

Telecom COTS World

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Headlines

- Enea announces multi-architecture NFV software platform for virtualization of the network edge
- Deutsche Telecom FlexRAN (vRAN) demo using Artesyn MaxCore platform
- Application-Ready Machine Vision Platforms from Adlink
- Radisys' CG-OpenRack-19 Specification Accepted By Open Compute Project
- Virtual Security Gateway: Positive Disruption in the Appliance and STB Market

Solution Brief

- High Performance Security and Hosted Virtual Equipment by Intel, Clavister & Artesyn

Market Reports

- Enterprises that don't evolve their IT Business Models could miss Future Market Opportunities
- Top 7 Mistakes Technology Companies Make When Entering the U.S. Market

Picture courtesy ABI Research

In this Edition

- Enea announces multi-architecture NFV software platform for virtualization of the network edge (P.3)
- NEW 2U 19" Network Appliance with Intel® Xeon® Processor (P.4)
- Top 7 Mistakes Technology Companies Make When Entering the U.S. Market (P.5)
- Enterprises that don't evolve their IT Business Models could miss Future Market Opportunities (P.6)
- Huawei confirms Israeli vendor purchases HexaTier & Toga Networks (P.7)
- Deutsche Telecom FlexRAN (vRAN) demo using Artesyn MaxCore platform (P.7)
- Application-Ready Machine Vision Platforms from Adlink (P.8)
- Radisys' CG-OpenRack-19 Specification Accepted By Open Compute Project (P.9)
- Virtual Security Gateway: Positive Disruption in the Appliance and STB Market
SOLUTION BRIEF: High Performance Security and Hosted Virtual Equipment
by Intel, Clavister & Artesyn (P.10, 11 & 12)



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.

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It is all based on:

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- 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

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Enea announces multi-architecture NFV software platform for virtualization of the network edge



Enea® NFV Core - The first commercial deployment ready OPNFV based platform for network operators, service providers, and telecom/network equipment manufacturers

STOCKHOLM, Sweden, April 25, 2017 – Enea® (NASDAQ OMX Nordic:ENEAA) today announced Enea NFV Core - a high performance, deployment ready NFV software platform specifically targeting central office virtualization at the network edge. Enea NFV Core helps network operators, service providers and TEMs/NEPs, wanting to realize their vision for a virtualized network edge.

NFV brings a promise of CapEx and OpEx savings and a flexibility in creating new services. While the datacenter/cloud side of NFV software is maturing with consequent commoditization, the base station/customer premise side is developing, with few independent software vendors with viable offerings, and with significant potential for differentiation as the use cases differ for each deployment scenario.

Enea addresses typical distributed NFV use cases, like virtual Customer Premise Equipment (vCPE), and Enea NFV Core is targeted specifically for central office applications. Enea NFV Core is built on the open technology standards OPNFV and OpenStack, leveraging the speed of innovation of the open source community. **Its multi-architecture support enables Virtualized Network Functions (VNF) to execute on both Intel x86 and ARM commercial-off-the-shelf (COTS) hardware.**

“With a strong legacy and expertise in the access network outside the data center, Enea focuses its solutions and engagements on the edge market segment”, said Karl Mörner, SVP Product Management. “Enea NFV Core is ready for deployment and is configured, integrated, optimized, tested and verified especially for edge use cases, saving customers time and effort.”

“As the market and performance leader in multicore processor SoC's for cloud, datacenter, intelligent networking and security applications, we engineer and manufacture optimized multicore SoC's with rich integration of compute, I/O, and hardware accelerators under standard APIs for ARM based platforms,” said Raj Singh, Vice President and General Manager, Network and Communications Group, Cavium. **“Cavium and Enea deliver solutions optimized for next-gen hybrid NFV architecture and help accelerate time-to-market for service providers and telecom equipment manufacturers”.**

Enea NFV Core is hardened and deployment ready in a way that is not available in open source, saving months of work to get it up and running. It is configured, enhanced and optimized to provide the performance and availability required in edge use cases. Already integrated, tested and validated, it removes complexity and risk from deployment projects.

For further information please visit the Enea NFV Core web page www.enea.com/enea-nfv-core.

