# PUZZLE-3032

Desktop Network Appliance with Intel® Atom® Processor C3000 Processor, with 8 x 2.5 GbE and 2 x 10 GbE, 1 x eMMC 64GB

## Features

» Intel® Atom® C3558R 4C/4T (8M Cache, 2.4 GHz)

» 2 x DDR4 2400MHz Non-ECC UDIMM

» 8 x 2.5GbE RJ45 LAN ports, 2 x 10 GbE SFP+

» 1 x RJ45 Console, 2 x USB 3.0

» SATA DOM, 64GB eMMC

## Specifications

| | |
|---|---|
| Form Factor | |
| Form Factor | Desktop |
| System | |
| CPU | Intel® Atom® C3558R 4C/4T (8M Cache, 2.4 GHz) |
| Chipset | Intel® Denverton-R |
| Memory | 2 x DDR4 2400MHz Non-ECC UDIMM |
| Memory Max. | Up to 64GB |
| Cooling method / System Fan | 2 x Cooling Fans |
| 外觀 | |
| 外觀尺寸（mm） | 285 x 236.6 x 46.65 |
| Storage | |
| Storage | eMMC : 64GB |
| I/O Interface | |
| Ethernet | 2 x SFP+ : 10 GbE |
| | 8 x LAN : 2.5 GbE RJ45 |
| I/O Interface | 1 x Console port(s) : RJ45 |
| | 2 x USB 3.0 |
| Expansion | 4 x M.2(NGFF) - |
| | 1 x 2242 B-Key M2 slot for M.2 SATA |
| | 1 x 3052 B-Key M.2 slot + SIM Card Socket for 5G/LTE Card |
| | 2 x 2280 M-Key M.2 slots for NVMe |
| 電源 | |
| 輸入 | 100 V ~ 240 V |
| Power Supply | Open Frame DPS-60AP-5D; Vin : 90 ~ 264VAC; 70W |
| 環境 | |
| 操作溫度 | 0°C ~ 40°C (32°F ~ 104°F) |
| 存儲溫度 | -10°C ~ 50°C |
| 濕度 | 5% ~ 90% non-condensing |

| 認證 | |
|---|---|
| 電磁兼容與安規 | CE, FCC, VCCI, RCM |
| OS Compatible | |
| OS Compatible | Linux Ubuntu 18.04 |

## Ordering Information

| | |
|---|---|
| PUZZLE-3032-C3558R/8G-R10 | Desktop Network Appliance with Intel® ATOM® C3558R Processor , 1 x 8GB RAM , 8 x 2.5GbE , 2 x 10 GbE, eMMC 64GB, 1 x console port, 4x M.2 slot , RoHS. |

## Packing List

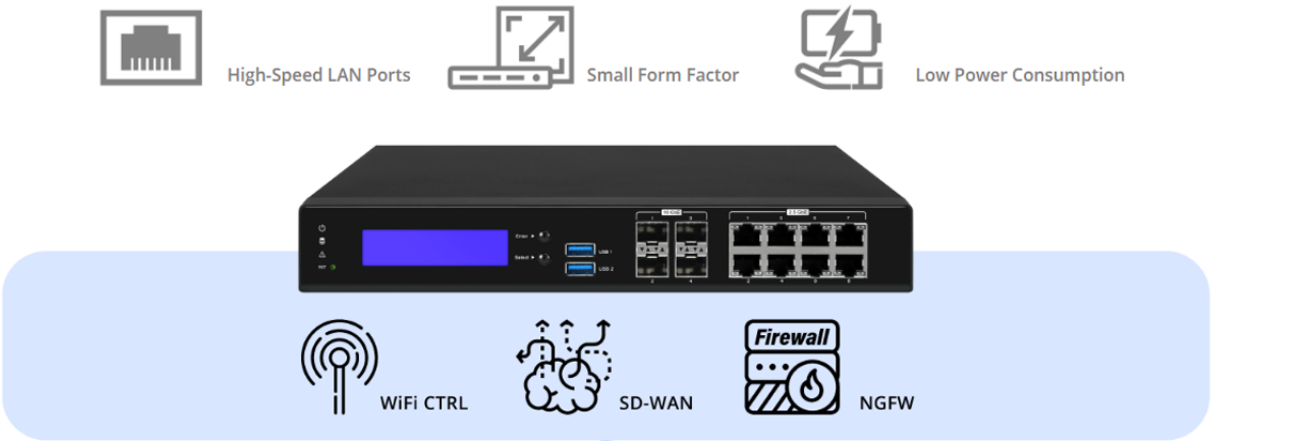
| | |
|---|---|
| 1 x Power cord | 2 x Rack mounting ears |
| 6 x Screw for rack mounting ears | |

