

Routerkonfiguration WAN

HDLC

ROUTER(config-if)# **encapsulation hdlc** *Layer 2 – protocol: High-Level Data Link Control*

PPP

ROUTER(config-if)# **encapsulation ppp** *Layer 2 – protocol: Point-to-Point Protocol*
 ROUTER(config-if)# **compress predictor | stac** *Art der Komprimierung*
 ROUTER(config-if)# **ppp quality 80** *Link Quality Monitoring: shutdown, falls Qualität < 80%*
 ROUTER(config-if)# **ppp multilink** *Load balancing über Multilinks*

PAP (Password Authentication Protocol)

R1(config)# **username AAA password XXX** R2(config)# **username BBB password YYY**
 R1(config-if)# **ppp authentication pap** R2(config-if)# **ppp authentication pap**
 R1(config-if)# **ppp pap sent-username BBB password YYY** R2(config-if)# **ppp pap sent-username AAA password XXX**

CHAP (Challenge Handshake Authentication Protocol)

R1(config)# **username R2 password XXX** R2(config)# **username R1 password XXX**
 R1(config-if)# **ppp authentication chap** R2(config-if)# **ppp authentication chap**

Frame-Relay

a) dynamisch

ROUTER(config-if)# **encapsulation frame-relay** *Layer 2 – protocol: Cisco-Frame-Relay*

b) statisch

ROUTER(config-if)# **encapsulation frame-relay** *Layer 2 – protocol: Cisco-Frame-Relay*
 ROUTER(config-if)# **frame-relay map ip 1.2.3.4 123 broadcast** *IP 1.2.3.4 – DLCI 123*

c) Subinterface

ROUTER(config)# **interface S2/0** *physikalische Schnittstelle*
 ROUTER(config-if)# **encapsulation frame-relay** *gilt für alle Subschnittstellen*
 ROUTER(config-if)# **no shutdown**

ROUTER(config-if)# **interface S2/0.1 point-to-point** *Subinterface 1*
 ROUTER(config-subif)# **ip address 1.0.0.1 255.0.0.0** *IP 1.0.0.0, SM 255.0.0.0*
 ROUTER(config-subif)# **frame-relay interface-dlci 101** *DLCI 101*

ROUTER(config-subif)# **interface S2/0.2 multipoint** *Subinterface 2*
 ROUTER(config-subif)# **ip address 2.0.0.1 255.0.0.0** *IP 2.0.0.0, SM 255.0.0.0*
 ROUTER(config-subif)# **frame-relay interface-dlci 201** *2 DLCIs an einer Subschnittstelle*
 ROUTER(config-subif)# **frame-relay interface-dlci 202**

Diagnose

ROUTER# **show ip interface brief** *kurze Zusammenfassung: IP, up / down*
 ROUTER# **show interfaces s2/0** *IP, up / down, encapsulation, LCP / NCP-States*
 ROUTER# **show controllers s2/0** *DCE / DTE, clock rate*

ROUTER# **debug ppp authentication** *PAP / CHAP*
 ROUTER# **debug ppp negotiation** *link establishment*
 ROUTER# **debug ppp packet** *Low-level packet dumps*

ROUTER# **show frame-relay map** *IP - DLCI*
 ROUTER# **show frame-relay lmi**
 ROUTER# **show frame-relay pvc**