

IBM® Spectrum Scale™

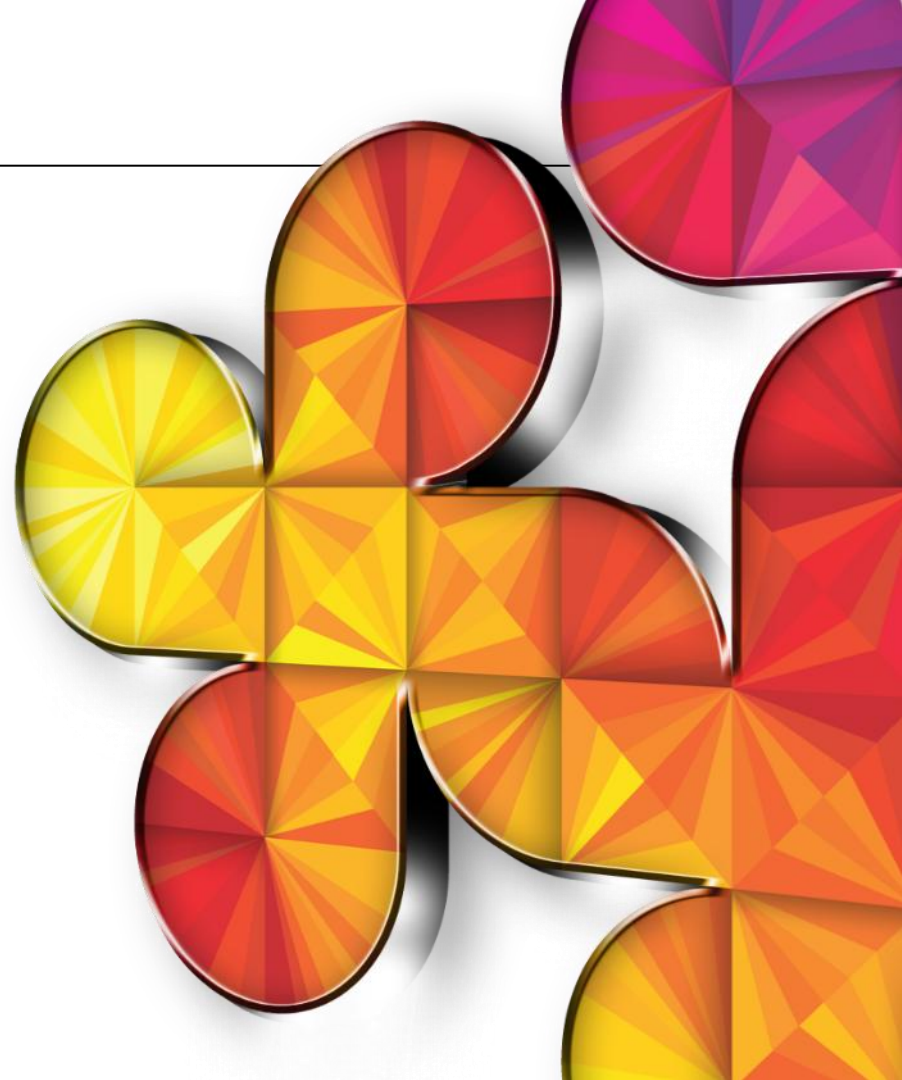
Licensing

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Spectrum Scale is an IBM owned and IBM developed product



Where to buy?

- IBM

- OEM

- Lenovo
- Fujitsu
- DDN
- ...

Please do not mix. It is different legal entities!



Spectrum Scale /Elastic Storage / GPFS licensing options

- GPFS V3.x = PVU (Processor Value Unit)
- Spectrum Scale V4.x = Socket
 - Express Edition*
 - Standard Edition*
 - Advanced Edition

*There is an option to upgrade from Express to Standard to Advanced

- Part of Spectrum Storage Suite – perp./term (1-60m) volume lincese



Spectrum Scale /Elastic Storage / GPFS licensing options

- GPFS 3.x = PVU (Processor Value Unit)

- GPFS 4.x = Socket
 - Express Edition no ILM, no AFM, no Clustered NFS
 - Standard Edition (,equals' V3)
 - Advanced Edition native encryption, secure deletion

There is an option to upgrade from Express to Standard to Advanced



Spectrum Scale /Elastic Storage / GPFS licensing options

- GPFS 3.x = PVU Client, FPO, Server

- GPFS 4.x = Socket
 - Express Edition Client, FPO, Server
 - Standard Edition Client, FPO, Server
 - Advanced Edition Client, FPO, Server

No upgrade from Client to FPO to Server



Running Spectrum Scale in VMs in a virtualization environment

- How do I determine the number of licenses required?