## Flexibility & Security Boost for Accelerated Digital Transformation

The working scenarios have changed in recent years, switching to the new hybrid work model which allows employees to work partly in the office, and partly remotely. With the adaption to the hybrid workplace environment, organizations need to move to the cloud for constant and uninterrupted data access for their employees. As the number of bandwidth-intense applications and security issues are growing, modern solutions like SD-WAN are must-have for businesses to ensure the high-speed and secure connectivity, plus greater flexibility than the traditional network.

## Small Form Factor Network Appliance Powered by High-Speed LAN Ports

Featuring low power consumption, powerful computing performance and high-speed LAN ports from 2.5GbE to 10GbE, IEI's PUZZLE-3032 desktop network appliance is designed to facilitate the SD-WAN deployment by offering reliable and rapid data transmission, as well as a flexible way to develop uCPE platforms with reduced overhead costs. Its desktop form factor (285 x 236.6 x 46.65 mm) makes it suitable to fit in offices with limited space. The PUZZLE-3032 is optimal for small and medium-sized companies when it comes to building a SD-WAN infrastructure with additional virtual network functions to accelerate the digital transformation and, afterwards, improve business productivity.



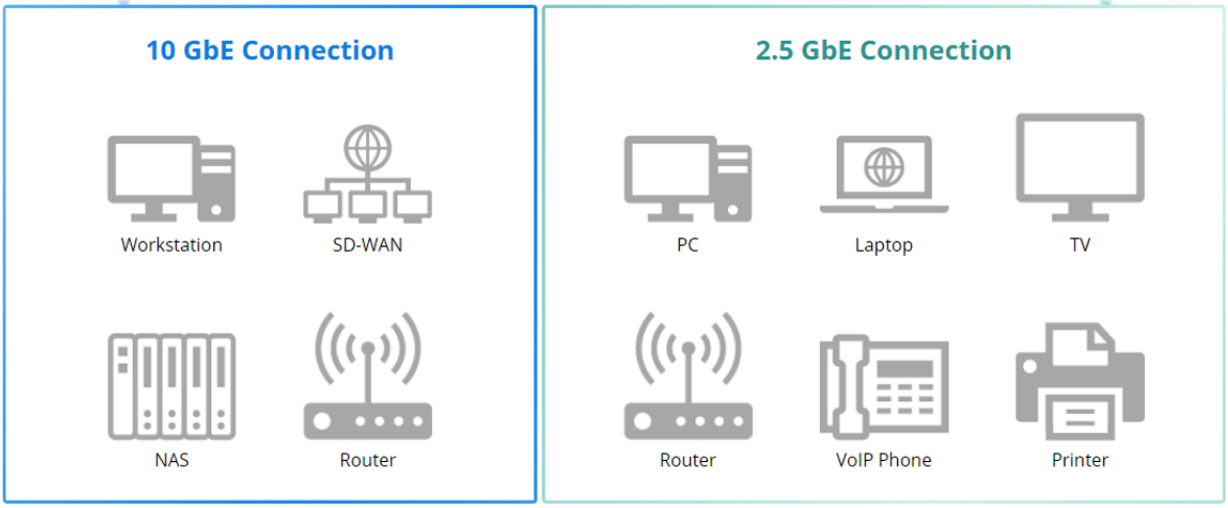
## Low Power, Efficient Performance for Network Solutions

Powered by server-grade Intel® Atom® C3558R processor with DDR4 2400 memory support and SoC design, the PUZZLE-3032 is capable of processing data intensive workloads to the network edge, while requiring less power, thanks to Intel optimized 14nm process technology with the range of TDP from only 17 to 26 watts. Built-in hardware virtualization with Intel® Virtualization Technology (Intel® VT) enables dynamic provisioning, providing faster performance for NFV extension.

