

Network Attacks Overview

Segurança Informática em Redes e Sistemas
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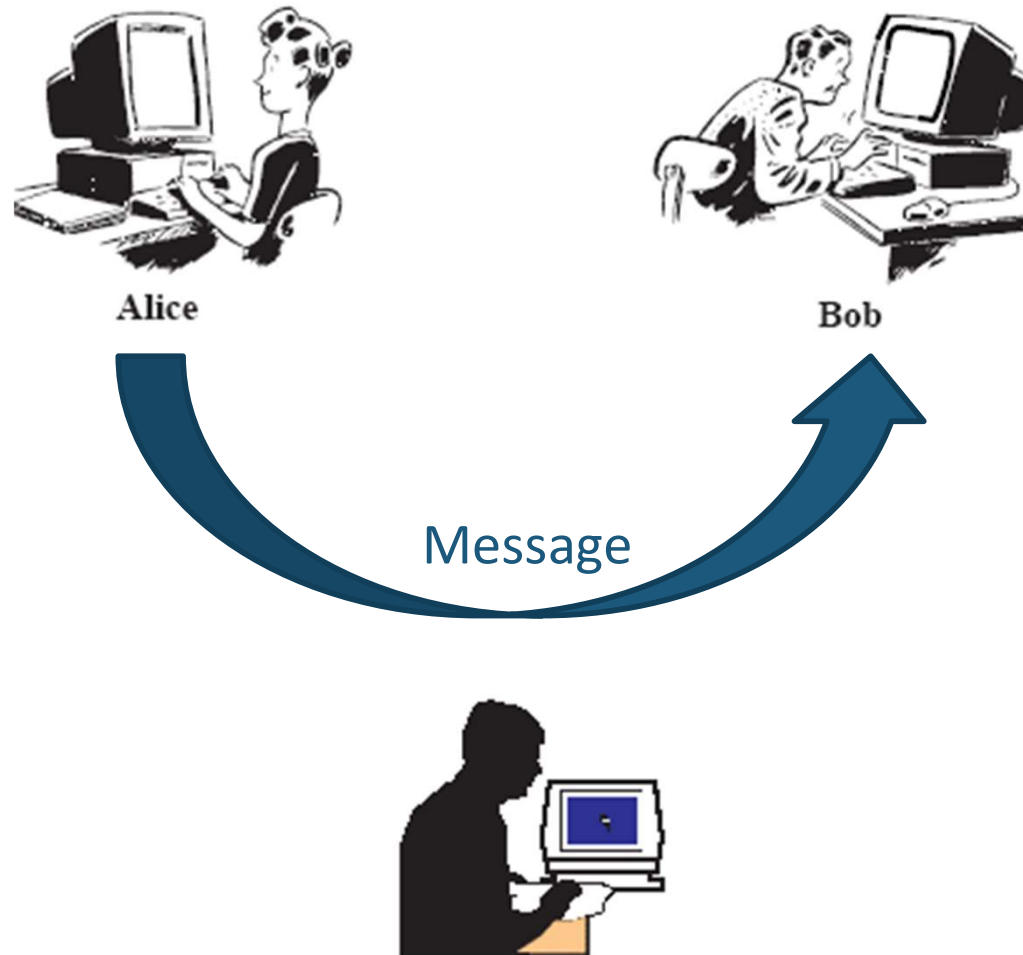
Ack: Carlos Ribeiro, André Zúquete,
Miguel P. Correia, Ricardo Chaves

