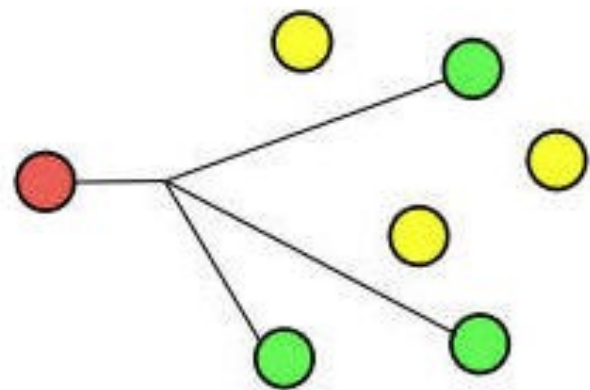
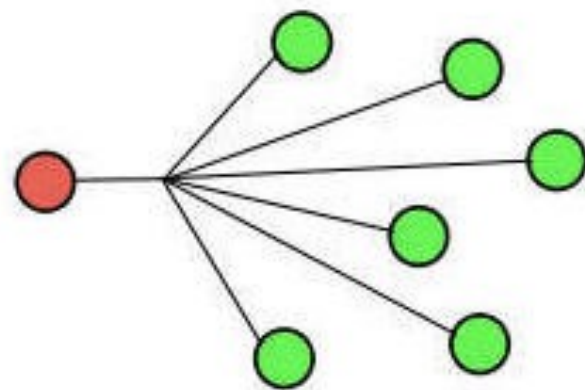


