Highlights

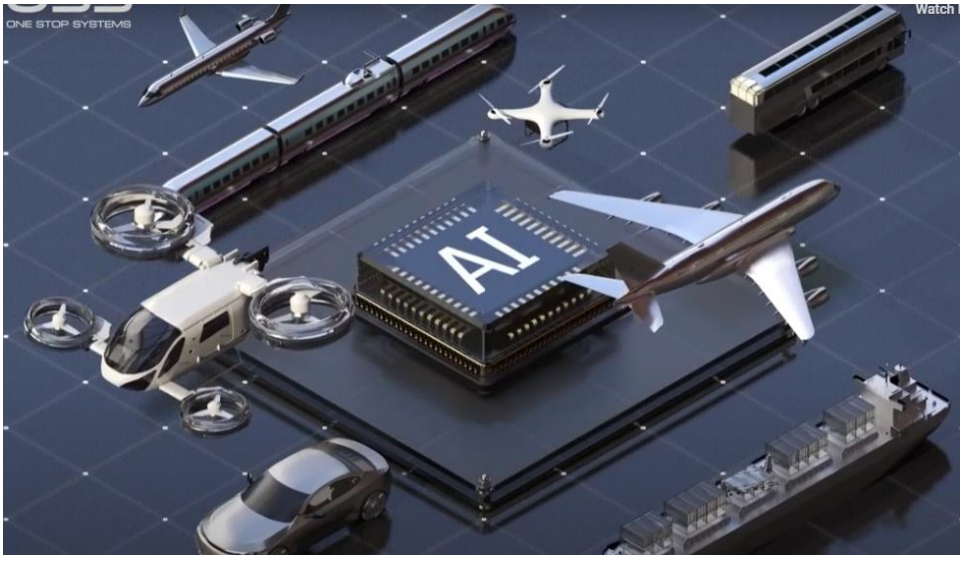
One Stop Systems & TMGcore Two-Phase Liquid Immersion AI Transportable Supercomputer

Posted by Mike Heumann on November 21, 2022.

One Stop Systems, Inc. and TMGcore, Inc introduced a two-phase liquid immersion-cooled version of the OSS Rigel Edge Supercomputer at this year's SC22. Rigel is the first edge product of its kind to use the highest-performance NVIDIA HGX™ platform powered by NVIDIA A100 Tensor Core GPUs and the NVIDIA NVLink® GPU interconnect in place of traditional PCI Express GPUs. Rigel also has planned upgrades to the latest NVIDIA H100 Tensor Core GPUs. OSS intends to launch multiple liquid-cooled versions of Rigel two-phase immersion starting in the first quarter of 2023.

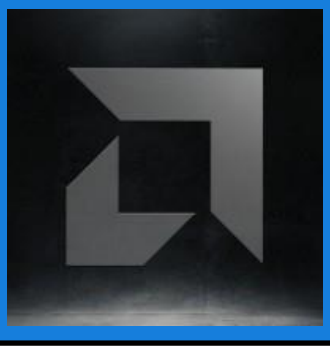
One Stop Systems, Inc. designs and manufactures AI Transportable edge computing modules and systems for AI data set capture, training, and large-scale inference in the defense, oil and gas, mining, autonomous vehicles and rugged entertainment applications. The dense form factor makes Rigel ideally suited for deployments in tight spaces available at the edge, such as an electronics bay of autonomous vehicles, within mobile command centers, and under seats of helicopters.

AI Transportables differ from traditional edge AI infrastructure in how they deploy the latest highest-speed data center-class processing, input/output, networking and storage technologies for operation in harsh and rugged environments. AI Transportables meet stringent, highway and mil-spec requirements for shock and vibration, redundancy, operating temperature ranges, altitude ranges and uninterrupted power. In AI Transportable edge applications, power is critical. Rigel supports a flexible power enabling a wide range of ground station and vehicle-supplied power. AI Transportables is the fastest growing segment of edge computing. The edge computing market is expected to grow at a compounded annual growth rate of 17.8 percent to $101.3 billion by 2027. (Click image for video of Rigel supercomputer.)



The Rigel Edge Supercomputer was showcased as it operates within TMGcore's EdgeBox 4.5. The EdgeBox 4.5, as a two-phase liquid immersion cooling technology solution, enables the Rigel to operate at data center-class computing levels not otherwise achievable at the edge. Two-phase immersion cooling is many orders of magnitude more thermally efficient compared to traditional air-conduction cooling and makes Rigel more rugged due to the shock and vibration-dampening effects of the fluid. The absence of fans and heatsinks allows the overall system size, power consumption, and noise level to be dramatically reduced.

