

Asterisk und Mediagateways



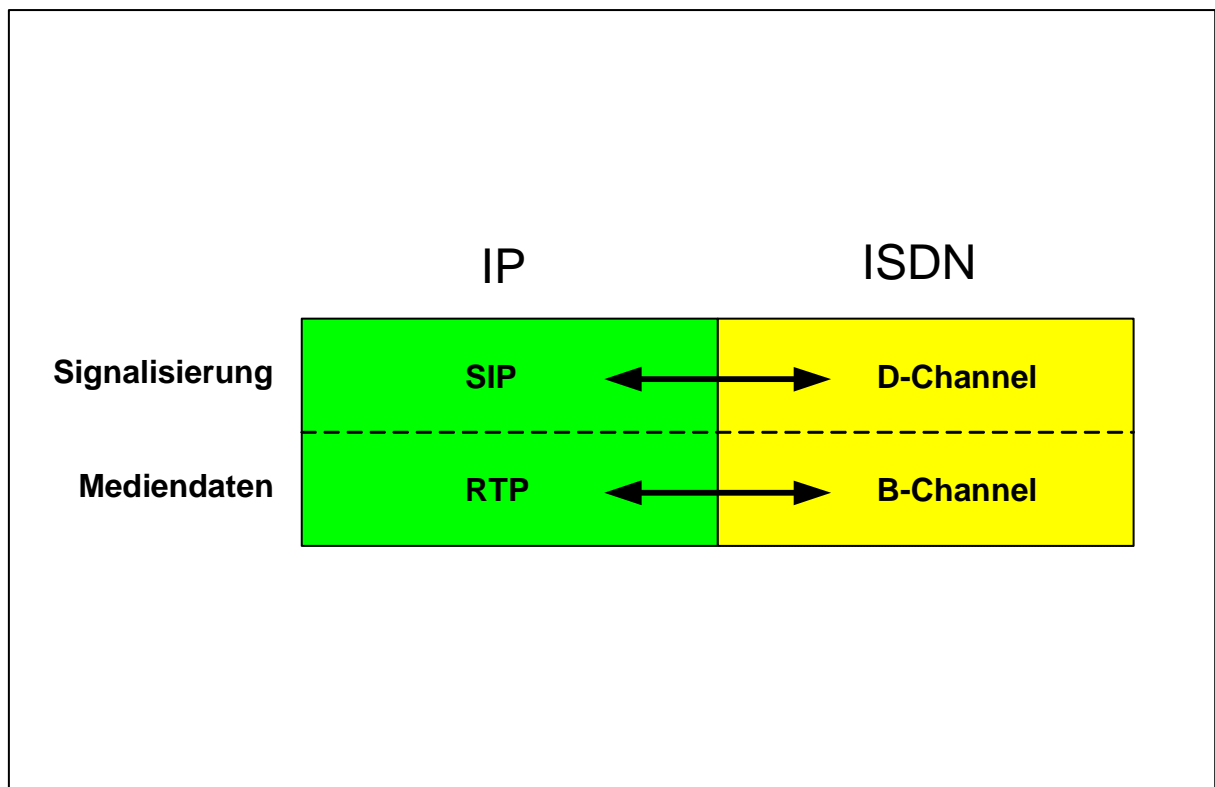
Amoocon 2009

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Was ist ein Mediagateway?

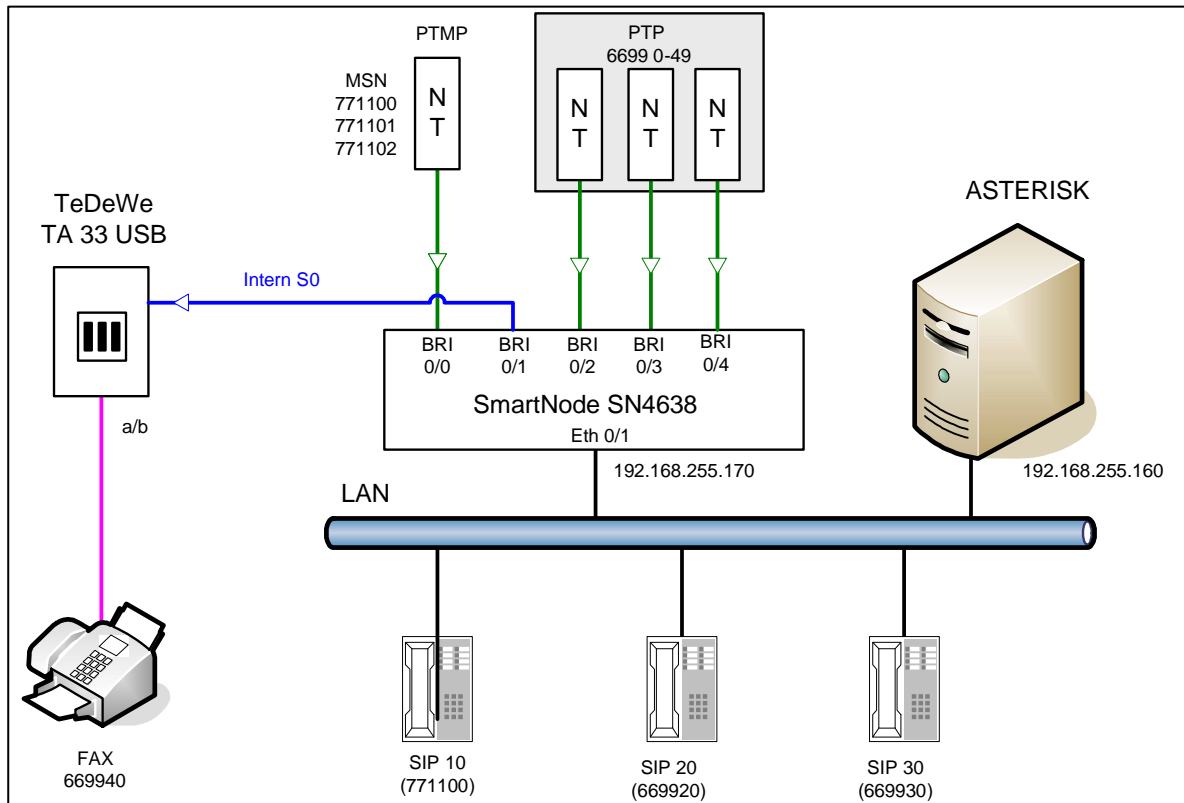
Ein Mediagateway wandelt digitale Sprach-, Audio- oder Bildinformationen, von einem Netzwerktyp in einen anderen um.



