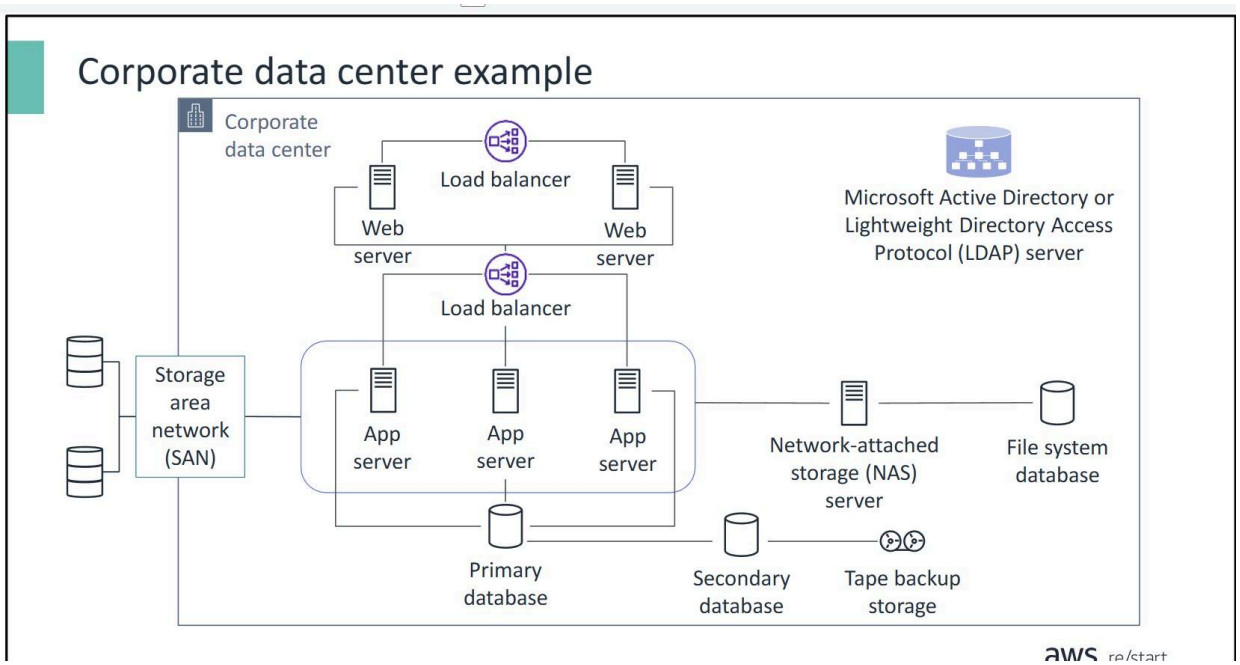



A traditional on-premises infrastructure (or corporate data center) might include a setup that is similar to this example. This diagram represents a three-tier, client-server architecture in a corporate data center. The box labeled Corporate Data Center indicates what is contained in the data center.

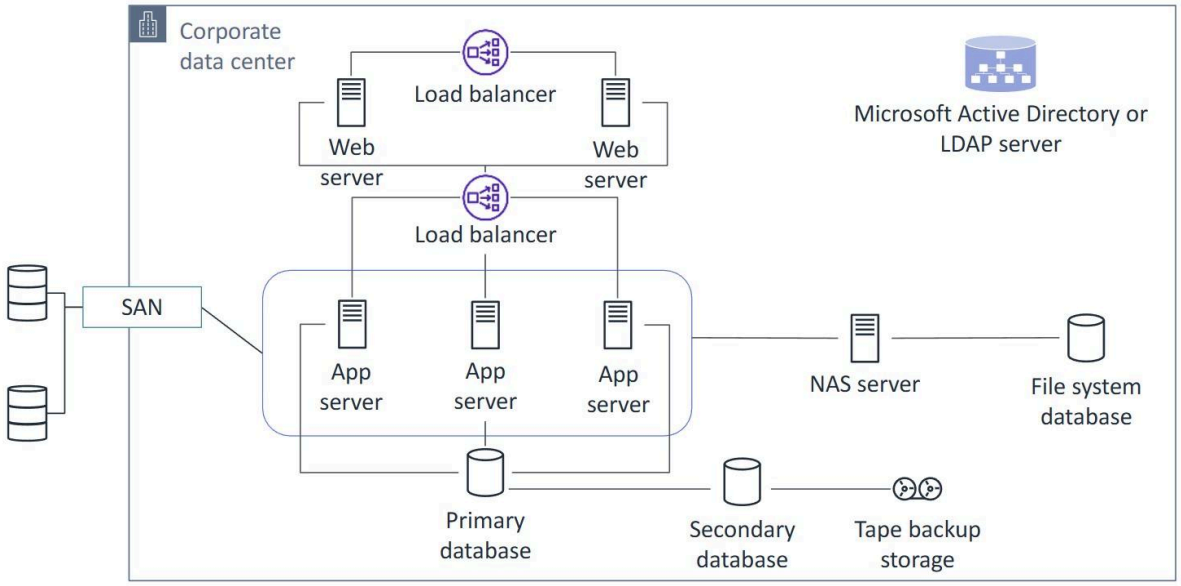
The bottom of this diagram includes the database servers with attached tape backup devices. This tier is responsible for the database logic.

The middle of the diagram contains the application servers. An application server is a component-based product that resides in the middle tier of a server-centric architecture. It provides middleware services for security and state maintenance and also provides data access and persistence. The application servers also contain the business logic. The middle section also contains network-attached storage (NAS). NAS devices are file servers that provide a centralized location for users on a network to store, access, edit, and share files.