## Affordable Multi-Gigabit Upgrade for Enhanced Performance

With eight 2.5GbE and two 10GbE SFP+ ports, the PUZZLE-3032 provides 2.5x or even 10x increase in throughput compared with the 1GbE solution, empowering network possibilities with faster data transfer speeds in virtualization environments.

| | CAT 5e | CAT 6e | CAT 6A & CAT 7 | SFP+ DOC / AOC /Fiber |
|---|---|---|---|---|
| 100 Mbps | V | V | V | X |
| 1 Gbps | V | V | V | X |
| 2.5 Gbps | V | V | V | X |
| 5 Gbps | V | V | V | X |
| 10 Gbps | X | V (55m) | V | V |




The 10 GbE connectivity is characterized by high-speed data transmission and reliable security, which meets high-bandwidth requirements on transferring large amounts of data quickly in corporate networks and reducing traffic jam on enterprise servers. The 10 GbE SFP+ solution that the PUZZLE-3032 comes with can support distances more than 10 kilometers with single-mode optical fiber, consumes less power and provides lower latency, which makes it ideal for network architecture across large distances.

For small businesses, 2.5 GbE is a more attractive option since it supports various connection speeds between 100 Mbps and 2.5 Gbps on CAT 6 and CAT 5e cables, which means user can experience the full capability of high-performance network solutions without significant costs for upgrading cables.