Roadmap

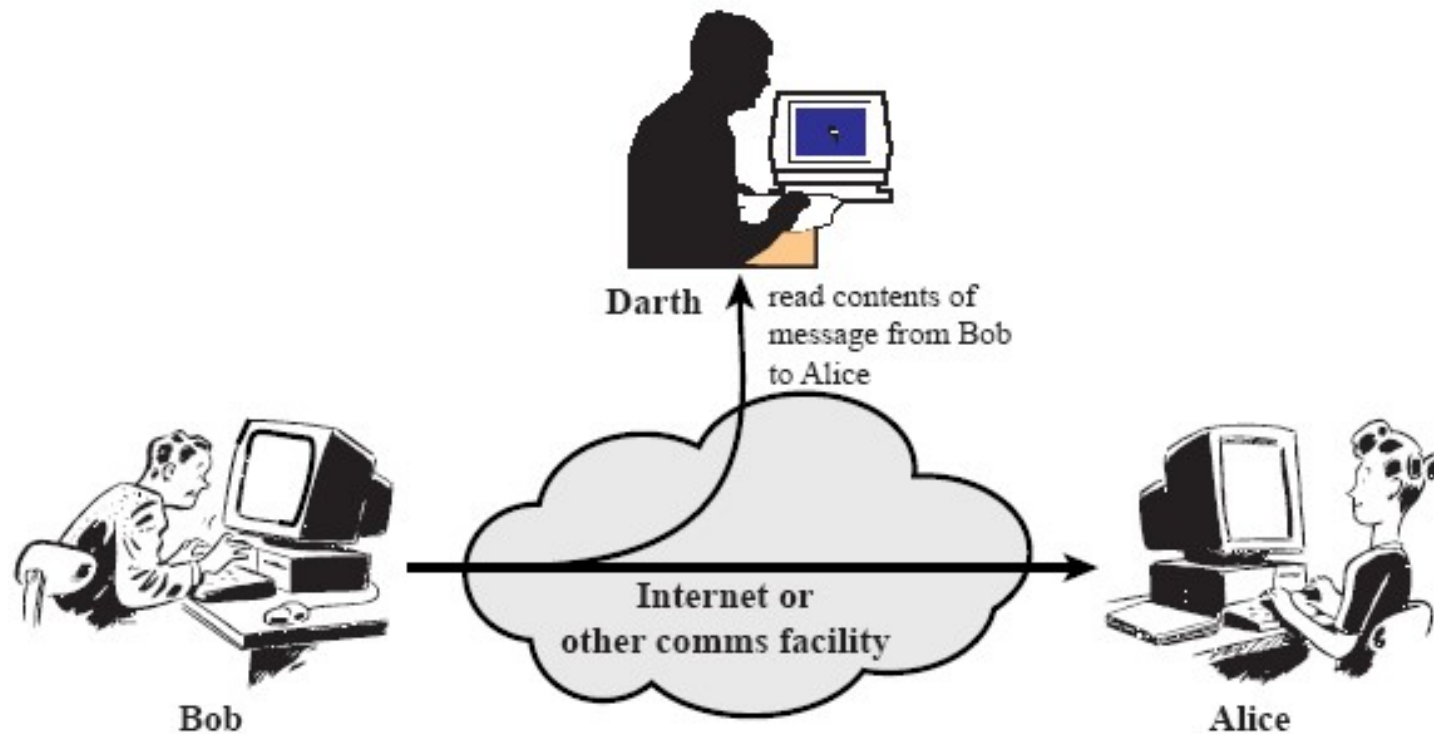
- Network attacks
- Security models

Network communication parties

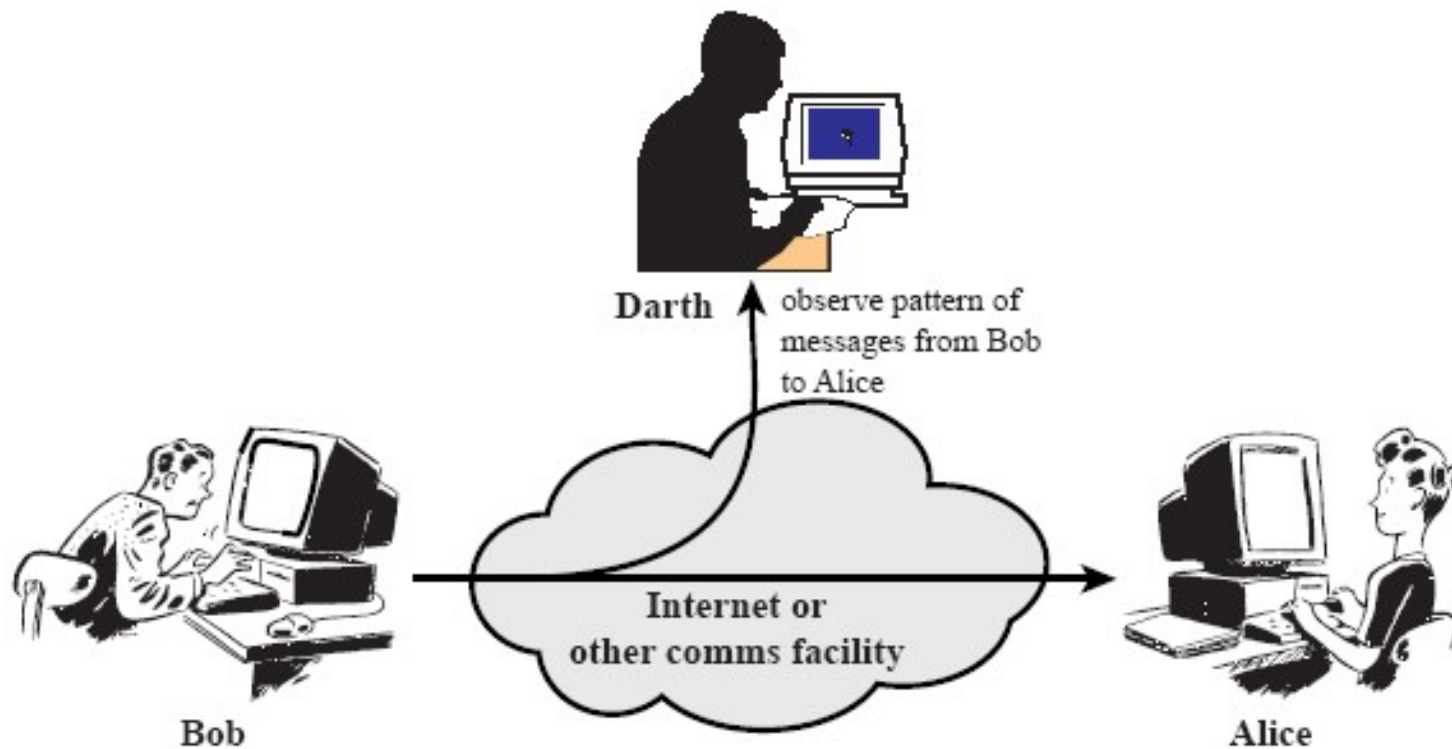
