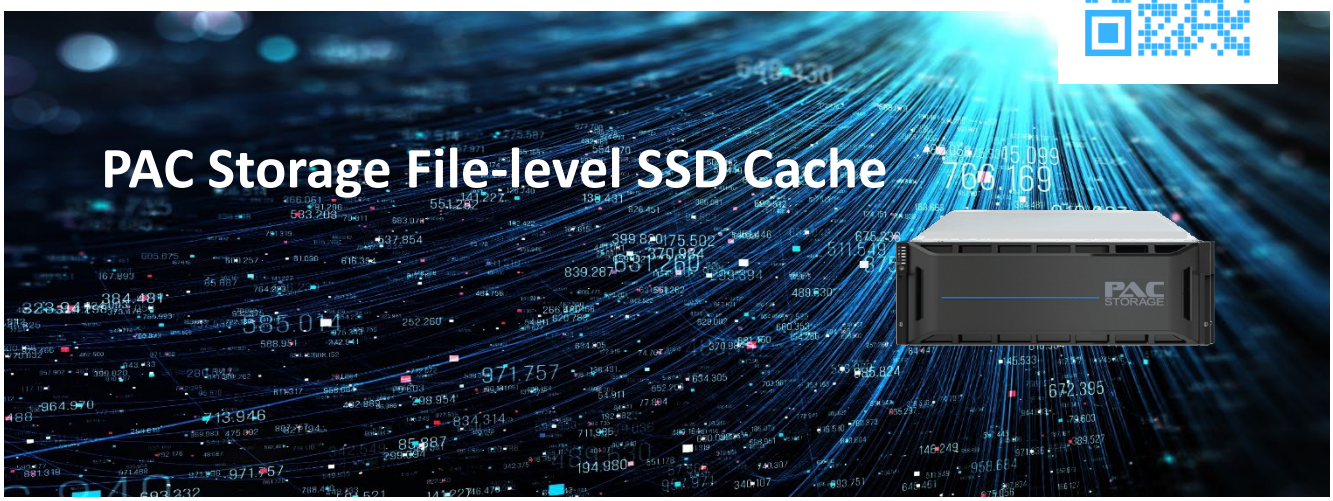


Featuring up to 240TB Read & Write Cache Options

Overview

The PAC Storage PS systems provide SSD Cache feature options on NAS service to improve file access performance. Cache is a mechanism for accelerating data access, which stores frequently used data on high-speed storage media. In general enterprise applications, such as file sharing and email, consist random access behaviors.

Due to long seek time of traditional mechanical HDDs, it may increase I/O latency and decrease overall performance. PS can leverage a caching mechanism to shorten I/O latency and improve IOPS performance. SSD has the characteristics of high throughput and low latency, which can provide significant bandwidth and random data access performance for critical applications. And it has a larger capacity than RAM, suitable for use as a cache on PS.

PS SSD Cache feature supports the configuration of one or more SSDs as a cache, so that PS can effectively improve the performance under various applications. For general applications, it is recommended deploying 1-2 SSDs as cache on each controller. By using high-efficiency algorithms, it can intelligently predict and cache frequently used small blocks of data and metadata to improve random data access performance. For specific applications, users can also deploy 4 or more SSDs as cache on each controller according to the bandwidth requirements. The size of the data block to be cached can be set, so that frequently used data is cached on the SSD Cache. Therefore, the application can repeatedly read the working dataset and improve the performance.

Applications

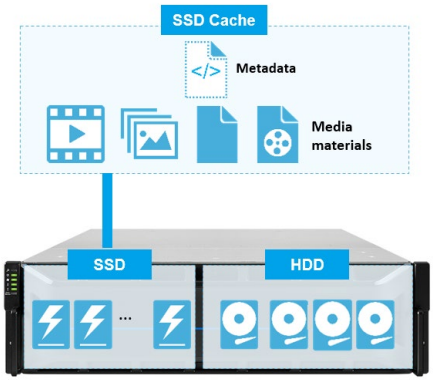
General Applications and File Sharing

Because mechanical HDDs have high latency for random data access, resulting in the decrease of overall performance. SSD Cache feature can cache data frequently used by the client in the SSDs to reduce IO latency and improve IOPS performance.

Taking an enterprise deploying 100TB of storage space as an example, we recommend deploying SSD Cache on PS with a ratio of HDD to SSD total capacity of 100:1. Therefore, a cache space with at least 1TB must be created, ensuring that frequently used data and metadata can be cached on the SSDs.

Media and Entertainment

Under the scenario of post-production, media editors first create media projects through editing software, list several files from the shared folder on PS to browse multimedia files, and then import the materials. During the subsequent video editing process, the editing software needs to play back multiple video material files at the same time to view the contents. SSD Cache feature can cache metadata and frequently accessed media materials on the SSDs, which can greatly shorten the time of creating projects, importing materials and browsing multimedia files, and can support higher resolution video editing and higher number of playback streams.



If a studio executes a project, the total material capacity required is 1TB. In order to cache the working dataset in the SSDs and meet the bandwidth requirements of the video editing process, we recommend deploying at least 4 SSDs on each controller of the PS, creating at least 1TB of SSD cache space, and setting the cached data block size to 2MB. Therefore, the user experience and editing efficiency of editors will be optimized.