With GPFS V4 for Power and x86_64, licenses are required for the sockets available to the GPFS VMs/LPARs on a physical server. The number of licenses required is the number of cores available to GPFS divided by the number of cores/physical sockets rounded up to a whole number if a fraction.



Running Spectrum Scale in VMs in a virtualization environment

- Example 1:

On a 2 socket, 10 cores/socket physical server. 6 cores are available to the VMs on that server, therefore the number of licenses required is equal to $6/10$ (.6) rounded to 1



Running Spectrum Scale in VMs in a virtualization environment

■ Example 2:

On a Power server with 4 sockets, where each socket has an 8 core chip

- one GPFS server node using up to 2 cores for cluster1
- one GPFS server node using up to 2 cores for cluster2

The total cores used equals 4, therefore only 1 socket must be licensed. Even though it is not always possible to guarantee that all cores used by the GPFS nodes (LPARs) will be on the same physical chip (socket), only a single socket license is still proper licensing.



Spectrum Scale – how do I migrate to V4

Ask your Sales Representative
Ask your Renewal Representative
(and help them)



Spectrum Scale – how do I migrate to V4?

- Where are my entitlements listed?
 - AAS
 - WTAAS
 - PA

All 4.1 entitlements are managed out of PA (Passport Advantage)

All migrations from GPFS V3 will move to GPFS Standard Edition V4



Spectrum Scale – how do I migrate to V4?

List all GPFS/PVU entitlements in a spreadsheet showing

- type of license (Server, FPO, Client)
- amount of license
- # of Servers
- # of Sockerts per Server
- # cores per CPU
- # type of CPU
- PO numbers / Entitlement files



Spectrum Scale – how do I migrate to V4?

Customer is to sign docs to migrate V3 to V4 as this has legal aspects!


*CF will then migrate






IBM Spectrum Storage

Family of Storage Management and Optimization Software



Control Protect Archive

Virtualize Accelerate Scale



Any Storage FlashSystem Private, Public or Hybrid Cloud

Based On Technology From

IBM Spectrum Control	Tivoli Storage Productivity Center (TPC) and management layer of Virtual Storage Center (VSC)
IBM Spectrum Protect	Tivoli Storage Manager (TSM)
IBM Spectrum Archive	Linear Tape File System (LTFS)
IBM Spectrum Virtualize	SAN Volume Controller (SVC)
IBM Spectrum Accelerate	Software from XIV System
IBM Spectrum Scale	Elastic Storage - GPFS



IBM Spectrum Storage Suite

A new approach to licensing software-defined storage



- A single software license for all your changing software-defined storage needs
 - From SAN storage to new storage-rich server infrastructure
 - From block access to rapidly evolving file and object access
 - For all your data: from traditional, big data and analytics, and cognitive workloads to recovery and archive copies
- For new clients, a cost-effective way to start their software-defined journey
- For clients already on their way, tremendous flexibility in expanding software-defined capability to more of their infrastructure



Licensing Scenarios



License sold

- 10 **Before a' la carte**
 - 750TB VSC bundle
 - 1250TB Spectrum Protect Suite
- 10 **After Simple**
 - 1750TB Spectrum Storage Suite

SAN Storage **Tape library**
 ■ 750TB ■ 1000TB

Use case

- 750TB of virtualized SAN storage for traditional workloads
- 1250TB of tiered storage (250 on block disk and 1000 on tape) for recovery copies



License sold

- 10 **Before a' la carte**
 - 1000TB Spectrum Scale
 - 1000TB Spectrum Control
 - 2150TB Spectrum Protect Suite
- 10 **After Simple**
 - 3000TB Spectrum Storage Suite

ESS **Tape library**
 ■ 1000TB ■ 2000TB

Use case

- 1000TB File/Object storage for new-gen workloads
- 2150TB Tiered storage (150 on file disk and 2000 on tape) for recovery copies



Use Case Licensing Scenarios



ESS

▪ 1000TB

License sold

10 Before a' la carte

- 1000TB Spectrum Scale
- 1000TB Spectrum Control
- 1000TB Spectrum Protect Suite

10 After Simple

- 1000TB Spectrum Storage Suite

▪Use case

- 1000TB next-gen recovery management, all disk with embedded deduplication



SAN Storage

▪ 1000TB

Storage Rich Servers

▪ 250TB

License sold

10 Before a' la carte

- 1000TB Spectrum Virtualize
- 250TB of Spectrum Accelerate
- 1250TB Spectrum Control

10 After Simple

- 1250TB Spectrum Storage Suite

▪Use case

- 1000TB of virtualized block SAN storage for traditional workloads
- 250TB of new-gen block storage for new workloads



Thank You

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