PUZZLE-IN004-XD1 from IEI Accelerates Deployment of Universal Customer Premises Equipment (uCPE)

*PUZZLE-IN004-XD1 is a verified Intel® Select Solution for uCPE for CentOS.*

Universal customer premises equipment (uCPE) is an emerging category of network functions virtualization (NVF)-based edge computing and service provisioning systems that enable service agility for communications service providers (CommSPs). IEI has launched its PUZZLE-IN004-XD1 uCPE based on the Intel Select Solution for uCPE, a reference design that combines the powerful Intel® Xeon® D processor with an optimized software stack.

The PUZZLE-IN004-XD1 uCPE is a platform that can bring virtualized and non-virtualized (bare metal) services to small branch offices and small-to-medium-sized businesses. Intel Select Solutions for uCPE provides a reference design for these platforms that is based Intel technology and incorporates NFV systems architecture requirements.

Configuration and Specification

The IEI PUZZLE-IN004-XD1 is a verified Intel Select Solution for uCPE that leverages the following hardware components:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Name</td>
<td>PUZZLE-IN004-XD1</td>
</tr>
<tr>
<td>Processor</td>
<td>Intel® Xeon® D-2145NT, 8C16T, 1.9GHz, 65W</td>
</tr>
<tr>
<td>Memory</td>
<td>16 GB DDR4 2666 MHz, 4 x 4 GB RDIMM</td>
</tr>
<tr>
<td>NICs</td>
<td>Integrated X722</td>
</tr>
<tr>
<td>Intel® QAT</td>
<td>Integrated</td>
</tr>
<tr>
<td>Storage</td>
<td>1* 2.5&quot; Intel® SSD (SSDSC2KB240G8)</td>
</tr>
<tr>
<td>Operating System</td>
<td>CentOS 7.6</td>
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<tr>
<td>Other Hardware</td>
<td>Networking expansion via IEI PulM modules</td>
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<td>Features</td>
<td>Redundant power supply</td>
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**ABOUT THE PRODUCT**

- Redundant power supply
- Storage expansion via 2* SATA, 2* M.2 NVMe x4
- Wireless via 1* PCIe Mini with SIM card slot
- Interior PCIe Gen 3 by 8 expansion for AI inferencing application with IEI Mustang-V100/F100
- Exterior networking expansion with IEI PulM series modules
Key Benefits

Key benefits of deploying an Intel Select Solution for uCPE from IEI include:

**Faster evaluation:** Intel Select Solutions for uCPE combine tight hardware and software specifications to eliminate guesswork and speed decision-making. IT managers can focus their search on key value-added elements and select an optimal solution quickly.

**Fast and easy deployment:** Intel Select Solutions for uCPE feature pre-defined settings and rigorous system-wide tuning for efficient pre-deployment testing. This helps speed time to service delivery and IT staff can have increased confidence in solution performance.

**Workload-optimized performance:** Intel Select Solution for uCPE configurations are designed by Intel and its partners to deliver a performance threshold for the workload and are built on the latest Intel architecture technology including Intel Xeon D processors.

**Intel® Xeon® Processor D-2100 Product Family**

The Intel Xeon processor D-2100 product family is based on the Intel Xeon Scalable processor architecture and is optimized for low power consumption and high-density solutions, integrating essential network, security, and acceleration capabilities into the platform. Intel Xeon D processor-based solutions enable CommSPs to bring intelligent services to the network edge by offering low total cost of ownership and power draw and delivering space-efficient commercial off-the-shelf servers. Key features include:

- Enhanced memory: Up to 512 GB of DDR4 ECC
- Enhanced accelerators: Integrated Intel® QuickAssist Technology (Intel® QAT) for accelerated compression and encryption/decryption
- New extensions: Intel® Advanced Vector Extensions 512 (Intel® AVX-512), a specialized instruction set for outstanding compute performance
- Enhanced networking: Up to four integrated 10 GbE Intel Ethernet adapters

**Conclusion**

With the PUZZLE-IN004-XD1 that is verified as an Intel Select Solutions for uCPE for CentOS, IEI is delivering a differentiated platform with validated software from an ecosystem of a large number of
tested and optimized virtual network functions (VNFs). This helps CommSPs get to market quickly and deliver new services to enterprises and small businesses.

Learn More
Intel Select Solutions web page: https://builders.intel.com/intelselectsolutions
Intel Xeon D processor family: http://www.intel.com/xeond
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