What Are Data Centers?

How digital infrastructure supports daily life

Bottom line: A data center is a physical facility where computing systems store, process and move digital information. Data centers support services people use every day, but facilities differ greatly in purpose, size, design and local impact.

What is inside a data center?

Rows of computers are only part of the picture. A dependable facility combines digital equipment with the infrastructure needed to operate safely and continuously. [1][2]

COMPUTE + STORAGE Servers run applications and process information; storage systems retain data.	**NETWORKS** Fiber, routers and switches connect users, devices and other data centers.	**POWER** Utility service, substations, batteries and generators help maintain availability.
COOLING Air or liquid systems remove heat produced by computing equipment.	**RESILIENCE** Redundant systems, monitoring and backups reduce the risk of interruption.	**SECURITY** Physical controls and cybersecurity practices protect equipment and information.

"Data center" does not mean one thing

The categories can overlap. For example, an AI workload may run in a hyperscale cloud campus, a colocation facility or an enterprise site.

TYPE	WHO / WHERE	TYPICAL ROLE
Enterprise / on-premises	One organization; its own site or building	Runs the organization's internal applications, records and systems.
Colocation	A specialist provider; multiple customers	Customers lease secured space, power and network connections in a shared facility.
Hyperscale / cloud	Large cloud or digital-service operator	Standardized, highly scalable capacity serving many products, customers or regions.
Edge	Smaller sites closer to users or devices	Processes selected workloads nearby when low latency or local availability matters.
AI	A workload and design profile, not a single ownership type	Concentrated accelerators such as GPUs can require more power and advanced cooling per rack.

A useful distinction: Cryptocurrency mining also uses large amounts of computing equipment, but its purpose and operating profile differ from facilities that host cloud, business, government or AI services. Its impacts should not be treated as a universal stand-in for all data centers.

Data centers in daily life

What do they help make possible?

Most digital services rely on a network of facilities, telecommunications links and end-user devices — not one building. Depending on the service, data centers may support:

LEARNING + WORK Learning platforms, research tools and business applications.	**COMMERCE** Online shopping, inventory, customer service and supply chains.	**COMMUNICATION** Email, messaging, video calls, cloud storage, collaboration and social media.	**MOVEMENT** Navigation, airline and transit systems, shipping and logistics.
HEALTH & SAFETY Scientific research, electronic records, health monitoring platforms, security and public-safety systems.	**PUBLIC SERVICES** Government portals, records, benefits.	**MONEY** Card payments, banking, fraud detection and transaction records.	**MEDIA** Streaming, gaming, news delivery, digital publishing and websites.

Why do we need them?

- **Scale:** shared cloud and colocation infrastructure lets organizations add computing and storage without building every system themselves.
- **National security:** domestic locations for sensitive data; support for cyber protection and development of defense technologies.
- **Continuity:** backups and geographically separated systems can help services recover from equipment failures or disasters.
- **Security and control:** managed physical access, network controls and standardized operations can strengthen protection.

Why is more capacity being built?

Demand is rising for several reasons - not AI alone:

- Organizations continue moving applications and data to cloud services, while consumers and businesses use more digital communications, commerce, streaming and connected services. [3][4]
- AI training and day-to-day AI use require substantial computing capacity, particularly high-density accelerator hardware. AI is a major recent growth driver, but conventional cloud, storage and enterprise workloads continue to matter. [4][5]
- Operators also add capacity for resilience, geographic coverage and replacement of older equipment. Actual needs vary by market, technology, efficiency and customer demand.

What does growth mean for communities?

New facilities can bring significant private investment, construction jobs, permanent employment opportunities — including skilled positions that can pay well above local median wages — tax-base growth and infrastructure improvements. In some communities, additional tax revenue has helped fund teacher bonuses and public services, while data center operators have supported educational grants, libraries, workforce development and other community initiatives. Together, these investments can create lasting economic and community benefits that extend well beyond the facilities themselves.

Sources

[1] U.S. Department of Energy, Data Centers and Servers

[2] National Institute of Standards and Technology, NIST Cloud Computing Reference Architecture (SP 500-292)

[3] National Institute of Standards and Technology, The NIST Definition of Cloud Computing (SP 800-145)

[4] Lawrence Berkeley National Laboratory, United States Data Center Energy Usage Report: 2025 Update (2026)

[5] International Energy Agency, Energy and AI (2025)