About Enea

Enea is a global supplier of network software platforms and world class services, with a vision of helping customers develop amazing functions in a connected society. We are committed to working together with customers and leading hardware vendors as a key contributor in the open source community, developing and hardening optimal software solutions. Every day, more than three billion people around the globe rely on our technologies in a wide range of applications in multiple verticals – from Telecom and Automotive, to Medical and Avionics. We have offices in Europe, North America and Asia, and are listed on NASDAQ OMX Nordic Exchange Stockholm AB. Discover more at www.enea.com and start a conversation at info@enea.com.

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2U 19" Network Appliance with Intel® Xeon® Processor



ADLINK - CSA-7200 Features

- Based on OCCERA (Open Compute Carrier-grade Edge Reference Architecture)
- Intel® Xeon® processor E5-2600 v3/v4 with Intel® C610 Chipset
- High scalability with eight Network Interface Modules
- Up to 64x 10GbE SFP+ ports with I/O intensive architecture
- Flexible storage interfaces: SATA, PCIe, M.2
- 2U 19" rackmount form factor for communications infrastructure deployment
- Advanced chassis management, IPMI v2.0 compliant



The ADLINK CSA-7200 is designed as a next-generation network security appliance, featuring high-performance dual Intel® Xeon® processors E5 and up to 64x 10G SFP+ ports through eight network interface modules. The main features of the CSA-7200 are summarized as follows:

Flexible IO interfaces through eight network interface modules (NIMs) adaptable to a variety of complex connectivity scenarios

Advanced LAN bypass features; bypass modes of each NIM can be set independently through BIOS or IPMI interface

12x DDR4 memory slots for up to 192GB memory to meet the requirement of network packet processing

3x 2.5" hot-swappable SATA drive bays, supports additional storage expansion via PCIe or M.2

Support Intel® Solid-State Drive (SSD) 750 Series

Intelligent system management compatible with IPMI 2.0, supports SOL and adaptive fan speeds

Support for PacketManager software to provide data plane software stacks for dynamic layer 3 forwarding and flow-based forwarding, accelerating development of customer applications

Integrates Wind River® Titanium Server, and open source software including Intel® DPDK, Open vSwitch and nDPI, facilitating the building of packet parsing applications

Compute Node Specification

The MCN-2600 is one of the key components of OCCERA, a modularized compute node motherboard. This document describes the MCN-2600 compute node motherboard, which has integrated the latest technologies from Intel architecture processors, particularly the latest advancements in NFV. The MCN-2600 can bring high performance to the cloud while meeting the industrial computing requirements for flexible expansion, hardware acceleration, and high availability.

MORE: please [Click Here](#)

Top 7 Mistakes Technology Companies Make When Entering the U.S. Market ... and How to Avoid Them

WHITE PAPER



Over the past nine years, 151 Advisors has helped dozens of international technology companies successfully enter the U.S. market. Those companies all had a few things in common. They were convinced their application, product or service would be the next big thing and they believed it would be simple to set up shop with or without a physical presence, support sales, and customers, market to their targeted audience and build a business in the U.S. They all quickly learned that entering the U.S. market isn't that easy.

In fact, it's rare for international technology companies to enter the U.S. market as quickly, cost-effectively and profitably as they assumed. That's why so many now turn to 151 Advisors to ensure that their U.S. strategy delivers maximum revenue and shareholder value.

The 151 Advisors team has more than 150 years of combined experience building profitable companies in technology sectors such as mobile, cloud, consumer and enterprise software. In the process, we've identified the seven pitfalls that frequently derail international technology companies' expansion into the U.S. market. This white paper describes those seven pitfalls and how to avoid them.

- 1 **LIMITED OR NO FUNDING FOR MARKETING AND SALES**
- 2 **THE WRONG SALES TEAM LEADERSHIP**
- 3 **DIFFICULT NAVIGATING THE LEGAL AND REGULATORY ENVIRONMENT**
- 4 **STRATEGIES AND COLLATERAL THAT IGNORE CULTURAL DIFFERENCES**
- 5 **FAILURE TO LAUNCH PRODUCT QUICKLY**
- 6 **THE WRONG LOCATION**
- 7 **UNREALISTIC FINANCIAL EXPECTATIONS AND ASSUMPTIONS**

Editor's Note

By coincidence we "at e2mos" are conducting a VERY HEAVY STUDY about:

"What Vendors are doing to find New Customers/Business"

A UNIQUE Study done by Senior Sales Champions, Worldwide mainly Europe and USA, over a period of 6 months till June 2017. We even made a lot of Customer Joint Visits with Vendors !!!!!