AMD Delivers Genoa EPYC 9004 Series Processors



Posted by Karen Heumann on November 21, 2022.

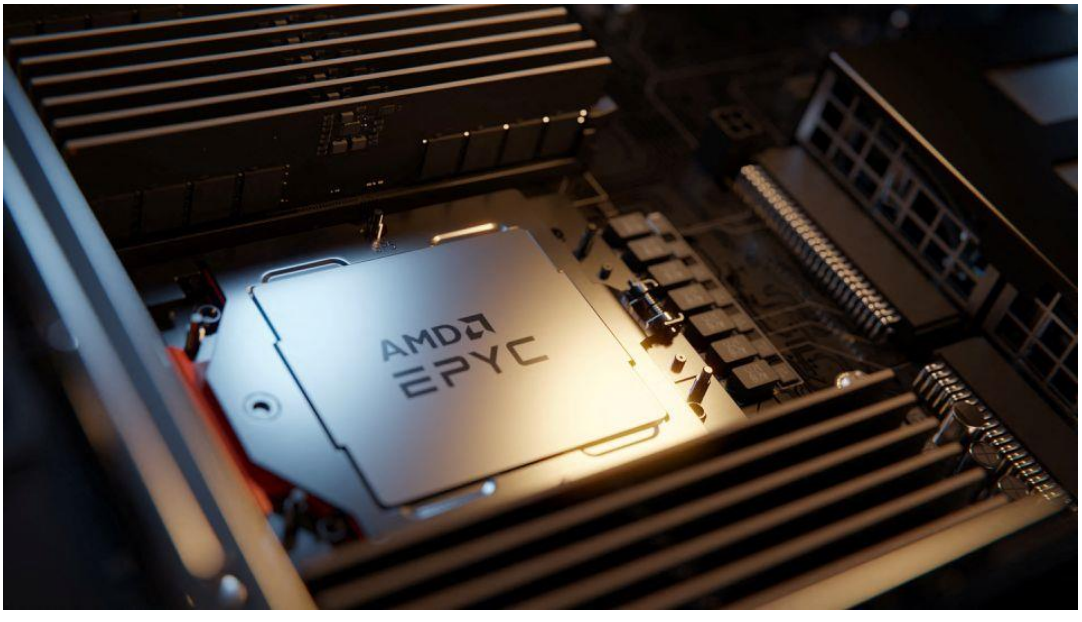
AMD announced general availability of the 4th Gen AMD EPYC™ processors which bring next-generation architecture, technology, and features to the modern data center. Built on the “Zen 4” core, the highest performance core ever from AMD, the processors deliver leadership performance, energy efficiency, and help customers accelerate data center modernization. 4th Gen AMD EPYC can provide up to 2.8X more performance, up to 54 percent less power, and are supported by a complete software and hardware ecosystem spanning workloads including, database, virtualization, AI/ML, and HPC.

"The AMD EPYC 9004 series, codenamed “Genoa” is nothing short of a game-changer. We use that often in the industry, but this is not a 15-25% generational improvement. The new AMD EPYC Genoa changes the very foundation of what it means to be a server. This is a 50-60% (or more) per-socket improvement, meaning we get a 3:2 or 2:1 consolidation just from a generation ago. If you are coming from 3-5 year-old Xeon Scalable (1st and 2nd Gen) servers to EPYC, the consolidation potential is even more immense, more like 4:1. This new series is about much more than just additional cores or a few new features. AMD EPYC Genoa is a game-changer, and we are going to go in-depth as to why in this article." Robert Hormuth, Corporate Vice President, Architecture & Strategy Solutions Group, AMD

The processor series expands on AMD Infinity Guard, a cutting-edge set of features that offers physical and virtual layers of protection. With 2X the number of encryption keys compared to previous generations, 4th Gen EPYC processors help customers keep data secure, whether it is stored locally, in the cloud, or residing in storage. The 4th Gen AMD EPYC processor introduces support for DDR5 memory and PCIe® Gen 5, which are critical for AI and ML applications and support CXL® 1.1+ for memory expansion, helping customers to meet demands for larger in-memory workload capacity. All of these features and capabilities drive infrastructure consolidation with similar or better performance; thereby helping reduce the costs and energy consumption of their data center.

