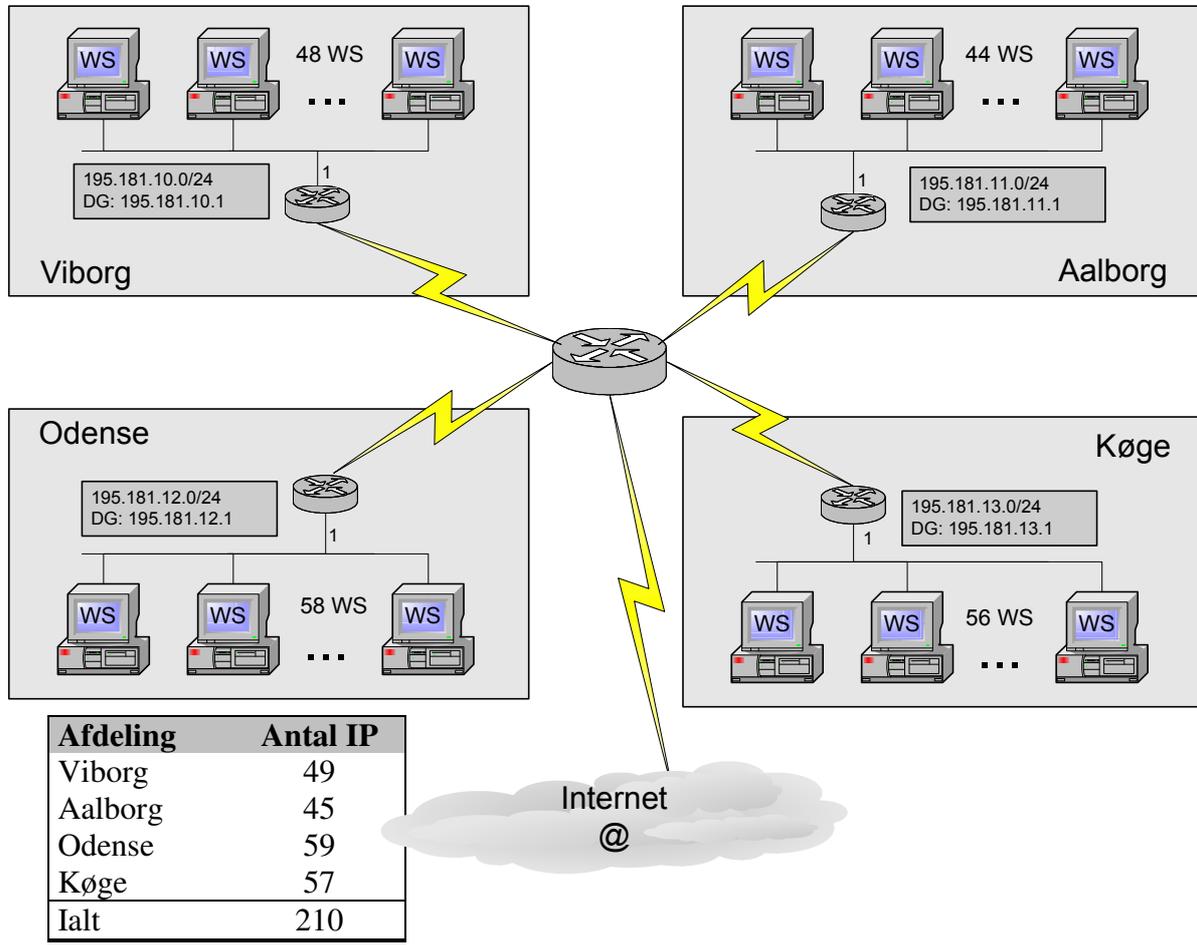


## Subnetting

En virksomhed har fire afdelinger med hvert sit klasse C net.



Virksomheden anvender i alt 210 IP adresser til arbejdsstationer samt en enkelt IP adresse i hver afdeling til Routeren. Virksomheden har i dag fire klasse C net. I alt 1016 IP adresser. ( 4 \* 254 ).