Markets: see the Homepage of e2mos at www.e2mos.com

Conclusions so far:

- The Hunt for New Customers & New Business is done via the most senseless manner
- The Customer Database: poor content and updates very low-key
- Lead follow-up very low

DETAILS: please send e-mail to mgt@e2mos.com

ENTERPRISES THAT DON'T EVOLVE THEIR IT BUSINESS MODELS COULD MISS FUTURE MARKET OPPORTUNITIES

New research report reveals IT support staff are spending more time on service requests and issue resolution than innovation

London, United Kingdom – 31 January 2017 - A new *report that looks at how optimisation of IT operations drives digital transformation published today by Dimension Data reveals that IT operations staff are spending over 30% of their time on new service requests and supporting issue resolution, while only 15% of their time is allocated to innovation. This represents a 25% year on year decline - just as the demand to capitalise on improving customer engagement, adopting the Internet of Things (IoT), and leveraging the use of big data and data analytics is making IT innovation a non-negotiable within organisations.

The message is clear: enterprises that don't evolve their IT business models could miss future market opportunities.

Dimension Data Group Executive for Services, Bill Padfield, said the report highlights that automation is essential to optimising IT operations.

"Savvy IT organisations understand that if they don't focus on efficiencies today could miss the greater market opportunities of the future. Dimension Data's automation and orchestration skills put more processes and business activities into 'business as usual' for our clients. They require fewer resources, and they're able to spend more time focusing on staying competitive, innovating new sources of value, engaging with customers on their channels of choice, and exploiting their data to optimise operations."

Over the past decade, technology has delivered consistent efficiencies: from saving costs to redeploying labour, contributing to leaner operations, and meeting shareholder expectations. However, with the rise of the digital era, efficiency on its own is no longer sufficient. IT operations must support the execution of new digital business initiatives, and deliver a consistently high-availability IT infrastructure that meets end-user demand. This requires sustainable IT optimisation that delivers better service level agreements (SLAs), greater efficiencies, and higher performing infrastructure while minimising downtime risks. But freeing up resources for innovation remains a challenge.

While organisations know they must evolve their IT operations to be more strategic and less tactical, most in-house IT and development teams are still struggling to keep up. In fact, most companies that participated in the report said they still monitor and tune their IT in a disjointed manner, with only 14% reporting that their infrastructure is positioned to for digitisation.

According to the report, only 20% of organisations claim they've fully automated and optimised their infrastructure, while the majority are on a path to automation, but haven't reached their goal.

- 9% of organisations have no automation
- 13% have limited automation
- 32% have a medium level of automation and orchestration
- 25% are highly automated

Padfield says some of the reasons why IT organisations are lagging can be attributed to budget, experience, and expertise. "Successful digital transformation requires the right mix of people, processes, and tools. However, IT service automation platforms are expensive and time consuming to develop and successfully integrate into hybrid IT environments."

Click [here](#) to download the **Optimisation Drives Digital Transformation** report.

*Dimension Data commissioned research firm IDC to conduct a new web-based survey to better understand the trends and challenges IT organisations on the path to digital transformation are grappling with around infrastructure and organisational optimisation. IDC surveyed IT and senior managers in 10 countries at 275 enterprises that employ over 1,000 people each. Of those 275 organisations surveyed, two-thirds stated that considered IT operations to be 'core' to their business.

About Dimension Data

Dimension Data uses the power of technology to help organisations achieve great things in the digital era. As a member of the NTT Group, we accelerate our clients' ambitions through digital infrastructure, hybrid cloud, workspaces for tomorrow, and cybersecurity. With a turnover of USD 7.5 billion, offices in 52 countries, and 31,000 employees, we deliver wherever our clients are, at every stage of their technology journey. We're proud to be the Official Technology Partner of Amaury Sport Organisation, which owns the Tour de France, and the title partner of the cycling team, Team Dimension Data for Qhubeka.

Visit us at <http://www.dimensiondata.com>

Huawei confirms Israeli vendor purchases HexaTier & Toga Networks

10 January 2017 - Source: GTB

Israel-based deep packet inspection and database security companies bought by Huawei, will operate as part of European Research Institute

Huawei has confirmed reports that it has bought two Israel companies, HexaTier and Toga Networks, but has not disclosed the price. Independent reports suggest the company has paid over \$190 million for the two.

