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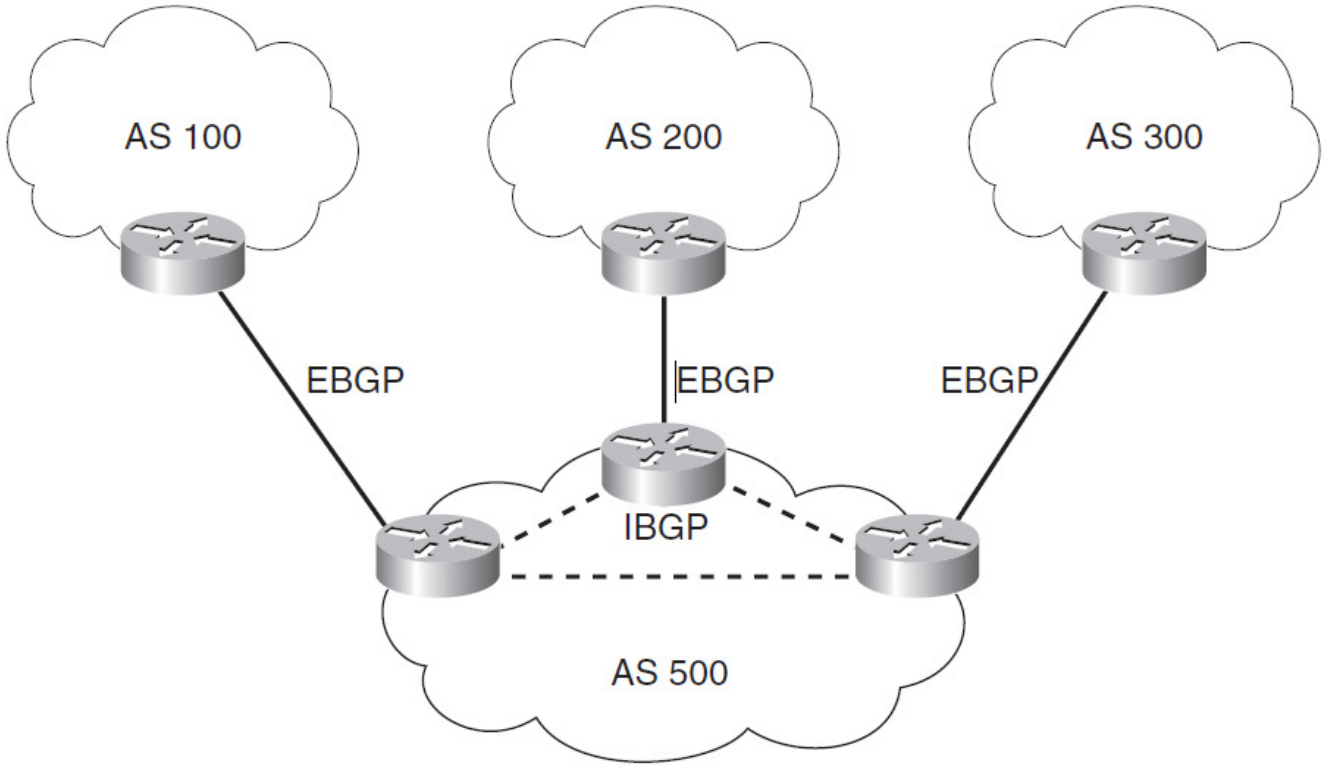
BGPv4

- RFC 1771
- BGP is a path vector protocol
- TCP Port 179
- iBGP & eBGP
- Policy Based Routing

Chapter 12

BGP Neighbors

- **eBGP**
  - **–eBGP peers share a common subnet**
- **iBGP**
  - **–Used in Transit Ass**
- **Route reflectors**
- **Confederations**