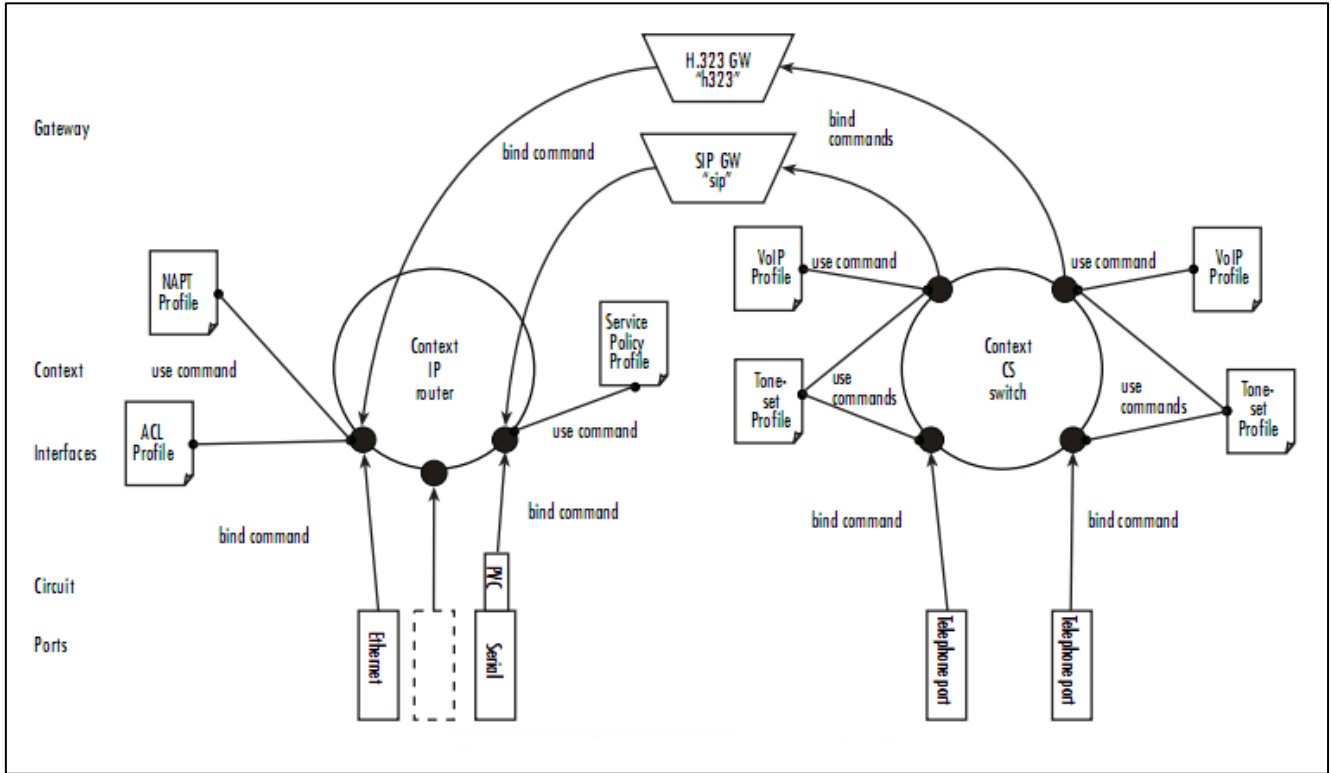
Vorteile

- **Keine ISDN Treiberinstallation am Asterisk**
- **in Update von Asterisk zwingt nicht mehr zum Neuinstallieren der ISDN Channeltreiber**
- **Entlastung für Asterisk Hardware, da keine Medianumwandlung**
- **Höhere Flexibilität durch gemeinsame Gateway Nutzung**
- **Redundanz / Clustering**

