



High-End Desktop RAID for Enthusiasts and Gamers



Intel High-End Desktop Solutions

High-end desktop (HEDT) global sales remain strong, being driven by enthusiasts looking for the next generation of high performance computing and the emergence of online gaming as a popular global activity. Accordingly, HEDT platforms remain a strategic focus for Intel innovations. The X299 platform, built around next generation Intel® Core™ processors, is Intel's latest HEDT offering. Additionally, Intel supports the HEDT ecosystem with innovative storage solutions, such as Intel® Optane™ technology products and SATA/NVMe*- based SSDs.

The Intel HEDT package is targeted to meet end-user's needs, with a focus on performance, reliability, and functionality. Software solutions further improve Intel's HEDT offering. Redundant array of independent disks (RAID) continues to be a popular solution due to its performance acceleration and data redundancy capabilities. Intel has enabled X299-based HEDT platforms to support two existing RAID solutions:

- 1) Intel® Rapid Storage Technology (Intel® RST), a client solution set optimized for single user, low I/O queue depth, and low latency that includes RAID functionality among other storage focused features
- 2) Intel® Virtual RAID on CPU (Intel® VROC), an enterprise RAID solution primarily targeting server and professional workstation applications optimized for multi-user, multi-thread, transaction-heavy workloads with higher I/O, queue depths

Implementing the Right RAID Solution

Even though two RAID solutions are enabled on the HEDT X299 platform, end-users should be using Intel Rapid Storage Technology for best results: Intel RST is a set of solutions optimized for single user PC clients, focusing on system responsiveness, application load time and system boot time while being conscious of overall power usage. While it is targeted for any client platform, it has a strong use case to drive functionality and performance of HEDT hardware. Intel RST's focus on being highly responsive with low latency match the HEDT market segment needs. Additionally, Intel RST provides a suite of functional applications to improve the HEDT user experience. Intel RST can be downloaded from intel.com for easy installation.

Intel Virtual RAID on CPU: Intel VROC is moving to sustaining mode for support on HEDT X299 platforms. All new users should use Intel RST for RAID.

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Furthermore, an Intel VROC hardware key is required for RAID functionality. These keys will no longer be actively sold to the X299 HEDT market. Intel RST does not require a hardware key.

For more detailed information on the comparison of Intel RST and Intel VROC products, see the *Intel® Client RAID and DC RAID Technology Brief*.

Resources

Intel® Virtual RAID on CPU (Intel VROC software): <http://intel.com/vroc>

Intel® Rapid Storage Technology software: <https://www.intel.com/content/www/us/en/support/articles/000005610/technologies.html?wapkw=rst>

Intel® X299 platform: <https://www.intel.com/content/www/us/en/products/chipsets/desktop-chipsets/x299.html?wapkw=x299>

Intel Client RAID and DC RAID Technology Brief: <https://www.intel.com/content/dam/www/public/us/en/documents/technology-briefs/client-raid-and-dc-raid-solutions-technology-brief.pdf>



For more information visit www.intel.com/vroc

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