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BGP Attributes

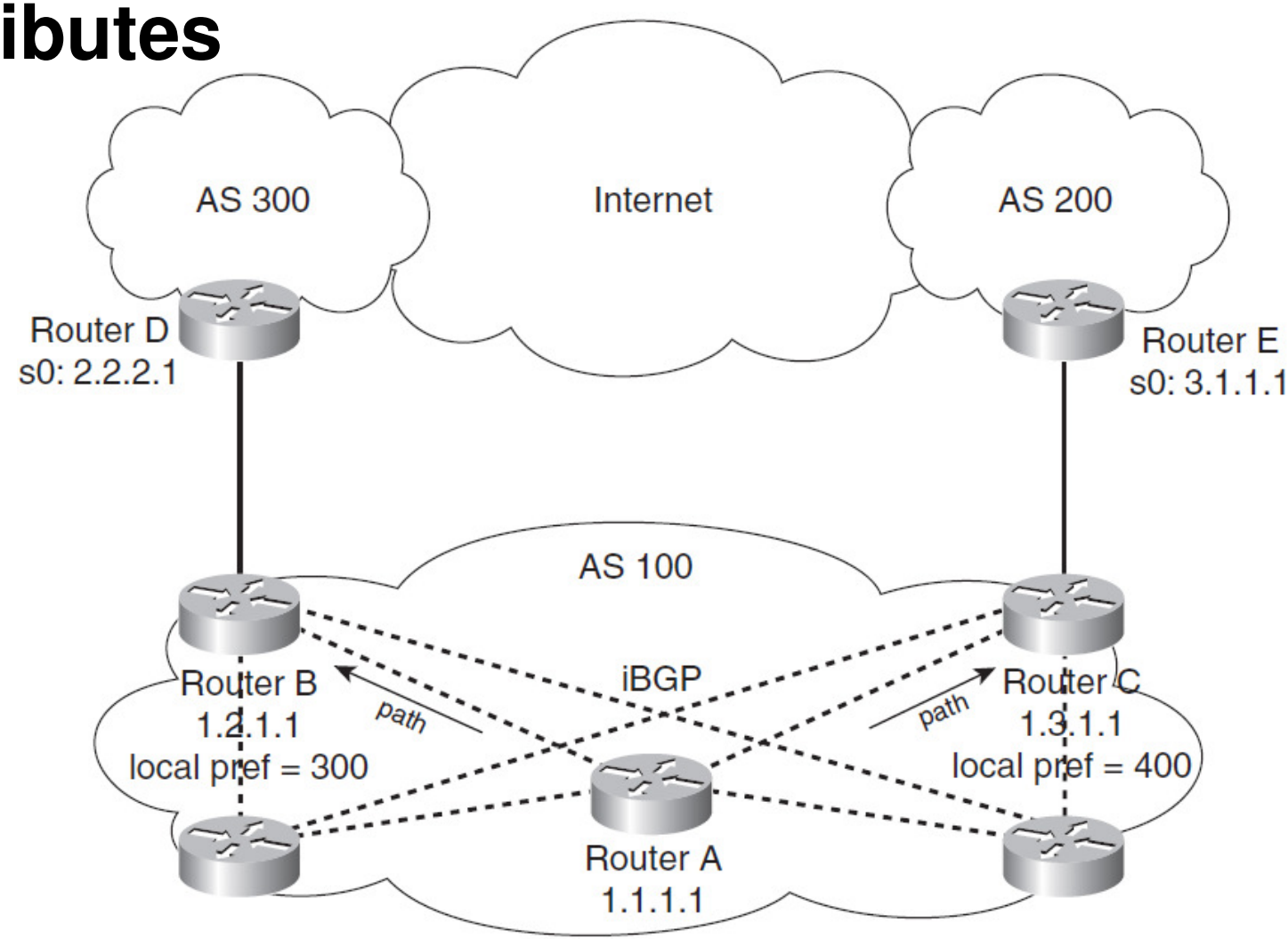
- Well-known
  - Mandatory
  - Discretionary
- Optional
  - Transitive
  - Nontransitive

- Next-Hop
- Local Preference
- Origin
- AS Path
- MED
- Weight
- Community

Chapter 12

BGP Attributes

- **Next-Hop**
- **Local Preference**
- **Origin**
- **AS Path**
- **MED**
- **Weight**
- **Community**



