2024 IT Brand Leader Survey Report

Enterprise Infrastructure for AI

Introduction

The AI Big Bang: An explosion of multi-modal generative AI

The Big Bang Theory explains how our universe began with a single point exploding at unimaginable speeds to the still-expanding space we live in today. The “AI Big Bang” started with an explosion of multi-modal generative AI usage, driven by billions of non-AI experts using it to easily create text, code, images, videos, music, and much more.

The biggest technology inflection point in human history

Generative AI is considered the biggest technology inflection point in human history with hundreds of billions of dollars already invested to create a new universe of hardware, software, systems, and services designed for AI. At this inflection point, traditional product brand leaders are being challenged while all new categories of products and brand leaders emerge.

Join us on this journey to pick new technology winners to buy from, partner with, and invest in

This survey covering eight product categories is just the beginning of IT Brand Pulse research that eventually will cover dozens of AI product categories and hundreds of AI vendors. We invite you to join us on this journey to track AI technology brand leadership, an important factor in picking new technology winners to buy from, partner with, and invest in.

Enterprise Infrastructure for AI Survey Report

The 2024 Enterprise Infrastructure for AI brand leader surveys covers 8 Enterprise Infrastructure for AI products: Servers, Primary Storage, File and Object Storage, Network Switches, SmartNICs, High-Bandwidth Memory (HBM), GPUs, and CPUs.

A complete IT brand leader survey asks IT pros to vote for a Market, Price, Performance, Reliability, Innovation, and Service & Support leader. Because AI infrastructure deployments are new and few, this report includes the results of voting for only two categories of brand leadership for each product category: **Market and Innovation**.

Numerical survey data is available upon request. Please contact us at info@itbrandpulse.com.

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Brand Leader Survey Methodology

Brand Leader surveys are designed to measure the pulse of brand leadership in specific product categories using results from independent, non-sponsored surveys with at least 200 respondents.

The Enterprise Infrastructure for AI Brand Leader Survey was conducted in April 2024.

- Respondents were solicited from over 1,000,000 members of 100+ online IT groups, and from the IT Brand Pulse database of 150,000 IT professionals.
- Responses were collected using an online survey engine.

In each part, respondents were provided with a product category description, randomly-listed vendor choices (plus an "Other" answer choice to add a vendor, if applicable), and were asked two questions:

1. Who do you perceive as the <product category> market leader?
2. Who do you perceive as the <product category> innovation leader?

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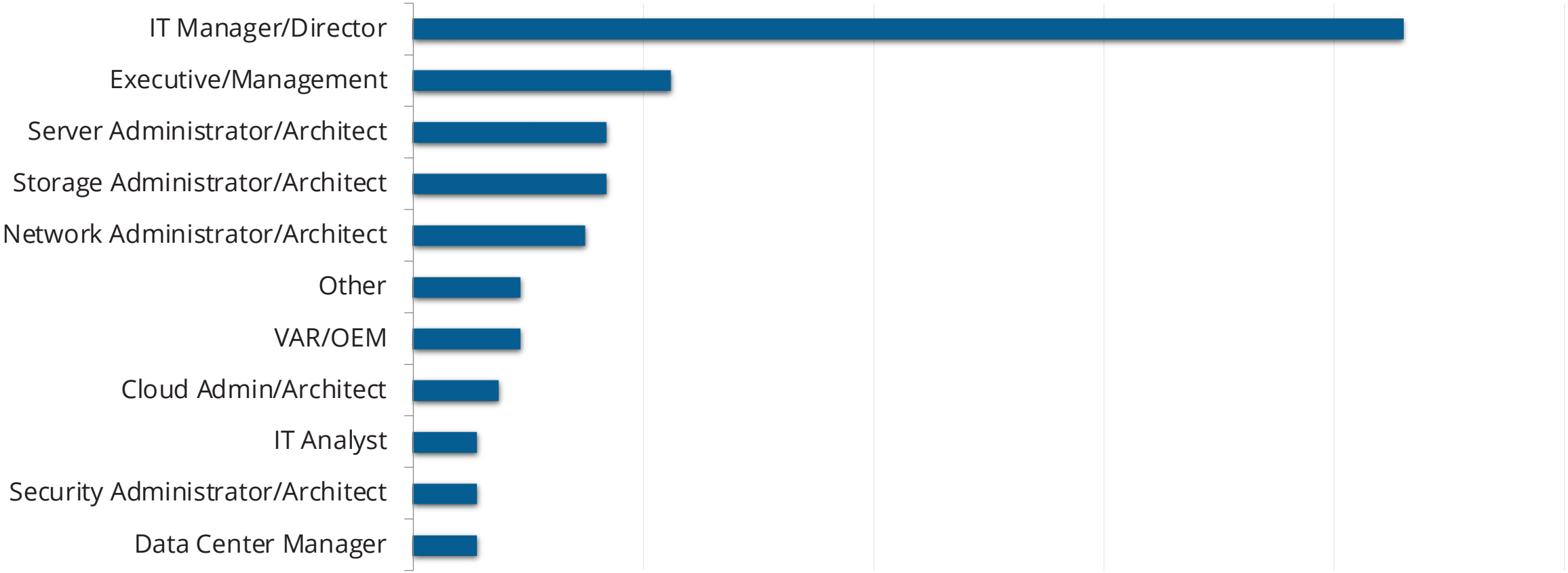
Brand Leader Definitions

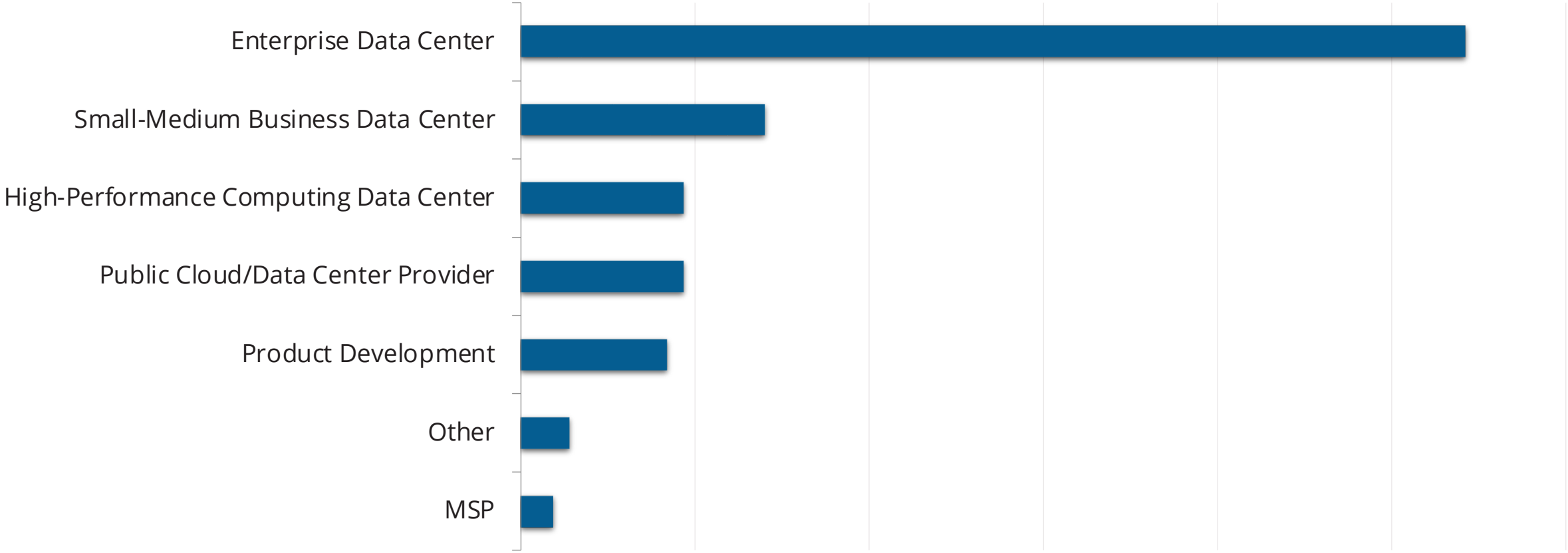
2024 IT Brand Leader Survey Report

Respondent Profiles

Respondent Title/Job Description:



Your environment is best described as:



2024 IT Brand Leader Survey Report

Results and Analysis

2024 Brand Leaders

Enterprise Infrastructure for AI

Voted by IT Pros

Product Category	Market Leader	Innovation Leader
Servers for AI	Dell Technologies	Dell Technologies
Primary Storage for AI	Dell Technologies	Pure Storage
File and Object Storage for AI	NetApp	Pure Storage
Network Switches for AI	NVIDIA	NVIDIA
SmartNICs for AI	AMD	NVIDIA
High Bandwidth Memory (HBM) for AI	Samsung	Samsung
GPUs for AI	NVIDIA	NVIDIA
CPUs for AI	Intel	Intel

Product Category Definitions

Servers for AI: General purpose servers configured with high-powered CPUs and GPUs, and for rapid development and deployment of large machine learning models.

