

WHAT IS A DATA CENTER?

A Basic Guide

Introduction

The Internet is where we store and receive a huge amount of information. Where is all the information stored? The answer is data centers. At its simplest, a data center is a dedicated place that organizations use to house their critical applications and data.

The Data Center Layout



Building Structure

Built to protect facilities in the event of natural diasters.

Server Room

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House servers in a secure and climate-controlled room. Servers store and process data and connect to a network for input/output.

PDUs

PDUs not only deliver power but also monitor power consumption and track voltage fluctuations that signal potential equipment issues.

Network Operations Center

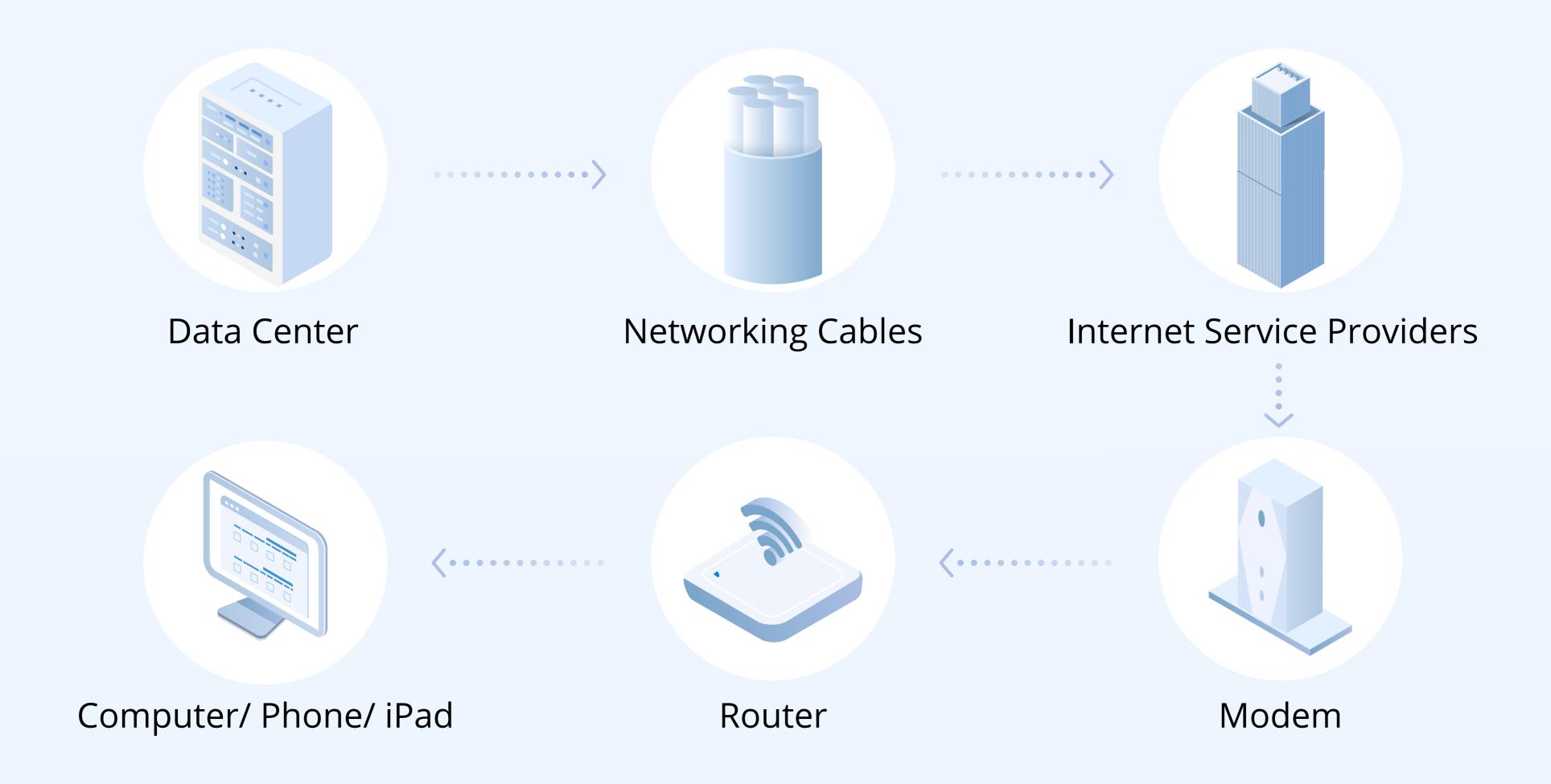
IT and security monitor the data center to keep track of security threats and critical infrastructure performance.

Physical Security

Security measures such as CCTV surveillance, security guards, protective barriers, locks, access control, perimeter intrusion detection provide 24/7 monitoring.

The Data Pathway

How does data travel between data center servers and your computer?



These fiber optic cables provide the internet backbone by moving data at high speed, providing internet access to companies and consumers.

Types of Data Centers

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Enterprise Data Centers

They are facilities that are built and operated by enterprises to support their data processing and storage needs. Generally placed in corporate campuses.

Managed Data Centers

Deployed, managed and monitored by a third-party data center service provider. They provide features and functionality similar to that of a standard data center, but through a managed service platform.



Colocation Data Centers

Colocation data centers provide colocation infrastructure: buildings, cooling, bandwidth, security, and etc. Typically, companies seeking colocation services rent space from colocation providers.



Cloud Data Centers

Fully virtualized based on cloud computing architecture, e.g., companies can host both data and applications to cloud service providers.

Edge Data Centers

Smaller computational facilities closer to the "edge of a network" or pockets of populations they serve. Their purpose is to deliver cloud computing services and cached content to end-users.

Hyperscale Data Centers

Hyperscale data centers are massive and house thousands of servers. They are designed to be highly scalable by adding more devices and equipment or increasing system power.

Epilogue •

Data centers are more than just a safe and secure space equipped with reliable power and network. They are becoming a valuable addition to many businesses as they prove to be a dependable extension of IT teams.

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