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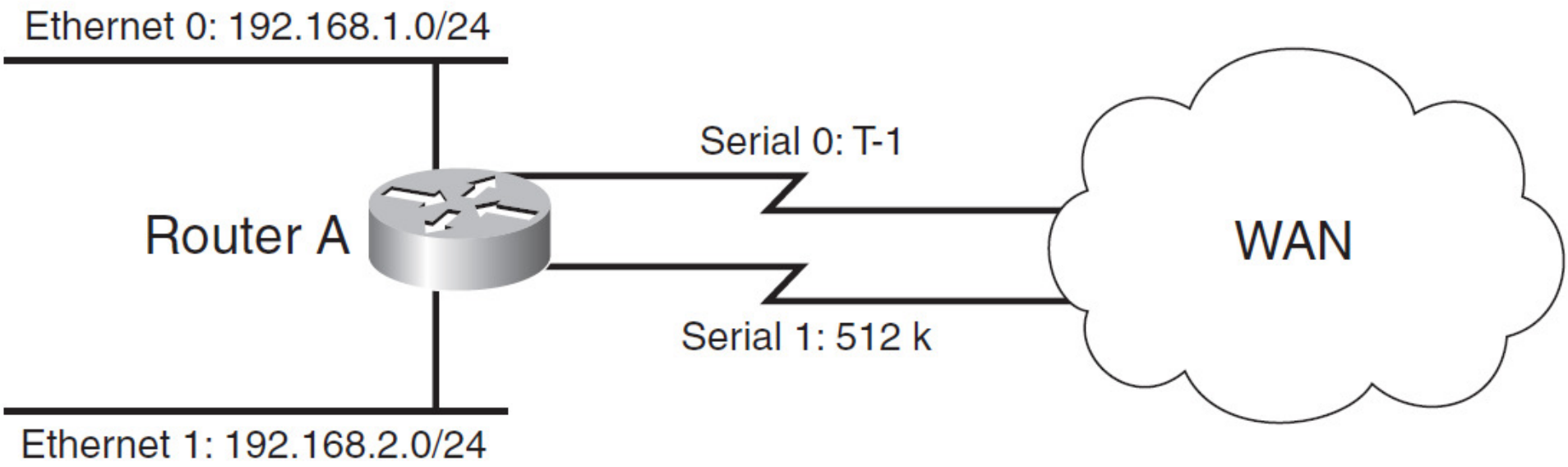
PBR – Policy Based Routing

