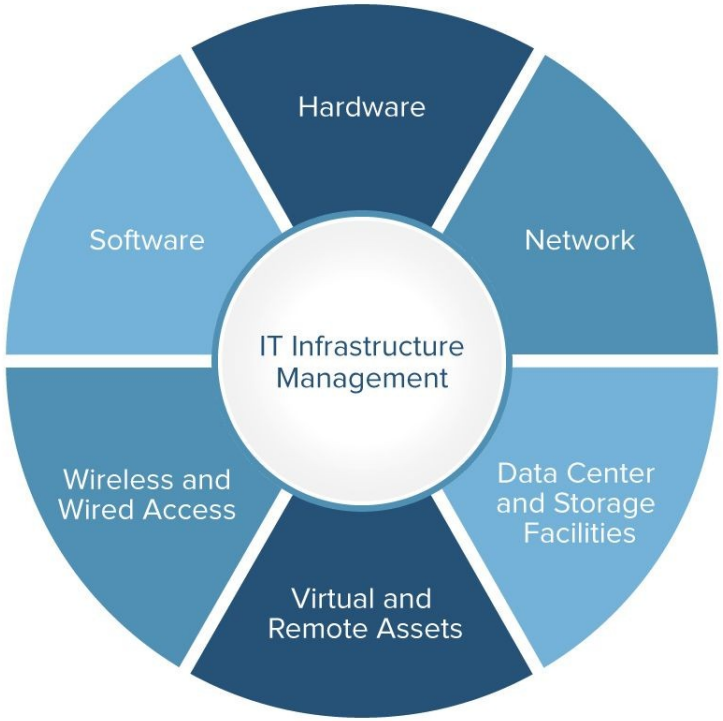
Traditional IT Infrastructure

What is IT Infrastructure?

IT infrastructure refers to the combined components needed for the operation and management of enterprise IT services and environments.



Components of IT Infrastructure

Two core groups of components are hardware and software.
Hardware & Software components can include:

- Desktop computers
- Servers
- Data centers
- Hubs
- Routers
- Switches
- Facilities
- Content management systems (CMS)
- Customer relationship management (CRM)
- Enterprise resource planning (ERP)
- Operating systems
- Web servers

Why IT Infrastructure is Imp.

- If an IT infrastructure is **flexible, reliable and secure**, it can help an enterprise meet its goals and provide a competitive edge in the market.
- Alternatively, if an IT infrastructure isn't properly implemented, businesses can **face connectivity, productivity and security issues**—like system disruptions and breaches.

Advantages of Good IT Infrastructure

With a good IT infrastructure, a company can:

- Provide a positive customer experience by providing uninterrupted access to its website and online store.
- Develop and launch solutions to market with speed.
- Collect data in real time to make quick decisions.
- Improve employee productivity.

Characteristics of Optimal IT Infrastructure

IT infrastructure setups vary by business needs and goals, but some goals are universal for every enterprise.

- High-performance storage systems store and back up data and include a data recovery system in case of disasters.
- Low-latency networks to reduce the delay of data flow.
- Secure infrastructures include systems that control information access and data availability. It can also safeguard a business against breaches and cyberattacks wherever the data resides, maintaining the customers' trust.
- WANs manage the network by prioritizing traffic and giving certain applications more or less bandwidth as needed.
- Virtualization provides faster server provisioning, increases uptime, improves disaster recovery and saves energy.
- Zero downtime aims to reduce disruptions to business operations and eliminates system downtime to keep costs down and profits up

Types of IT Infrastructure

The two primary types of IT infrastructure are

- Traditional
- Cloud infrastructure

Traditional IT Infrastructure

- Traditional IT infrastructure consist of many hardware pieces, including desktop machines connected to networks via remote servers.
- It is usually installed **on-premises** for private use by a company, containing a business's stored data and applications. Due to this, it is also known as on-premises infrastructure.