Unicast – Multicast - Broadcast

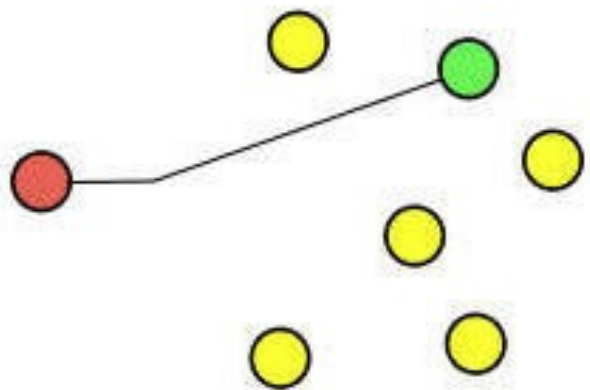
Multicast



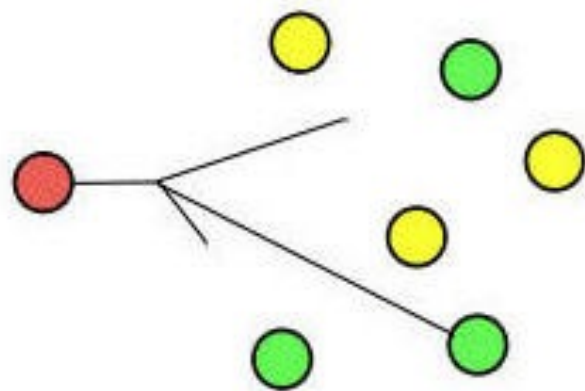
Broadcast



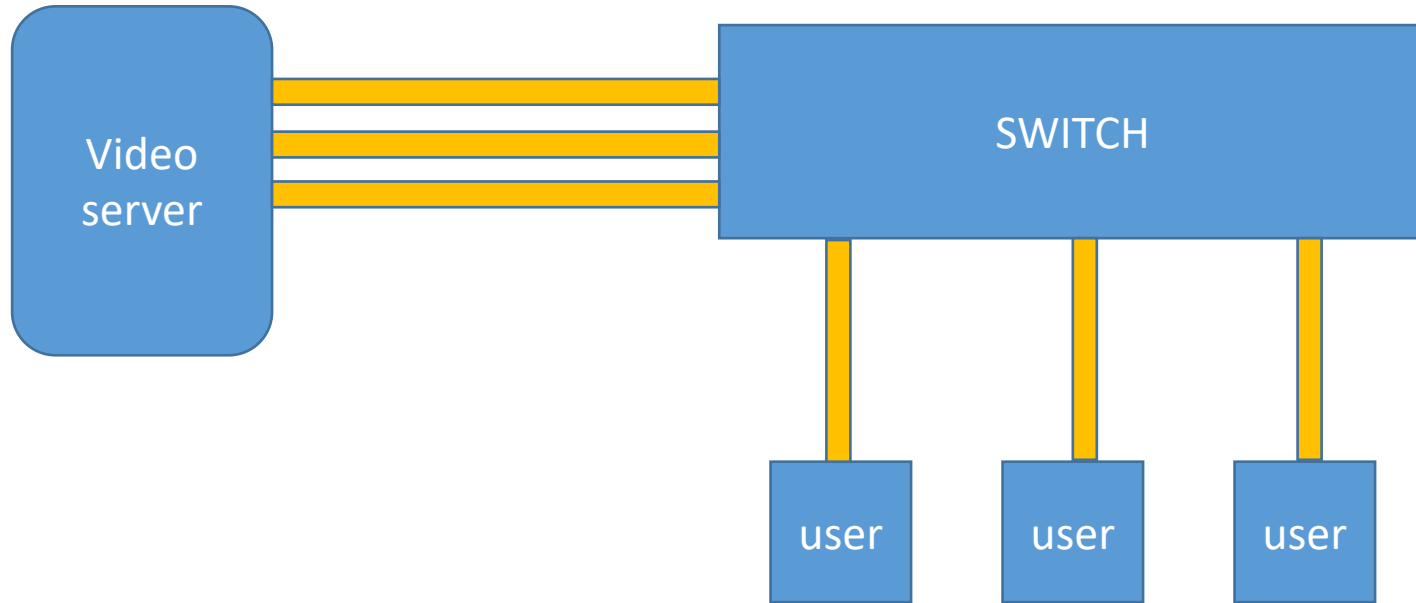
Unicast



Anycast

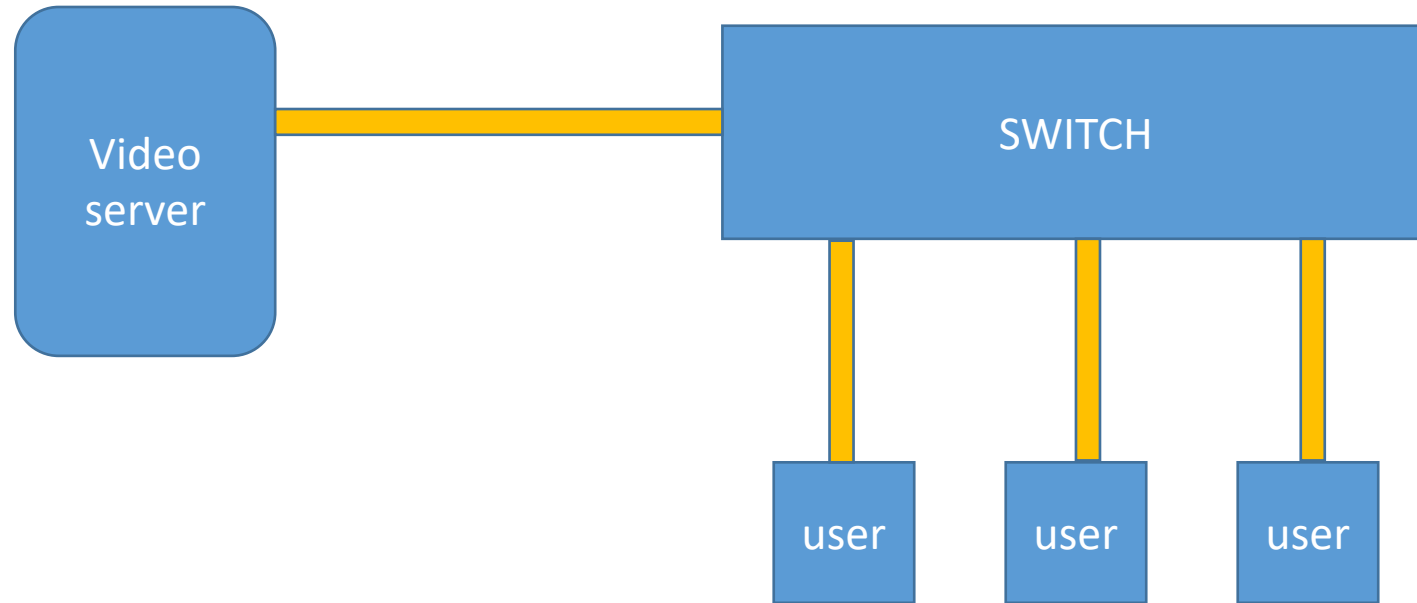


Unicast



Hver notandi tengist við serverinn, tekur mikla bandbreidd og vinnsluafli í servernum

Multicast



Server tengist multicast grúbbu, **224.x.x.x**
IGMP stýrir grúppum

Server sendir straum í grp

Notendur tengjast grp og nálgast þannig strauminn.

IGMP = Internet Group Management Protocol

Unicast MS

- **Unicast is a one-to one connection between the client and the server.**
- Unicast uses IP delivery methods such as Transmission Control Protocol (TCP) and User Datagram Protocol (UDP), which are session-based protocols.
- When a Windows Media Player client connects using unicast to a Windows Media server, that client has a direct relationship to the server.
- Each unicast client that connects to the server takes up additional bandwidth. For example, if you have 10 clients all playing 100-kilobits per second (Kbps) streams, those clients as a group are taking up 1,000 Kbps. If you have only one client playing the 100 Kbps stream, only 100 Kbps is being used.

Multicast MS

- **Multicast is a true broadcast.** The multicast source relies on multicast-enabled routers to forward the packets to all client subnets that have clients listening.
- There is no direct relationship between the clients and Windows Media server. The Windows Media server generates an .nsc (NetShow channel) file when the multicast station is first created. Typically, the .nsc file is delivered to the client from a Web server. This file contains information that the Windows Media Player needs to listen for the multicast. This is similar to tuning into a station on a radio. Each client that listens to the multicast adds no additional overhead on the server.
- In fact, the server sends out only one stream per multicast station. The same load is experienced on the server whether only one client or 1,000 clients are listening

IP Multicast Address Ranges and Uses

Range Start Address	Range End Address	Description
224.0.0.0	224.0.0.255	Reserved for special “well-known” multicast addresses
224.0.1.0	238.255.255.255	Globally-scoped (Internet-wide) multicast addresses
239.0.0.0	239.255.255.255	Administratively-scoped (local) multicast addresses

Internet Group Management Protocol (IGMP) definition

Internet [protocol](#) that provides a way for an Internet computer to report its [multicast](#) group membership to adjacent [routers](#).