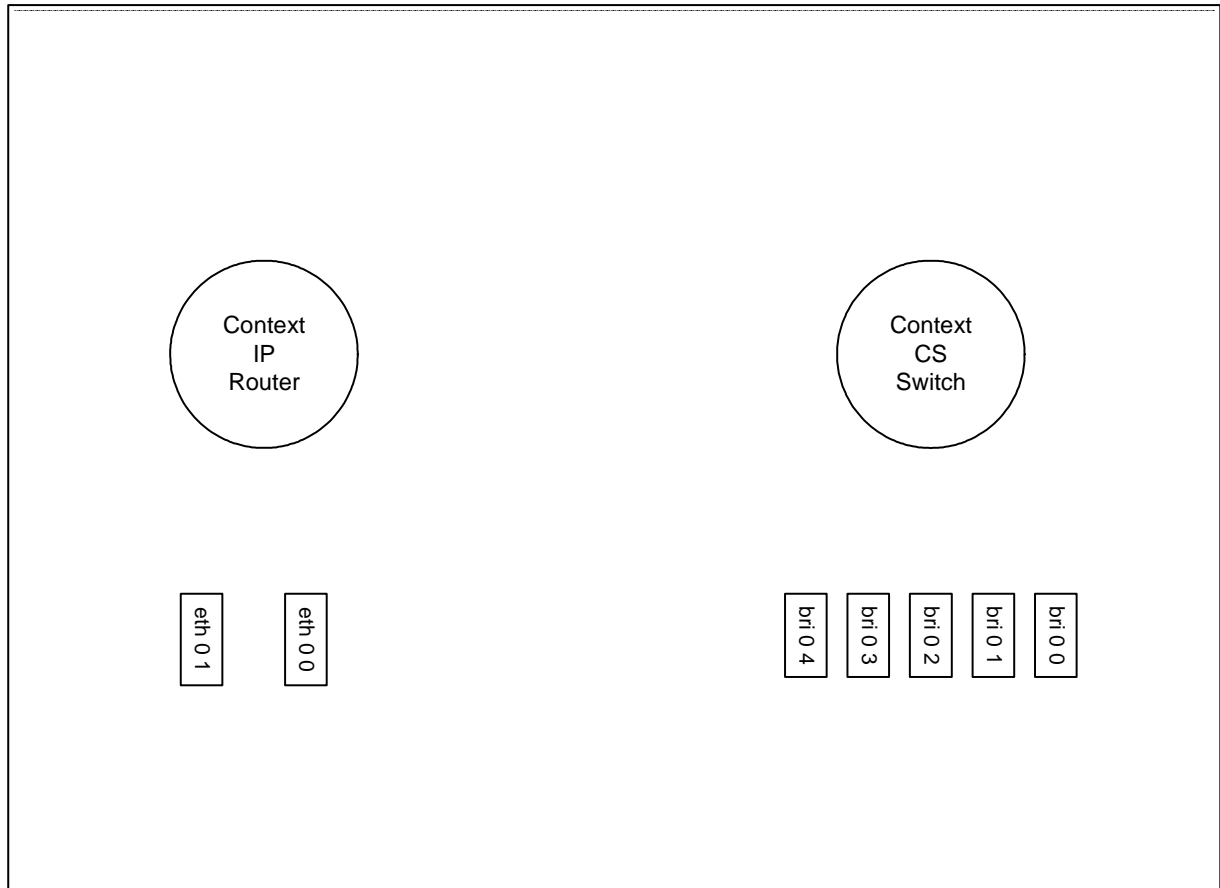
Anwendungsbeispiel



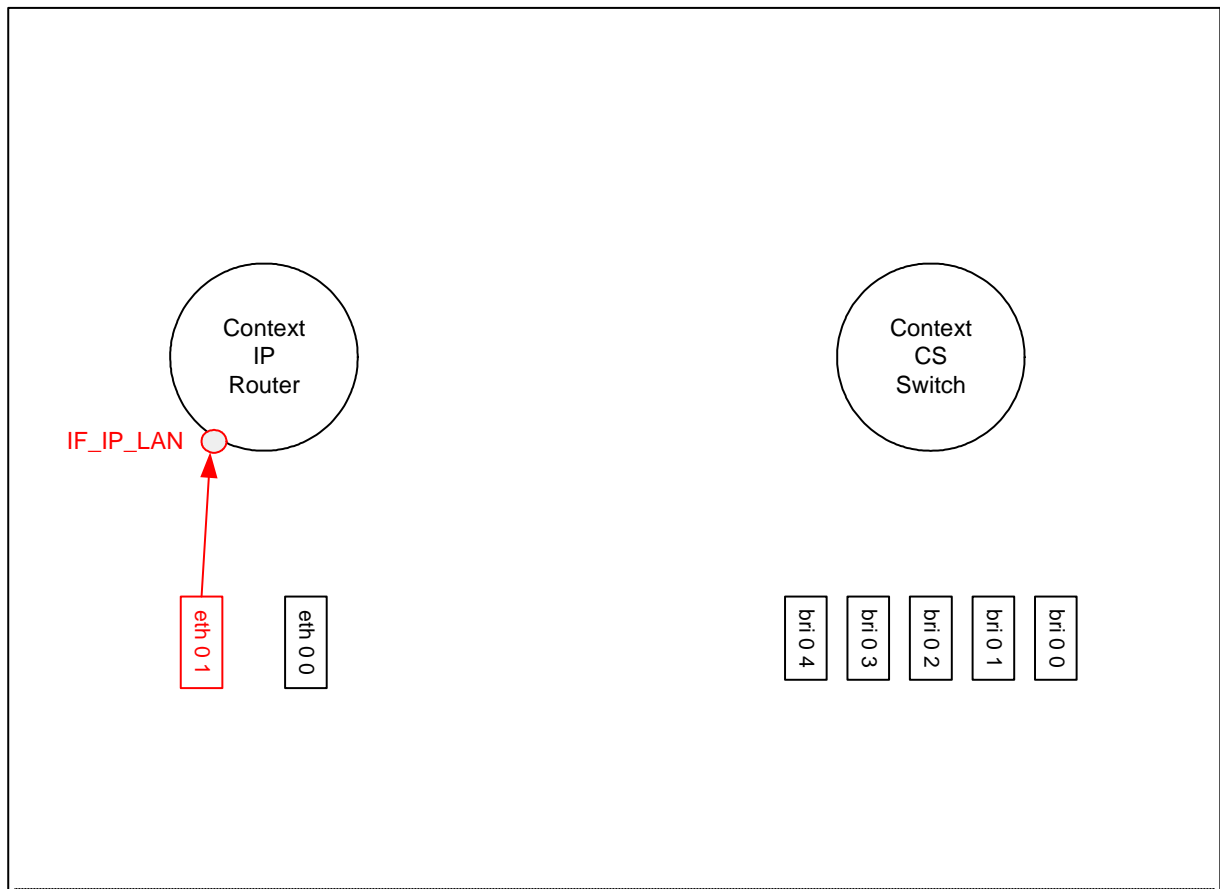
Blockbild



Smartnode 4638 im Auslieferungszustand

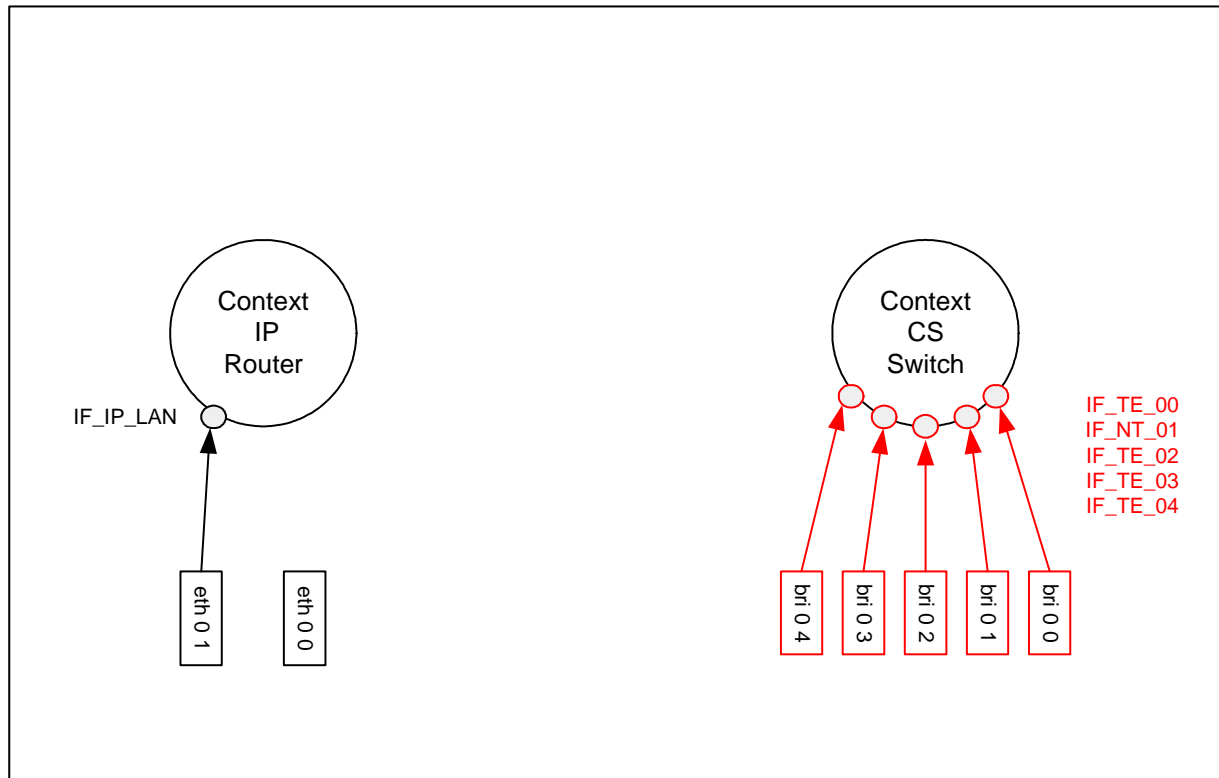


Virtuelle LAN Schnittstelle erstellen und an eth 0/1 binden



```
telnet 192.168.1.1
login: administrator
password:
192.168.1.1.>enable
192.168.1.1#configure
192.168.1.1(cfg)#administrator administrator password geheim
192.168.1.1.(cfg)#system hostname SN4638
SN4638(cfg)#context ip router
SN4638(ctx-ip)[router]#interface IF_IP_LAN
SN4638(if-ip)[IF_IP_L~]#ipadress 192.168.255.170. 255.255.255.0
SN4638(if-ip)[IF_IP_L~]#exit
SN4638(ctx-ip)[router]#no dhcp-server
SN4638(ctx-ip)[router]#exit
SN4638(cfg)#dns-client server 192.168.255.160
SN4638(cfg)#port ethernet 0 1
SN4638(prt-eth)[0/1]#bind interface IF_IP_LAN
```

ISDN Schnittstellen erstellen und an BRI Ports binden



```
SN4638(cfg)#context cs
SN4638(ctx-cs)[switch]#interface isdn IF_TE_00
SN4638(if-isdn)[IF_TE_00]#interface isdn IF_NT_01
SN4638(if-isdn)[IF_NT_01]#interface isdn IF_TE_02
SN4638(if-isdn)[IF_NT_01]#interface isdn IF_TE_03
SN4638(if-isdn)[IF_TE_02]#interface isdn IF_TE_03
SN4638(if-isdn)[IF_TE_03]#interface isdn IF_TE_04
```

```
SN4638(if-isdn)[IF_TE_04]#port bri 0 0
SN4638(prt-bri)[0/0]#no shutdown
SN4638(prt-bri)[0/0]#clock auto
SN4638(prt-bri)[0/0]#q921
SN4638(q921)[0/0]#protocol pmp
SN4638(q921)[0/0]#q931
SN4638(q931)[0/0]#uni-side user
SN4638(q931)[0/0]#encapsulation cc-isdn
SN4638(q931)[0/0]#bind interface IF_TE_00
```