- **Source address**
- **Size**
- **Protocol**
- **QoS bits**
- **Route-maps**



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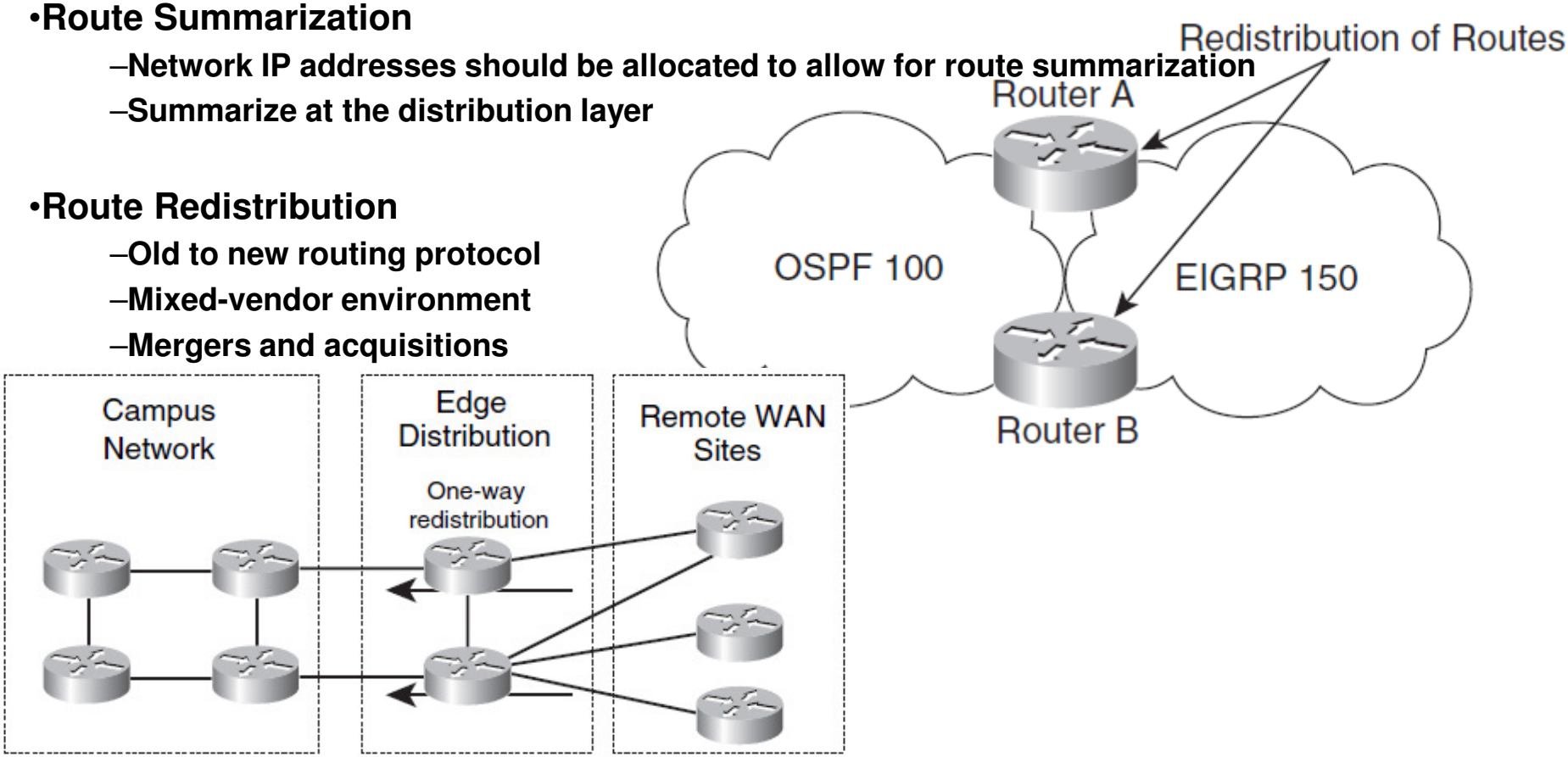
Route Manipulation

- **Route Summarization**
  - **–Network IP addresses should be allocated to allow for route summarization**
  - **–Summarize at the distribution layer**
- **Route Redistribution**
  - **–Old to new routing protocol**
  - **–Mixed-vendor environment**
  - **–Mergers and acquisitions**



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IP Multicast Review

Multicast Address	Description
224.0.0.0/24	Local network control block
224.0.0.1	All hosts or all systems on this subnet
224.0.0.2	All multicast routers
224.0.0.4	Distance-Vector Multicast Routing Protocol (DVMRP) routers
224.0.0.5	All OSPF routers
224.0.0.6	All OSPF DR routers
224.0.0.9	RIPv2 routers
224.0.0.10	EIGRP routers
224.0.0.13	All PIM routers
224.0.1.0/24	Internetwork control block
224.0.1.39	Rendezvous point (RP) announce
224.0.1.40	RP discovery
224.0.2.0 to 224.0.255.0	Ad hoc block
239.000.000.000 to 239.255.255.255	Administratively scoped
239.192.000.000 to 239.251.255.255	Organization-local scope
239.252.000.000 to 239.254.255.255	Site-local scope