- Alice
- Bob
- Charlie
- Darth
- Eve
- Mallory



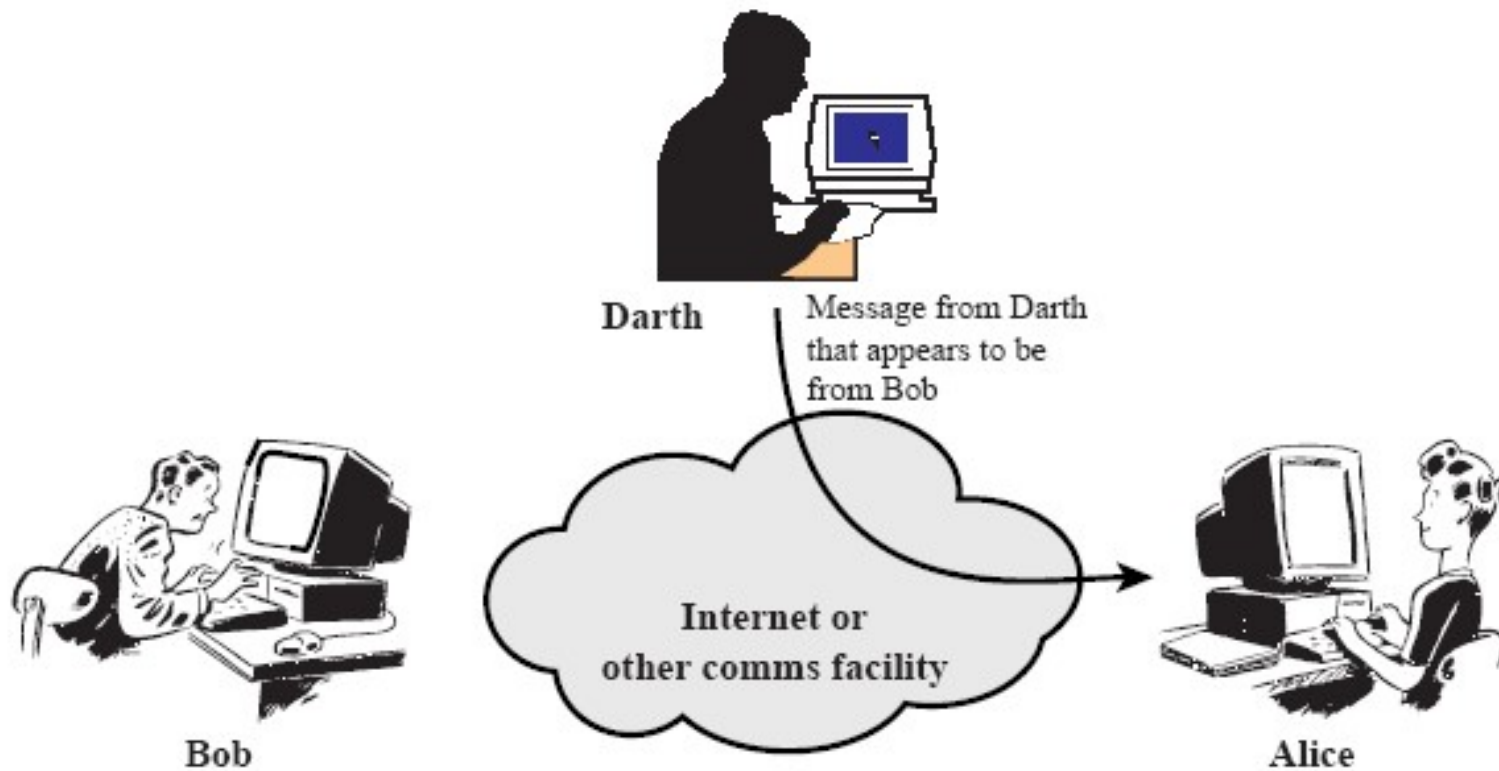
Passive attacks: Listen (information disclosure)