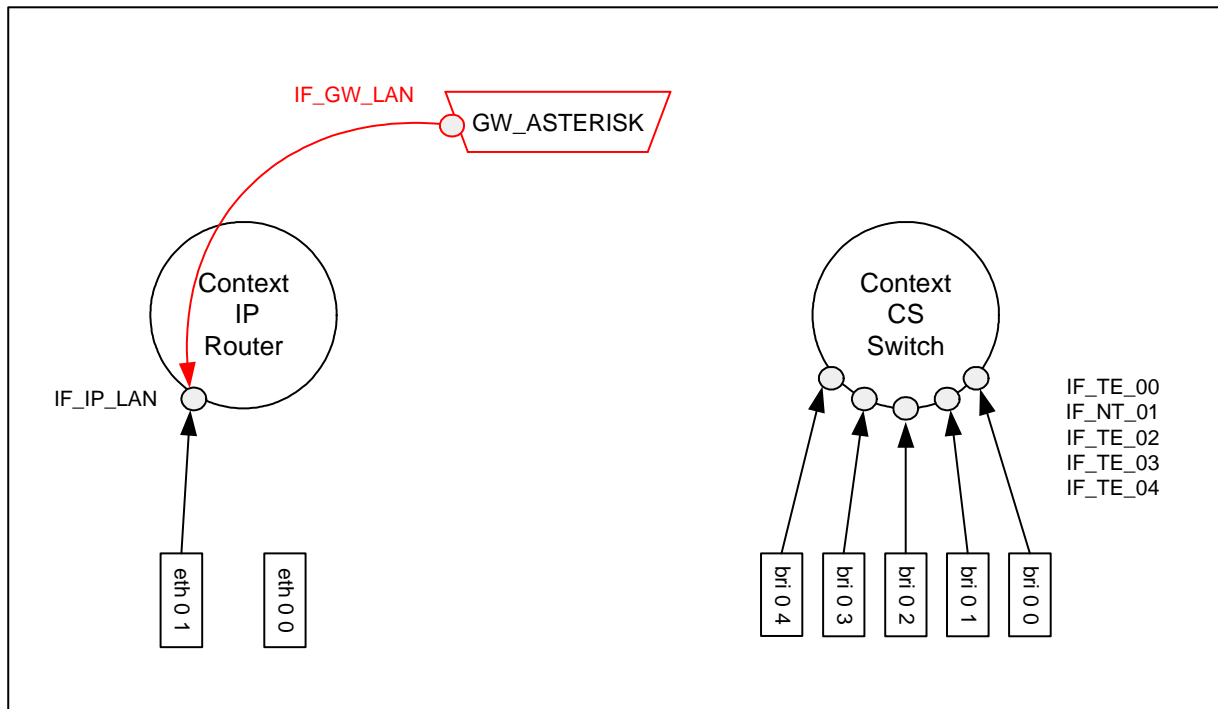
```
SN4638(q931)[0/0]#port bri 0 1
SN4638(prt-bri)[0/1]#no shutdown
SN4638(prt-bri)[0/1]#clock auto
SN4638(prt-bri)[0/1]#power-feed
SN4638(prt-bri)[0/1]#q921
SN4638(q921)[0/1]#protocol pmp
SN4638(q921)[0/1]#q931
SN4638(q931)[0/1]#uni-side net
SN4638(q931)[0/1]#encapsulation cc-isdn
SN4638(q931)[0/1]#bind interface IF_NT_01
```

```
SN4638(q931)[0/1]#port bri 0 2
SN4638(prt-bri)[0/2]#no shutdown
SN4638(prt-bri)[0/2]#clock auto
SN4638(prt-bri)[0/2]#q921
SN4638(q921)[0/2]#protocol pp
SN4638(q921)[0/2]#q931
SN4638(q931)[0/2]#uni-side user
SN4638(q931)[0/2]#encapsulation cc-isdn
SN4638(q931)[0/2]#bind interface IF_TE_02
```

```
SN4638(q931)[0/2]#port bri 0 3
SN4638(prt-bri)[0/3]#no shutdown
SN4638(prt-bri)[0/3]#clock auto
SN4638(prt-bri)[0/3]#q921
SN4638(q921)[0/3]#protocol pp
SN4638(q921)[0/3]#q931
SN4638(q931)[0/3]#uni-side user
SN4638(q931)[0/3]#encapsulation cc-isdn
SN4638(q931)[0/3]#bind interface IF_TE_03
```

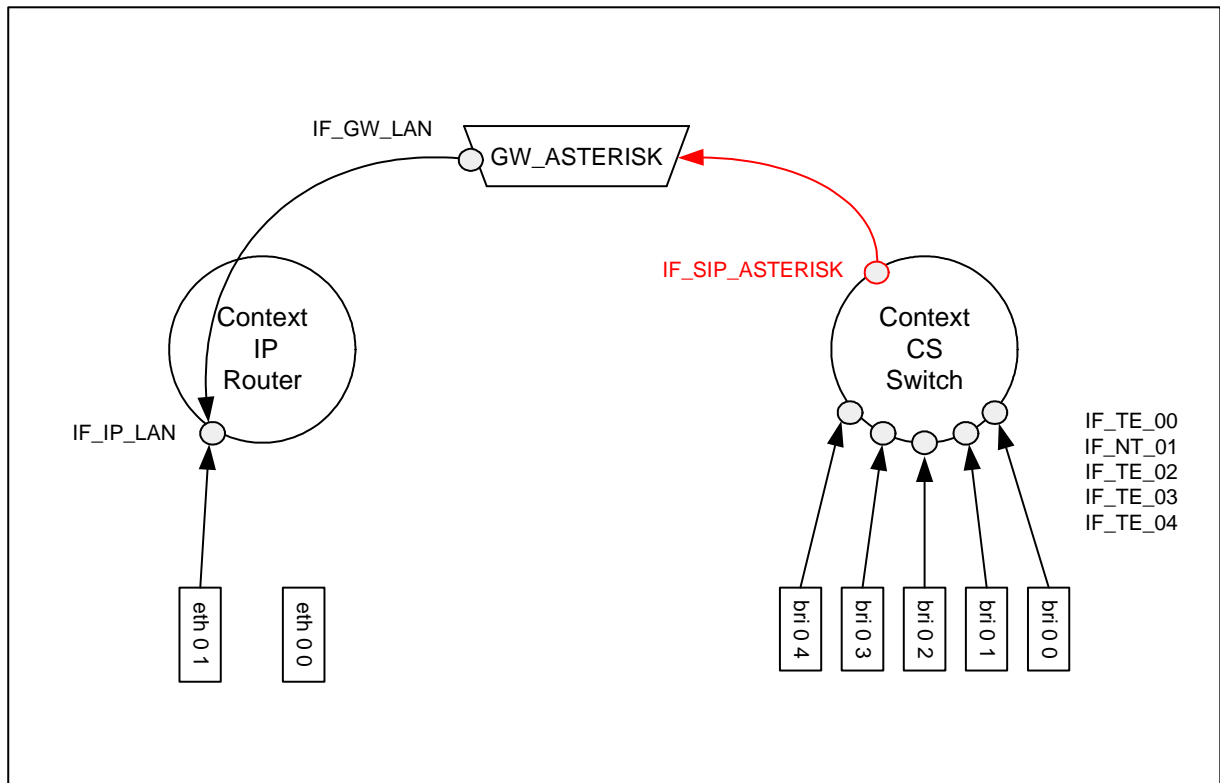
```
SN4638(q931)[0/3]#port bri 0 4
SN4638(prt-bri)[0/4]#no shutdown
SN4638(prt-bri)[0/4]#clock auto
SN4638(prt-bri)[0/4]#q921
SN4638(q921)[0/4]#protocol pp
SN4638(q921)[0/4]#q931
SN4638(q931)[0/4]#uni-side user
SN4638(q931)[0/4]#encapsulation cc-isdn
SN4638(q931)[0/4]#bind interface IF_TE_04
```