Some applications include:

- Dell Technologies announced the next generation of Dell PowerEdge servers with 4th Generation AMD EPYC processors. The new systems are designed to help customers more effectively power demanding, compute-centric workloads such as data analytics.
- Google Cloud discussed incorporating 4th Gen AMD EPYC processors into Google Cloud Compute Engine and highlighted how AMD EPYC processors in its data centers are helping Google with their efficiency goals.
- HPE announced new HPE ProLiant Gen11 servers that support 4th Gen AMD EPYC processors that are also available through a pay-as-you-go consumption model with HPE GreenLake. HPE also announced support for 4th Gen AMD EPYC processors across its supercomputing portfolio with the new HPE Cray EX2500 and HPE Cray XD2000 supercomputers.
- Lenovo introduced 21 new ThinkSystem servers and ThinkAgile hyperconverged (HCI) solutions, powered by 4th Gen AMD EPYC processors, including ThinkAgile VX and ThinkAgile HX to enable fast hybrid multi-cloud deployment and simplify infrastructure management.
- Microsoft announced a Preview of new Virtual Machines (VMs) for HPC. HBv4-series VMs and the all new HX-series VMs are both powered by 4th Gen AMD EPYC processors. Each will feature AMD 3D V-Cache™ Technology when they reach General Availability in 2023.
- The latest Oracle Cloud Infrastructure (OCI) E5 compute instances are powered by 4th Gen AMD EPYC processors to be used by customers such as Oracle Red Bull Racing for development of their next generation of powertrain projects. Oracle will also provide enhanced security with OCI Confidential Computing, based on AMD Secure Encrypted Virtualization (SEV). The processors additionally power MySQL HeatWave, Oracle Autonomous Database and Exadata Database Service on OCI.
- Supermicro announced significant additions to its broad line of servers supporting the new 4th Gen AMD EPYC processors in the A+ series.
- VMware announced vSphere® 8 support and optimization for 4th Gen EPYC processor powered systems is available now.



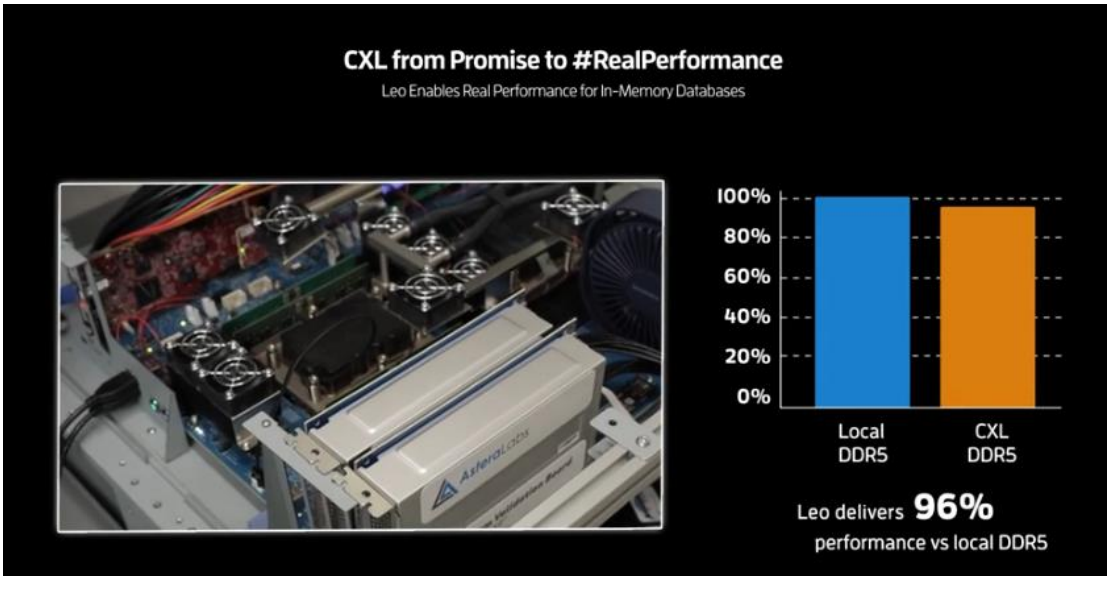
Memory Pooling with Leo Memory Connectivity Platform

Posted by Karen Heumann on November 21, 2022.

Astera Labs announced its collaboration with AMD to offer 4th Gen AMD EPYC processors to enable OEM and hyperscale customers to deploy CXL at scale and realize the benefits of memory expansion, increased memory utilization and decreased Total Cost of Ownership. Compute Express Link™ is an open standard developed to provide high-speed, low-latency, cache-coherent interconnect for processors, accelerators, and memory expansion.

Astera Labs' Leo Memory Connectivity Platform is the industry's first memory controller to support memory expansion, pooling, and sharing for CXL 1.1 and 2.0 capable CPUs. The Leo Smart Memory Controllers and Aries Smart CXL Retimers are designed to seamlessly interoperate with AMD EPYC 9004 Series processors to enable plug-and-play connectivity in new composable and heterogeneous architectures powered by CXL technology. Leo overcomes processor memory bottlenecks and capacity limitations to increase performance and reduce TCO for applications ranging from Artificial Intelligence and Machine Learning to in-memory databases.