Traditional IT Infrastructure

- Many businesses with this IT model need to have an in-house IT department to install and maintain the hardware.
- The purchase of extra hardware is needed, and it is also mandatory to upgrade for scaling up data storage along with additional services for supporting an increased number of users.
- Regular software upgrades are also necessary, and constant hardware additions are always required with these traditional IT models to make systems fail-safe in cases of hardware failures, making all this a very costly affair.

Advantage of Traditional IT Infrastructure

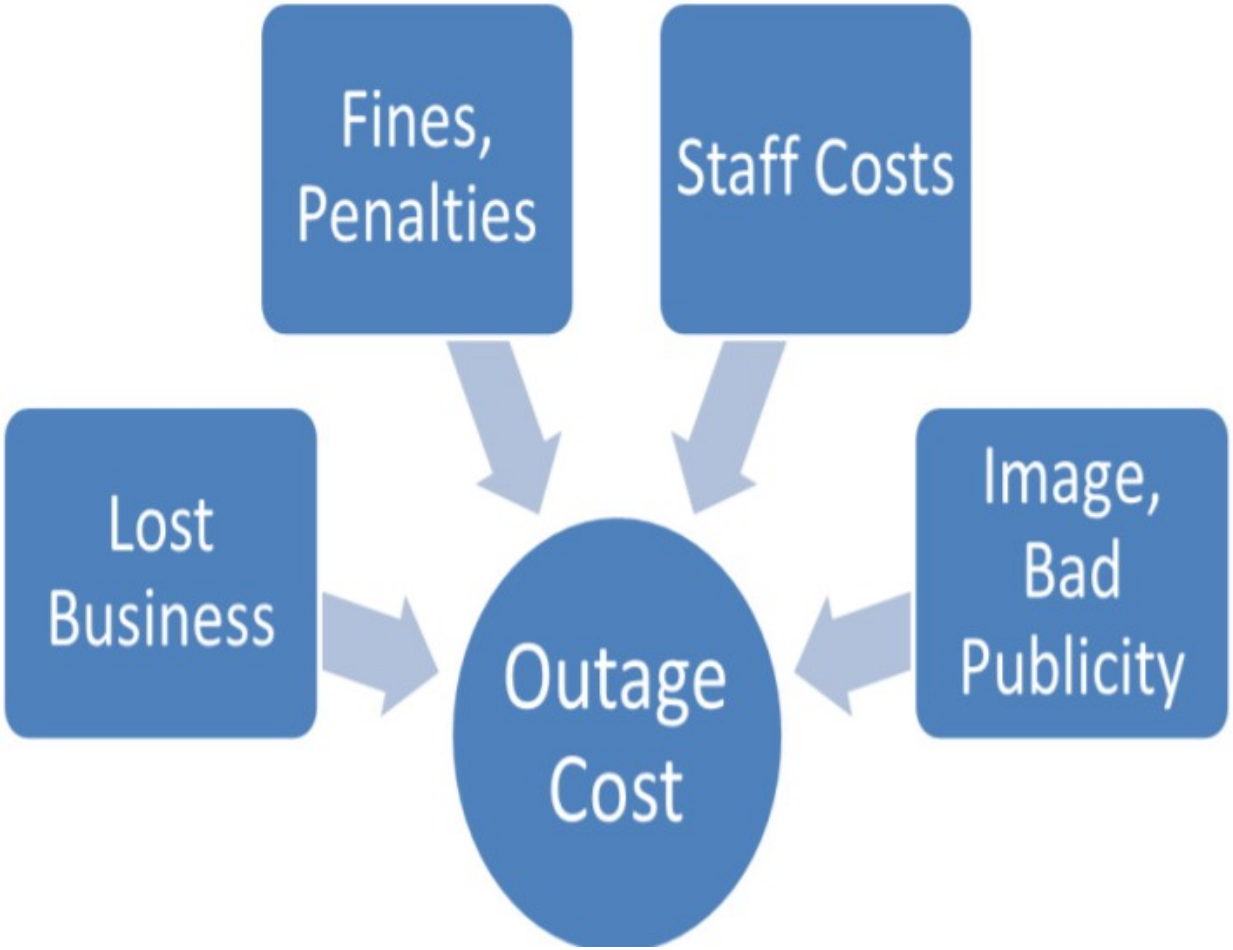
- Full Control of IT Environment
- Sole Responsibility of Security
- Around-the-Clock Data Access
- Ability to Customize Applications and Services