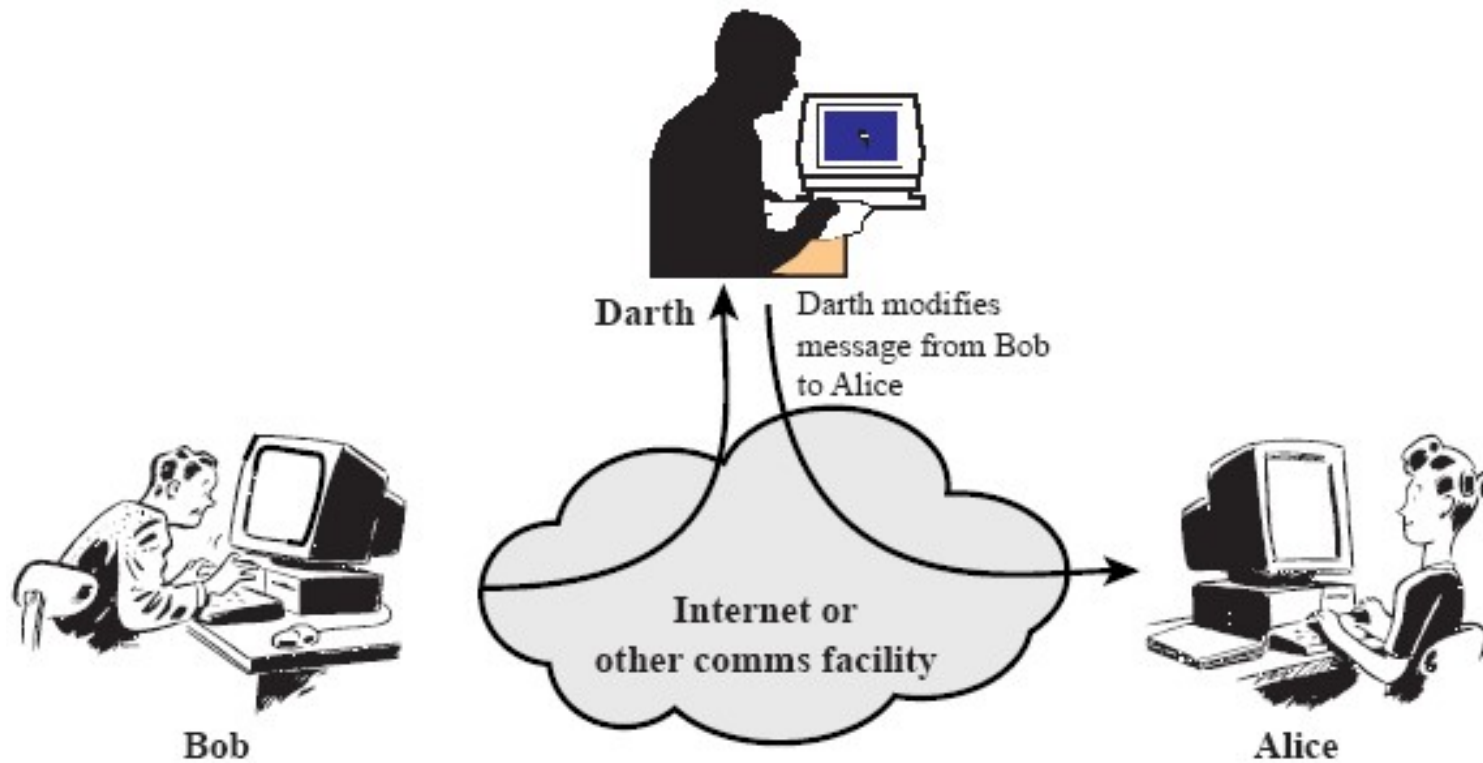
Passive attacks: Listen (traffic analysis)