SIP Gateway und Gateway Interface erstellen



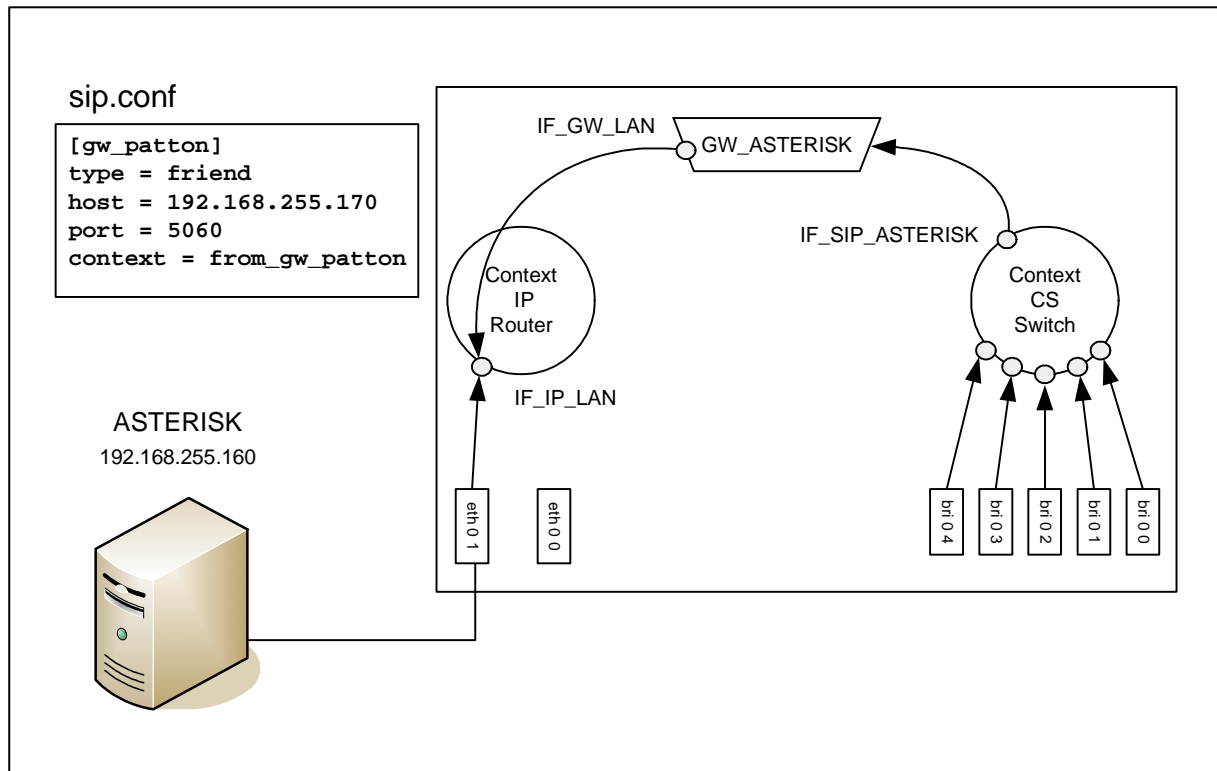
```
SN4638(cfg)#context sip-gateway GW_ASTERISK
SN4638(sip-gw)[GW_ASTE~]#no shutdown
SN4638(sip-gw)[GW_ASTE~]#interface IF_GW_LAN
SN4638(sip-if)[IF_GW_L~]#bind interface IF_IP_LAN port 5060
```

SIP Interface erstellen und an SIP Gateway binden

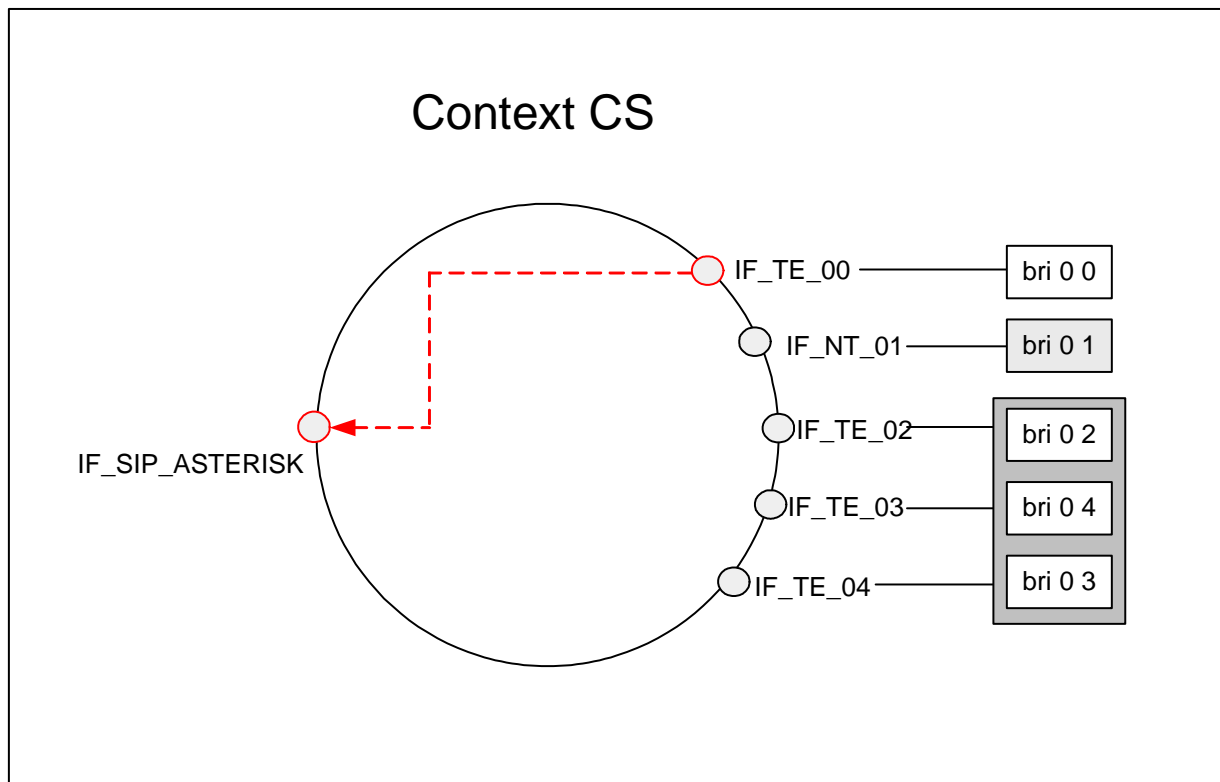


```
SN4638(sip-if)[IF_GW_L~]#context cs
SN4638(ctx-cs)[switch]#interface sip IF_SIP_ASTERISK
SN4638(if-sip)[IF_SIP_~]#bind context sip-gateway GW_ASTERISK
SN4638(if-sip)[IF_SIP_~]#remote 192.168.255.160 5060
```

Asterisk anbinden

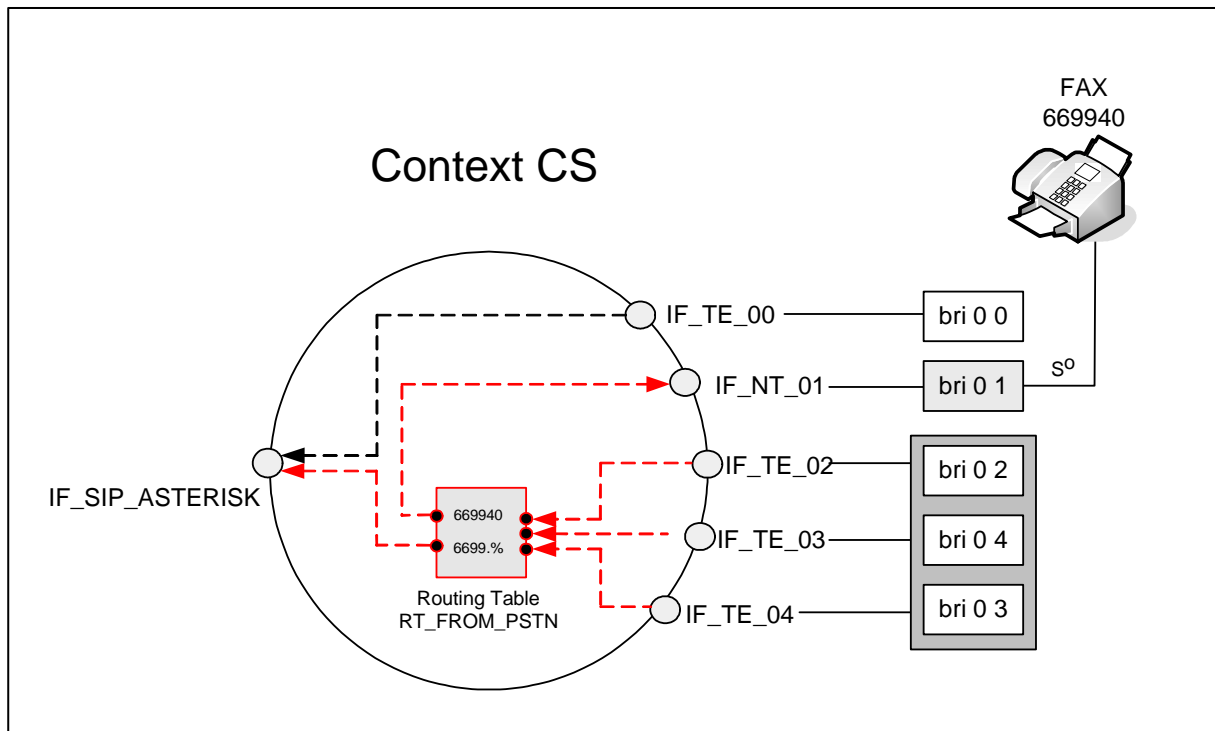


Einfaches Routen zu einem Interface



```
SN4638(if-sip)[IF_SIP_~]#context cs
SN4638(ctx-cs)[switch]#interface isdn IF_TE_00
SN4638(if-isdn)[IF_TE]#route call dest-interface IF_SIP_ASTERISK
```