Primary Storage for AI: High-capacity, high-bandwidth, low-latency flash storage required to feed data to LLM CPU and GPU memory as fast as possible.

File and Object Storage for AI: High-capacity, high-bandwidth, low-latency, and scale-out flash storage required to feed data to LLM CPU and GPU memory as fast as possible.

Network Switches for AI: InfiniBand and Ethernet switches with the ultra-high-bandwidth and low-latency required to maintain LLM performance in large scale-out environments.

SmartNICs for AI: Offloads network software processes, analytics, transfer, security, compression, and encryption.

High Bandwidth Memory (HBM) for AI: Embedded in CPUs and GPUS, HBM offers faster data access with lower energy consumption. For AI, it is a critical component for performance and reducing power consumption.

GPUs for AI: Perform technical calculations fast and with great energy efficiency. That means best performance for AI training and inference.

CPUs for AI: Less expensive than GPUs, but with a limited number of cores, CPUs are effective for training small neural networks with a limited dataset.

Summary Analysis

Servers and Primary Storage for AI - IT Pros Choose Dell as Market and Innovation leader

Dell Technologies is a perennial Market and Innovation brand leader for enterprise servers and primary storage. The company moved decisively into AI by introducing the Dell AI factory offering validated full-stack solutions. IT pros responded by voting Dell Technologies the Market and Innovation leader for both product categories.

Primary Storage and File & Object Storage for AI - Pure Storage Selected as Innovation leader

Pure Storage is a recurrent Innovation leader for Primary Storage and File & Object Storage as IT pros recognize their patented DirectFlash modules that allows their all-flash arrays to communicate directly with raw flash storage, and the pioneering development the company has done with low-cost QLC flash. AI is mostly a high-performance / high-capacity environment, with a critical need to get massive amounts of data in and out of storage as fast as possible. Our survey results indicate IT Pros believe Pure innovation is exactly what is needed for AI.

File & Object Storage for AI - NetApp Voted Market leader

Another incumbent enterprise brand leader is NetApp for file storage. AWS is perceived as the clear market leader with 33% more votes than Microsoft, and 50% more votes than Google. AWS won innovation leader voting by a narrow margin despite Microsoft's close relationship with Chatbot Brand Leader, ChatGPT.

Network Switches for AI - NVIDIA unseats incumbent Market leader, dominates voting for Innovation leader

Since 2008 when IT Brand Pulse was founded, Cisco was voted as the Market leader for Ethernet switches and Mellanox as the Market leader for higher bandwidth and lower latency InfiniBand switches. Apparently, IT pros realize that AI needs high-bandwidth and low latency because they voted NVIDIA (formerly Mellanox) network switches as the Market and Innovation leaders.

Summary Analysis

SmartNICs for AI - AMD inaugural Market leader

In our first-ever survey measuring brand leadership for SmartNICs, AMD (formerly Xilinx and Pensando SmartNICs) was voted the market leader, reflecting IT pro awareness of Xilinx's longtime market presence and leadership in this arena.

SmartNICs for AI - NVIDIA inaugural Innovation leader

In our inaugural survey for SmartNICs, NVIDIA (formerly Mellanox SmartNICs) was voted the Innovation leader. The survey results indicate IT pros value the tight integration and added value of SmartNICS that are tightly integrated with NVIDIA network switches and GPUs.

High-Bandwidth Memory for AI - Samsung sweeps Market and Innovation leader awards

The halo of the Samsung household name shines on their HBM product brand. IT pros voted Samsung as the Market and Innovation leader.

GPUs for AI - Any other results would be shocking. NVIDA chosen Market and Innovation leader

Jensen Huang and NVIDIA are leading a new era of GPU-centric AI computing that is global news almost impossible to avoid. The only surprise is that NVIDIA didn't receive all the votes for GPU market and innovation leader.

CPUs for AI – Intel voted Market and Innovation leader for CPUs

For the 17th Consecutive Year, Intel is Voted Market and Innovation Leader for CPUs, only this time it's "CPUs for AI." This year, only 9 percentage points separated AMD from first place Intel in voting from Innovation leader.

