligent bridge that allows heterogeneous silicon to quickly pass information in extremely close proximity. EMIB eliminates height impact as well as manufacturing and design complexities, enabling faster, more powerful and more efficient products in smaller sizes. This is the first consumer product that takes advantage of EMIB.

Similarly, the power sharing framework is a new connection tailor-made by Intel among the processor, discrete graphics chip and dedicated graphics memory. We've added unique software drivers and interfaces to this semi-custom discrete GPU that coordinate information among all three elements of the platform. Not only does it help manage temperature, power delivery and performance state in real time, it also enables system designers to adjust the ratio of power sharing between the processor and graphics based on workloads and usages, like performance gaming. Balancing power between our high-performing processor and the graphics subsystem is critical to achieve great performance across both processors as systems get thinner. **MORE:** CLICK HERE

G.FAST
Enabling the Gigabit Society

"G.fast is a progressive and logical step for any network operator looking to deliver ultrafast speeds through incremental enhancements to existing infrastructure" By: Matthew Howett, Practice Leader, Regulation & Policy, Ovum

Introduction: The Gigabit Path Forward

- In 2014, the ITU gave its final approval to the G.fast standard ("G" for ITU-T G.9701 and "fast" for Fast Access to Subscriber Terminals). The new standard was initially designed to deliver access speeds of up to 1 Gbps via 100 meter lengths of the millions of existing copper pairs all over the globe. While initially, some saw it as a niche technology, the technology's champions saw G.fast as a key contributor to enabling the emerging Gigabit Society.
- Gigabit is indeed the new broadband standard. Customer applications compel it. The arrival of 4K streaming is here, and multiple 4K-capable devices within the home will soon be commonplace. And we're not just talking about entertainment content. Today's devices and apps empower everyone to be their own 4K producer, driving incredible bandwidth demands on the network. The entrance of virtual reality/augmented reality (VR/AR) into the mainstream will only compound this ultra-broadband effect.
- But this is not a consumer-driven issue alone. Gigabit broadband is an economic driver for the communities and markets that embrace it. Since becoming a Gigabit City, Chattanooga, Tennessee, (USA) has seen its unemployment rate drop from 7.8 percent to 4.1 percent and has seen significant wage growth.1 Both examples exceed the U.S. average. It's no coincidence that this favorable economic activity came during one of the most high-profile Gigabit deployments in the world.
- A pioneer in Gigabit connectivity, incumbent provider EPB now sees multiple Gigabit competitors, including Comcast and AT&T.
- Chattanooga is not alone. Knowledge Park is a redevelopment project in Rock Hill, South Carolina, (USA) that is transforming a once textile-driven economic zone into a hi-tech, knowledge-based economy. Core to this transformation is a gigabit-capable broadband network, deployed by local service provider Comporium.
- The results have been indeed transformational, with the creation of 570 new knowledge-based jobs already, and a forecast for hundreds more. The development is expected to create well over $100 million dollars in new real estate development, generating an additional $2.8 million dollars in tax revenue to the city.This rapid adoption of ultra-broadband driven behavior and the economic benefit it brings has caught the attention of global leadership, including the European Union, who recognizes that past visions for European broadband require updating. It is now calling for a European Gigabit Society, with symmetrical Gigabit-capable anchor institutions across the entire continent and 100 Mbps connectivity for all residences, with a path to Gigabit.2"We need to be connected. Our economy needs it.
- People need it. And we have to invest in that connec-tivity now," said Jean-Claude Juncker, president of the European Commission in his State of the Union 2016 address.