The acquired businesses will become part of Huawei's European Research Institute (ERI), a Huawei spokesman in China told *Global Telecoms Business*.

"Both companies [were] acquired in late 2016. Commercial terms [were] not disclosed," the official added.

"Huawei confirms it has acquired Toga Networks and HexaTier ... As a global ICT infrastructure provider, Huawei believes that openness and innovation are conducive to the development of the industry."

Neither HexaTier nor Toga Networks have reported the sale. The two companies were owned by private equity and venture capital shareholders, according to their websites, which have not been updated.

HexaTier was originally GreenSQL but rebranded in January 2015. It specialises in cloud-hosted database security and compliance solutions for small and medium businesses. Headquartered in Tel Aviv, it also has offices in Irvine, California and Boston, Massachusetts.

A report in late December 2016, citing Israeli financial newspaper *Calcalist*, said Huawei had paid \$42 million for HexaTier.

An unconfirmed report, citing the same Israeli newspaper, said in December that Huawei had paid \$140 million for Toga Networks, which is based to the north-east of Tel Aviv and offers advanced technology research – in areas such as deep packet inspection – to the IT and telecoms markets. The company's website lists seven chief technology officers

In June 2016 the *Wall Street Journal* reported that Huawei was using Toga's engineers to develop "a range of software and equipment related to networking, storage and information security, including encryption", citing "former and current employees" of Toga.

Huawei launched its ERI in 2015. The company said at the time that the institute, to be located in Leuven, Belgium, would oversee 18 R&D sites in eight countries and that it "represents a milestone in the company's global innovation strategy".

Even though the Huawei official said that the pair of acquisitions adds "to our existing business investments in the region, which include significant operations in UAE, Kuwait, Saudi Arabia and Egypt", it seems clear that the management of the unit through the Belgium-based ERI will keep a distance between the Israeli operations and the Chinese vendor's other interests in the Middle East.

The ERI has operations in Belgium, Finland, France, Germany, Ireland, Italy, Sweden and the UK, employing a total of 1,570 people, according to Huawei.

Read more: Huawei HexaTier Toga Networks European Research Institute R&D ERI research DPI cloud [Click Here](#)

Deutsche Telecom FlexRAN (vRAN) demo using Artesyn MaxCore platform

At the NGMN 2016 conference in Frankfurt, the Artesyn MaxCore platform was used in a Deutsche Telecom FlexRAN (vRAN) demonstration with Intel and xRAN.org.

xran.org is a consortium of various industry partners, founded by operators, who are leading the effort of making the next-generation RAN more programmable, based on software-defined principles and extensible in an unprecedented way.

In the current mobile or cellular network, the control plane is tied to the eNodeB and xRAN.org is trying to decouple the control plane and run it as a virtualized network function (VNF) such that the network can be balanced in a very proactive and dynamic way that is not possible with current network architectures.

Video DEMO
[Click Here](#)



The reference implementation in this video has Layer 1, Layer 2, Layer 3 eNodeB running on Intel Xeon D processors (Artesyn's MaxCore Platform with SharpStreamer add-in acceleration cards).

Application-Ready Machine Vision Platforms

Highly integrated precision and low power TCO



Smart Camera - NEON-1040/1021/1020

Intel® Atom™ Quad-Core Processor E3845 1.91 GHz-based

ADLINK's x86 smart camera defines a new category of vision system that realizes high-performance, maximum integration, easy deployment, space efficiency and minimal total cost of ownership - all well beyond what conventional embedded vision systems and smart cameras can achieve.

Features

- Global shutter CMOS sensors available
- 4Mp 60 fps (NEON-1040), 2Mp 120 fps (NEON-1020) & 2Mp 60 fps (NEON-1021) resolution
- Additional GigE Vision 1 slave camera support
- Multi-ROI function replaces multi-camera barcode reader solution
- FPGA-based image pre-processing
- Flexible software support with MVTec HALCON, MVTec MERLIC, COGNEX VisionPro, STEMMER Common Vision Blox, Teledyne Dalsa Sherlock, Adaptive Vision Studio, Euresys Open eVision, Matrox MIL and many others
- GeniCam, GenTL, and Open CV compatible with image acquisition
- Built-in PWM lighting control
- IP67-rated housing and M12 connectors
- EMVA1288 compliant
- Windows® 7, Embedded Standard 7



Compact Vision System - EOS-1300

4CH GigE Vision Compact Vision System with 6th Generation Intel® Core™ i7/i5/i3 Processors