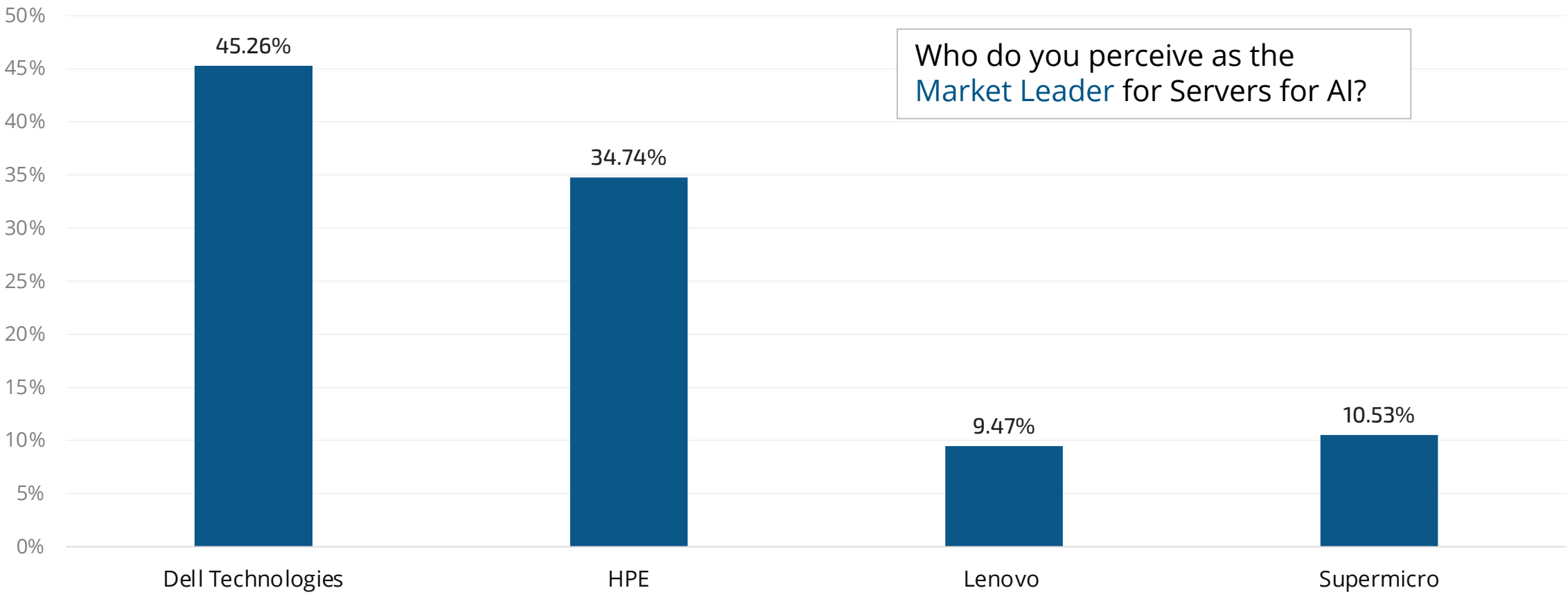
The Most Dominant Brands

Market Leader and Innovation Leader Combined

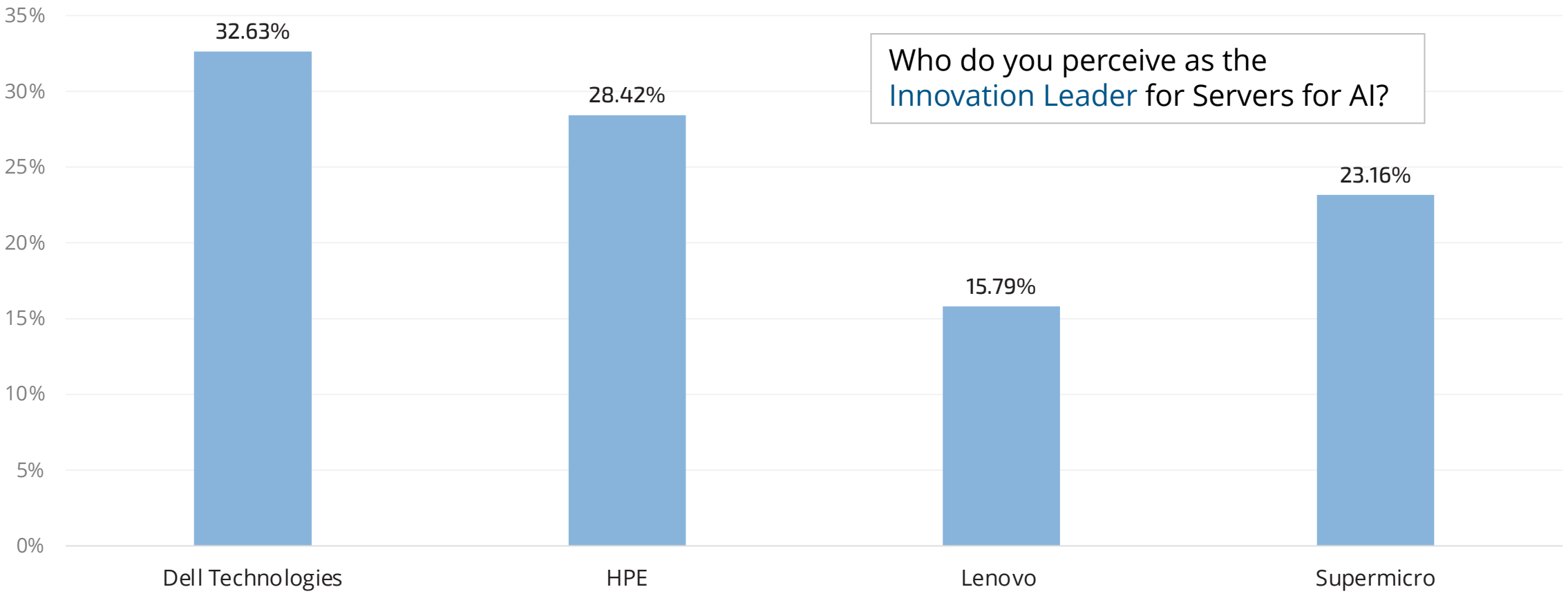
NVIDIA was 1st in 3 of the 5 categories with the highest percentage of votes, while Intel remains a dominant brand with their CPUs. See page 33 for the full list of brand leaders in ranked order.

Product	Brand Leadership	1st Place	Votes	2nd Place	Votes	Spread
GPUs for AI	Market	**NVIDIA**	78.95%	**Intel**	12.63%	66.32%
Network Switches for AI	Innovation	**NVIDIA**	70.53%	**Arista**	20.00%	50.53%
CPUs for AI	Market	**Intel**	68.42%	**AMD**	31.58%	36.84%
GPUs for AI	Innovation	**NVIDIA**	66.32%	**AMD**	18.95%	47.37%
CPUs for AI	Innovation	**Intel**	53.68%	**AMD**	46.32%	7.36%