Dette Subnet eksempel viser hvorledes virksomheden kan klare sig med et klasse C net.

### Netnavn og Broadcast navn:

Alle logiske net har to reservede IP adresser som ikke kan anvendes til udstyr men har speciel betydning. IP adressen hvor alle Host bit er *nul* er netværksnavn. IP adressen hvor alle Host bit er *et* er broadcast adresse for nettet.

Eksempel:

Netnavnet: 195.181.54.0/24 har broadcast adressen 195.181.54.255

**Klasse C nettet 195.181.54.0/24**

Netnavn: 195.181.54.0/24  
 Broadcast: 195.181.54.255  
 Antal IP: 254

Subnet mask /24:

11111111.11111111.11111111.00000000 = 255.255.255.0

	Net del	Host del
195.181.54.0	= 11000011.10110101.00110110	.00000000
195.181.54.1	= 11000011.10110101.00110110	.00000001
195.181.54.2	= 11000011.10110101.00110110	.00000010
.	.	.
.	.	.
195.181.54.62	= 11000011.10110101.00110110	.00111110
195.181.54.63	= 11000011.10110101.00110110	.00111111
195.181.54.64	= 11000011.10110101.00110110	.01000000
195.181.54.65	= 11000011.10110101.00110110	.01000001
.	.	.
.	.	.
195.181.54.126	= 11000011.10110101.00110110	.01111110
195.181.54.127	= 11000011.10110101.00110110	.01111111
195.181.54.128	= 11000011.10110101.00110110	.10000000
195.181.54.129	= 11000011.10110101.00110110	.10000001
.	.	.
.	.	.
195.181.54.190	= 11000011.10110101.00110110	.10111110
195.181.54.191	= 11000011.10110101.00110110	.10111111
195.181.54.192	= 11000011.10110101.00110110	.11000000
195.181.54.193	= 11000011.10110101.00110110	.11000001
.	.	.
.	.	.
195.181.54.254	= 11000011.10110101.00110110	.11111110
195.181.54.255	= 11000011.10110101.00110110	.11111111

**Figur 1 - Klasse C nettet 195.181.54.0/24**

**Klasse C nettet 195.181.54.0/24 subnettet med 2 bit**

Subnet mask /26:

$$11111111.11111111.11111111.11000000 = 255.255.255.192$$

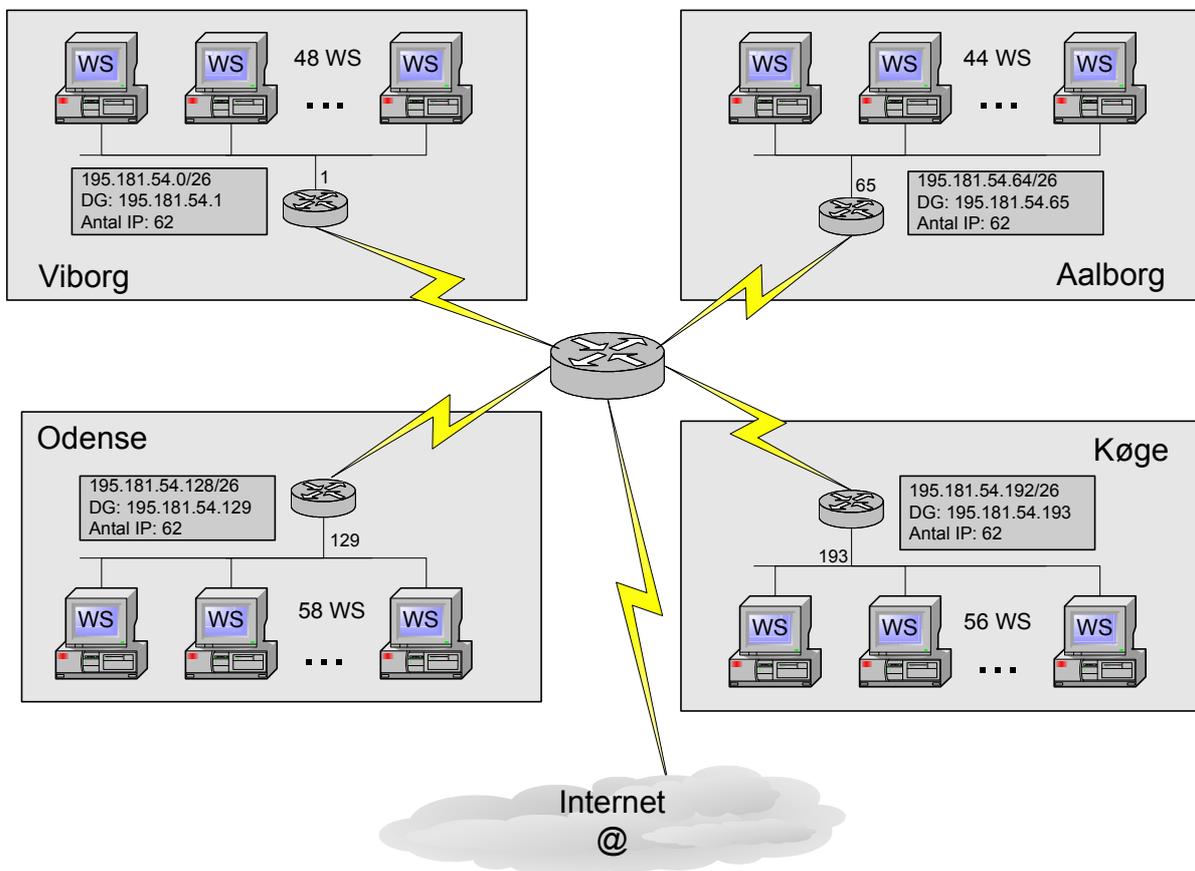
Ved at Subnette et klasse C net med 2 bit, kan følgende logiske net laves.

**Viborg:** Netnavn: 195.181.54.0/26  
 Broadcast: 195.181.54.63  
 Antal IP: 62

**Aalborg:** Netnavn: 195.181.54.64/26  
 Broadcast: 195.181.54.127  
 Antal IP: 62

**Odense:** Netnavn: 195.181.54.128/26  
 Broadcast: 195.181.54.191  
 Antal IP: 62

**Køge:** Netnavn: 195.181.54.192/26  
 Broadcast: 195.181.54.255  
 Antal IP: 62



		Net del	Host del	
195.181.54.0	=	11000011.10110101.00110110.00	000000	}
195.181.54.1	=	11000011.10110101.00110110.00	000001	
195.181.54.2	=	11000011.10110101.00110110.00	000010	
.		.	.	}
.		.	.	
195.181.54.62	=	11000011.10110101.00110110.00	111110	
195.181.54.63	=	11000011.10110101.00110110.00	111111	}
195.181.54.64	=	11000011.10110101.00110110.01	000000	
195.181.54.65	=	11000011.10110101.00110110.01	000001	
.		.	.	}
.		.	.	
195.181.54.126	=	11000011.10110101.00110110.01	111110	
195.181.54.127	=	11000011.10110101.00110110.01	111111	}
195.181.54.128	=	11000011.10110101.00110110.10	000000	
195.181.54.129	=	11000011.10110101.00110110.10	000001	
.		.	.	}
.		.	.	
195.181.54.190	=	11000011.10110101.00110110.10	111110	
195.181.54.191	=	11000011.10110101.00110110.10	111111	}
195.181.54.192	=	11000011.10110101.00110110.11	000000	
195.181.54.193	=	11000011.10110101.00110110.11	000001	
.		.	.	}
.		.	.	
195.181.54.254	=	11000011.10110101.00110110.11	111110	
195.181.54.255	=	11000011.10110101.00110110.11	111111	}