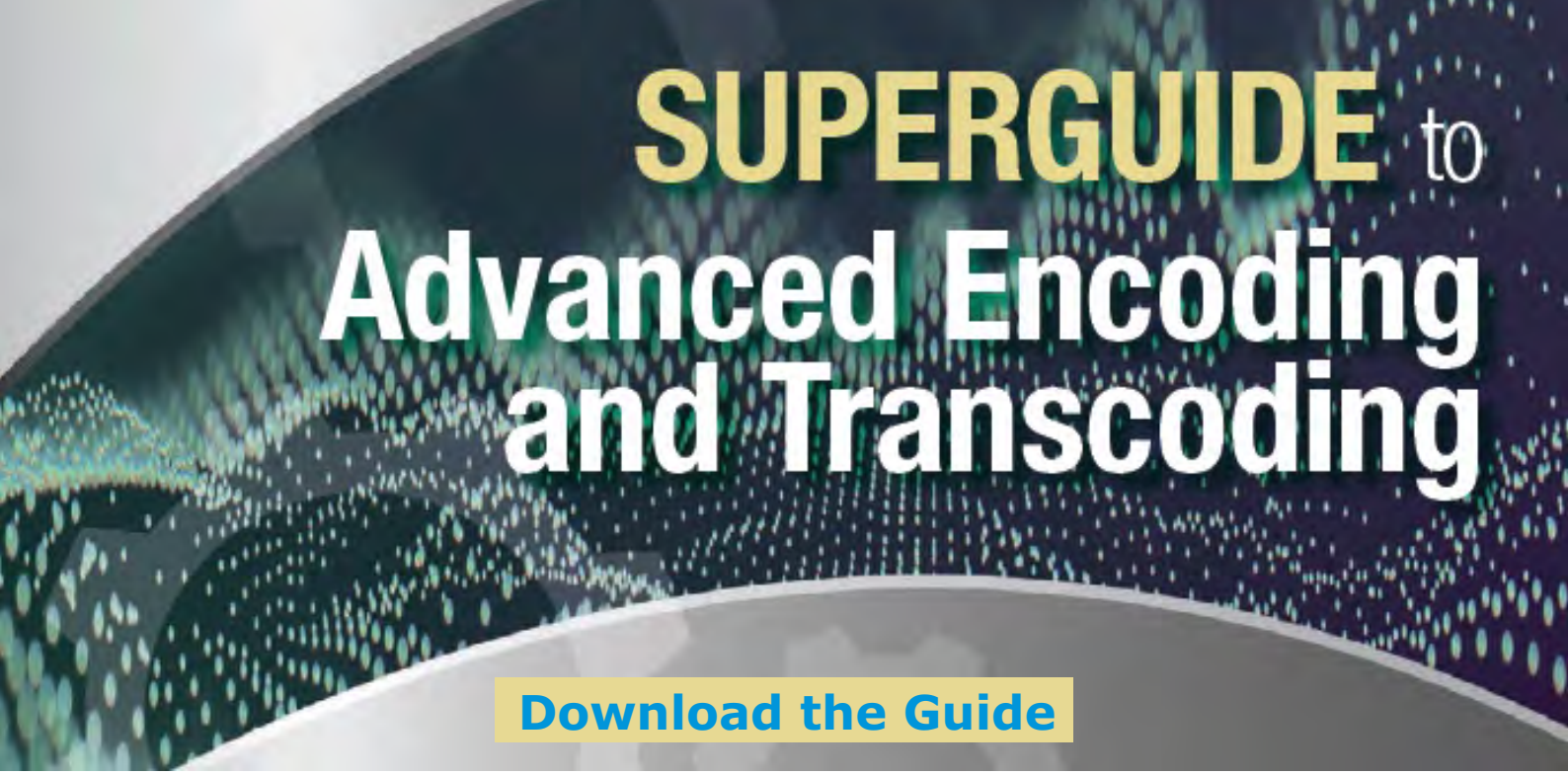
Getting There From Here

- The gold standard to achieve a Gigabit vision is Fiber to the Premises (FTTP). But FTTP alone can't achieve this vision. A viable copper- and coax-assist is needed to expand the reach of ultra-broadband access to places where FTTP deployment is too expensive or difficult to deploy. Despite FTTP's growth and deployment over the past decade, fiber networks provide service to a relatively small percentage of consumers and small businesses worldwide. To truly achieve the Gigabit Society, something more is needed. G.fast achieves this and its ability to leverage copper and coax wiring gives it tremendous flexibility.
- "G.fast is a progressive and logical step for any network operator looking to deliver ultrafast speeds through incremental enhancements to existing infrastructure," said Matthew Howett, practice leader, Regulation & Policy, Ovum.3 "It allows them to radically improve the available speeds for large numbers of subscribers in a much shorter timeframe than other fibre-based solutions."
- The G.fast standard initially was designed to use a fiber to the distribution point (FTTdp) architecture and combine the best aspects of fiber and copper to extend ultra-broadband services to endpoints within 400 meters of each distribution point. Three years later, G.fast is a testimony to engineers' ability to extract even more capability and performance from copper pairs, despite the all-too-familiar obstacles – copper quality, reach, and cross-talk – that must be confronted and defeated for peak performance.
- Indeed, improvements in speeds and loop lengths, as well as innovations such as G.fast over coax will help ease and broaden G.fast deployment even more than originally envisioned have all been confirmed. Field trials and deployments are now well underway all across the globe. These innovations include expanding the applications of G.fast to well beyond the original FTTdp architecture making multi-dwelling units (MDUs), for both residential and business applications, an ideal target. In these scenarios Fiber-to-the-Floor (FTTF) and Fiber-to-the-Building (FTTB) architectures come into play.