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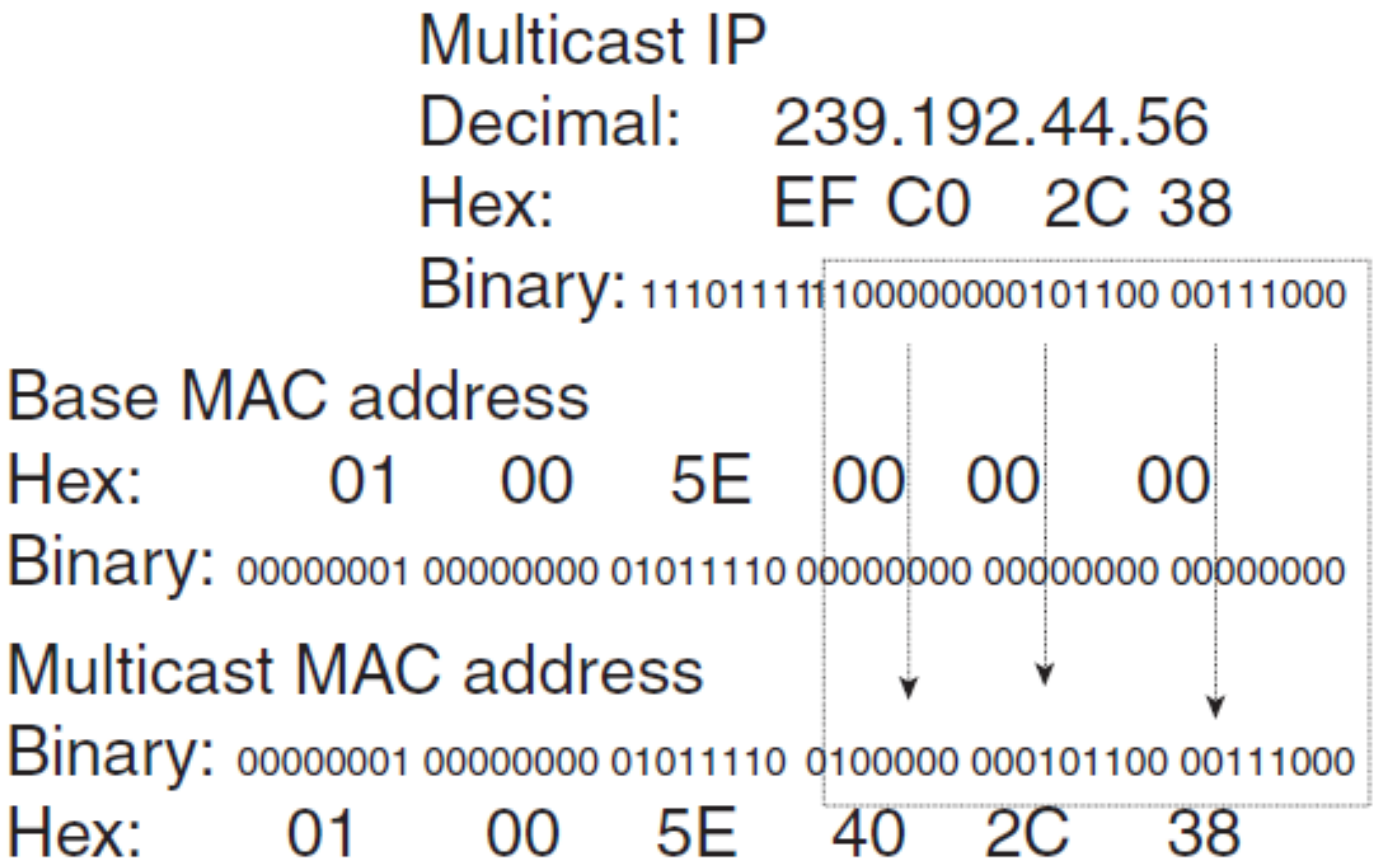
Layer 3 to Layer 2 Mapping



