



HYPERION RESEARCH

Tech Spotlight: Trends in HPC Servers, Budgets, and Vendor Shares

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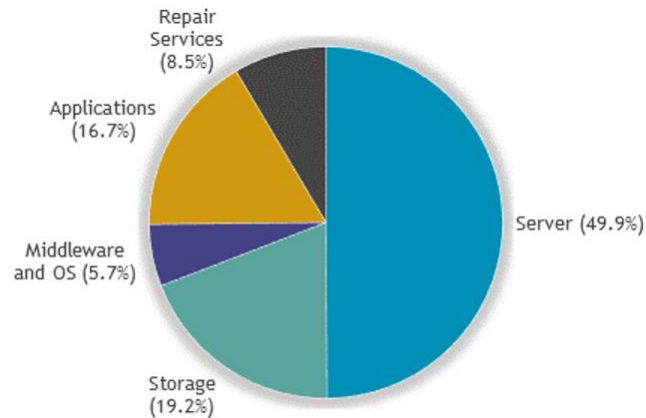
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The Broader HPC Market

Worldwide revenues for the broader HPC market have grown from about \$2 billion in 1990 to \$22.4 billion in 2016.

- The market is projected to expand to over \$30 billion by 2021.

Worldwide HPC Broader Market in 2016 (\$22.4 Billion)



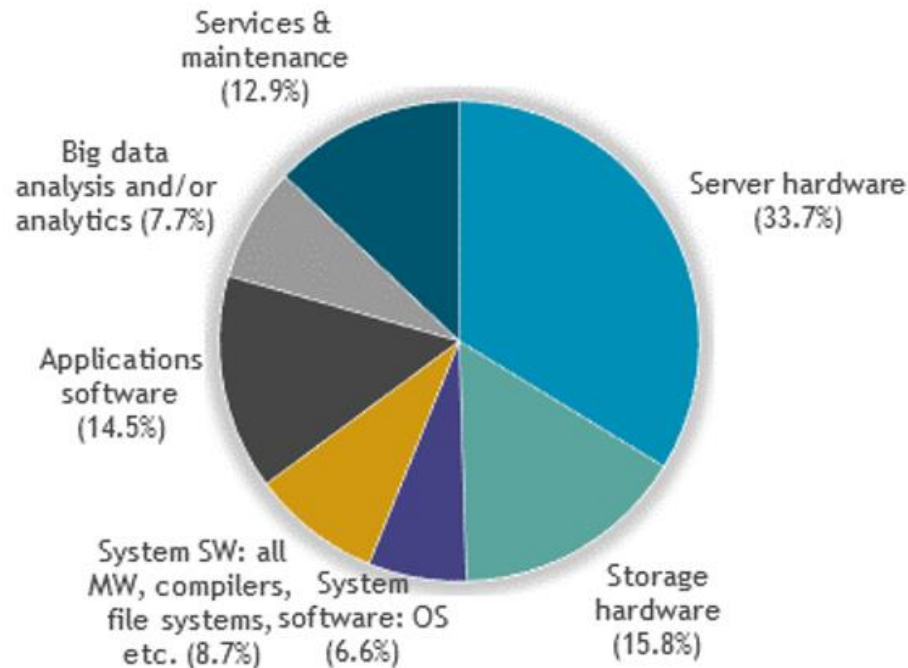
Source: Hyperion Research, 2017

The Broader HPC Market

Worldwide HPC Compute, Storage, Middleware, Application and Service Revenues (\$Billions)								
	2015	2016	2017	2018	2019	2020	2021	2016/2021 CAGR
Server	\$10.7	\$11.2	\$12.0	\$12.3	\$13.0	\$14.0	\$14.8	5.8%
Storage	\$4.3	\$4.3	\$4.5	\$5.0	\$5.3	\$5.8	\$6.3	7.8%
Middleware and OS	\$1.3	\$1.3	\$1.3	\$1.4	\$1.5	\$1.7	\$1.8	6.9%
Applications	\$3.7	\$3.7	\$3.9	\$4.2	\$4.4	\$4.8	\$5.1	6.3%
Repair Services	\$1.9	\$1.9	\$2.0	\$2.0	\$2.1	\$2.2	\$2.3	3.9%
Total	\$21.9	\$22.4	\$23.7	\$24.9	\$26.3	\$28.5	\$30.3	6.2%