The AMD EPYC 9004 Series processors introduce support for highly performant DDR5 DIMMs and fast PCIe 5.0 I/O, which enables the demands of today's AI and ML applications and the increasing use of accelerators, GPUs, and FPGAs. Additionally, the processors include support for CXL 1.1+ memory expansion to help meet the demand for ever larger in-memory workload capacity. With the combination of 4th gen AMD EPYC processors and Astera Labs' Leo Smart Memory Controllers, memory pooling can also be supported to reduce memory stranding. Click for video demo.



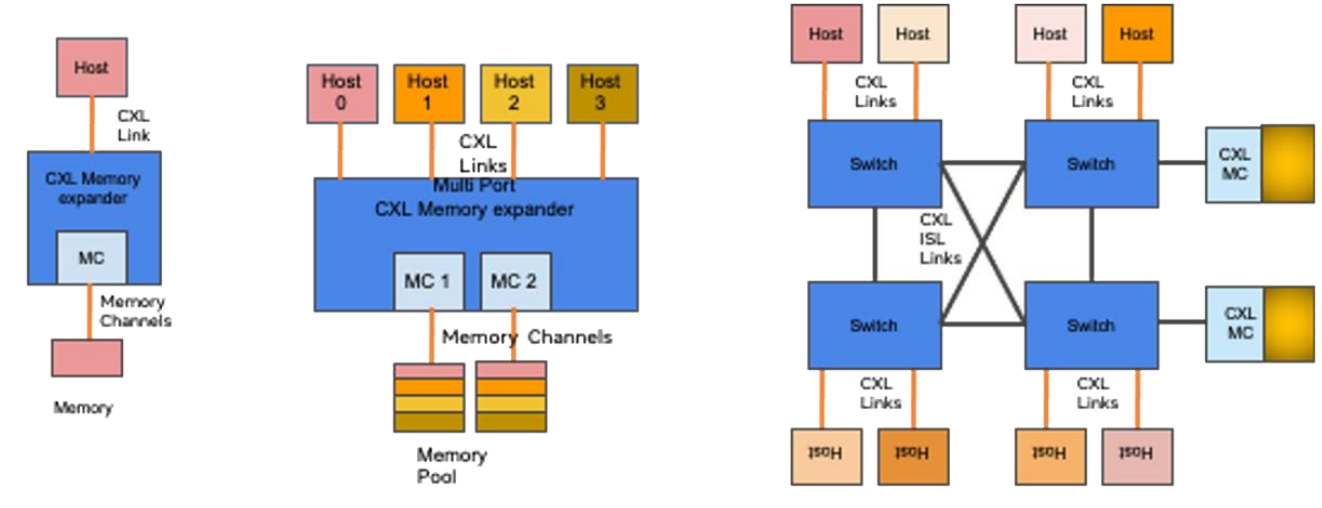
MemVerge Software-Defined CXL Memory

Posted by Karen Heumann on November 21, 2022.

MemVerge announced the first software-defined CXL memory applications to support 4th Gen AMD EPYC™ Processors. MemVerge CXL software enables memory to be be dynamically pooled, tiered, and shared. Memory Viewer software from MemVerge represents a new class of application-aware memory tools which adds the capability of seeing how existing workloads are using their memory. Organizations can determine the most cost-effective and performant way to expand DDR and CXL memory on new servers with 4th Gen AMD EPYC processors.

Memory Machine™ Cloud Edition software from MemVerge adds the ability to provide transparent access to a pool of DDR and CXL memory, dynamically placing the hottest data in the fastest tier, and guaranteeing quality of service to the most business-critical workloads running on 4th Gen AMD EPYC processors. (Download free Memory Viewer.) MemVerge is pioneering Big Memory Computing in the cloud and on CXL for big data that needs to be processed quickly. MemVerge's Memory Machine™ product is the industry's first commercial memory virtualization software, and introduced the world to memory tiering, pooling, and snapshot-based, in-memory data management.

MemVerge is the only company to win both the Editor's Choice and People's Choice awards at Bio-IT World. Bioinformaticians at leading organizations such as Analytical Biosciences, SeekGene, and TGen are using Memory Machine software to accelerate time-to-discovery and increase application availability.