Routing über eine Routingtabelle



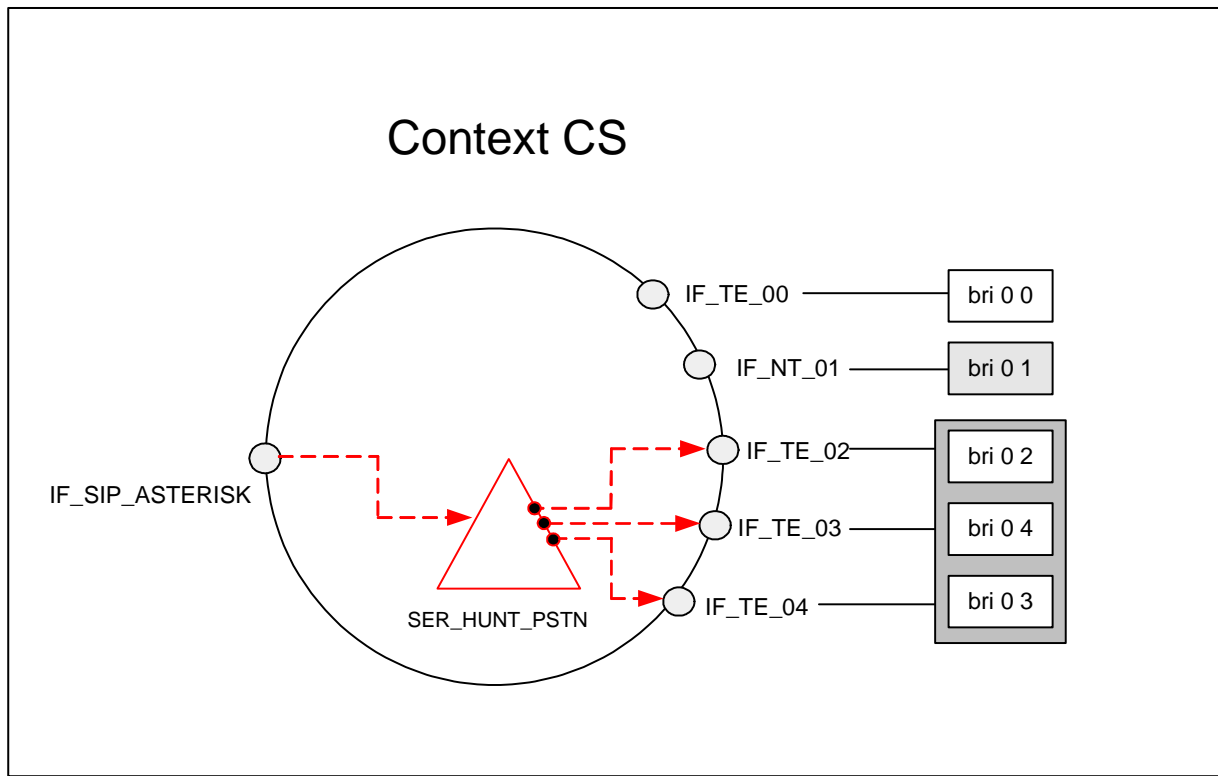
```
SN4638(if-isdn)[IF_TE]#context cs
SN4638(ctx-cs)[switch]#routing-table called-e164 RT_FROM_PSTN
SN4638(rt-tab)[RT_FROM~]#route 669940 dest-interface IF_NT_01
SN4638(rt-tab)[RT_FROM~]#route 6699.% dest-interface IF_SIP_ASTERISK

SN4638(rt-tab)[RT_FROM~]#interface isdn IF_TE_02
SN4638(if-isdn)[IF_TE_02]#route call dest-table RT_FROM_PSTN

SN4638(if-isdn)[IF_TE_02]#interface isdn IF_TE_03
SN4638(if-isdn)[IF_TE_03]#route call dest-table RT_FROM_PSTN

SN4638(if-isdn)[IF_TE_03]#interface isdn IF_TE_04
SN4638(if-isdn)[IF_TE_04]#route call dest-table RT_FROM_PSTN
```