Features

- 6th Generation Intel® Core™ i7/i5/i3 Processors
- Up to 4CH Gigabit PoE (Power over Ethernet),
- FPGA-implemented DI/O functions provide programmable de-bounce filter, and Trigger In/Out for precise and flexible control
- Configurable PNP/NPN DO type via external wiring
- Supports 12x isolated DI, 16x isolated DO, 2x encoder input, and 4x USB 3.0
- One-side I/O for easy maintenance



2/4-CH PCI Express® GigE Vision PoE+ Frame Grabbers - PCIe-GIE72/74 Cards

Features

- PCI Express® x4 compliant
- Support for 2/4 independent Gigabit Ethernet ports
- IEEE 802.3at for PoE+ (Power over Ethernet Plus)
- PoE protection & automated power budget control for enhanced asset protection
- Easy-to-use utility and API provided for PoE power management
- Multiple cards, multiple cameras, in a single system
- Wide operating temperature range from 0°C to +70°C supporting non-drop frame capture in extreme environments
- Up to 20/60/120W PoE power from PCIe bus/4-pin/6-pin Molex connector



PCIe-GIE72/74

Machine vision superiority with guaranteed non-drop frame grabs

Any number of PCIe-GIE7x series cards can be installed in a single system without occupying any BIOS I/O resources, enabling multi-card single-system non-drop machine vision frame grabs. range supports integration with fanless computer for IA applications in harsh environments.

MORE: Click on the Pictures



Radisys' CG-OpenRack-19 Specification Accepted By Open Compute Project



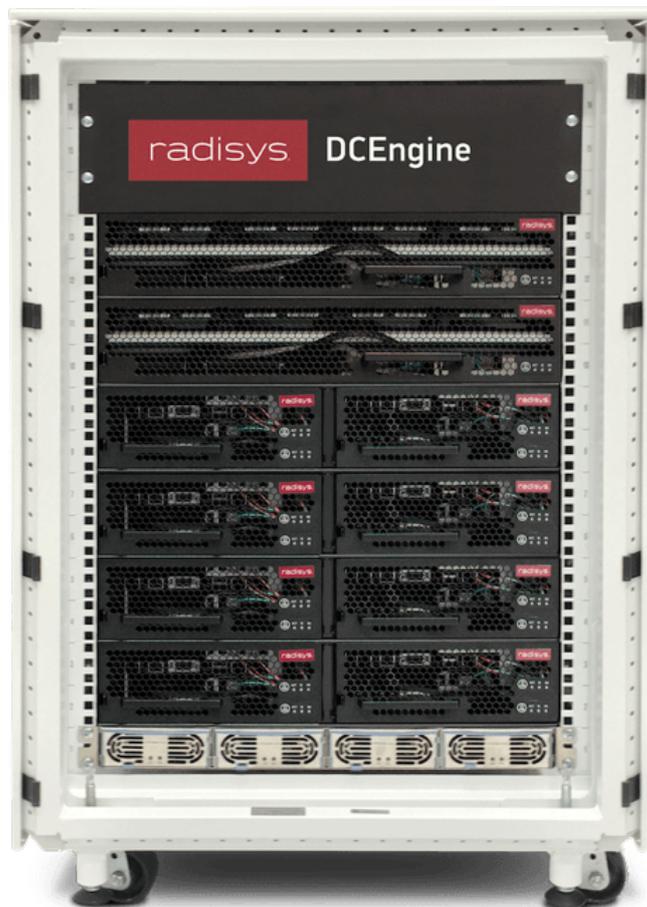
Collaboration with service providers and equipment vendors results in contribution of open rack-scale platform specification for carrier-grade telecom data centers

HILLSBORO, OR, U.S. December 6, 2016 – Radisys® Corporation (NASDAQ: RSYS), the services acceleration company, today announced that its CG-OpenRack-19 specification is OCP-ACCEPTED™. CG-OpenRack-19 is a scalable carrier-grade rack level system that integrates high performance compute, storage and networking in a standard rack. Building on the Open Compute Project (OCP) Open Rack platform originally designed for emerging web scale data center environments, the CG-OpenRack-19 specification defines carrier-grade suitability for use in telecom applications. Radisys, a silver member of OCP, worked with communications service provider and manufacturer partners to contribute the specification, and thereby bringing open rack concepts and benefits into service provider networks. Rack-scale platform solutions which are based on the CG-OpenRack-19 specification, including Radisys' DCEngine, are already being deployed by multiple tier-one service providers.

