

How long is the lifespan of an AI server

Article Overview

AI servers typically have a physical lifespan of 1-3 years, though major tech companies often depreciate them over 5-6 years for accounting purposes.

Physical Lifespan

The actual useful life of AI servers and GPUs is generally shorter than traditional servers due to high computational loads, thermal stress, and rapid technological obsolescence. Analysts estimate that GPUs running at 60-70% utilization for AI workloads survive 1-2 years on average, with a maximum of three years under heavy use . Technological advancements, such as Nvidia's newer chips offering 4-5x faster inference than older models, also drive early replacement, as older hardware becomes economically obsolete even if still functional .

Accounting and Depreciation Lifespan

Despite the shorter physical lifespan, hyperscalers like Microsoft, Amazon, Google, Meta, and Oracle often spread the depreciation of AI servers over 5-6 years. This longer accounting life reduces annual depreciation expenses and temporarily boosts reported profits, even though the hardware may need replacement sooner . For example, Amazon initially extended server lifespans to six years but later shortened a subset back to five years, citing the rapid pace of AI hardware turnover .

Implications

- o Operational planning: Companies must anticipate frequent hardware refresh cycles to maintain AI performance.
- o Financial reporting: The discrepancy between physical and accounting lifespans can create a temporary financial advantage but may mask true replacement costs .
- o Cloud economics: Users paying for AI inference may not see cost reductions proportional to the extended accounting lifespan, as actual hardware replacement occurs sooner .

Summary

In practice, AI servers last 1-3 years physically, primarily due to wear and rapid obsolescence, while financial depreciation schedules extend to 5-6 years. This gap reflects both the intense demands of AI workloads and the accounting strategies of major tech companies. Organizations planning AI infrastructure should consider both the technical lifespan and the economic depreciation when budgeting and scheduling upgrades.



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Servers tend to last between 5-8 years if stored in a clean environment. A good rule of thumb however is to replace

Learn what server lifetime means for business - and how to extend it! Boost performance, cut costs and get more

The Surprisingly Brief Lifespan of Data Center GPUs: Why AI is Burning Through Hardware Modern data center GPUs

Home & Computing Data Center AI GPUs May Have Extremely Short Lifespans An unnamed Google engineer

Microsoft, Amazon, Alphabet, Meta and Oracle all stretched server useful lives toward six years, each adding ~4 to 5% to net

By extending server lifespans to six years, Amazon reckons it will draw in an additional \$900 million in the first quarter

Amazon revises server lifespan amid AI shift, impacting 2025 earnings The transition from CPUs to GPUs and

Server Lifecycle - How does the industry consider lifecycle of server hardware? How long is too long? Server hardware lifecycle:

The useful lifespan of AI infrastructure is a key issue for investors, as tech giants plan \$1 trillion in AI spending over

Consider Upgrading Your Server The world of IT is constantly shifting, and it directly has an

Servers can last much longer than most people think. How long does a server last? We've got several parties weighing

With such utilization rates, a GPU will typically survive between one and two years, three years at the most, according

Microsoft also extended its server lifespan to six years in 2022, while Oracle did the same in

Scaleway explains how it plans to use servers for a decade and why it's getting rid of RAID

Fortunately, hard disks are also among the least expensive and easiest components to replace in a server. Just

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Similar to the servers and IT equipment mentioned in the paragraphs above, these products can have a much longer

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