The Microsoft Active Directory or Lightweight Directory Access Protocol (LDAP) server is like a phone book that anyone can use to locate organizations, individuals, and other resources (such as files and devices in a network) on the public internet or on a corporate intranet.

The box labeled Storage Area Network (SAN) with the attached external disks refers to storage that is outside the corporate data center. A SAN is a specialized, high-speed network that provides block-level network access to storage. SANs are often used to improve application availability (for example, multiple data paths). SANs are also used to enhance application performance (for example, off-load storage functions, separate networks, and so on).

## Corporate data center transition considerations



## Transitioning a corporate data center to the cloud

| On-Premises Icon | On-Premises Item | AWS Service or Resource | AWS Icon |
|---|---|---|---|
|  | Server | Amazon Elastic Compute Cloud (Amazon EC2) Instances |  |
|  | LDAP | AWS Directory Service |  |
|  | Software-based load balancers | Elastic Load Balancing (ELB) |  |
|  | SAN solutions | Amazon Elastic Block Store (Amazon EBS) |  |
|  | NAS file server | Amazon Elastic File System (Amazon EFS) |  |
|  | Databases | Amazon Relational Database Service (Amazon RDS) |  |
|  | Tape backup storage | Amazon Simple Storage Service (Amazon S3) |  |

following in the AWS Cloud:

- You can replace servers, such as the on-premises web servers and app servers, with Amazon Elastic Compute Cloud (Amazon EC2) instances that run all the same software. Because EC2 instances can run a variety of Microsoft Windows Server, Red Hat, SuSE, Ubuntu, or Amazon Linux operating systems, you can run many server applications on EC2 instances.

- You can replace the LDAP server with AWS Directory Service, which supports LDAP authentication. With Directory Service, you can set up and run Microsoft Active Directory in the cloud or connect your AWS resources with existing on-premises Microsoft Active Directory.

- You can replace software-based load balancers with Elastic Load Balancing (ELB) load balancers. ELB is a fully managed load balancing solution that scales automatically as needed. It can perform health checks on attached resources and redistribute a load away from unhealthy resources as necessary.

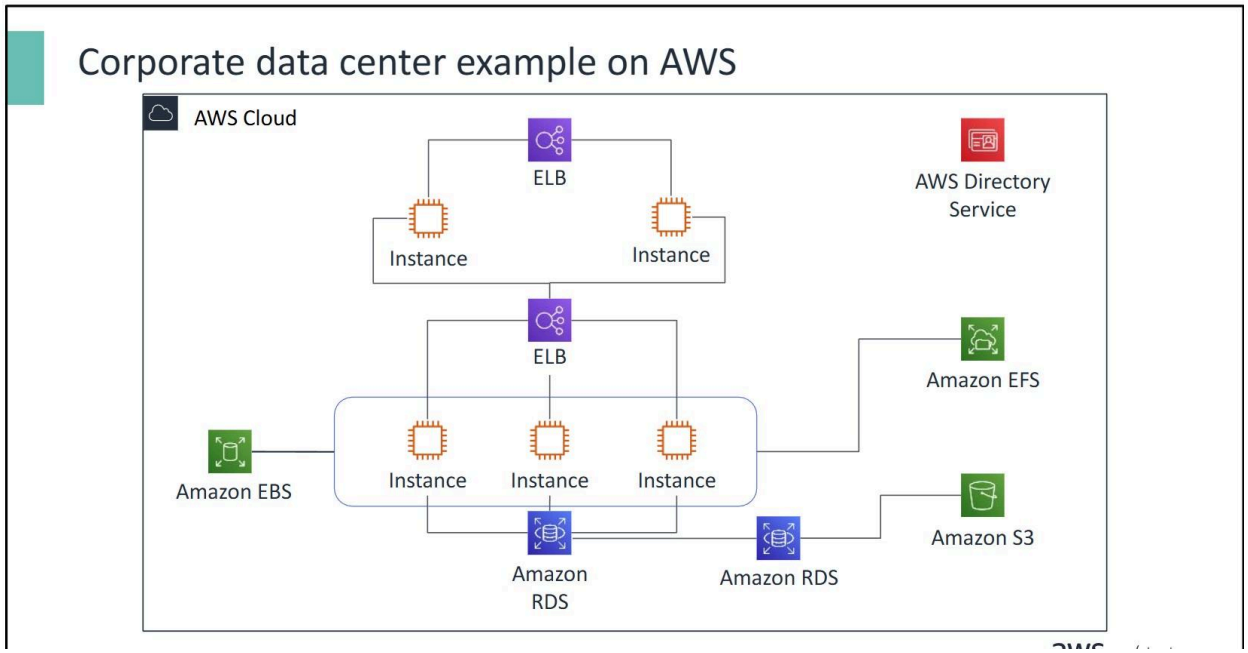
by selecting the appropriate service to fulfill the business need. Like in the lesson example, organizations can transition the following over to the associated AWS services:

- A traditional web server to an EC2 instance
- LDAP to Directory Service
- Software-based load balancers to ELB
- SAN solutions to Amazon EBS
- NAS file server to Amazon EFS
- Databases to Amazon RDS
- Tape backup storage to Amazon S3

2. What are some of the benefits of transitioning a data center to the cloud?

- Trade upfront costs for variable costs: Stop buying hardware.
- Benefit from massive economies of scale: Benefit from the purchasing power of AWS.
- Eliminate guessing your capacity needs: Construct a flexible, highly available solution by using scaling.





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