"The accepted CG-OpenRack-19 specification aligns with the principles of OCP, meeting our requirements for a spec that delivers efficiency, scale, openness and impact," said Bill Carter, CTO, Open Compute Project. "Understanding the industry need to bring this open hardware technology to service provider networks, Radisys rallied the community and spearheaded this truly multi-vendor contribution for deployment in carrier-grade telecom data centers."

The specification provides a high level of modularity and simplicity by defining interoperability requirements, thereby reducing system set-up time and operator costs. Radisys' contribution addresses key requirements needed to extend the base Open Rack model into telecom environments to accommodate the needs of existing central offices, including physical conditions, content/workload elements, management needs and networking/interconnect options. CG-OpenRack-19 promotes an agile approach to creating deployable system instantiations. It is based on a standard 19" rack width to leverage traditional telecom common equipment practices, while also being well suited for new virtualized data centers.

"Service providers are transitioning their network infrastructure from closed proprietary platforms to next-gen data centers built with open source software and hardware components," said Andrew Alleman, CTO, Radisys. "Radisys is actively contributing to open systems and networks, with open source contributions in both software and hardware. With OCP, we saw a great approach and technology that is bigger than just one company. We worked closely with service providers and other vendors on the CG-OpenRack-19 contribution to bring a carrier-grade version of OCP Open Rack hardware to service provider networks. We are pleased that the specification is OCP-ACCEPTED™ and already achieving traction in service provider data centers."



About Radisys

Radisys helps communications and content providers, and their strategic partners, create new revenue streams and drive cost out of their services delivery infrastructure. Radisys' hyperscale software defined infrastructure, service aware traffic distribution platforms, real-time media processing engines and wireless access technologies enable its customers to maximize, virtualize and monetize their networks. For more information about Radisys please visit www.radisys.com.

About The Open Compute Project Foundation « OCP »

The Open Compute Project Foundation is a 501(c)(6) organization which was founded in 2011 by **Facebook**, **Intel**, and **Rackspace**. Our mission is to apply the benefits of open source to hardware and rapidly increase the pace of innovation in, near and around the data center and beyond. **More** <http://www.opencompute.org/>

Virtual Security Gateway:

Positive Disruption in the Appliance and STB Market

SOLUTION BRIEF

High Performance Security and Hosted Virtual Equipment

Virtualized security performance scales with best-in-class density

- Hosted equipment eliminates proprietary single-purpose systems
- MaxCore Edge Compute platform hosts FlexRAN and edge compute applications
- Ultra-high user density: up to 7700 instances per 3U system (vSEG)
- 400Gbps firewall per 3U system
- vCPE framework enables unified customer "equipment" »
- Superior maintainability and upgradeability with no service calls
- 90% reduction in OpEx compared to RMS-based solutions
- No need for Top-of-Rack (ToR) switching to distribute across CPU complexes

Security continues to be a top-of-mind worry for businesses, government and consumers alike. Recent events around the world have strengthened this worry. In response to this need, Clavister and Artesyn Embedded Technologies have teamed to create scalable, virtualized network security, delivering broad scalability and high density.

By virtualizing the security function, communication network operators (CNOs) can spread performance over a cloud of cores, resulting in high scalability and high throughput. When combined with a platform that has the ability to hold up to 360 Intel® Xeon® cores in a 3U footprint, carriers have the ability to place dense, flexible, and secure computing in their network where it makes sense rather than where it fits physically.

As carriers and enterprises increasingly deploy with multiple new applications in multiple environments, security and compliance become more difficult to maintain. The Clavister virtualized software solution offers carriers standardized security across multiple services.

The innovative Artesyn MaxCore™ family of platforms is the ideal environment for virtualized security, virtual customer premise equipment (CPE, vCPE), and virtual mobile networks, as well as other virtualized applications. Use of low power Intel® processors in the Artesyn system dramatically reduces power consumption while maintaining high core count. As operating costs are now far larger for network operators than capital costs this means increased performance while reducing operating costs.

Artesyn hardware, Linux/KVM and Clavister Security software creates an extremely secure network and execution environment, able to handle any type of network function virtualization (NFV) environment, setup and the ability to scale up/down without sacrificing any integrity, privacy and robustness. Let Artesyn and Clavister show you how next-generation edge security and equipment hosting is going to look.