Disadvantage of Traditional IT Infrastructure

- Limited Server Capacity
- Limited Data Access
- More Time Consuming
- High Capital Expenditure (CAPEX)
- Susceptible to Human Error
- Not Very Accommodating

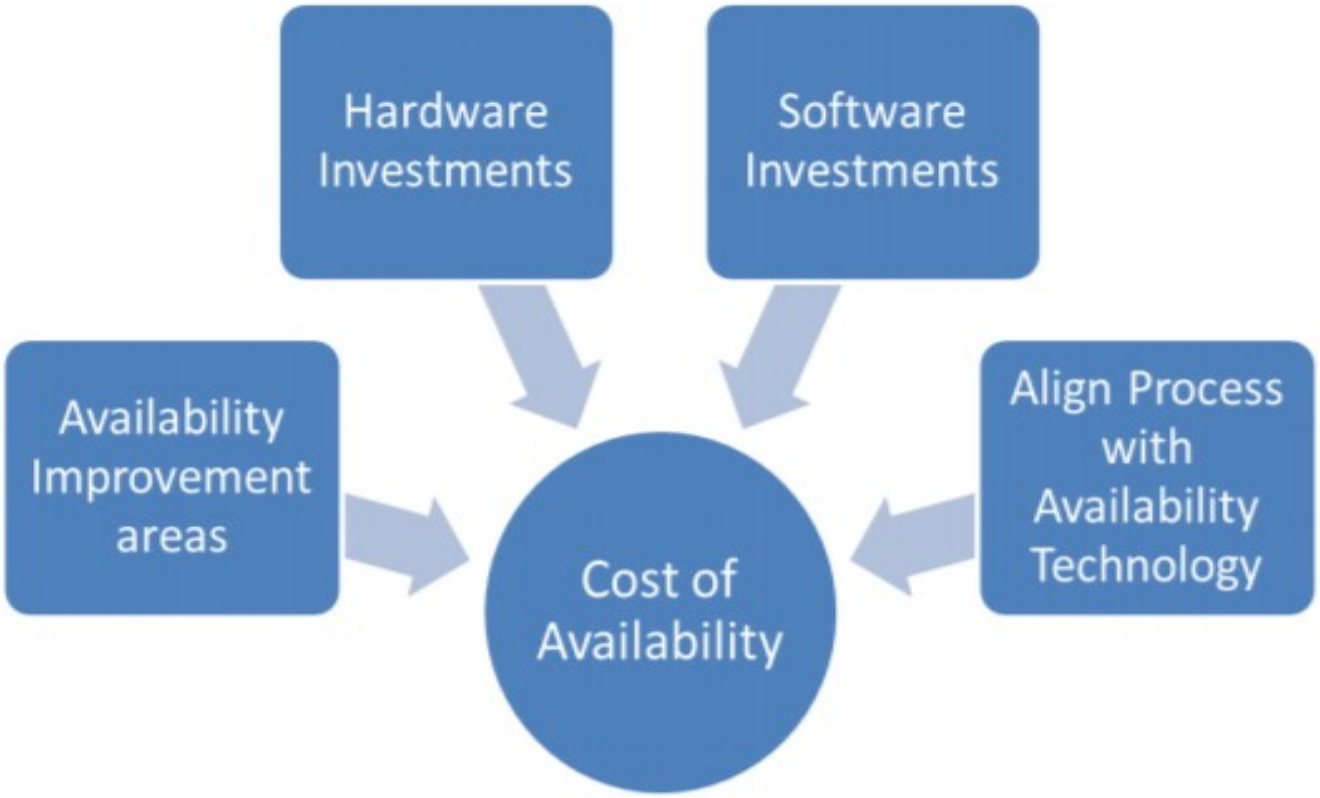
Cost of an Outage

- Identify the value of availability or cost of unavailability is difficult task.



