

A person in a server room looking at a laptop. The room is filled with server racks, and the lighting is dim with some blue and green lights visible on the racks. The person is standing in the center of a long aisle, looking down at a laptop they are holding. The server racks on either side are filled with equipment, and some lights are glowing. The overall atmosphere is technical and professional.

IBM Storage Scale on IBM Cloud

IBM Storage Scale Days 2024

March 5-7, 2024 | Stuttgart Marriott Hotel Sindelfingen

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HPC on the Cloud

Observed Challenges

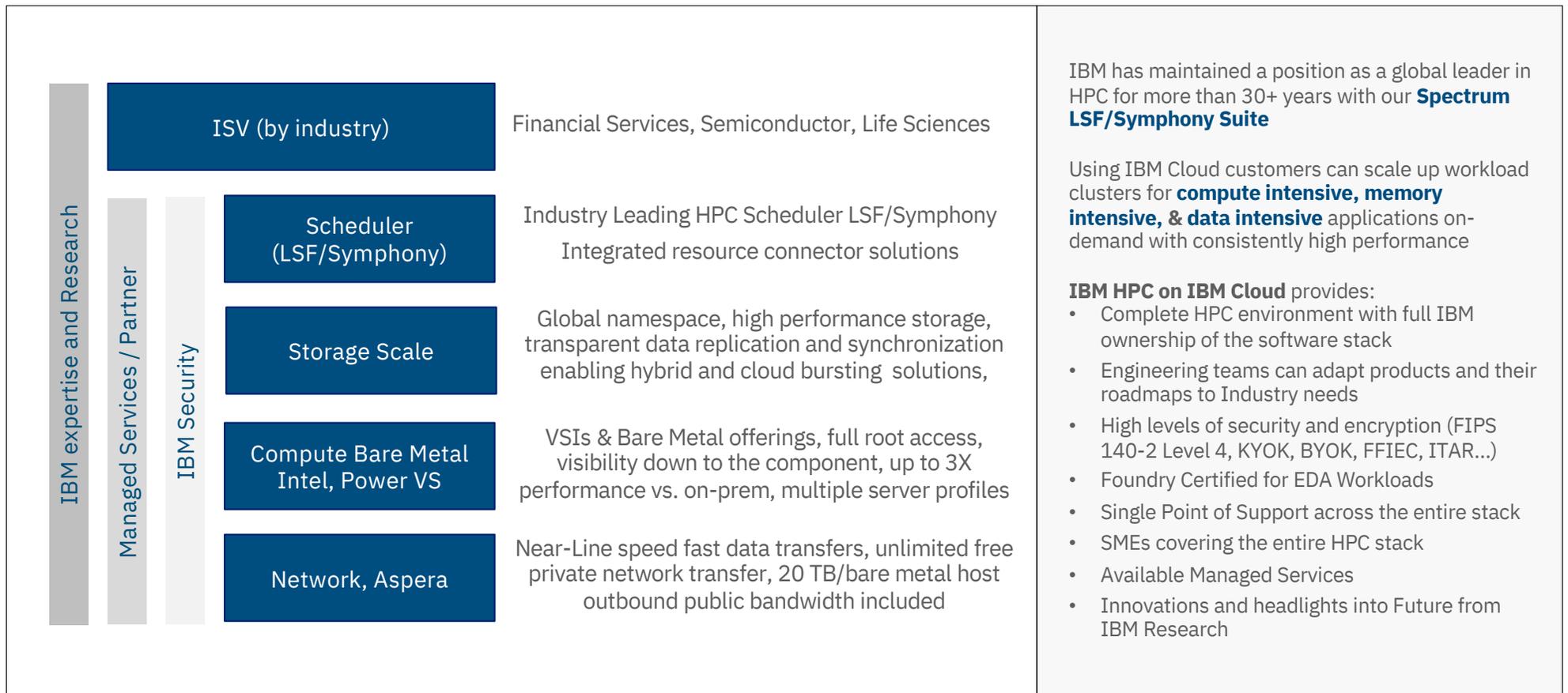
Compute

- **Sustained use:** Ability to efficiently use existing computing resources
- **Scheduled & Recurring use:** Ability to dynamically creating computing resources within a scheduled period and execute jobs when existing compute pool is insufficient
- **Elastic use:** Ability to creating computing resources on demand and execute jobs when existing compute pool is insufficient

