# Object Storage vs Block Storage

## What is Block Storage?

Block storage is the oldest and simplest form of data storage. Here, data is stored in fixed-sized chunks called — you guessed it — "blocks." By itself, a block typically only houses a portion of the data. The application makes SCSI calls to find the correct address of the blocks, then organizes them to form the complete file.

Because the data is piecemeal, the address is the only identifying part of a block — there is no metadata associated with blocks. This structure leads to faster performance when the application and storage are local, but can lead to more latency the further apart they are.

The granular control that block storage offers makes it an ideal fit for applications that require high performance, such as transactional or database applications.

## The Difference Between Object and Block Storage

Compared to block storage, object storage is much newer. With object storage, data is bundled with customizable metadata tags and a unique identifier to form objects. Objects are stored in a flat address space and there is no limit to the number of objects stored, making it much easier to scale out.

The metadata tags are a key advantage with object storage — they allow for much better identification and classification of data. You can think of objects as being self-describing: They have descriptive labels assigned by the user or application that writes the object. Using a search application you can easily search for a specific object, even if the data itself is not easily searched (such as an image, or media clip, or data set).

Search capabilities and unlimited scale make object storage ideal for unstructured data, a classification that is currently expected to hit 44 zettabytes by 2020. Object storage is the only option that can effectively store this data at scale.

| | OBJECT STORAGE | BLOCK STORAGE |
|---|---|---|
| PERFORMANCE | Performs best for big content and high stream throughput | Strong performance with database and transactional data |
| GEOGRAPHY | Data can be stored across multiple regions | The further the distance between storage and application, the higher the latency |
| SCALABILITY | Can scale infinitely to petabytes and beyond | Addressing requirements limit scalability |
| ANALYTICS | Customizable metadata allows data to be easily organized and retrieved | No metadata |

The table above provides a side-by-side comparison.

This is a brief, high-level look at the differences between object storage and block storage. Block storage has many uses within enterprises, but object storage is best equipped to handle the explosive growth of unstructured data.


**Object Storage vs File Storage**

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