Essential Characteristics

- *On-demand self-service*

    A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service provider.

- *Broad network access*

    Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms (e.g., mobile phones, tablets, laptops, and workstations).

Source: NIST Special Publication 800-145

Characteristics

- *Resource pooling*

  The provider's computing resources are pooled to serve multiple consumers

  Resources can be dynamically assigned and reassigned according to customer demand

  Customer generally may not care where the resources are physically located but should be aware of risks if they are located offshore

Source: NIST Special Publication 800-145

Characteristics

- *Rapid elasticity*

  Capabilities can be expanded or released automatically (i.e., more cpu power, or ability to handle additional users)

  To the customer this appears seamless, limitless, and responsive to their changing requirements

- *Measured service*

  Customers are charged for the services they use and the amounts

  There is a metering concept where customer resource usage can be monitored, controlled, and reported, providing transparency for both the provider and consumer of the utilized service

Source: NIST Special Publication 800-145