Local Memory | Pooled Memory | Memory Switches/Systems

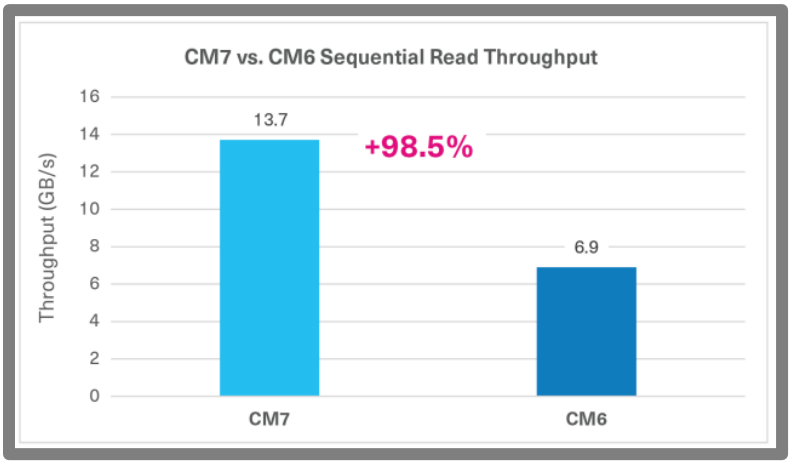
KIOXIA Showcases Next-Gen CM7 Series SSDs With PCIe 5.0 SSD Speeds

Posted by Karen Heumann on November 21, 2022.

Compute-intensive, algorithmic technologies such as artificial intelligence, machine learning, deep learning and data analytics require fast storage device performance to end-users to support a wide array of applications and workloads. This need is driving the widespread transition to NVMe SSDs because of their very fast read/write capabilities. NVMe SSDs connect to a host and move data through the data center via the PCIe interface.

The newly available PCIe 5.0 specification, defined by PCI-SIG® , delivers double the performance of the previous PCIe 4.0 revision and increases data transfer speed up to 32 gigatransfers per second (GT/s). The PCIe 5.0 interface delivers approximately 4 gigabytes per second (GB/s) bandwidth per lane. This increased interface speed allows SSDs, GPUs, NICs and other devices to deliver faster I/O performance than previous PCIe revisions.

KIOXIA validated this increase in PCIe 5.0 performance using the AMD EPYC 9354 processor and a KIOXIA CM7 Series PCIe 5.0 NVMe SSD. Results were compared to the same tests that on a KIOXIA CM6 Series PCIe 4.0 NVMe SSD and indicate that IT administrators can nearly double storage device sequential read performance using PCIe 5.0 SSDs instead of PCIe 4.0 devices. KIOXIA launched its latest generation CM7 Series SSDs that support EDSFF E3.S and 2.5-inch1 (15mm, z-height) form factors and are designed to the NVMe 2.0 and PCIe 5.0 specifications. These SSDs are available in two configurations: Read-intensive 1 DWPD2 with capacities up to 30.72 terabytes3 (TB), and mixed-use 3 DWPD with capacities up to 12.80 TB. Additional features include a dual-port design for High Availability (HA) applications, flash die failure protection to maintain reliability in case of a die failure, and a Self-Encrypting Drive4 (SED) supporting TCG Opal and TCG Ruby, and an SED option of FIPS 140-35. The CM7 Series is in pre-production and all specifications and test results are subject to change.



KIOXIA Collaboration with Ampere to Qualify CD6, CM6, & XD6 Series SSDs

Posted by Karen Heumann on November 21, 2022.

KIOXIA America, Inc. announced that it has collaborated with Ampere® to qualify its CD6, CM6 and XD6 Series SSDs with platforms based on Ampere's Altra® and Ampere Altra Max Cloud Native Processors. Certification testing was conducted by Ampere to ensure the compatibility and performance of KIOXIA SSDs. The world's most demanding data center workloads are now using Arm-based servers, making it imperative that the SSDs deployed in them are up to the task. With one of the broadest SSD product lineups for the data center, KIOXIA drives not only address today's performance demands and latency sensitivities but also future enterprise infrastructure requirements.

Ampere's AArch64 based processors deliver performance, scalability, security, and power efficiency that is uniquely focused on today's hyperscale cloud and edge computing workloads and applications. "At Ampere, our customers want solutions that fit their needs, and this includes SSD options that offer PCIe 4.0 performance and new form factors, such as EDSFF E1.S," said Sean Varley, Sr. Director of Solutions at Ampere. "We've worked with KIOXIA to certify their broad offering of NVMe SSDs with our Ampere Altra family of platforms for our mutual customers, including the top hyperscale cloud customers and leading ODM/OEM server manufacturers in the global IT market."