Edge Computing and Hosted Virtual Functions

Edge computing is the complement to the cloud that will shape next generation networks. The cloud will continue to grow driven by optimization of business models, on demand compute, and CapEx & OpEx efficiencies. However, as an increasing number of devices connect to the network the need to optimize network traffic increases. This need has given rise to intelligent edge computing.

Key attributes to effective edge computing are intelligent nodes, which can determine whether a workload should be processed locally or offloaded to the cloud, and virtualization, enabling flexibility and efficient compute resource usage.



CLAVISTER

ARTESYN
EMBEDDED TECHNOLOGIES

Artesyn - Clavister - Intel

SOLUTION BRIEF

High Performance Security and Hosted Virtual Equipment

... from previous page

Edge Computing and Hosted Virtual Functions

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FlexRAN

The FlexRAN architecture encompasses virtual and cloud RAN architectures as well as hybrid implementations. As 4G and 5G networks evolve toward Ethernet fronthaul the FlexRAN architecture can enable more scalable, flexible, and cost-effective base station implementations. FlexRAN relies on a virtualized edge compute architecture with the ability to process functions which need immediate results or low latency while off-loading to the cloud those functions which do not require real-time processing. This enables scalability in compute power while cost-optimizing the network.

In the MaxCore FlexRAN architecture portions of L1-3 are done locally while other compute portions are processed in the cloud. Companion applications such as security or low latency applications such as video are also processed using the local edge compute capability. In the future the presence of the compute portion of the L1 function will enable location aware services which will drive new revenue streams for operators and their customers.

The Artesyn MaxCore platform is designed to enable co-hosting of both FlexRAN and edge compute applications.

Virtual Hosted Equipment

Virtual hosted equipment or virtual customer premise equipment offers the ability to resolve many of the issues associated with traditional, fixed-function appliances. When refreshing network edge platforms the use of vCPE increases the opportunity to quickly deploy alternative services to end users. Compared to hardware based CPE, vCPE enables greater flexibility and efficiency and gives carriers greater control of service delivery options.

Virtualized CPE increases the agility of networks, enabling them to respond to changing needs more rapidly while reducing the costs of adding new functions at the edge. When it comes to managing the equipment required to deliver today's services carriers are faced with an ever-increasing array of boxes, routers, and converters, each of which has limited functionality.

In addition, the existing customer equipment is rarely fully utilized, resulting in wasted computing resources, an inefficient way to provide services. Carriers must also bear the costs of service technicians for installation and the cost of obsolescence of older equipment. The result is either lost profit or increased costs to customers, or both.

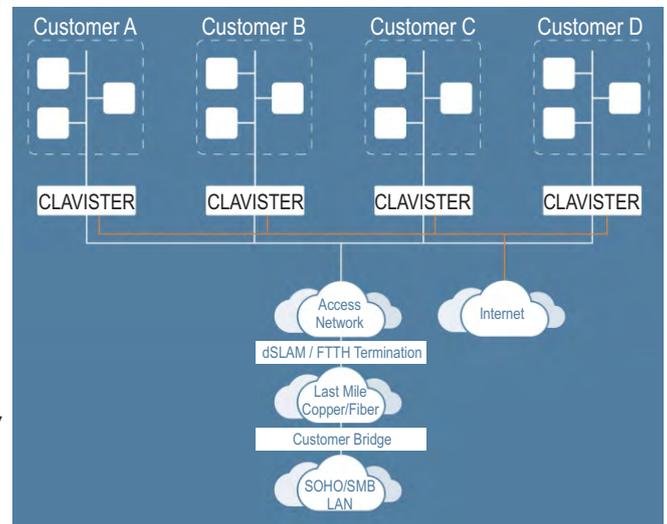
Clavister's virtual security implementation is one of many offerings which can be provided by communications service providers (CSPs). It can protect a wide array of vCPE functions but can also be a Security as a Service offering. This SaaS offering can include virtual firewalls and dynamic access controllers, enabling businesses to securely interact with their customers or securely access Internet functions.

Additional vCPE services could include web filtering, parental control, and threat prevention for consumers. For enterprise customers services such as web filtering, e-mail control, threat prevention (including malware, intrusion, denial of service, spam) and VPN tunneling could all be offered.

