

Routingprotokolle

	Interior Gateway				Exterior Gateway
	Distance Vector		Link State		Path Vector
Classful	RIP	IGRP			EGP
Classless	RIPv2	EIGRP	OSPFv2	IS-IS	BGPv4
IPv6	RIPng	EIGRP for IPv6	OSPFv3	IS-IS for IPv6	BGPv4 for IPv6

	Distance Vector			Link-State
	RIP	RIPv2	EIGRP	OSPF
Metrik	Hopcount (1 - 15)		bandwidth delay (reliability) (load)	cost = 10 ⁸ / bandwidth in bps
classless VLSM / CIDR	-			
Administrative Distanz	120		(summary 5) internal 90 (external 170)	110
Authentication	-			
Algorithmus	Bellman-Ford		DUAL	Dijkstra
Tabellen	Routing Table		Neighbor Table Topology Table Routing Table	Adjacency Database Link-State Database Routing Table
Transport- protokoll	UDP Port 520		- (RTP ∈ EIGRP)	-
Pakete	Routing Table - ZiellIP - Hopcount	Routing Table - ZiellIP - SM - Next Hop - Hopcount	Hello ACK Update Query Reply	Hello DBD LSR LSU (mit LSAs) LSAck
Updates	alle 30s 255.255.255.255	alle 30s 224.0.0.9	bei Bedarf 224.0.0.10	bei Bedarf 224.0.0.5 (Hello) 224.0.0.6 (sonst)
anfällig für Routingloops	Ja => Split-Horizon, Holddown-Timer		Nein	Nein

Konfiguration eines Cisco-Routers

RIP

```
ROUTER(config)# router rip
ROUTER(config-router)# network 192.168.1.0
```

RIP aktivieren
am Router angeschlossene Netze angeben

RIPv2

```
ROUTER(config)# router rip
ROUTER(config-router)# version 2
ROUTER(config-router)# network 192.168.1.0
ROUTER(config-router)# no auto-summary
```

RIP aktivieren
umschalten auf RIP v2
am Router angeschlossene Netze angeben
tatsächliche Subnetmasken übertragen

EIGRP

```
ROUTER(config)# router eigrp 100
ROUTER(config-router)# network 192.168.1.0
ROUTER(config-router)# network 192.168.2.0 0.0.0.255
ROUTER(config-router)# no auto-summary
ROUTER(config-if)# bandwidth 56
```

EIGRP für **autonomes System** 100 aktivieren
am Router angeschlossene Netze angeben
(optional mit **Wildcardmask**)
tatsächliche Subnetmasken übertragen
Bandbreite in kbps

OSPF

```
ROUTER(config)# router ospf 1
ROUTER(config-router)# network 10.64.0.0 0.0.0.255 area 0
ROUTER(config-if)# bandwidth 56
```

OSPF aktivieren (1=**process-ID**)
(**Wildcardmask** statt Subnetmask!)
Bandbreite in kbps