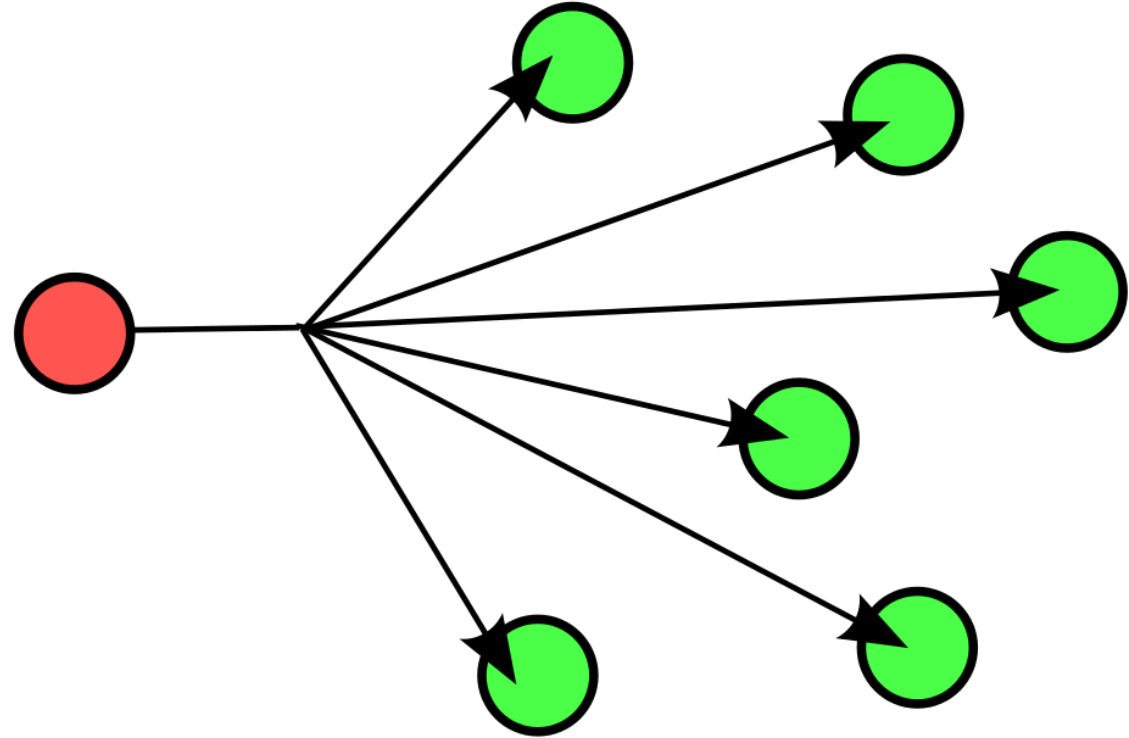
Multicasting allows one computer on the Internet to send content to multiple other computers that have identified themselves as interested in receiving the originating computer's content

Well-Known IP Multicast Addresses

Range Start Address	Description
224.0.0.0	Reserved; not used
224.0.0.1	All devices on the subnet
224.0.0.2	All routers on the subnet
224.0.0.3	Reserved
224.0.0.5	All routers using DVMRP (<i>Distance Vector Multicast Routing Protocol</i>)
224.0.0.6	Designated routers using OSPF (<i>Open Shortest Path First</i>)
224.0.0.9	Designated routers using RIP-2 (<i>Routing Information Protocol</i>)
224.0.0.11	Mobile agents (for Mobile IP)
224.0.0.12	DHCP Server / Relay Agent