Clavister Virtual Security

Clavister Security solutions are designed to meet the changing needs of today's networks. The virtual security gateway includes full customer isolation where each customer has their own environment. Full memory separation results in no impact between customer environments. Configuration changes occur without service interruption to other customers.

This complete vCPE feature set makes it possible to offer multiple services in the same vCPE installation with as many as several hundred vCPEs per CPU.

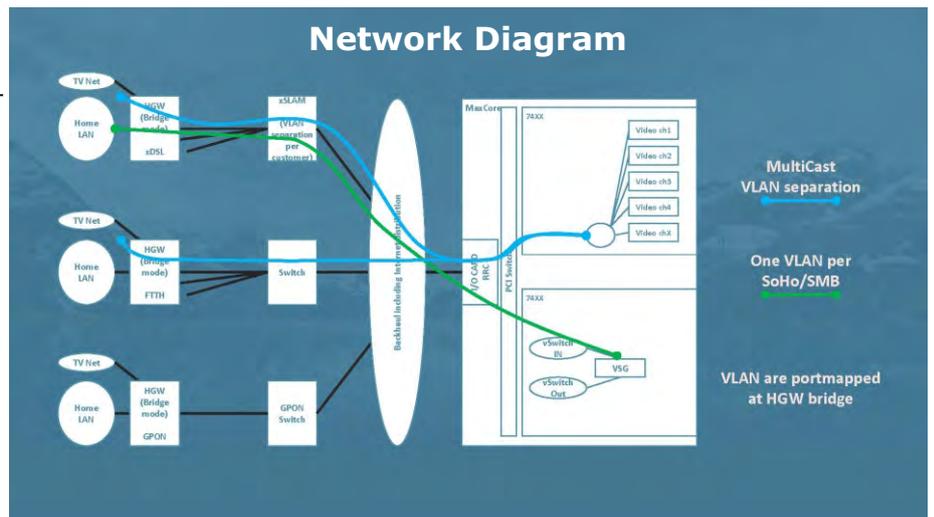


... to next page

Artesyn - Clavister - Intel SOLUTION BRIEF High Performance Security and Hosted Virtual Equipment ... from previous page

Compared to virtualized solutions using a hypervisor or even containers the Clavister vCPE is a superior environment and enables more instances per CPU and more concurrent users per platform. Clavister cOS Core includes an optimized small footprint with no bloated standard OS.

The cOS Core features low startup and restart time and low memory usage resulting in more customers per rack unit and less wasted CPU cycles.



| # of users per CPU | # of users per system | Packet size | Mbps perVSG | Total throughput (Gbps) |
|--------------------|-----------------------|-------------|-------------|-------------------------|
| 350 | 7700 | 1448 | 24 | 8,4 |
| 350 | 7700 | 512 | 11,7 | 4,1 |
| 350 | 7700 | 64 | 1,17 | 0,406 |

Notes: Above performance in 3U footprint
Total system firewall performance 400Gbps (full duplex)
Total system IPsec performance 294Gbps

Clavister security software offers flexibility in feature set and scalable performance, centralized OA&M for all platforms and supports OpenStack software for cloud deployments. State-of-the-art, scalable and future proof. Virtual security and hosted equipment solutions available from Clavister and Artesyn.

The Artesyn MaxCore™ Platform

Artesyn brings the densest and highest performance platforms in the industry to the security segment. Built on open standards, they enable multi-party sourcing and cost-effective scalability.

Further performance increases are available with new cryptographic acceleration techniques including the Intel® Xeon® AES instruction set and add-in PCIE cards.

The extremely flexible and cost-effective Artesyn MaxCore platform implementation for distributed and centralized environments enables industry-leading performance, low-latency, rack space reduction, and OpEx savings. The MaxCore platform also enables a scalable, high-density implementation for hosting security and other vCPE functions. The high bandwidth and x86 core density create a cloud at the edge, optimizing cost per customer and network bandwidth.



Features:

- Highest Intel Xeon core density – Up to 360 Intel Xeon cores in 3U chassis!
- Highest flexibility – 15 slots for dual Intel Xeon D, E3, I/O or any PCIe cards
- Up to 400Gbps I/O shared by all processors
- Switching and load balancing in platform
- Open Stack, OpenFlow integration
- Edge 3U and Cloud CG OpenRack 19 & Hyperscale form factors available

MORE: www.artesyn.com +1 888 412 7832 or +1 602 438 5720