- In a FTTF architecture, fiber is extended to each floor of the MDU and living units are connected via copper or coax cabling, using a low-density DPU (four, eight or 16 ports). This is a medium-cost solution that helps to reduce tenant disruption.
- In a FTTB architecture, fiber is extended to the basement or interior wall of the building. Using a medium port count (24 to 48 ports) DPU, service providers can connect multiple living units cost effectively over existing copper riser bundles or coax.

Trials and deployments involving 22 carriers are ongoing in 18 countries, according to a recent report, Gigabit Networks: The Future of G.fast & XG-FAST Services, which was commissioned by Australia's National Broadband Network (nbn) & BT, researched by Ovum.4

In the U.S., trials are underway at AT&T, Windstream and CenturyLink.

Download the White Paper



Published by: Streaming Media

HARMONIC
Delivering Exceptional Quality of Experience for OTT

SRT ALLIANCE
Delivering High Quality, Low Latency Video Across the Internet
Video latency can have a huge impact on how viewers experience live video

AKAMAI TECHNOLOGIES
Building an Ecosystem: Transcoding for 24x7 Live Linear

BITMOVIN
Containerized Video Encoding

MEDIA EXCEL
UHD Multiscreen Transcoding — The Future of OTT

TELESTREAM
At the Nexus of Live and Virtual Reality:
Live 4K VR/360 Streaming Experience Depends Upon Real-time, High-Efficiency Encoding and Processing
By Matthew Rehrer, Product Manager, Telestream

TERADEK
Is It Time To Go Live With H.265?

QUALCOMM
Qualcomm HEVC Encoder: Better Coding Efficiency without Extra Complexity

SOCIONEXT
Chips In The Cloud
The Democratization of Media Transformation

Company's Website CLICK on the Logo

SOLUTION BRIEF
Service Provider
Data Center

Tap into New Revenue Streams

Software-Defined WAN running on Intel® technology enables Communications Service Providers to extend network coverage, introduce new value-added services to compete with through-the-network providers, and differentiate MPLS services

