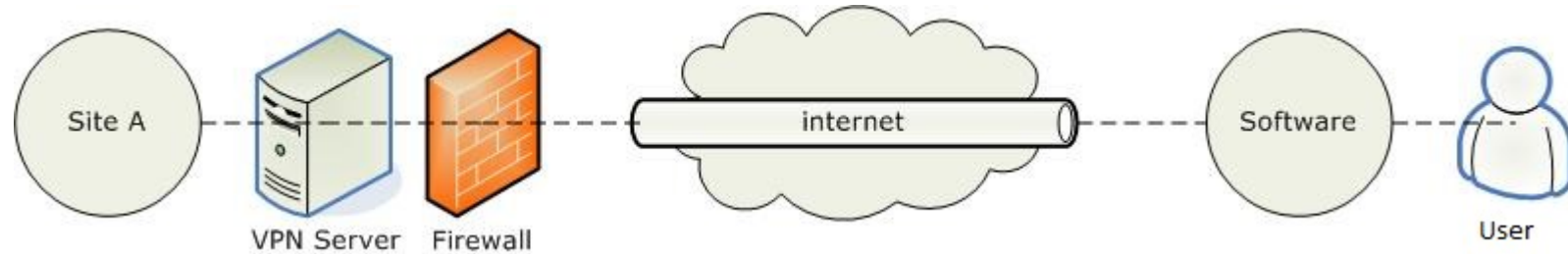# Virtual Private Networks (VPNs)
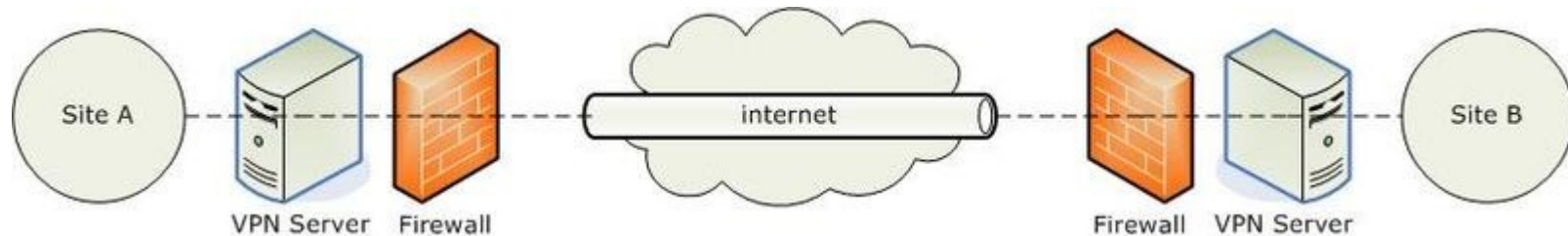
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VPN Uses

Remote access:
to appear as if on the
network at a different site,
e.g. working from home

Site-to-site: to gain access to
resources available at a
different site, a connection
between multiple networks
such as offices at different
locations

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Types of VPN

- Trusted
  - Separate circuits maintained by providers
- Secure
  - Uses protocols to ensure secure communication
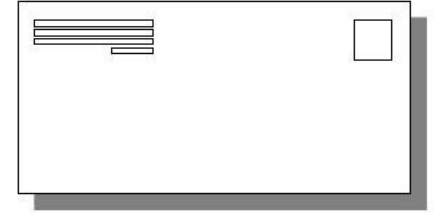- Hybrid
  - Combination of trusted and secure

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Secure VPN Mechanisms

- Authentication

- Tunnelling

- Encryption

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Authentication

- Request for connection

- VPN server asks requester to identify

- Authentication takes place

- Implementation depends on protocol

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Tunnelling

- Packets with internal network addresses are encapsulated within packets using internet addressing

IP address

Local address

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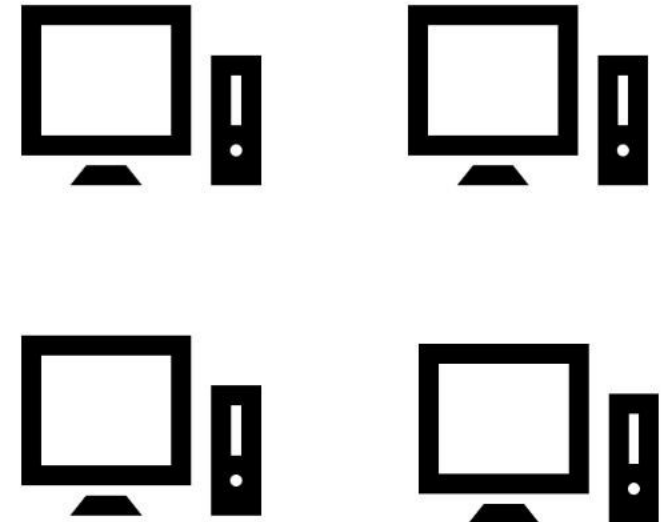
Encryption

- Packets are encrypted using an encryption protocol

- Mode
    - Transport
    - Tunnel