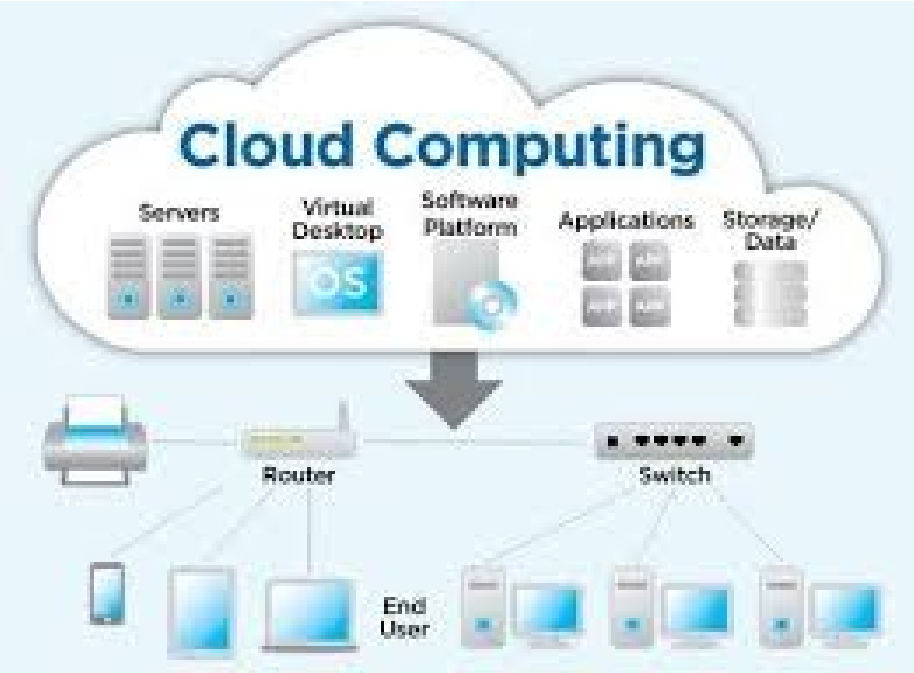
Cost of Availability

- Factors given in the figure help us to determine the cost of availability.



Cloud Computing based IT Infrastructure

- With cloud computing, the IT infrastructure can be accessed via the internet.
- Users can use computing resources without installing on-premises hardware through something called virtualization.



Cloud Computing based IT Infrastructure

- Virtualization distributes the capabilities of a physical machine among many environments by connecting physical servers maintained by a services provider.
- With the virtual hosting solution, all the software, servers, and networks are hosted off-premises, in the cloud, rather than being accessible through physical hardware, as in the traditional models.
- So, the costs of purchasing physical equipment and servers in-house are minimized as data storage space can be rented from cloud providers, which is a much more cost-effective option.

Adv./Disadv. of Cloud Computing based IT Infrastructure

- Most Cost-Effective Option
- Unlimited Scalability
- Avoided Downtime through Greater Resiliency
- Flexible Working Solutions
- Easy Software Implementation
- Limited Oversight
- Susceptible to Downtime due to Network Issues
- Lack of Security Insight

DETERMINING YOUR IT BUDGET

When businesses make a decision regarding the IT model that would be most beneficial to them, considering the budget is critical.

- Traditional IT infrastructure will be more costly than the cloud, but if a business needs the ownership that traditional IT allows — it could be the best decision of the two.
- On the other hand, if a business is trying to remain cost-conscious, cloud infrastructure would be the best option. Whether by implementing a hybrid solution or utilizing all of the benefits of the cloud, the flexibility would prove invaluable to a team also looking to save

What is Cloud Computing?