The KIOXIA lineup of PCIe® 4.0 (16 gigatransfers/s x4) NVMe® SSDs brings planned performance improvements of up to 2x over its PCIe 3.0 (8 gigatransfers/s x4) predecessors and is 12x faster than 6 gigabits/s SATA drives1. KIOXIA CM6 enterprise and CD6 data center SSDs are SFF-TA-1001 conformant (also referred to as U.3) SSDs to support universal drive bay systems that can accept NVMe, SAS and SATA SSDs. Representing the latest innovation in flash storage for servers in cloud and hyperscale data centers, KIOXIA EDSFF E1.S SSDs are designed to optimize system density, efficiency and management. As defined by the EDSFF consortium and leveraging the Open Compute Project® (OCP®) NVMe Cloud SSD Specification, the small form factor E1.S replaces the M.2 form factor and delivers greater density, performance, reliability, and thermal management. E1.S is also designed to be hot swappable for increased serviceability, which is another benefit over M.2. The read intensive XD6 series utilizes KIOXIA BiCS FLASH™ 3D flash memory and is compliant with NVMe 1.3c and PCIe 4.0 specifications.

BBT.live & Rohde & Schwarz Partner to Provide Telco-Grade SDx

Posted by Mike Heumann on November 21, 2022.

The Rohde & Schwarz company, ipoque GmbH, announced that its deep packet inspection (DPI) engine, R&S®PACE 2, has been selected by BBT.live, an Israel-based provider of enterprise-grade software-defined connectivity solutions, to enable real-time, advanced traffic insights for BBT.live's suite of cloud-based solutions powering service providers' SDx services such as SD-WAN. The collaboration between ipoque and BBT.live is expected to deliver major synergies from combining the world's first software-defined connectivity solution designed for service providers with a renowned DPI engine that boasts more than 10 years of deployments.

With fast-evolving connectivity needs across enterprises, insights powered by R&S®PACE 2 will enable BBT.live to support highly intelligent and responsive networks that can effectively address today's application usage and traffic behavior trends, threat landscapes and industry-specific needs.

ipoque's R&S®PACE 2 will be deployed in BBT.live's BeBroadband™ Edge software which offers service providers a highly flexible, hardware-agnostic platform that connects customers' branch offices, data centers, campuses and headquarters. Its single orchestration platform enables service providers to commission, control and monitor connectivity across any number of customers and end devices across any network including IoT, GW, LAN, WAN and cloud. BeBroadband™ features zero-touch provisioning and can be integrated seamlessly into any cloud and edge infrastructure.

R&S®PACE 2 equips BeBroadband™ with granular traffic visibility up to layer 7 and beyond, allowing real-time identification of applications and service types. R&S®PACE 2 also comes with encrypted traffic intelligence (ETI), which uses machine learning, deep learning and high-dimensional data analysis to detect traffic flows and applications that are encrypted, obfuscated and anonymized. Leveraging ipoque's traffic classification, which boasts the highest accuracy rates in the industry, service providers deploying BeBroadband™ will have access to detailed information into traffic traversing their networks, across any number of links and connectivity type such as 5G, 4G, xDSL, broadband and MPLS. At the same time, real-time threat identification by R&S®PACE 2 equips BeBroadband™ nodes with information on suspicious or anomalous traffic flows, allowing service providers to pin down and remediate threats before they become endemic.

Service providers can greatly optimize their network capacity, reduce complexities and enable higher efficiencies, leading to an improved network performance and a lower TCO. Fine-grained analytics can further assist service providers in improving application performance specifically for mission-critical applications. The unlimited processing capacity of R&S®PACE 2 supports service providers deploying BeBroadband™ in tackling the demand for highly agile and flexible connectivity solutions, as it scales across any number of end devices and traffic flows. Its efficient memory and CPU utilization and a light form factor support leaner SDx implementations across both traditional and virtualized architectures. Real-time information from R&S®PACE 2 seamlessly integrates into BeBroadband™, supporting single orchestration for the entire network with end-to-end traffic visibility.

A future-proof DPI engine tailored to your needs

PROTOCOL AND APPLICATION CLASSIFICATION

Identify and classify thousands of protocols and applications, including characteristics and service types, such as video, audio, file transfer – all in real time.

