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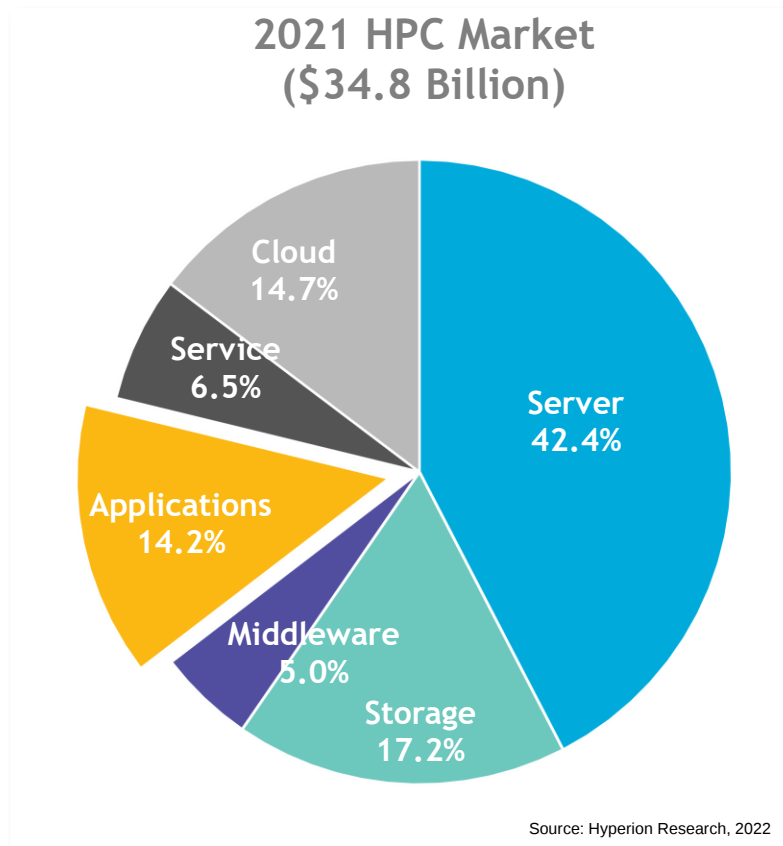
SC22 HPC Applications Update

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www.HyperionResearch.com
www.hpcuserforum.com

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HPC Applications Market View



- **\$ 4.95 billion (14.2% of the broader market)**
- **For every dollar spent on servers, applications add 33 cents to the price tag**
- **The applications market exceeded growth expectations from 2020 to 2021. Last year it was expected to grow by 6.8%, and we're seeing 14.8% growth so far**

Revenues by the Broader HPC Market Areas			
	2019	2020	2021
Server	13,368	13,523	14,763
Storage	5,288	5,079	5,984
Middleware	1,572	1,491	1,731
Applications	4,569	4,315	4,952
Service	2,181	2,015	2,267
Total Revenue	26,979	26,423	29,697
Source: Hyperion Research, 2022			

Migration of CentOS Users

Supporting numbers of the trend to migrate away from CentOS

- **Only 37.6% of MCS 2022 respondents report using CentOS this year, with 72.1% of those users reporting plans to migrate from CentOS to another operating system**
- **Ubuntu Linux is gaining popularity**

Migration from CentOS, what OS are you migrating to?

	Overall Percent	Industry Percent	Government Percent	Academia Percent
Red Hat Linux	23.5%	31.6%	12.5%	13.6%
Rocky Linux	20.6%	15.8%	37.5%	22.7%
Ubuntu Linux	19.1%	21.1%	25.0%	13.6%
Alma Linux	4.4%	2.6%	-	9.1%
SUSE Linux	2.9%	5.3%	-	-
Windows	1.5%	2.6%	-	-
I will continue to use CentOS and not migrate	27.9%	21.1%	25.0%	40.9%

Source: Hyperion Research, 2022

Accelerated Applications

Finding meaningful uses for GPUs and accelerators is a priority

- **Use of GPUs and accelerators are on the rise among HPC users**
- **On average, MCS 2022 respondents spend a third (32%) of their HPC cycles on accelerated applications**
 - 87.8% of respondents have at least one accelerated critical application
 - The average site has 7.5 accelerated applications
 - 74.6% of respondents use coprocessors/accelerators on their most important or most used application (at least some of the time)
 - Industry respondents lead accelerator/coprocessor usage at 82%

Application Run Time

Government is speeding up

- **From the MCS 2022, 29% of the most important or most used applications have a typical runtime of 24 hours or more**
 - This is a remarkable shift from last years study, where 40% of respondents reported typical runtimes of 24 hours or more for their most important/most used applications
 - The government sector has the most notable change, where last year 61% of most important/most used applications were 24 hours or more, and this year that number has shrunk to 35%
- **Growing run time was a key finding of last year's MCS**

QUESTIONS?



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