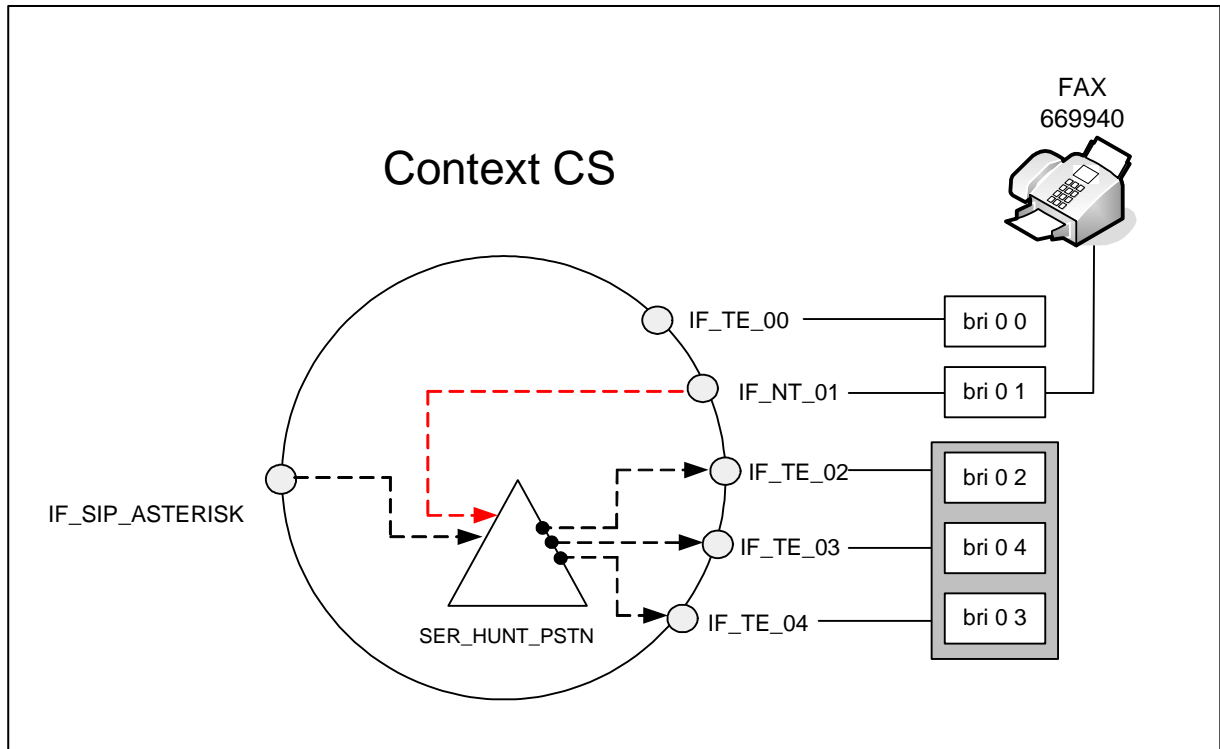
Routing über Hunting Gruppe



```
SN4638(cfg)#context cs
SN4638(ctx-cs)[switch]#service hunt-group SER_HUNT_PSTN
SN4638(svc-hunt)[SER_HUN~]#cyclic
SN4638(svc-hunt)[SER_HUN~]#timeout 6
SN4638(svc-hunt)[SER_HUN~]#route call dest-interface IF_TE_02
SN4638(svc-hunt)[SER_HUN~]#route call dest-interface IF_TE_03
SN4638(svc-hunt)[SER_HUN~]#route call dest-interface IF_TE_04

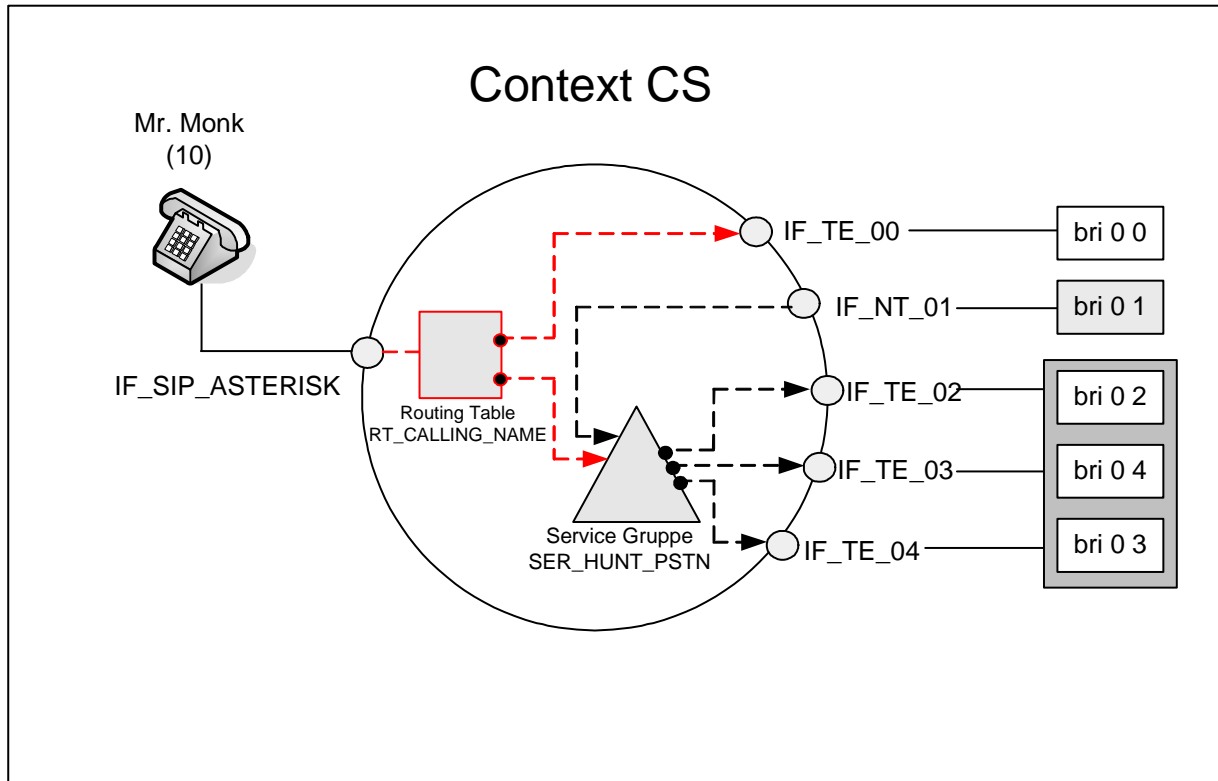
SN4638(svc-hunt)[SER_HUN~]#interface sip IF_SIP_ASTERISK
SN4638(if-sip)[IF_SIP_~]#route call dest-service SER_HUNT_PSTN
```

Routing über Hunting Gruppe für FAX



```
SN4638(if-sip)[IF_SIP_~]#context cs
SN4638(ctx-cs)[switch]#interface isdn IF_NT_01
SN4638(if-isdn)[IF_NT_01]#route call dest-service SER_HUNT_PSTN
```

Routing über Routing Tabelle und Hunting Gruppe



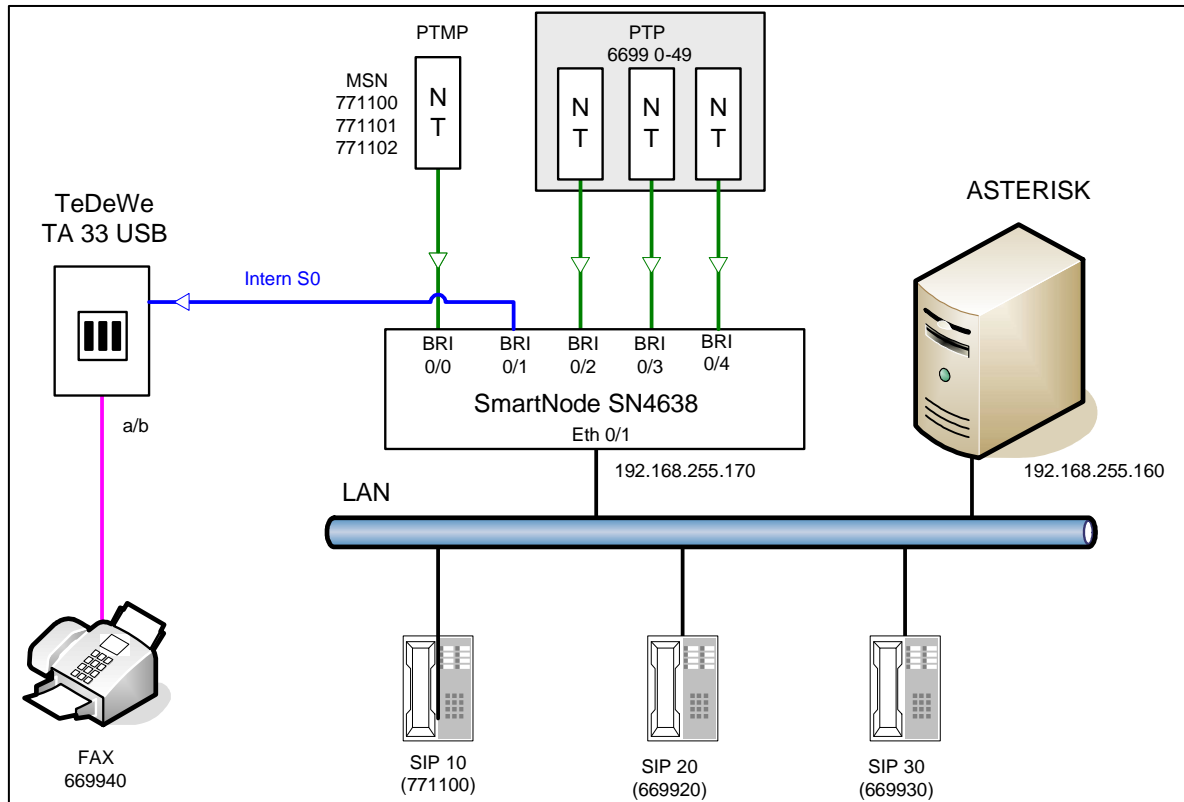
```
SN4638(if-isdn)[IF_NT_01]#context cs
SN4638(ctx-cs)[switch]#routing-table calling-name RT_CALLING_NAME
SN4638(rt-tab)[RT_CALL~]#route "Mr. Monk" dest-interface IF_TE_00
SN4638(rt-tab)[RT_CALL~]#route default dest-service SER_HUNT_PSTN

SN4638(rt-tab)[RT_CALL~]#interface sip IF_SIP_ASTERISK
SN4638(if-sip)[IF_SIP_~]#route call dest-table RT_CALLING_NAME
```