2.5x faster data transfer speeds than 1GbE

Effortless upgrade with existing CAT 5e cables

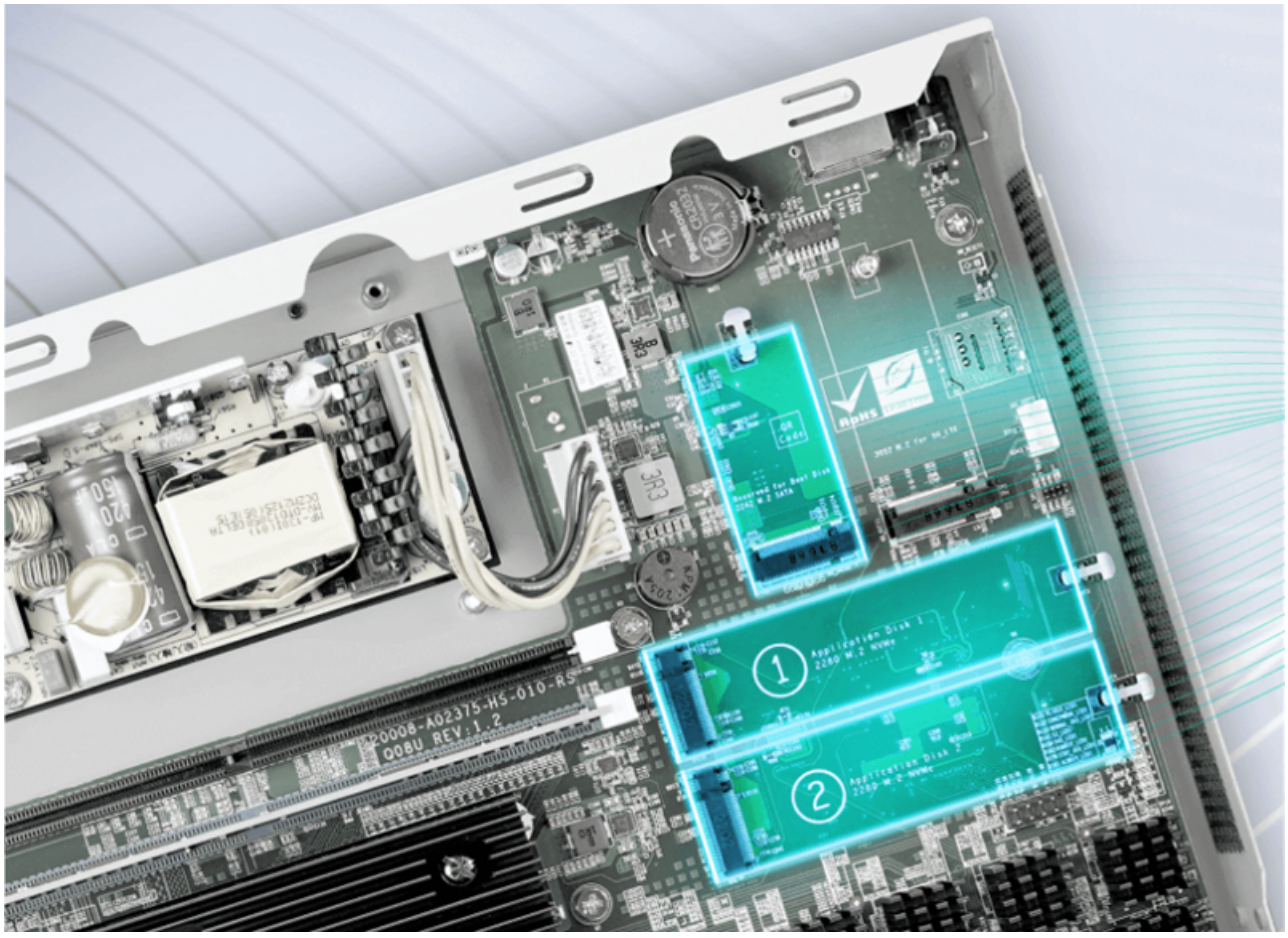
Cost saving for hardware upgrade

## Performance Acceleration with Intel® QuickAssist Technology

The PUZZLE-3032 is equipped with Intel® QuickAssist Technology that can accelerate encryption and compression workloads in order to significantly improve the performance and efficiency of your network devices by saving time, network bandwidth and CPU cycles.
Improvement for hardware performance and network security.
» Maximize CPU utilization
» Increase encrypted traffic performance
» Lossless data compression/decompression
» Accelerating compute-intense symmetric and asymmetric cryptography

## Multipe Expansion Options for Rapid Data Leverage & Additional Storage

In addition to its built-in storage of 64GB eMMC, the PUZZLE-3032 comes with one M.2 2242 and dual M.2 2280 NVMe SSD slots, which provide faster file access, more efficient data processing and storage expansion.

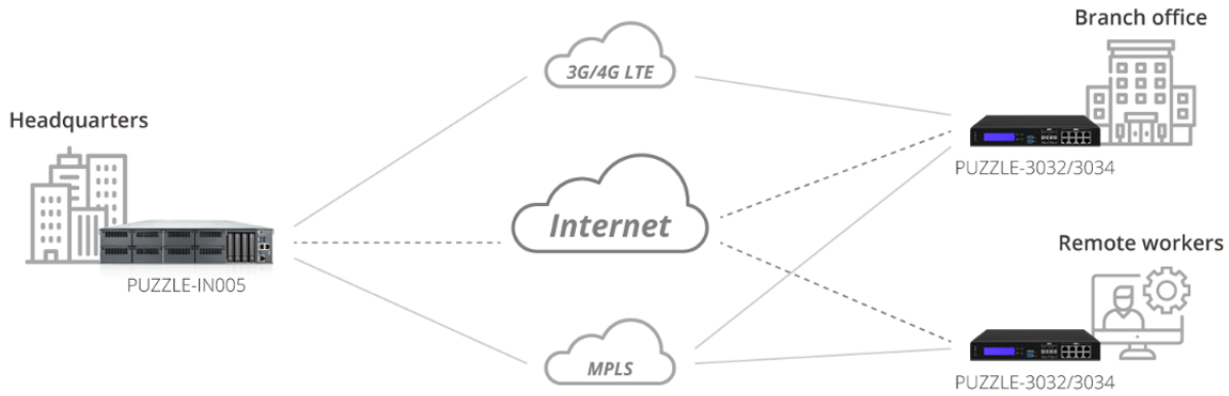


## Flexible & Agile uCPE Solution for Diverse Applications

uCPE (Universal Customer Premise Equipment) integrates computing, storage, and network on COTS products (commercial off-the-shelf) that offer networking services on SD-WAN. Based on the SD-WAN architecture, white boxes uCPEs can not only perform networking functions but also contribute to SD-WAN security thanks to its security function virtualization. Given these characteristics, capex and network opex are also reduced alongside less demand for hardware replacement and lower maintenance costs.
As a cost-effective and flexible uCPE solution, the PUZZLE-3032 can be served to easily build wide range of use cases in an SD-WAN environment to enhance performance and security for efficient hybrid working strategy.

### SD-WAN Solution

The PUZZLE-3032 can be used to connect branch locations and remote workers' PC to an organization's headquarters and server. The use of PUZZLE-3032 not only easily improves enterprise network through remote software upgrades, but also makes the deployment of new branches and network operation less expensive.