Broadcast

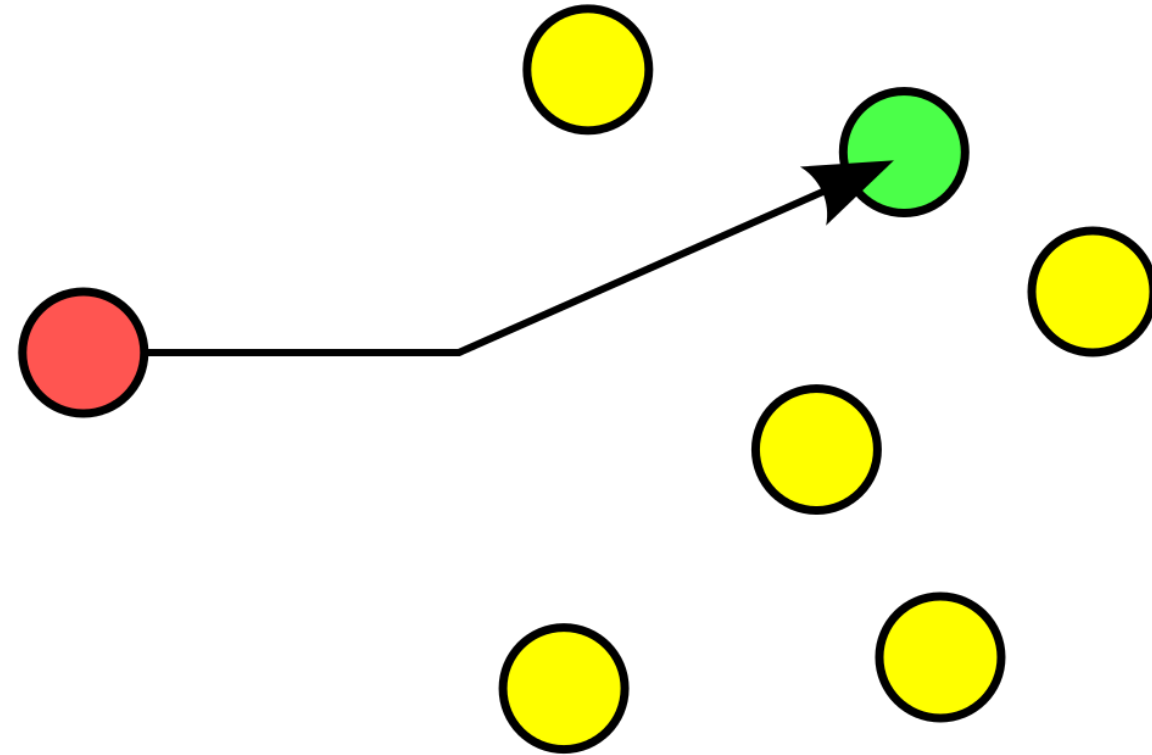
Broadcast addressing uses a *one-to-many* association, datagrams are routed from a single sender to multiple endpoints simultaneously in a single transmission. The network automatically replicates datagrams as needed for all network segments (links) that contain an eligible receiver.



Getur verið mikið álag á netið

Unicast

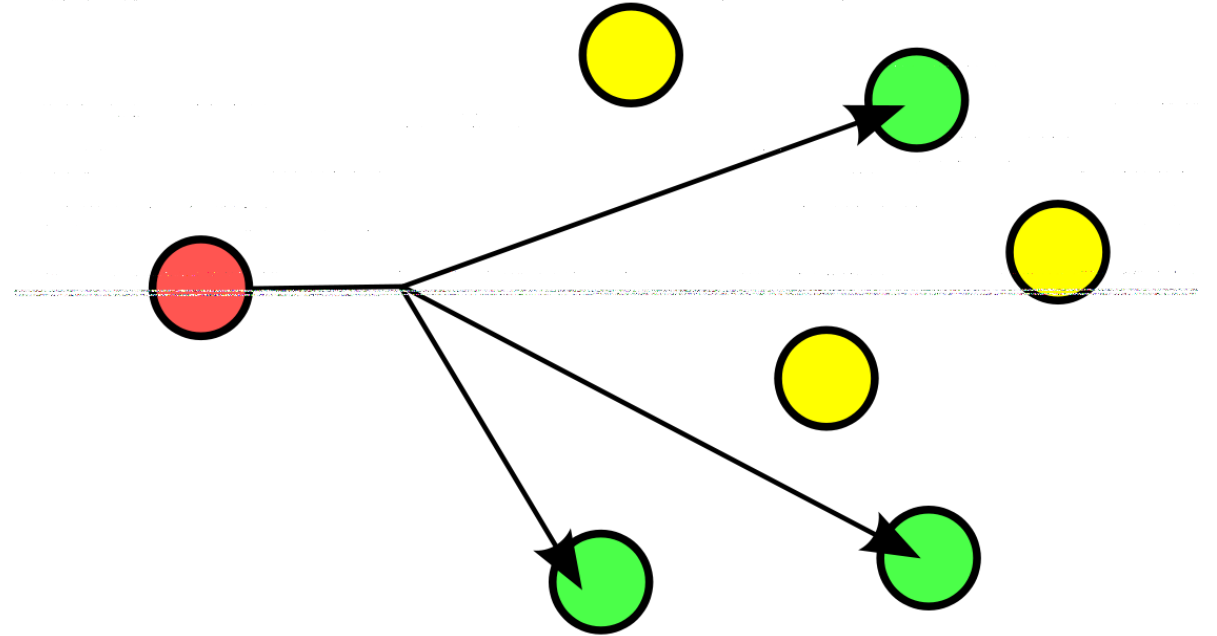
Unicast addressing uses a *one-to-one* association between destination address and network endpoint: each destination address uniquely identifies a single receiver endpoint.