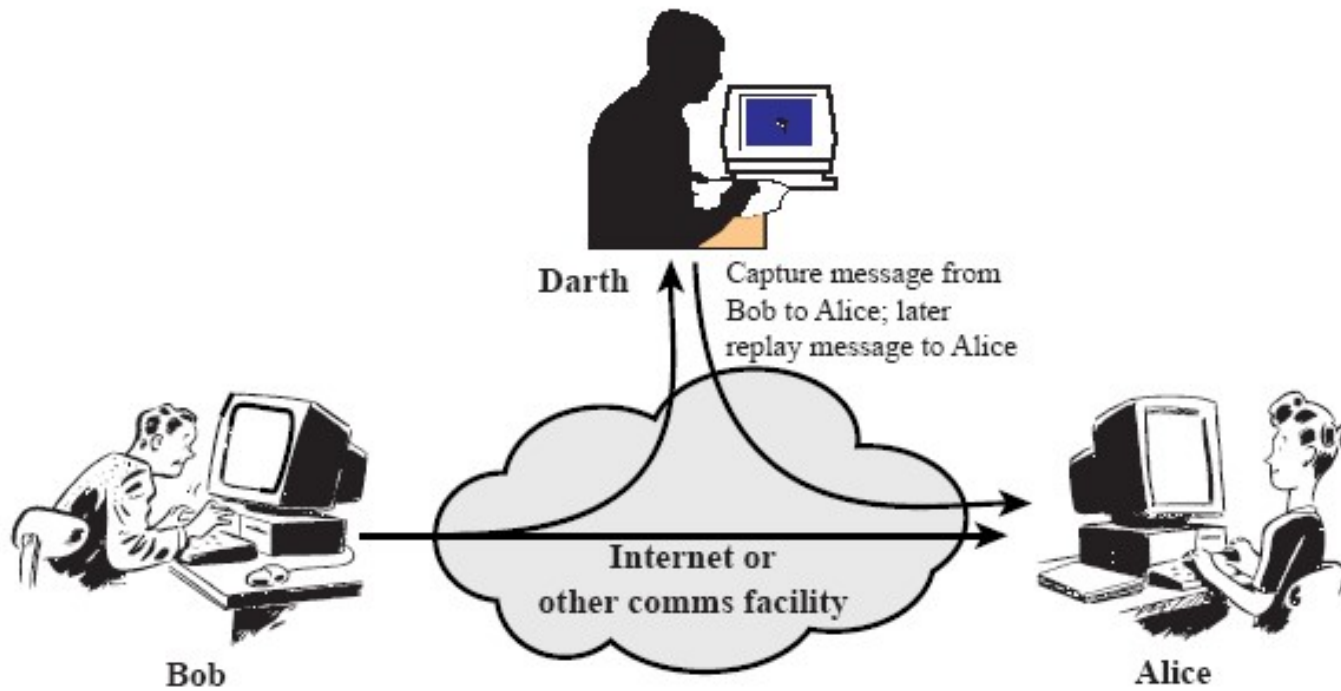
Active attacks: Impersonation



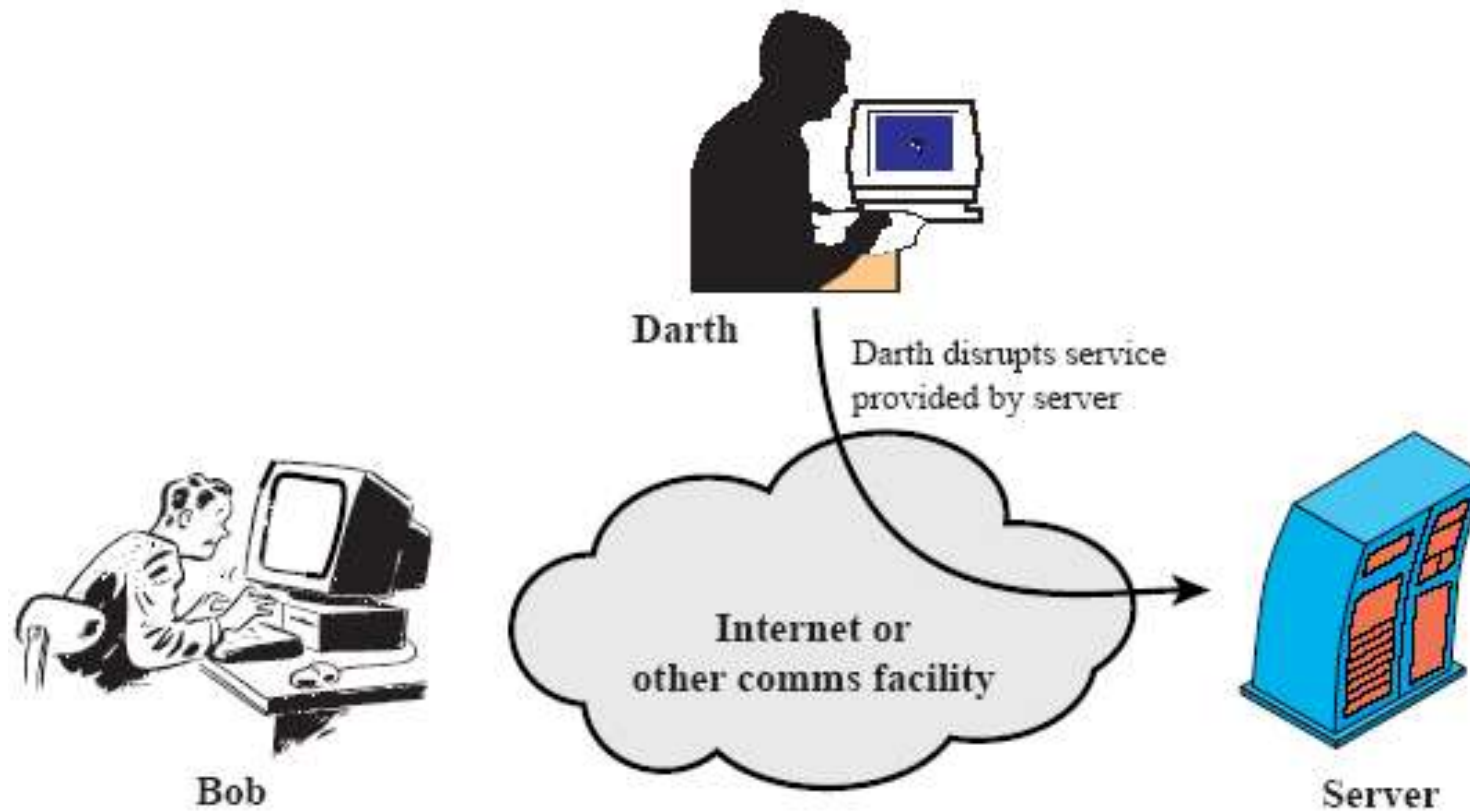
Active attacks: Tampering



Active attacks: Replay



Active attacks: Denial of Service (DoS)

