

## Neptune: Israeli Networking Consortium Conducts Pioneering SDN/NFV Demonstration

**PETAH TIKVA, Israel--(BUSINESS WIRE)** -- Neptune, the Israeli Consortium for Network Programming, has announced that it has recently performed a general demonstration of its pioneering technologies.

The demonstration was an expression of Neptune's mission – to build on the software defined networking (SDN) and network functions virtualization (NFV) technologies currently being developed by global standards development organizations, industry specification groups and open source communities. In particular, Neptune strives to dramatically reduce the time required to deploy new services and even completely new service types, to enable more efficient exploitation of network and computational resources, and facilitate faster and more intelligent response to network events. Neptune achieves these objectives through research undertaken by special teams assembled by its member organizations.

### Four Global Firsts

What gave this demonstration special significance was that it included four global firsts. It was the world's first multi-vendor vCPE demonstration, in which a single service provider OpenStack controller established end-to-end services terminating on virtual customer premises equipment (vCPEs) from three different vendors – ADVA Optical Networks, Telco Systems (BATM Group) and RAD. Everything was run on top of Mellanox switch and HCA adaptor. Satellite network vendor Gilat Satellite Networks, moreover, became the first to demonstrate vCPE capabilities in a satellite ground segment gateway.

The demonstration also incorporated the world's first integration of tactical mobile ad-hoc network (MANET) UHF radio networks into an SDN and NFV-based multi-vendor heterogeneous virtual Radio Access Network (vRAN), a technology developed by Elbit Systems Land and C4i. Additionally it featured Open Mobile Edge Cloud (OMEC) with the world's first completely virtual cellular base station (from modem to management) developed by ASOCS, accelerated by a pool of network attached programmable hardware accelerators.

In addition, the Neptune demonstration showcased the transport of the Common Public Radio Interface (CPRI) standard over microwave by Ceragon Networks. ECI Telecom demonstrated how its multilayer service app performs fast recovery from optical-layer faults using an ONOS controller combined with OpenFlow optical extensions. Satellite edge computing for factor-of-20 throughput improvement was shown by Gilat Satellite Networks, and ADVA presented Mobile Edge Computing (MEC) for enterprise services.

The demonstration was conducted in the premises of Bezeq International, supported by equipment located at four other sites. Present were the outgoing Chief Scientist of the Israel Ministry of Economy and Industry, Avi Hasson, the head of the Chief Scientist's technological infrastructure division, Ilan Peled, Neptune chair Dr. Yaakov Stein, and representatives of each consortium member.

"Tighter financial restrictions along with the dynamicity of today's networks are steering service providers to adopt ever more efficient, automated, and service-aware networks," Stein explained. "This necessitates totally new network architectures that enable the fast creation of new services, simplified network management, and real time network optimization while maintaining or even reducing service provider CapEx and OpEx," he added. "Our demonstration represents a major step in bringing all these advantages of networking programming to service providers worldwide."

"The Neptune Consortium propels Israeli industry into a new era in which communication networks will be programmed, existing services can be easily modified and new services may be introduced quickly." Peled concluded. "The collaboration between member companies, as well as between them and breakthrough research groups, shortens time-to-market, maximizes resources and establishes the entire Neptune Consortium at the forefront of these leading edge technologies."

### About the Neptune Consortium

The Neptune Consortium was founded in 2014 to develop efficient methods to automate and programmatically manage service provider networks, irrespective of their underlying network technologies. Basic to achieve this goal are SDN and NFV. Backed by the Israel Innovations Authority (previously the Office of the Chief Scientist of the Ministry of Economy and Industry), the consortium includes the country's leading communications innovators: ADVA Optical Networking Israel, ASOCS, Bezeq International, Ceragon Networks, ECI Telecom, Elbit Systems, Gilat Satellite Networks, Mellanox Technologies, RAD, and Telco Systems (BATM Group); and research institutions: Ariel University, Ben-Gurion University, the Hebrew University of Jerusalem, the Holon Technological Institute, the Interdisciplinary Center (IDC) Herzliya, the Lev Academic Center in Jerusalem, the Technion – Israel Institute of Technology, and Tel Aviv University. <http://www.nep-tune.org/>