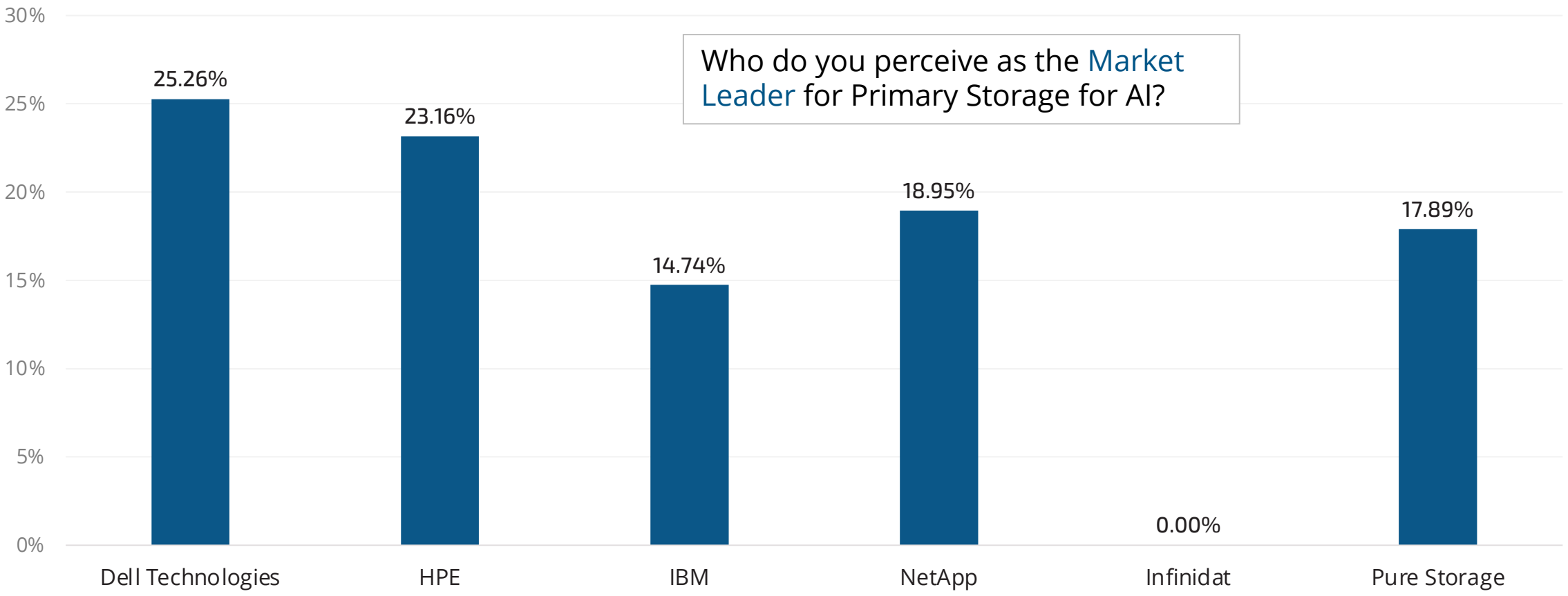
Servers for AI



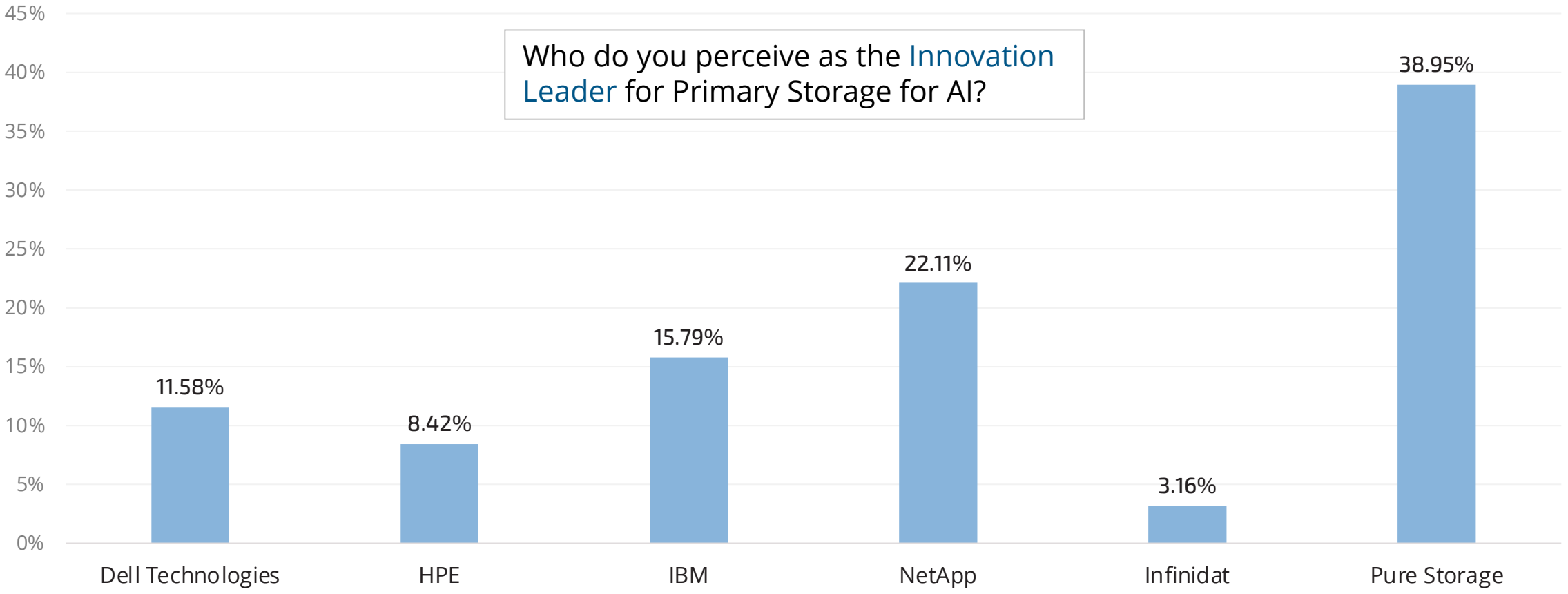
Servers for AI



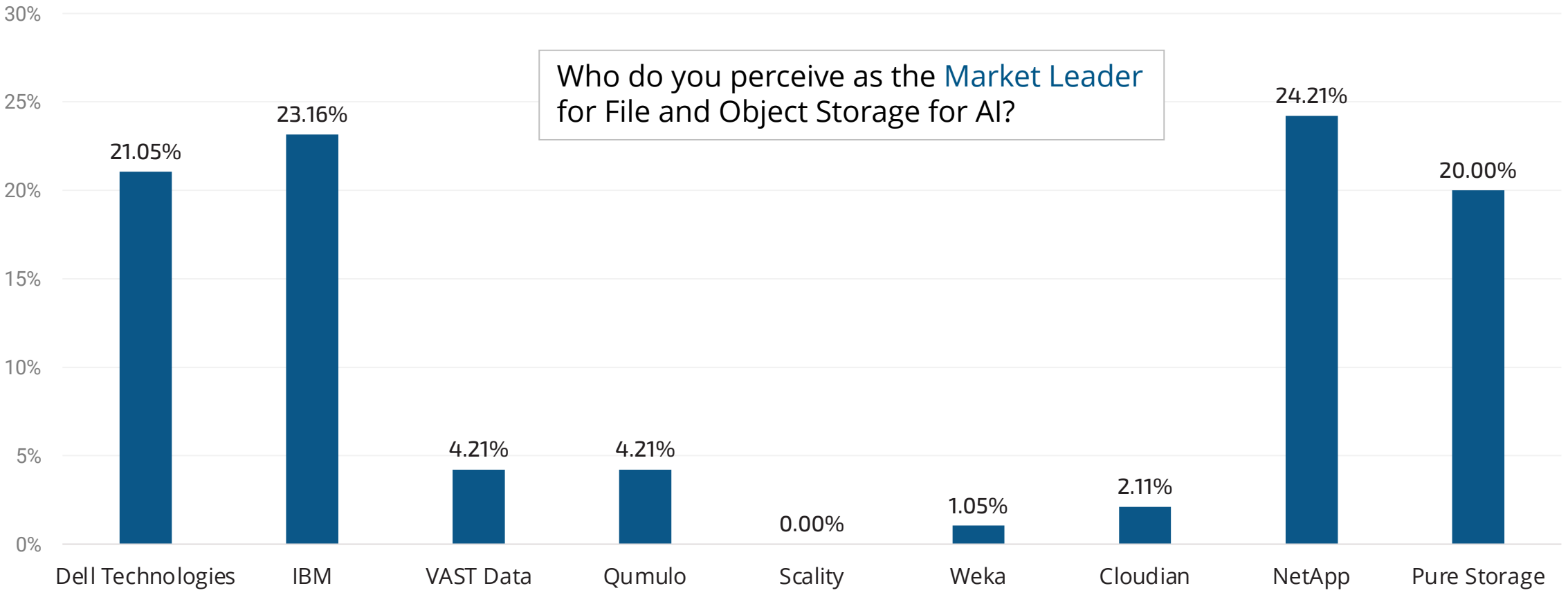
Primary Storage for AI



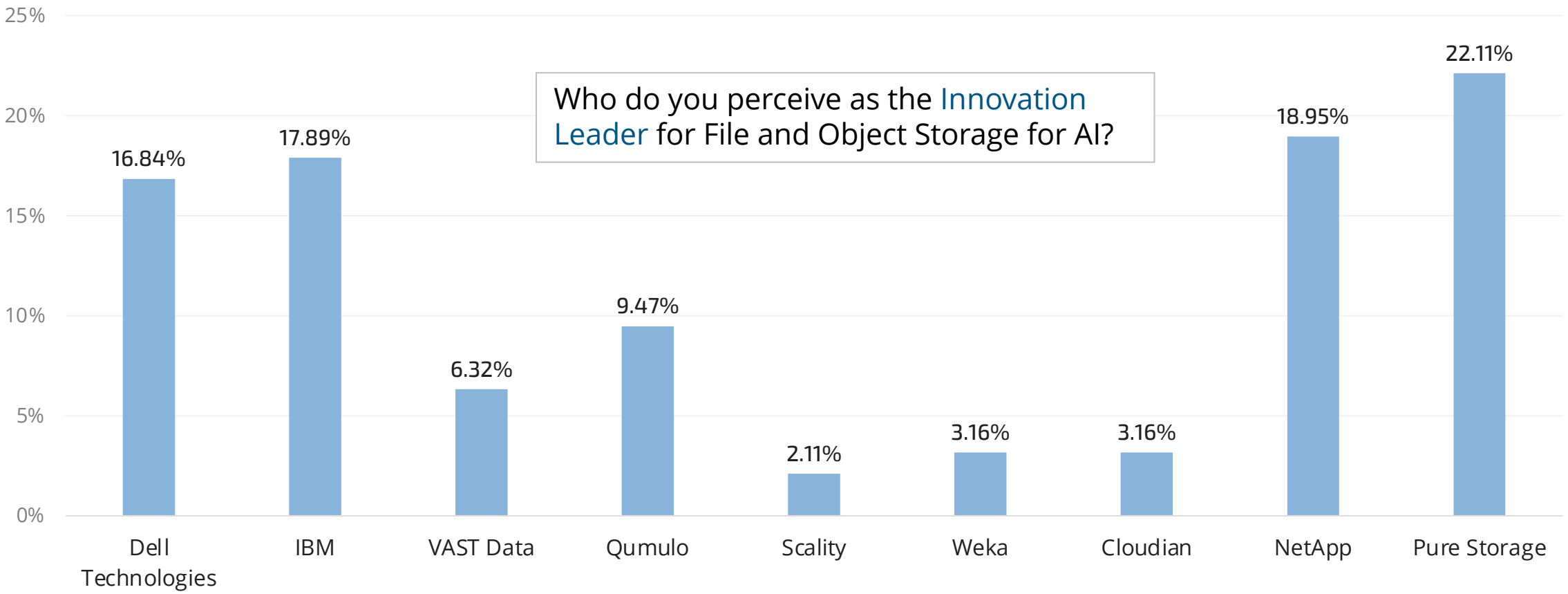
Primary Storage for AI