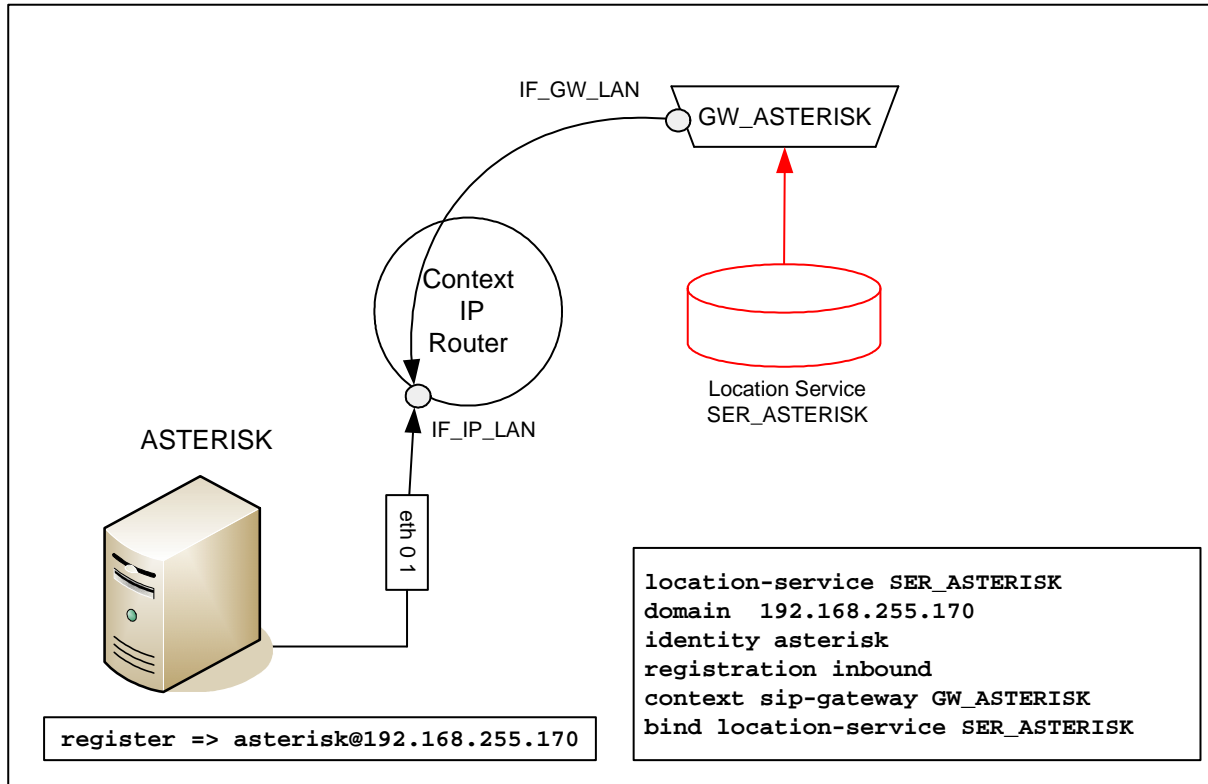
Konfiguration speichern und neu starten

```
SN4638(if-sip)[IF_SIP_~]#copy running-config startup-config
SN4638(if-sip)[IF_SIP_~]#reload
Press 'yes' to restart, 'no' to cancel : yes
The system is going down
```

Anwendungsbeispiel



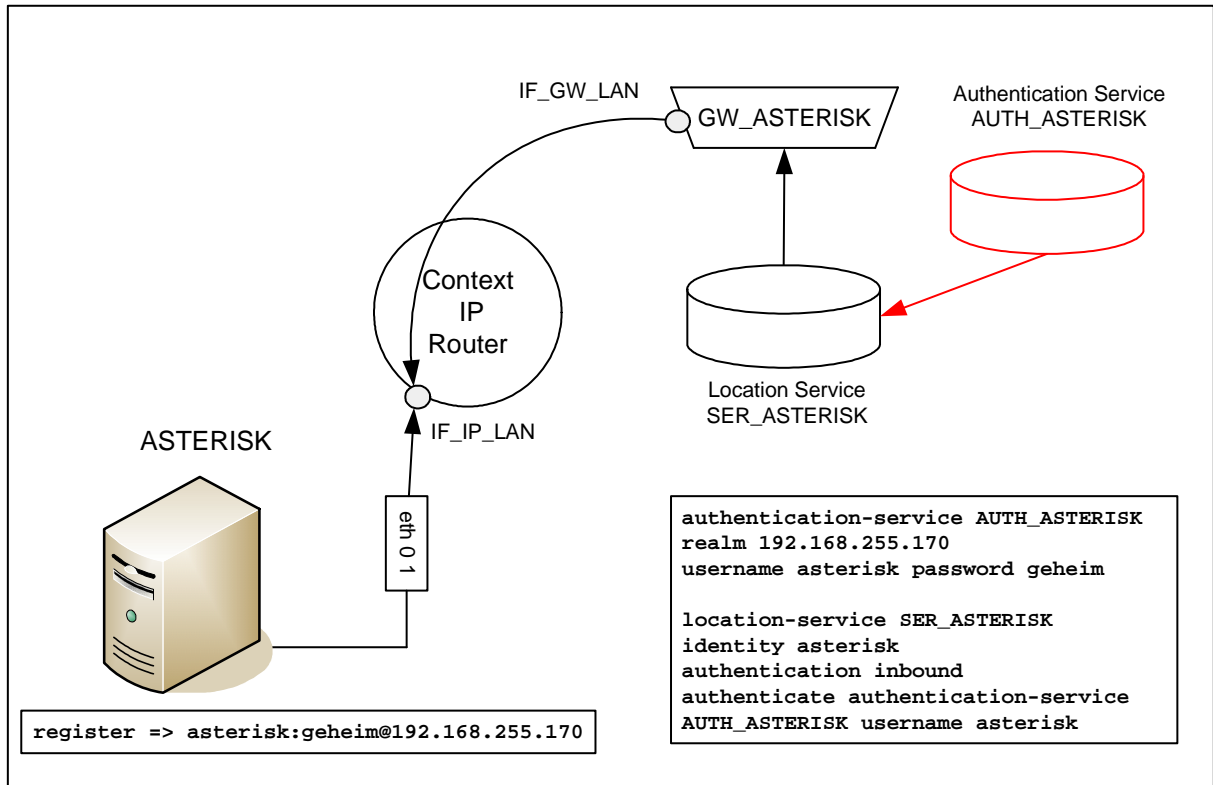
Asterisk und Registrierung am Smartnode ohne Authentifizierung



```
SN4638(cfg)#location-service SER_ASTERISK
SN4638(ls)[SER_AST~]#domain 192.168.255.170
SN4638(ls)[SER_AST~]#identity asterisk
SN4638(identity)[asterisk]#registration inbound

SN4638(regin)#context sip-gateway GW_ASTERISK
SN4638(sip-gw)[GW_ASTE~]#bind location-service SER_ASTERISK
```

Asterisk und Registrierung am Smartnode mit Authentifizierung



```
SN4638(cfg)#authentication-service AUTH_ASTERISK
SN4638(ls)[AUTH_AS~]#realm 192.168.255.170
SN4638(ls)[AUTH_AS~]#username asterisk password geheim

SN4638(ls)[AUTH_AS~]#location-service SER_ASTERISK
SN4638(ls)[SER_AST~]#identity asterisk
SN4638(identity)[asterisk]#authentication inbound
SN4638(authin)#authenticate authentication-service AUTH_ASTERISK
username asterisk
```

Vielen Dank!



Infos und Download:

www.nicos-epler-keller.de
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