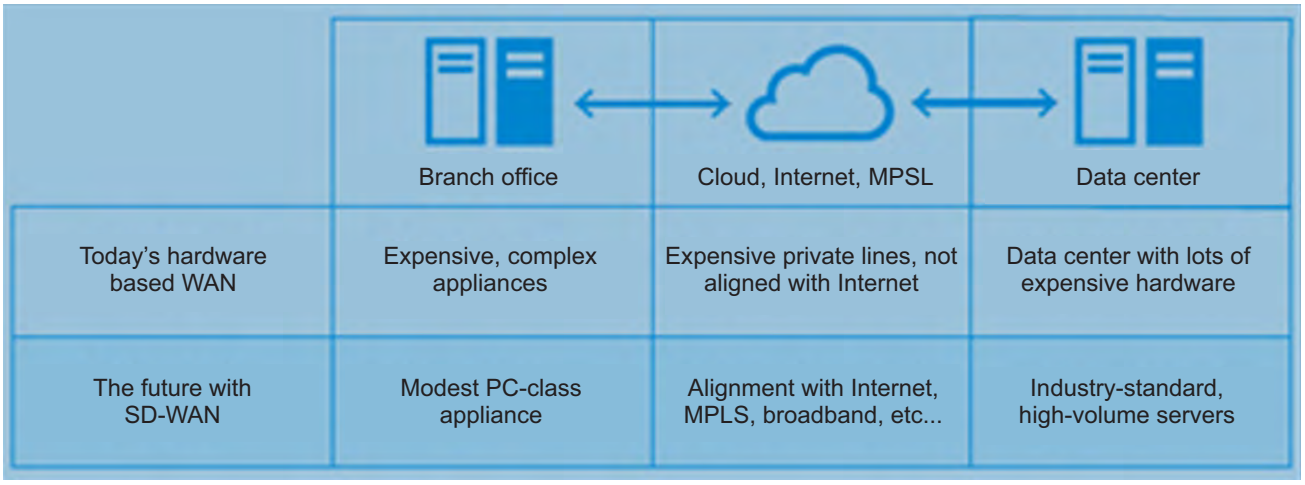
Author: Larry Horner, Solution Architect, Intel Group

This solution brief describes how to solve business challenges and enable digital transformation through investment in innovative technologies. If you are responsible for…
- **Business strategy:** You will better understand how SD-WAN will enable you to successfully meet your business outcomes.
- **Technology decisions:** You will learn how a SD-WAN works to deliver IT and business value.

Executive Summary
Enterprises are increasingly looking to Software-Defined WAN (SD-WAN) to simplify branch office networking. SD-WAN gives enterprises greater control by allowing them to intelligently route Internet and low priority traffic over consumergrade broadband rather than Multiprotocol Label Switching (MPLS) and other managed networks. Enterprises can also dynamically change their bandwidth requirements to avoid overprovisioning, and thus overpaying. By doing so, they can lower the total cost of ownership (TCO) of their WAN and maintain their same level of service without sacrificing quality.

For the Communication Service Providers (CSPs), however, SD-WAN poses both a threat and an opportunity. As increasing numbers of enterprises deploy SD-WAN, the CSP's traditional MPLS revenues will decline without an offset in the traffic on lower cost interfaces or transports, or unless they can offer alternative, value-added, revenue-generating services. One way they can do this, is through offering enterprises SD-WAN services.

When combined with virtualized Customer Premises Equipment (vCPE), CSPs can use SD-WAN to provision virtual overlays onto existing physical networks to offer wholesale broadband into places where they do not currently have their own network presence. They can also offer value-added services like integrated firewall, without having to procure and deploy costly on-site hardware. Enterprises benefit from more cost-effective WAN and services provision managed by a single point rather than multiple contacts, while CSPs can offset declining MPLS revenues, and possibly offer services into markets where they do not have physical assets.



Business Challenge: Maintaining Revenue
The WAN landscape is in flux. As enterprises discover the benefits of hybrid network architectures, running over CSP and consumer-grade broadband networks, SD-WAN is entering a period of rapid growth, while more traditional hardware-based WAN solutions are losing popularity. IDC forecasts worldwide spend on SD-WAN will reach USD 6 billion by 2020.

SD-WAN enables an enterprise to make dynamic and near real-time changes to network in the WAN and the policies affecting its communications traffic between interconnected sites over very long distances. The enterprise can do this through a third-party network, or possibly multiple CSP networks. This has the potential to open market segments otherwise prohibited to the CSP.

Download the Solution Brief