Getur verið mikið álag á netþjóna sem miðla efni

Multicast

Multicast addressing uses a *one-to-unique many* association, datagrams are routed from a single sender to multiple selected endpoints simultaneously in a single transmission.



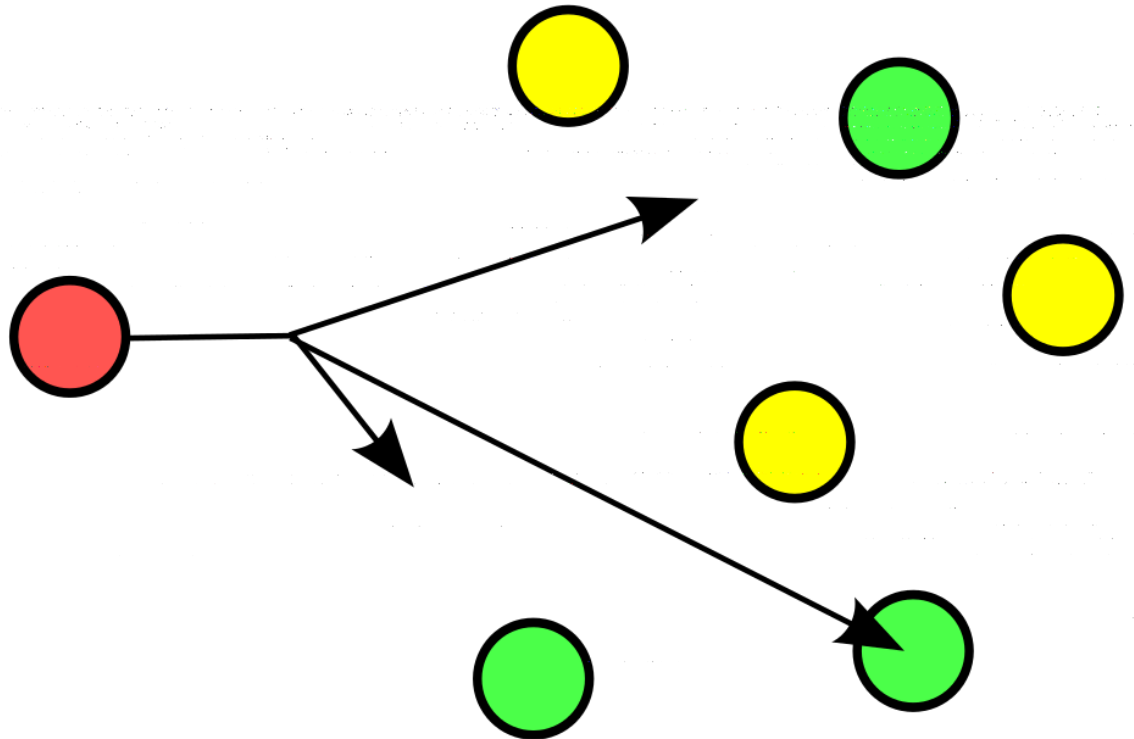
Anycast

Ekki mikilvægt

Anycast addressing routes datagrams to a single member of a group of potential receivers that are all identified by the same destination address. This is a **one-to-nearest** association.

