

➤ Product

IBM Spectrum Virtualize / FlashSystem

➤ Idea

Energy Saving = « EasyTier » + « Start and Stop » : Automatically Turning off/on the cold data storage

➤ Description

The Idea for energy saving is to turning off the storage (Disk drive or SSD/FCM drive) where cold data is stored and just turning on this storage when data is requested.

IBM EasyTier move cold data on slow drives and move hot data on fast drives.

“About 50% of data stored are never used”

The « Start and Stop » functionality is the ability to automatically turn off/on an array with cold data / to turn off/on the drives where the cold data are stored in order to energy saving.

When data are not used, the drives are turned off

When data is requested, the drives are turn on, easytier move data or not, the system is waiting a defined amount of time (parameter), then the drives are turned off.

The easyTier statistics system determines if the drives could be turned off for a minimum amount of time (parameter).

➤ Why

More and more data and storage

By 2026, large enterprises will triple their unstructured data capacity stored as file or object storage on-premises, at the edge or in the public cloud, compared to 2022.

By 2025, more than 40% of enterprise storage will be deployed at the edge, which is a significant increase from 15% in 2022.

By 2025, 60% of infrastructure and operations (I&O) leaders will implement at least one of the hybrid cloud architectures, which is a major increase from 15% in 2022.

Magic Quadrant for Distributed File Systems and Object Storage / Published 19 October 2022

Energy Saving is a top priority for companies

Optimization, efficiency, and transformation are concepts that business leaders today live by. Not just because they're advantageous to the business, but also because they benefit the environment. In fact, executives increasingly are incorporating environmental sustainability into the core of their business.

As organizations create and pursue sustainability roadmaps, there's a critical lever that can help them achieve better outcomes both for their business and for the environment: digital

technologies, which are a growing source of carbon emissions for companies of all sizes and in all sectors.

There are typically 4 interrelated sources of carbon emissions within information technology (IT) organizations that can be addressed with targeted sustainability efforts:

- **Data centers:** *Collectively, data centers around the world consume 200 to 250 terawatt-hours (TWh) of electricity, according to the International Energy Agency. That's roughly 1% of global electricity demand and approximately 0.3% of all global carbon emissions.*

Source : <https://www.ibm.com/thought-leadership/institute-business-value/report/it-sustainability>