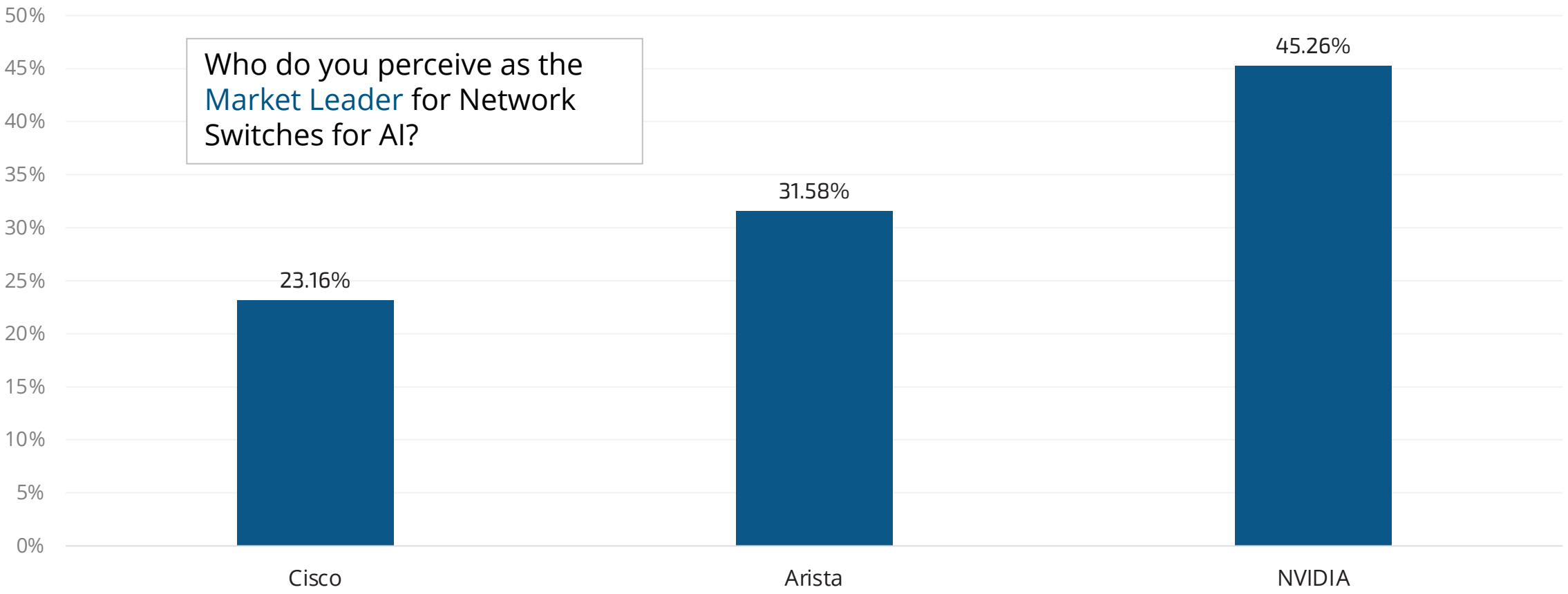
File and Object Storage for AI



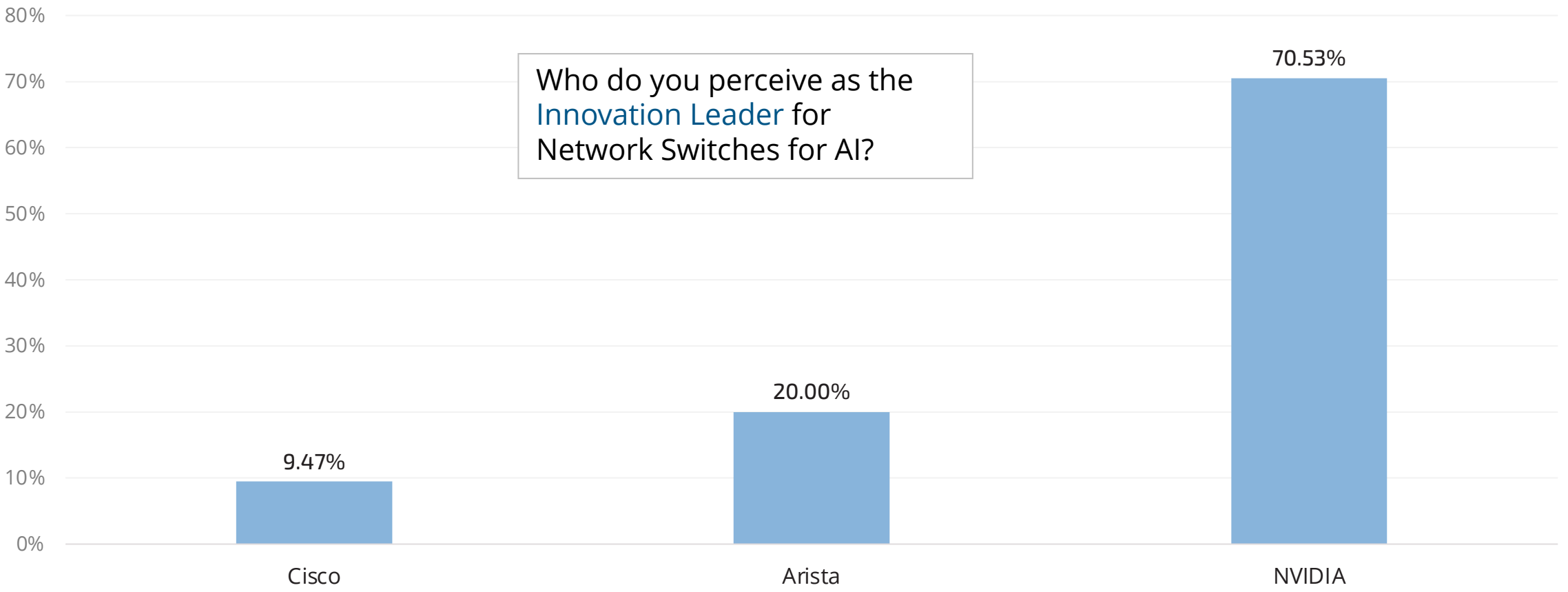
File and Object Storage for AI



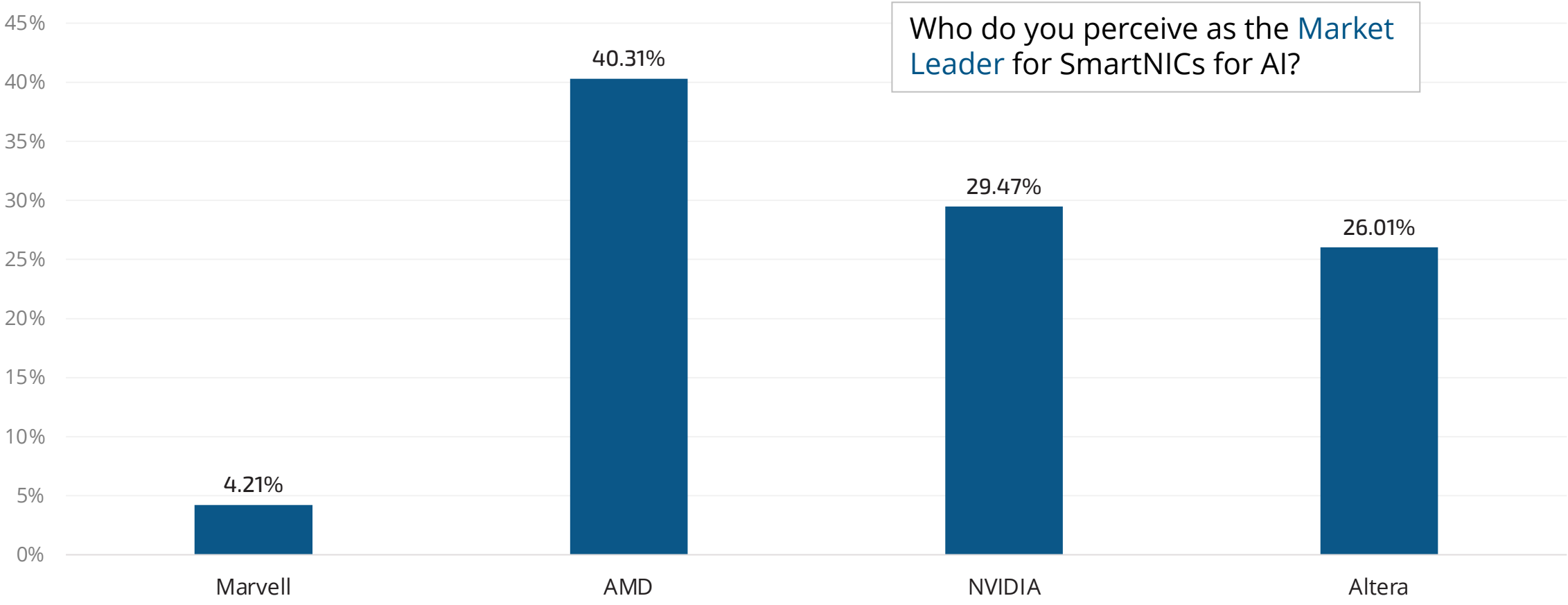
Network Switches for AI



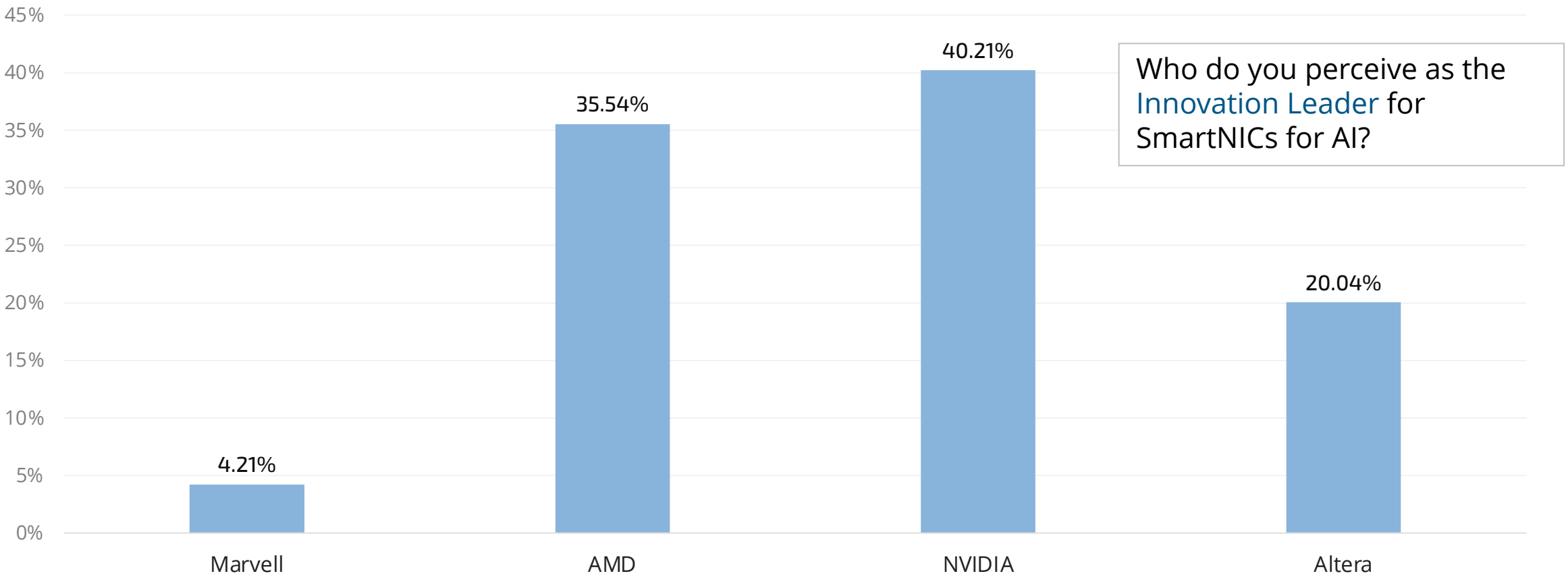
