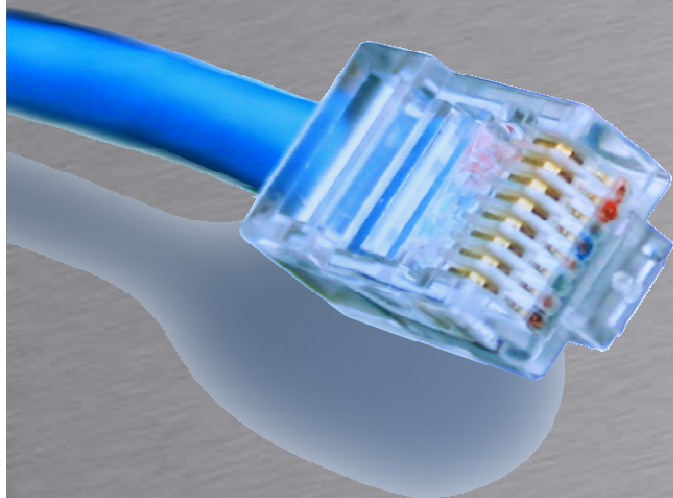


# Routing



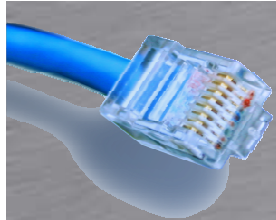
HOUSE OF  
TECHNOLOGY



- en del af **mercantec<sup>+</sup>**

## JRE: Junos Routing Essentials

Rasmus Elmholt V1.0

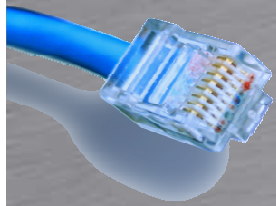


# Route tabellen

- Route tabellen består af routes fra forskellige kilder
  - Lokale interfaces
  - Statiske routes
  - Lært via dynamiske routing protokoller
- Routing tabellen bliver replikeret over i Forwarding tabellen på RE og synkroniseret med Forward tabellen på PFE
- IPv4 routing table hedder inet.0
- IPv6 routing table hedder inet.6

```
Show route table inet.0
```

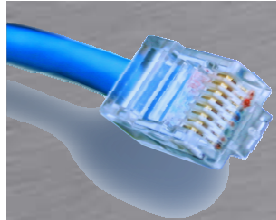
Prøv det



# Route tabellen

- Route preference

Navn	Værdi
Direct	0
Local	0
Static	5
OSPF Internal	10
RIP	100
OSPF AS external	150
Internal BGP (iBGP)	170

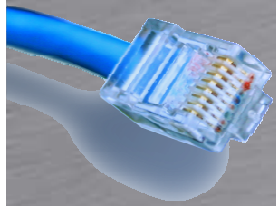


# Forwarding tabellen

- Gemmer det information der bruges til pakke forwarding. Desitnation prefixer, exit interface og next-hop

Show route forwarding-table

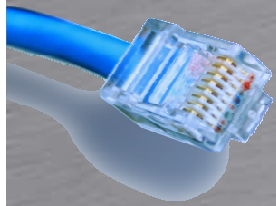
Prøv det



# Statiske Routes



- Statiske routes sættes under edit routing-options
  - Indeholder netværk/prefix og next-hop
    - Qualified-next-hop bruges ved floating static routes
  - Hvis pakkerne skal routes i bit bucket
    - Reject sender en ICMP besked tilbage
    - Discard laver en silent discard

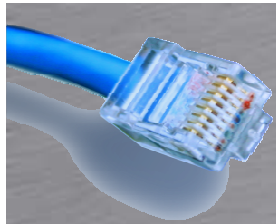


# Statiske Routes



- Eksempel

```
[edit routing-options]
root@CPE2# show
static {
    route 0.0.0.0/0 {
        next-hop 172.18.2.1;
        qualified-next-hop 172.18.2.2 {
            preference 20;
        }
    }
    route 192.168.139.0/24 {
        next-hop 192.168.146.1;
        no-readvertise;
    }
}
```



# Aggregate Routes

- Bruges til summering
  - Flere contributing routes udgøre en aggregate route
    - Default preference på 130 og next-hop reject
  - Der skal mindst være en aktiv contributing route

10.0.1.0/24



10.0.2.0/24

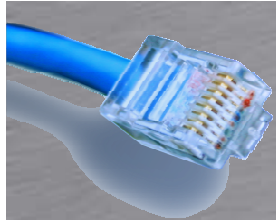


10.0.3.0/24



10.0.0.0/22





# Aggregate Routes



- Eksempel

```
[edit routing-options]
```

```
rael@SRX240# show
```

```
aggregate {
```

```
  route 10.0.0.0/22;
```

```
  route 10.0.4.0/22 discard;
```

```
}
```

10.0.1.0/24



10.0.2.0/24



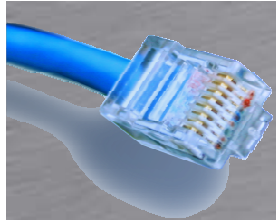
10.0.3.0/24



10.0.0.0/22







# Aggregate Routes

- Brug show route 10.0.0.0/22 exact detail for at se contributing routes

```
rael@SRX240> show route 10.0.0.0/22 exact detail
inet.0: 9 destinations, 9 routes (8 active, 0 holddown, 1 hidden)
10.0.0.0/22 (1 entry, 1 announced)
    *Aggregate Preference: 130
        Next hop type: Reject
        Next-hop reference count: 4
        State: <Active Int Ext>
        Age: 35
        Task: Aggregate
        AS path: I Refcount: 1
        Contributing Routes (1):
            10.0.1.0/24 proto Direct
```