DataLine Creates New Cloud Infrastructure With Mellanox End-to-End Ethernet Solution

In a market that is quickly becoming saturated with companies who provide cloud services, it is important for the industry leaders to differentiate themselves from the competition. DataLine, leading commercial data center and one of the leading cloud service providers in Russia, made the decision in early 2015 to expand its cloud and virtualization offerings by adding Microsoft Azure Pack, joining the Microsoft Cloud OS Network.

With its network of commercial data centers and specialized IT outsourcing services, DataLine required a networking infrastructure that could integrate well with Microsoft and that could provide guaranteed high bandwidth, ultra-low latency, and CPU offloads to ensure a fast, efficient, flexible multi-tenant virtualization environment that would also include software-defined storage.

Mellanox end-to-end Ethernet solutions were well-known to DataLine as the best networking infrastructure for MS Cloud & Virtualization solutions due to the deep technological integration between Microsoft and Mellanox that led to comprehensive support for key Mellanox technologies, like RoCE and NVGRE offload, in Microsoft solutions.

Thus, when DataLine launched its new offering, DataLine Cloud-V, in the third quarter of 2015, Mellanox was the interconnect of choice for the networking infrastructure. DataLine Cloud-V offers a fault-tolerant infrastructure based on Microsoft's Hyper-V technology, in which customers receive

machines that include pre-installed software and the Azure Pack management portal.

Mellanox enabled this new offering with SwitchX®-2 SX1710 switches that provide maximum data transfer rates between the various components of the network. RDMA over Converged Ethernet (RoCE) is natively supported in Microsoft SMB-Direct 3.0 storage protocol, ensuring the best RDMA performance in the marketplace. ConnectX®-3 Pro network adapters deliver 40/56 Gb Ethernet interconnect and provide hardware offload engines such as NVGRE to free the CPU from networking tasks, reducing CPU cost and dramatically increasing the density of Virtual Machines available per server. Completing the end-to-end solution, DataLine used Mellanox LinkX™ 56GbE passive copper cables for server-to-switch connectivity.

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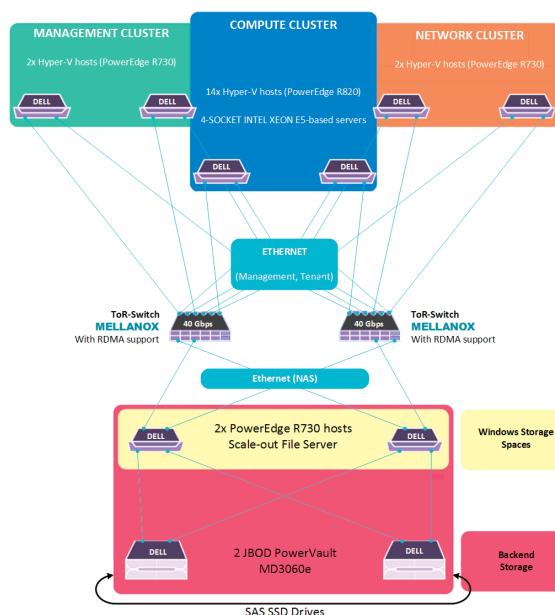> *- Mikhail Solovyev, Head of Virtualization, DataLine*

Figure 1. *Mellanox Ethernet enables the DataLine Cloud-V offering*

"The high performance network infrastructure makes the Cloud-V an optimal solution for services related to processing large amounts of data at high speed, including data analysis, database management, and many other practical applications," said Mikhail Solovyev, Head of Virtualization at DataLine.

The results have been very positive. DataLine Cloud-V provides:

• Efficient cloud services with very low latency and therefore low delays

• The highest bandwidth with RDMA

• Highly effective CPU offloading

• Expert integration with Microsoft

This has enabled DataLine to solidify its position as a leader in Russian cloud services and to differentiate its offerings from the competition.

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