Network Switches for AI



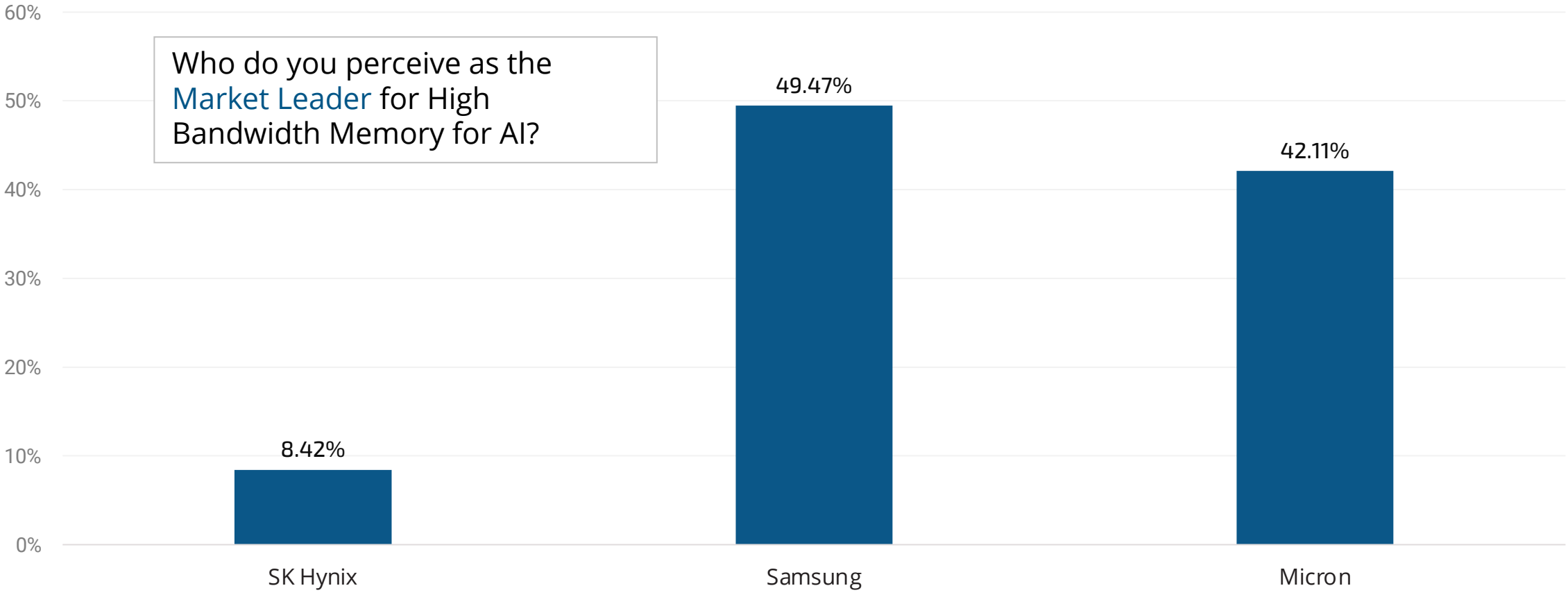
SmartNICs for AI



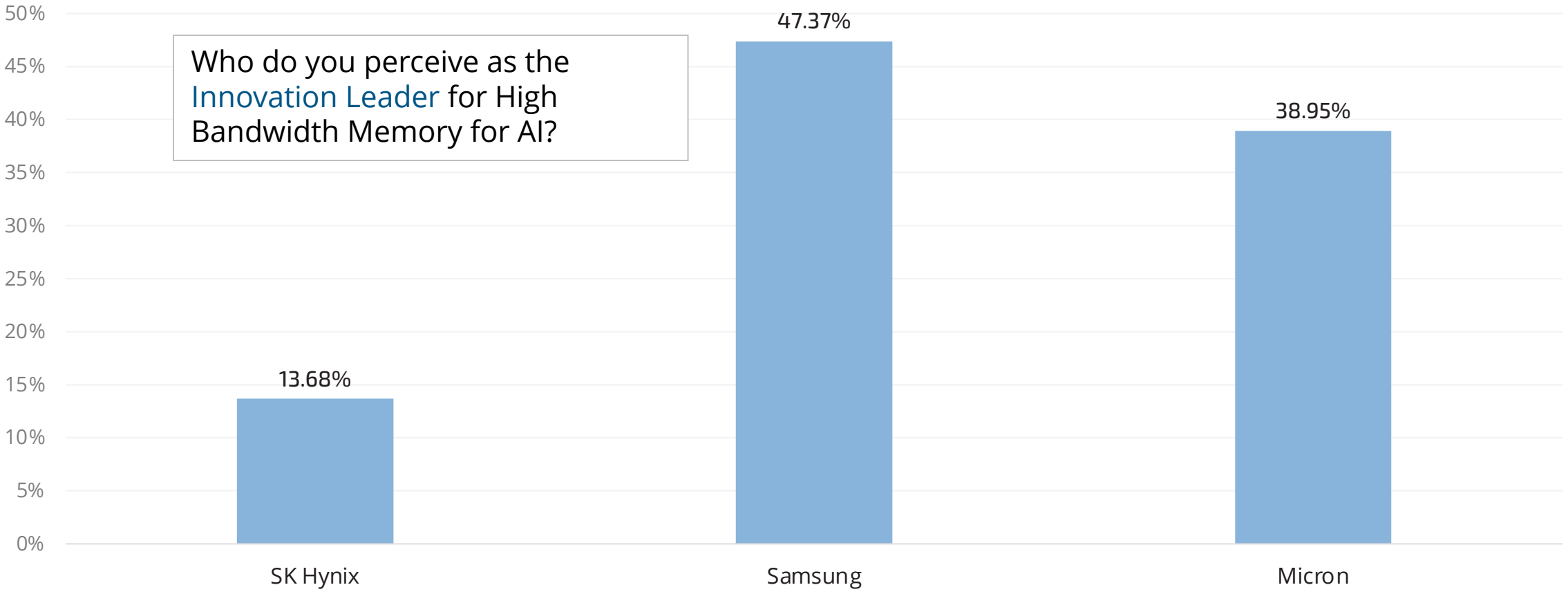
SmartNICs for AI



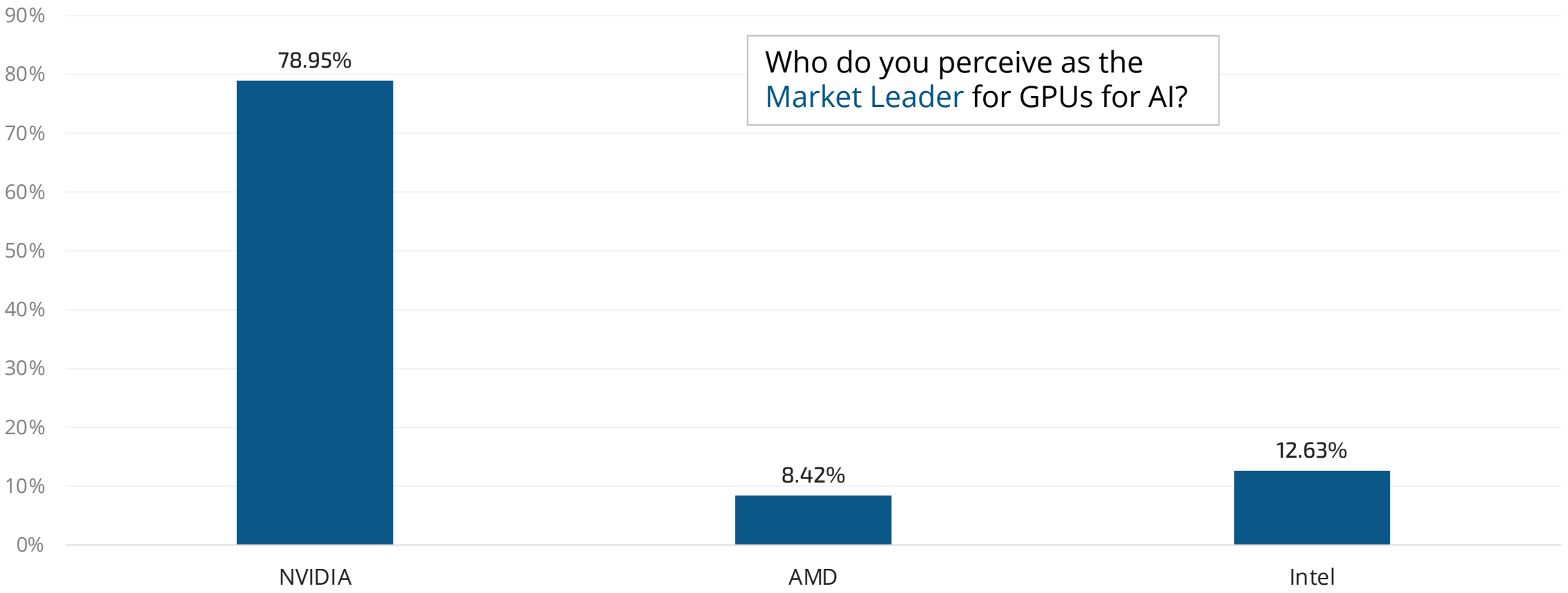
High Bandwidth Memory (HBM) for AI



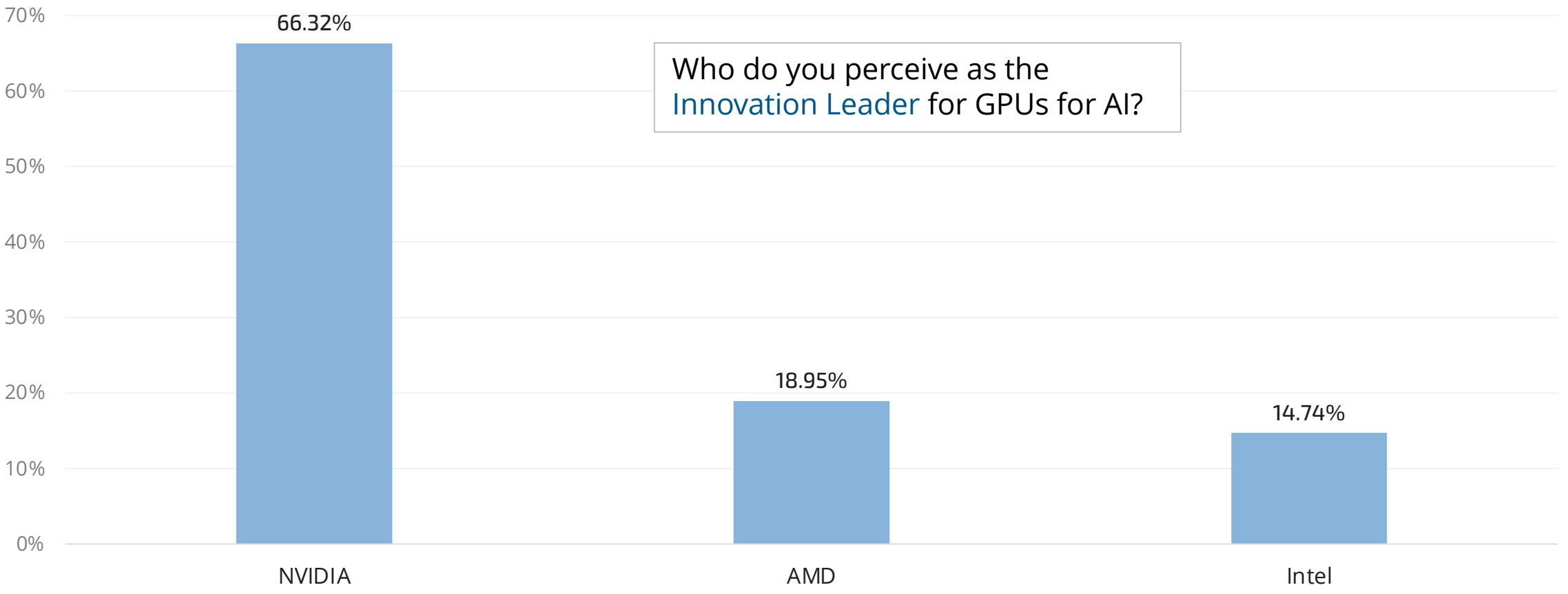