FEATURES AND PLUG-INS

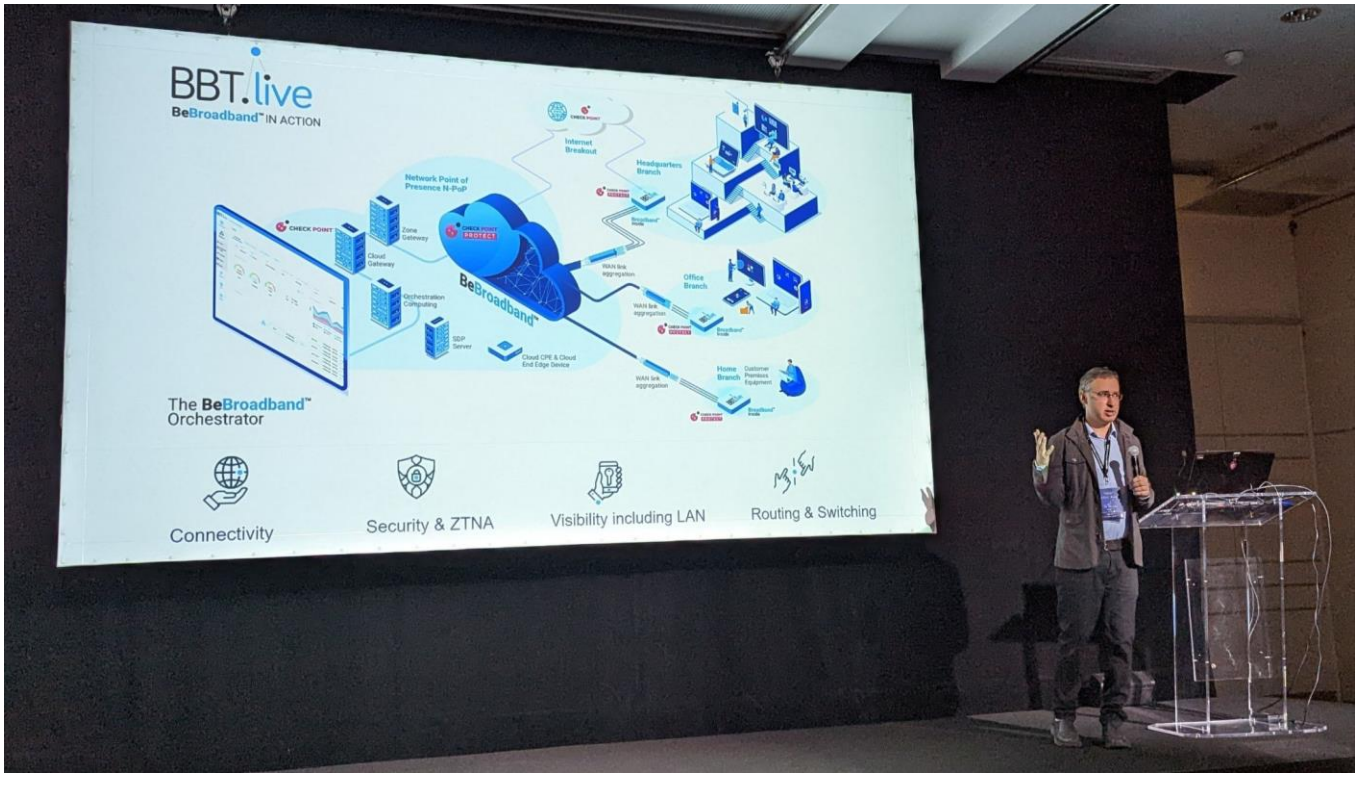
Rely on standard features and optional add-ons such as dynamic upgrades, multiprocessing, NAT detection, memory management, first packet classification, and more.

METADATA EXTRACTION

Extract metadata parameters such as bandwidth usage, traffic volume, connection duration or attachment types, and quality of service/quality of experience indicators such as jitter, throughput, or packet loss.

ENCRYPTED TRAFFIC INTELLIGENCE

R&S®PACE 2 classifies encrypted or obfuscated traffic through several methods such as pattern matching, behavioral and statistical analysis, machine learning (ML) and deep learning (DL).



G2M Research Multi-Vendor Webinar Series

Our webinar schedule is below. Click on the links to go directly to the registration for each webinar. We are offering a Cybersecurity series and an Enterprise Storage & Technology multivendor series.

We recently featured "OCP 2022 Wrap Up - The Latest and Greatest in SSDs, CXL, Accelerators, and Other Big Trends for the Datacenter and the Cloud" with sponsors KIOXIA, MemVerge, and Astera Labs. You can view that webinar and access the slides on our website.

Interested in Sponsoring a webinar? Contact **G2M** for a prospectus. We can create custom webinar, custom webinar series, and add or modify topics to specifically appeal to your target audience. View our webinars and access slide deck presentations on our website.