## Next-Generation Firewalls

network where the work space is limited, without additional costs for hardware-based equipment
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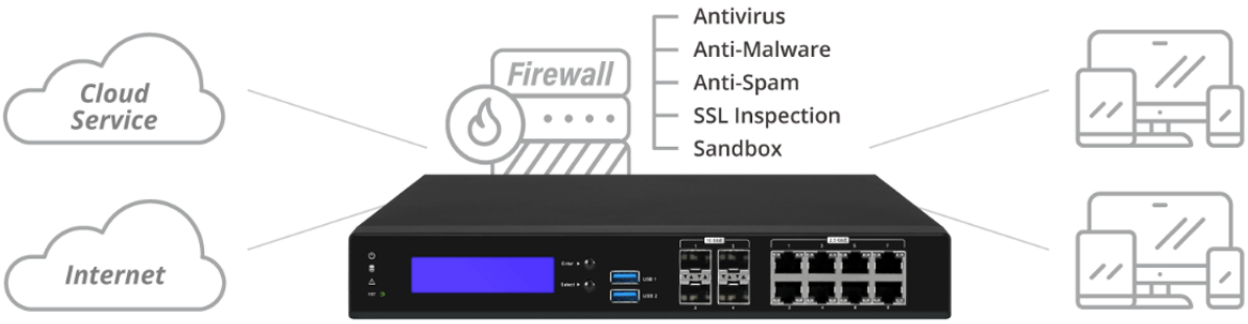
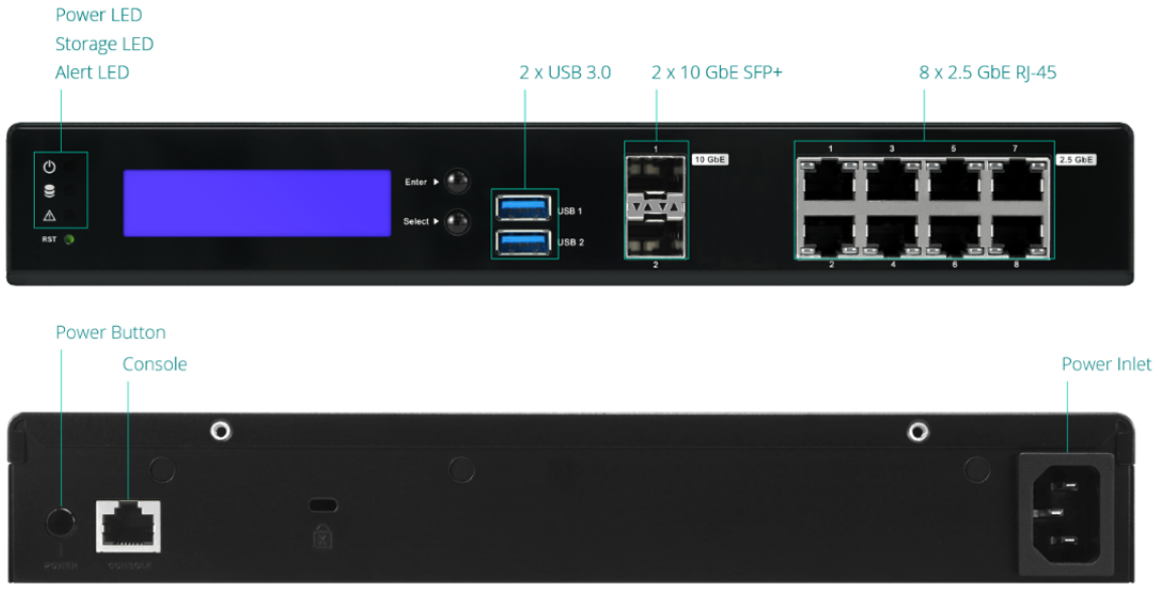



## Product Comparison

| | PUZZLE-3032 | PUZZLE-3034 |
|---|---|---|
| CPU | Intel® Atom® C3558R 4C/4T | Intel® Atom® C3758R 8C/8T |
| Memory | 2 x DDR4 2400MHz | 2 x DDR4 2400MHz |
| Storage | eMMC 64GB | eMMC 64GB |
| 2.5GbE LAN Port | 8 | 8 |
| 10GbE LAN Port | 2 | 4 |

## Hardware I/O & Dimensions

### PUZZLE-3032