Data Hydration and Synchronization

- **Hydration:** Data needs to be available with low latency where the job is executing for high performance
- **Synchronization:** Data needs to be kept consistent across geos for global collaboration

IBM HPC Cloud: Integrated Solution Stack



Storage Scale for HPC Solutions



High Performance - Shown 2.5 TB/s on 250 PB filesystem, beats NetApp on SpecFS



Data Security: End-to-end checksum, Storage Scale RAID, NIST/FIPS certification



Be Hardware Agnostic, use multi-vendor



Intelligent Automated Data Tiering



Bursting to the Cloud



Global Collaboration: single geo-independent namespace



Software Defined – use any enterprise HW



Proven references at very large scale



Multi-Protocol access to data – POSIX, NFS, SMB, HDFS, Object



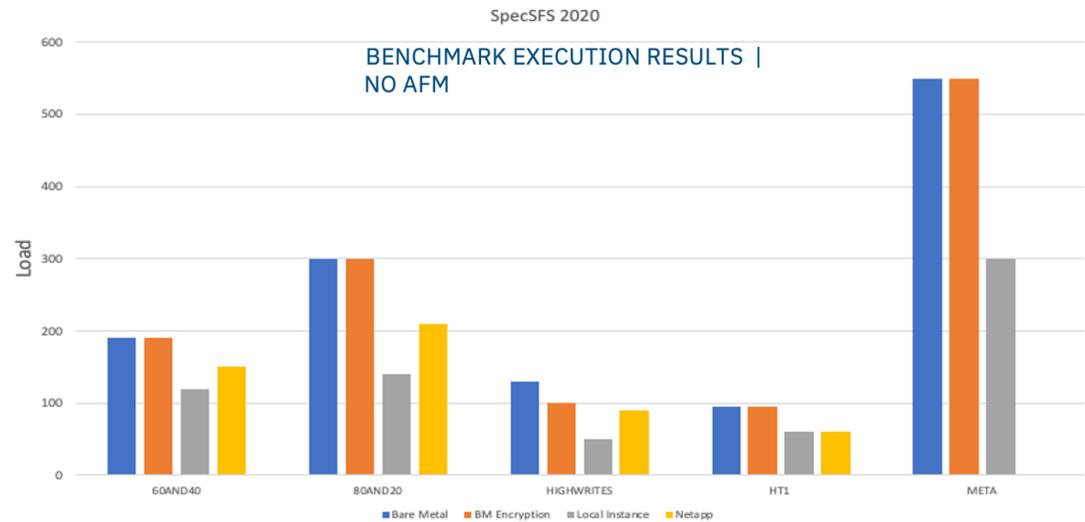
Proven High Perf Data Analytics references



End to end IBM Service and Support

Storage Scale: Some Performance metrics

File Size & Total Files	Operation	Performance	Procs per Compute Node	Threads per Process	Request size
64 files 1 TiB	Write sequential	37 GiB/sec	1	8	4MiB
	Read sequential	123 GiB/sec	1	12	4MiB
	Write random	876,002 IOPS	1	136	4KiB
	Read random	5,601,396 IOPS	1	80	4KiB
128 Files 512 GiB	Write sequential	38 GiB/sec	2	4	4MiB
	Read sequential	125 GiB/sec	2	4	4MiB
	Write random	873,046 IOPS	2	68	4KiB
	Read random	5,605,109 IOPS	2	40	4KiB



Thank you for using



Storage Scale



Storage Scale
System