Enterprise Storage & Technology

Feb 7	Storage Architectures for Artificial Intelligence & Machine Learning
March 7	Memory As The New Storage – CXL, Extended Memory, & Persistent Memory. What Does the Future Hold?
April 4	The Need for Speed: NMVe & Advanced SSDs
May 9	Software-Defined Flash Memory Architectures
June 27	Storage & Compute Architectures for Healthcare & Imaging Applications
August 2	NVMe & NVMe-oF – Past, Present, & Future (at FMS)
August 22	GPUs, SSDs, & Shared Memory: Accelerating Computing?
Sept 26	Securing Data – How Storage & Cybersecurity Technologies Can Work Together
Oct 24	The Open Compute Platform (OCP) Movement – Providing Compute-At-Scale Value to On-Premises Deployments
Nov 21	Storage Architectures for HPC Clusters
Dec 12	2024 Trends – Cloud, On-Premises, & Hybrid Compute/Storage

Cybersecurity

Dec 14	Bug Bounties Gone Bad? Uber Case Highlights Pressure on CISOs.
Jan 12	Key Cybersecurity Trends for 2023
Feb 23	Cybersecurity for Remote Workers & Mobile Devices
March 23	The Increasing Complexity of Cybersecurity Regulatory & Compliance for the Financial Services Industry
May 4	Beyond the CISO Organization – Meeting the Cybersecurity Needs of the C-Suite & Boardroom
May 25	Cybersecurity- Finding, Training, & Retaining the Best Talent
June 15	xDR- The Promise versus the Reality
July 13	HIPAA, GDPR, Data Privacy, & Cybersecurity- 5 Keys to Make It All Work Together
Aug 17	Beyond Ratings – 5 Things You Can Do With a Third Party Risk Management (TPRM) Program
Sept 7	10 Features of an Effective Attack Surface Management Tool
Oct 12	How Secure is the Cloud for Your Workloads?
Nov 9	Do You Need a SIEM? Use Cases Where a SIEM Makes Sense.
Dec 7	Cybersecurity Predictions for 2024

Upcoming Conferences

December 5-6	Healthcare Cybersecurity Forum, Boston, MA
December 5-8	Black Hat Europe 2022, London
December 6	Security Operations Summit, Virtual
December 6-8	Gartner IT Infrastructure, Operations & Cloud, Las Vegas
December 6-9	Cisco Live, Melbourne, Australia
December 10-14	Edge 2022: International Conf on Edge Computing, Hawaii
December 10-14	Cloud 2022: International Conf Cloud Computing, Hawaii
December 12-15	Palo Alto Networks Ignite, Las Vegas
December 13	Black Hat Cybersecurity Outlook 2023, Virtual
2023	
January 5-8	CES, Las Vegas & Virtual
January 18	SNIA Persistent Memory Summit, San Jose, CA
January 30-Feb 1	Cybertech Global TLV, Tel Aviv, Israel
February 6-10	Cisco Live, Amsterdam, Netherlands
February 13-14	Gartner Security & Risk Management, Mumbai, India
February 14-16	ESNA Expo, Long Beach, CA
February 14-17	ITExpo East, Fort Lauderdale, FL
February 27-28	Gartner Security & Risk Management Summit, Dubai
February 27-March 2	Mobile World Congress Barcelona
February 28-March 2	Rice University Energy HPCC Conference, Houston, TX

March 8-9	CloudExpo Europe, London
March 14-16	Gulf Information Security Expo, Dubai, UAE
March 20-22	Gartner Data & Analytics Summit, Grapevine, TX
March 20-23	GTC CPU Technology Conference, San Jose, CA
March 28-29	Gartner Security & Risk Management, Sydney, Australia
March 28-31	ISC West, Las Vegas
April 5-7	IST Information Security Expo, Tokyo, Japan
April 15-19	NABShow, Las Vegas
April 17-21	HIMMS Global Health Conference, Chicago, IL
April 19-20	CyberSec Europe, Brussels, Belgium
April 24-27	RSA Conference, San Francisco
May 22-25	Dell World, Las Vegas
June 2-6	School Transportation Network Expo East, Indianapolis, IN
June 4-8	Cisco Live, Las Vegas
June 5-7	Gartner Security & Risk Managemnt, National Harbor, MD
June 7-9	Synnex Red, White and You, Greenville, SC
June 14-16	Interop Tokyo, Chiba, Japan
June 20-22	HPE Discover, Las Vegas
June 20-22	Info Security Europe, London
July 14-19	School Transportation Network Expo, Reno, NV
August 1-3	Flash Memory Summit, Santa Clara, CA
August 5-10	Black Hat USA, Las Vegas
August 30-Sept 1	Security Expo, Sydney, Australia
September 11-13	Gartner Security & Risk Management, London
September 11-13	Global Security Exchange, Dallas, TX
September 18-20	Crowdstrike fal.con, Las Vegas
October 2-4	DattoCon, Miami, FL
October 3-4	CyberTech Europe, Rome

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