Source: Hyperion Research, 2017

HPC Budget Mix in 2017



Source: Hyperion Research, 2017

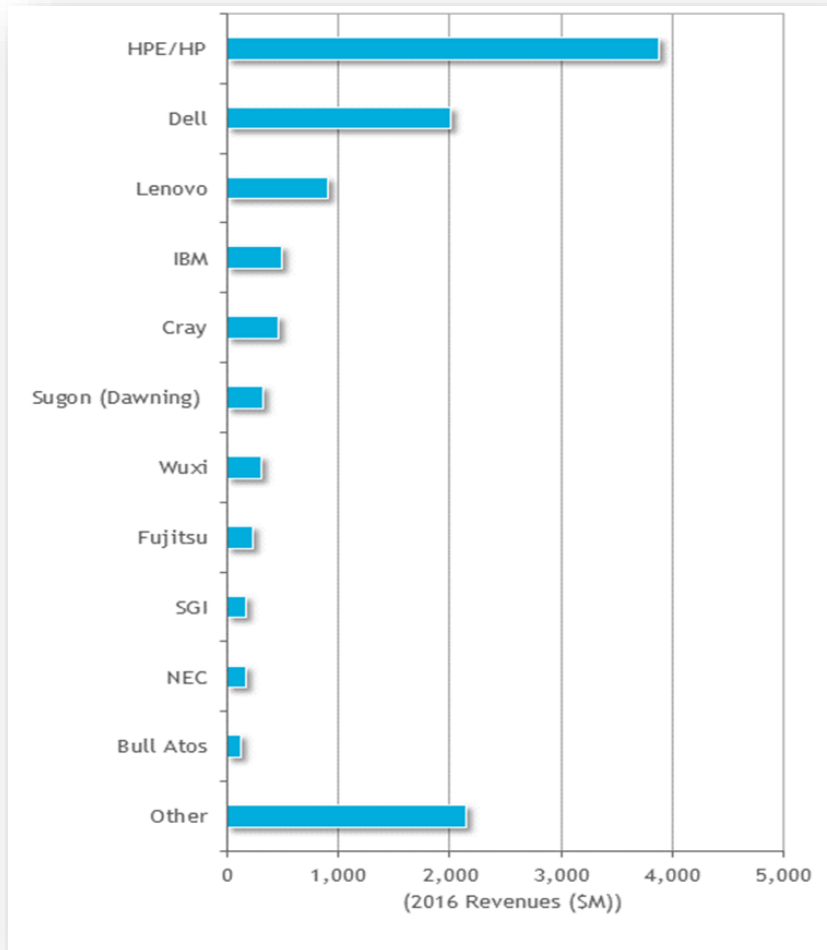
- Nearly one-third of participants' 2017 current hardware budget is allocated to server hardware, followed by storage hardware (15.8%) and applications software (14.5%).
- Total server software - consisting of OS (6.6%), middleware, compilers, and file systems (8.7%) and applications (14.5%) - is responsible for almost 30% of the overall budgets.

Technical Server Summary

Worldwide revenue for the HPC technical server market grew 4.4% in 2016 to a record \$11.2 billion, up from \$10.7 billion in 2015. Current Hyperion Research projections call for growth in 2017 of 7.3%, resulting in a total HPC technical server market for 2017 worth over \$12 billion.

- Hyperion Research is anticipating healthy HPC revenue growth in the out years as well. Indeed, Hyperion Research projects that the worldwide HPC server sector will grow at a CAGR of 5.8% between 2016 and 2021, reaching total revenues of \$14.7 billion by 2021.
 - The Supercomputer market segment for HPC systems priced at \$500,000 and up will show the highest growth rate during that period (6.9% CAGR), driven substantially by the global exascale race.
 - The Divisional and Departmental segments will continue to exhibit healthy growth, and the Workgroup segment will rebound to robust growth following several years of decline.

Worldwide HPC Vendor Server Market Shares in 2016 (\$M)



- HPE/HP has solidified its lead in the overall server market with 34.6% market share and sales revenues worth over \$3.8 billion in 2016,
- Dell at 18% (\$2.01 billion),
- Lenovo at 8.1% (\$908 million) and
- Eight other vendors including Cray, IBM and Dawning, holding between 4% and 1% server market share, all with sales below \$500 million.



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