Routed to the topologically nearest node in a group of potential receivers

DNS - load-balancing

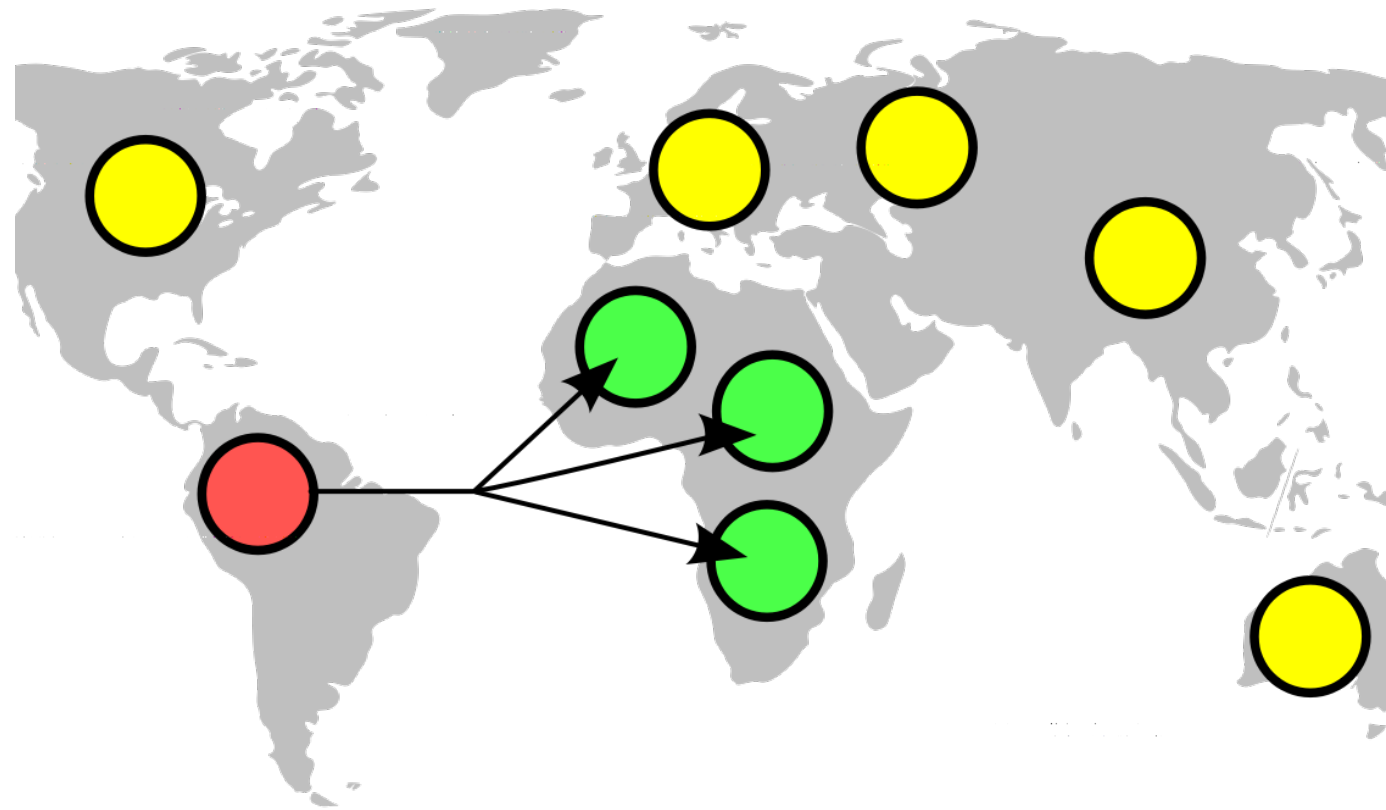


Geocast

Ekki mikilvægt

Geocast refers to the delivery of information to a group of destinations in a network identified by their geographical locations.

It is a specialized form of Multicast addressing *used by some routing protocols* for mobile ad hoc networks.



What is Multicast?

Multicast allows the source to send a single copy of data, using a single address for the entire group of recipients. Routers between the source and recipients use the group address to route the data. The routers forward duplicate data packets wherever the path to recipients diverges.