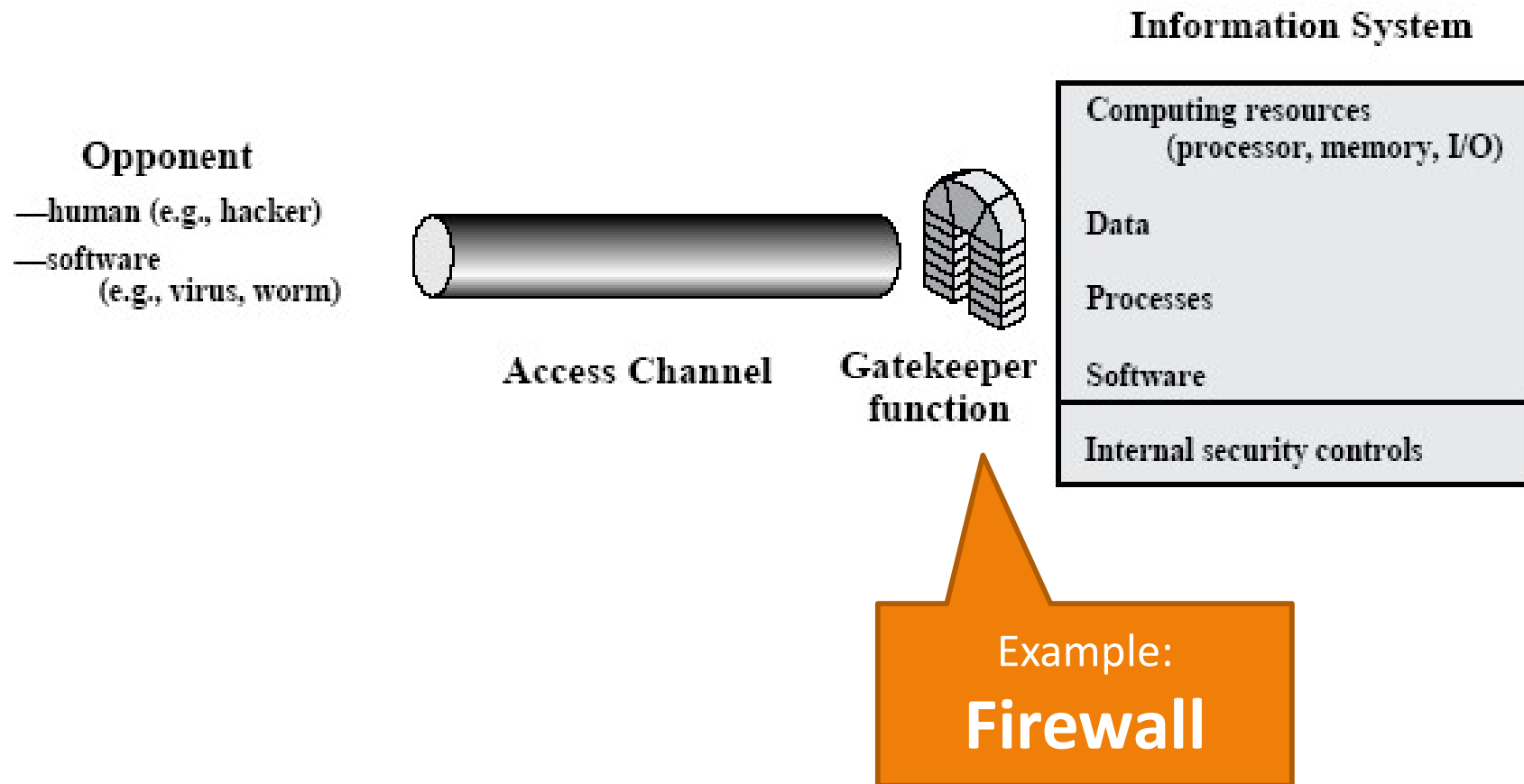


Attacks and the OSI Stack

Network stack layer	Services	Protocols
7 Application 6 Presentation 5 Session		DNS SMTP
4 Transport		TCP
3 Network	Routers	IP
2 Data Link	Switches	
1 Physical	Hubs	

NETWORK SECURITY MODELS

Network Security Model I: Gatekeeper for access control



Network Security Model II: Secure communication channel