High Bandwidth Memory (HBM) for AI



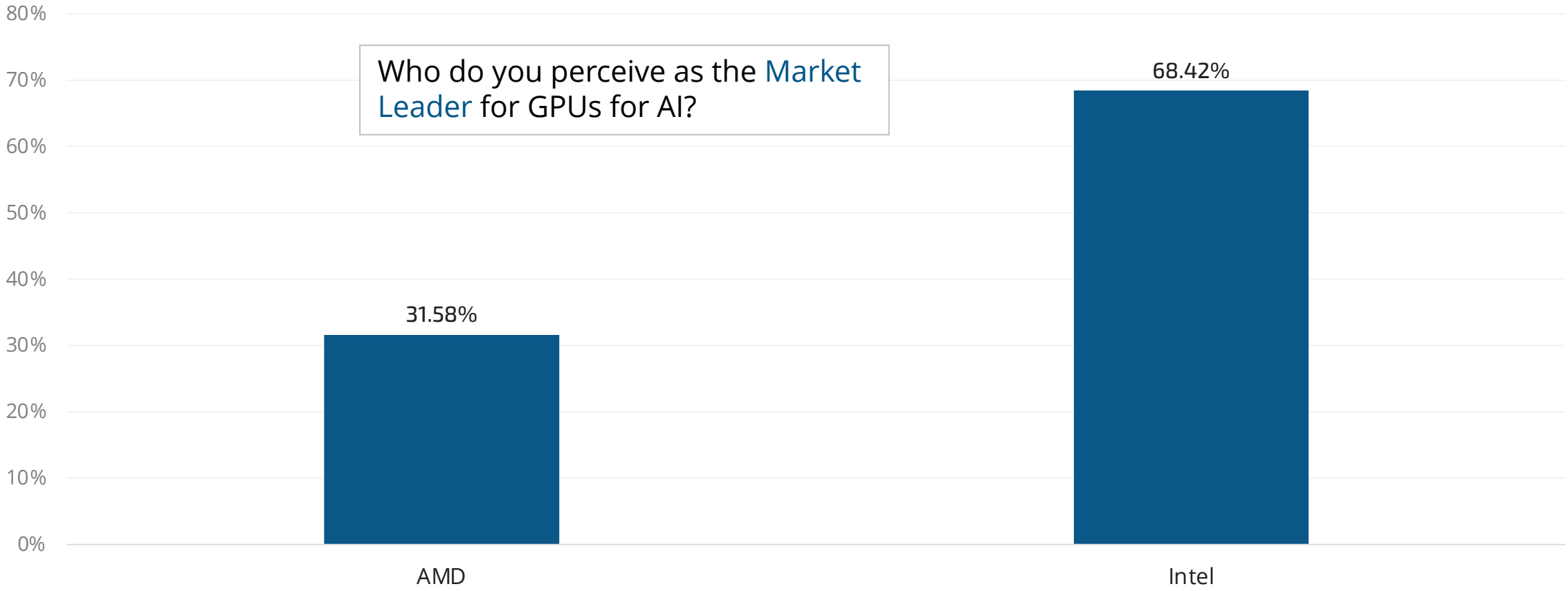
GPUs for AI


90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
78.95%
8.42%
12.63%
NVIDIA
AMD
Intel
Who do you perceive as the Market Leader for GPUs for AI?