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IGMP

- RFC 1112(v1)
- RFC 2236(v2)
  - Leave message
- RFC 3376(v3)
- Host to Router

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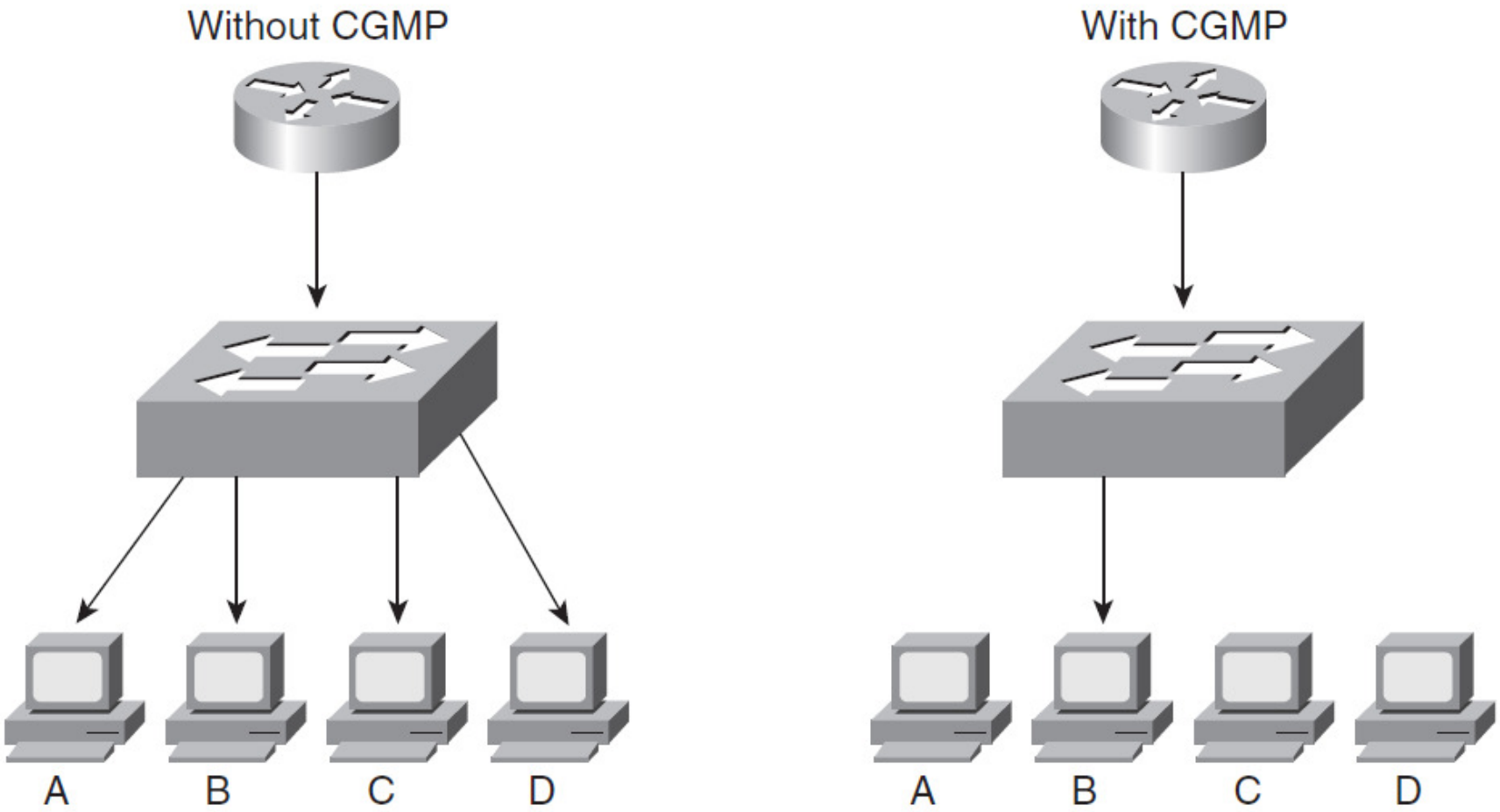
CGMP & IGMP Snooping



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Sparse Vs. Dense Mode

- **Dense mode**
  - **Sender til alle, med mindre man har sagt fra.**
  - **PIM-DM**
  - **Multicast Open Shortest Path First**
  - **Source tree**

- **Sparse mode**
  - **Sender ikke, med mindre man requester**
  - **PIM-SM**
  - **Shared Tree**

Chapter 12

IPv6 Multicast Addresses

Multicast Address	Multicast Group
FF01::1	All nodes (node-local)
FF02::1	All nodes (link-local)
FF01::2	All routers (node-local)
FF02::2	All routers (link-local)
FF02::5	OSPFv3 routers
FF02::6	OSPFv3 designated routers
FF02::9	Routing Information Protocol (RIPng)
FF02::A	EIGRP routers
FF02::B	Mobile agents
FF02::C	DHCP servers/relay agents
FF02::D	All PIM routers

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