

Industry Leaders Collaborate at OASIS to Define Open Standard for Multi-Vendor Networking Device Interface

AMD, Dell, Google, Intel, Marvell, Red Hat, and Others Aim to Provide Orchestrated and Scalable Solutions for Large Data Center Operators and Vendors

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/EINPresswire.com/ -- Members of OASIS Open, the international open source and standards consortium, are working together to define a standard Network Data-Plane Function PCIe

device (peripheral component interconnect express). The [Infrastructure Data-Plane Function \(IDPF\) Technical Committee](#) (TC) will establish a high-throughput, low overhead operation and develop a standard interface that allows for scalable provisioning and orchestration. The IDPF TC will deliver the specification and a general model of a networking device attached to a PCIe, in which the software can work towards this device, regardless of who makes the underlying hardware.



The TC's work will address the needs of both large data center operators (especially public cloud service providers) and vendors of host-attached networking devices such as network interface cards (NICs) and accelerators. The IDPF multi-vendor standard device will allow operators and vendors to be more efficient.

"As the network evolves, we need to define standard interfaces that scale to provide the performance, the advanced features, and the hardware assists needed by highly distributed applications. The OASIS IDPF TC was formed to meet those goals," said IDPF TC co-chair, Anjali Singhai Jain of Intel. "A standard such as this would help the customer pick from a wider set of network accelerator providers; the providers would benefit from a broader customer base; and everyone would benefit from software reuse."

"With IDPF, we hope to break new ground in a standard defining a virtual network device with modern hardware speeds and features. High performance is the device's marquee feature; it runs on the ethernet, and will eventually run on remote direct memory access (RDMA)," said

IDPF co-chair, Michael Tsirkin of Red Hat. "It's designed to run on several operating systems, or on a virtual machine in the same way you could run it on a bare metal system. In all cases, you're going to be working to the same model, and you will be able to compose it and do the virtualization in any way that you see fit for your particular implementation."

Vendors will be able to avoid per-customer customization while still allowing feature extensibility and differentiation. Datacenter operators will have a scalable solution that can be orchestrated as a generic good, avoiding the need for per-supplier customization and constraints. Tenants will be able to get high-throughput, feature-rich networking connectivity over standard transports while being decoupled from data center operator concerns and constraints.

Participation in the OASIS IDPF TC is open to all through [membership in OASIS](#). Networking software architects and implementers; operating systems device driver writers; PCIe network cards, infrastructure processing units, and accelerator vendors; original equipment manufacturers and original system/software vendors; operating systems vendors; data center operators; and others impacted by this work are invited to join the group.

Support for the IDPF Technical Committee

AMD

"We are passionate about solving the most difficult challenges faced by customers in the cloud through the inherent flexibility of data center processors, adaptive SoCs, SmartNICs, FPGAs and DPUs. IDPF will further our commitment to delivering standards-based networking technologies that meet the needs of modern data center operators while creating an open standard that will benefit both customers and vendors."

-Robert Hormuth, corporate vice president, Architecture and Strategy, Data Center Solutions Group, AMD

Dell

"Dell supports flexibility for our customers, and IDPF can provide a simple and scalable standards-based framework to set up their data centers. IDPF will enable future composable and disaggregated infrastructure to provide that greater flexibility."

-Tommi Salli, VP/CTO Future Growth Engines, Infrastructure Solutions Group for Dell Technologies

Google

"At Google, we believe in supporting open, interoperable standards that work at scale for the broader industry's benefit. IDPF solves our need for a high performance PCIe device interface that supports large scale network virtualization and NIC offloads which can be efficiently implemented in NIC hardware. We are pleased to partner with OASIS and the IDPF TC members to make these advances available to the rest of the industry."

-Dan Lenoski, VP of Engineering for Networking Infrastructure, Google

Additional Information

[IDPF TC Charter](#)

About OASIS Open

One of the most respected, nonprofit open source and open standards bodies in the world, OASIS advances the fair and transparent development of open source software and standards through the power of global collaboration and community. OASIS is the home for worldwide standards in IoT, cybersecurity, blockchain, privacy, cryptography, cloud computing, urban mobility, emergency management, and other content technologies. Many OASIS standards go on to be ratified by de jure bodies and referenced in international policies and government procurement. More information can be found at www.oasis-open.org.

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