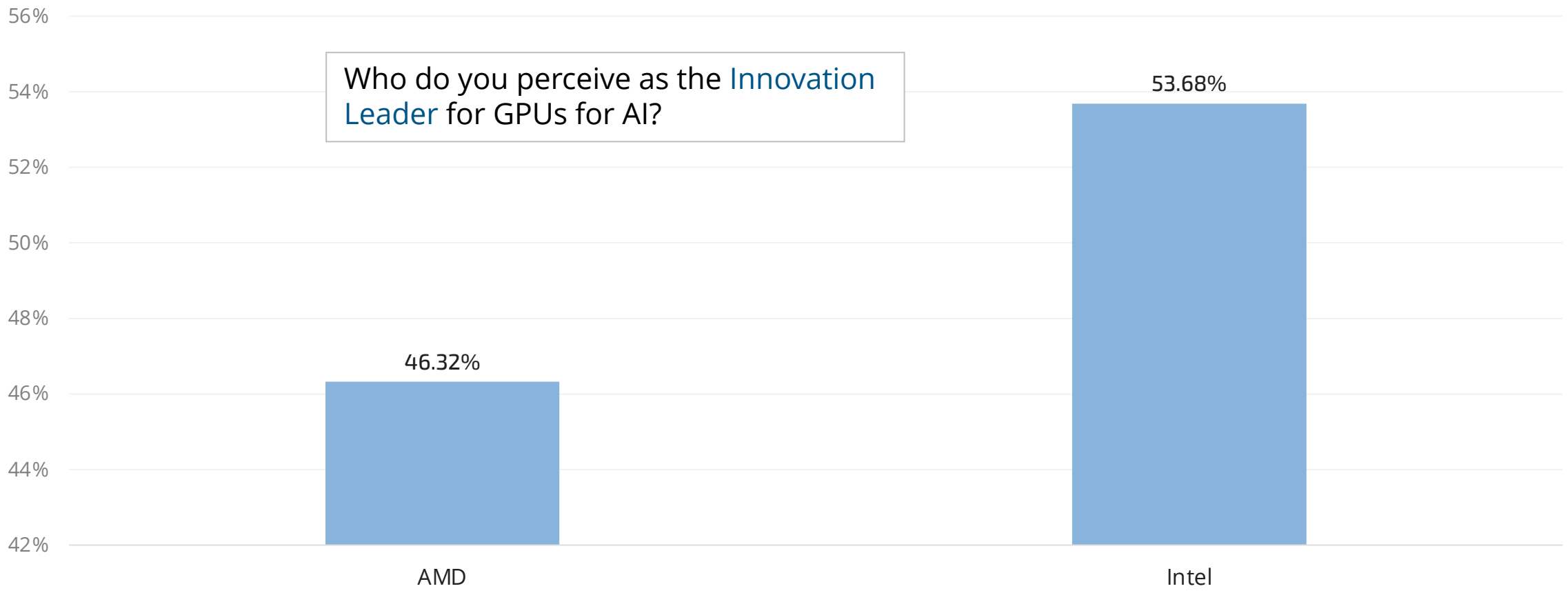
GPUs for AI


Who do you perceive as the Innovation Leader for GPUs for AI?
70%
60%
50%
40%
30%
20%
10%
0%
66.32%
18.95%
14.74%
NVIDIA
AMD
Intel

CPUs for AI


Who do you perceive as the Market Leader for GPUs for AI?
80%
70%
60%
50%
40%
30%
20%
10%
0%
31.58%
68.42%
AMD
Intel

CPUs for AI


Who do you perceive as the Innovation Leader for GPUs for AI?
56%
54%
52%
50%
48%
46%
44%
42%
46.32%
53.68%
AMD
Intel

The Most Dominant AI Market and Innovation Leader Brands

Product	Brand Leadership	1st Place	Votes	2nd Place	Votes	Spread
GPUs for AI	Market	NVIDIA	78.95%	Intel	12.63%	66.32%
Network Switches for AI	Innovation	NVIDIA	70.53%	Arista	20.00%	50.53%
CPUs for AI	Market	Intel	68.42%	AMD	31.58%	36.84%
GPUs for AI	Innovation	NVIDIA	66.32%	AMD	18.95%	47.37%
CPUs for AI	Innovation	Intel	53.68%	AMD	46.32%	7.36%
High-Bandwidth Memory for AI	Market	Samsung	49.47%	Micron	42.11%	7.36%
High-Bandwidth Memory for AI	Innovation	Samsung	47.37%	Micron	38.95%	8.42%
Servers for AI	Market	Dell Technologies	45.26%	HPE	34.74%	10.52%
Network Switches for AI	Market	NVIDIA	45.26%	Arista	31.58%	13.68%
SmartNICs for AI	Market	AMD	40.31%	NVIDIA	29.47%	10.84%
SmartNICs for AI	Innovation	NVIDIA	40.21%	AMD	35.54%	4.67%
Primary Storage for AI	Innovation	Pure Storage	38.95%	NetApp	22.11%	16.84%
Servers for AI	Innovation	Dell Technologies	32.63%	HPE	28.42%	4.21%
Primary Storage for AI	Market	Dell Technologies	25.26%	HPE	23.16%	2.10%
File & Object Storage for AI	Market	NetApp	24.21%	IBM	23.16%	1.05%
File & Object Storage for AI	Innovation	Pure Storage	22.11%	NetApp	18.95%	3.16%

The Most Dominant AI Market Leader Brands

Product	Brand Leadership	1st Place	Votes	2nd Place	Votes	Spread
GPUs for AI	Market	**NVIDIA**	78.95%	**Intel**	12.63%	66.32%
CPUs for AI	Market	**Intel**	68.42%	**AMD**	31.58%	36.84%
High-Bandwidth Memory for AI	Market	**Samsung**	49.47%	**Micron**	42.11%	7.36%
Servers for AI	Market	**Dell Technologies**	45.26%	**HPE**	34.74%	10.52%
Network Switches for AI	Market	**NVIDIA**	45.26%	**Arista**	31.58%	13.68%
SmartNICs for AI	Market	**AMD**	40.31%	**NVIDIA**	29.47%	10.84%
Primary Storage for AI	Market	**Dell Technologies**	25.26%	**HPE**	23.16%	2.10%
File & Object Storage for AI	Market	**NetApp**	24.21%	**IBM**	23.16%	1.05%

Most Dominant Brands for AI Innovation

Product	Brand Leadership	1st Place	Votes	2nd Place	Votes	Spread
Network Switches for AI	Innovation	**NVIDIA**	70.53%	**Arista**	20.00%	50.53%
GPUs for AI	Innovation	**NVIDIA**	66.32%	**AMD**	18.95%	47.37%
CPUs for AI	Innovation	**Intel**	53.68%	**AMD**	46.32%	7.36%
High-Bandwidth Memory for AI	Innovation	**Samsung**	47.37%	**Micron**	38.95%	8.42%
SmartNICs for AI	Innovation	**NVIDIA**	40.21%	**AMD**	35.54%	4.67%
Primary Storage for AI	Innovation	**Pure Storage**	38.95%	**NetApp**	22.11%	16.84%
Servers for AI	Innovation	**Dell Technologies**	32.63%	**HPE**	28.42%	4.21%
File & Object Storage for AI	Innovation	**Pure Storage**	22.11%	**NetApp**	18.95%	3.16%

About the Author

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