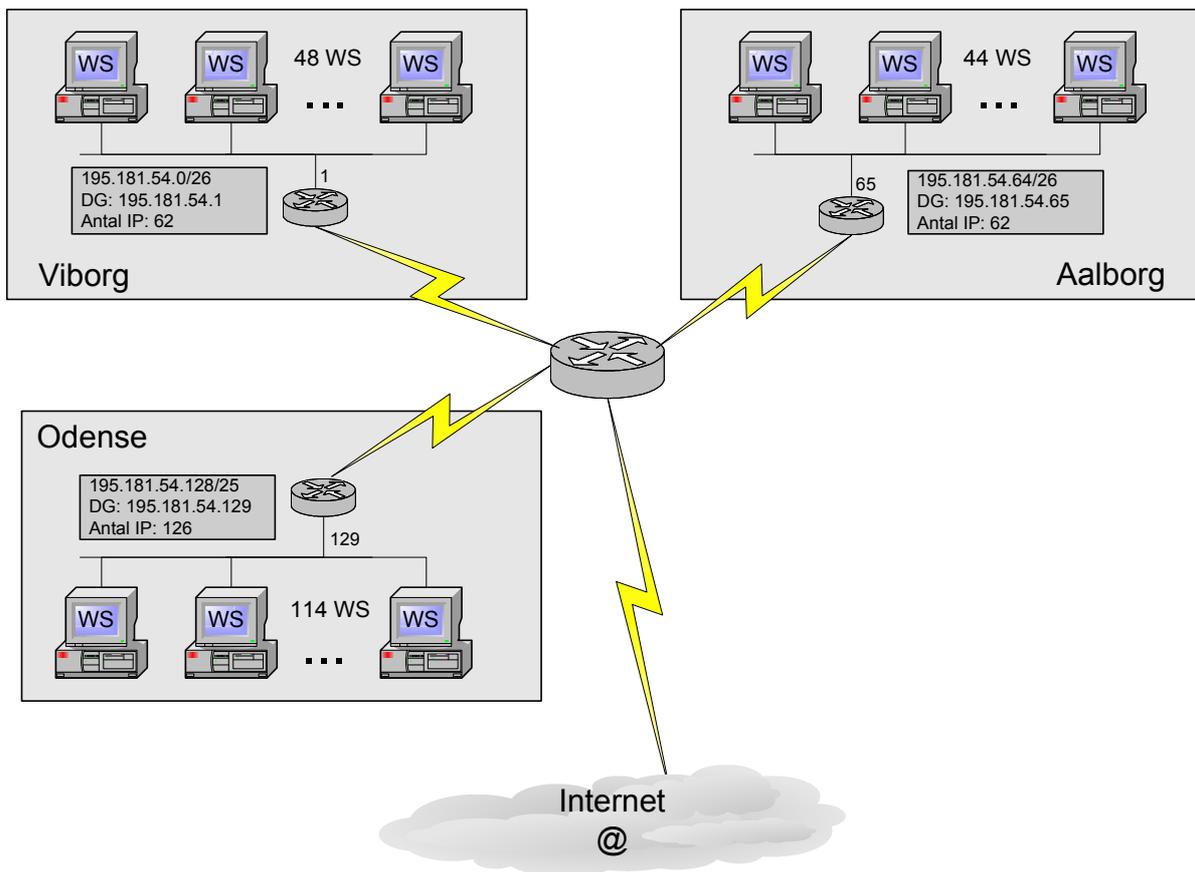
Figur 2 – Netværket 195.181.54.0 subnettet med 2 bit

**Afdelingen i Køge lukkes og Odense udvides.**

**Viborg:** Netnavn: 195.181.54.0/26  
 Subnet mask: 255.255.255.192  
 Broadcast: 195.181.54.63  
 Antal IP: 62

**Aalborg:** Netnavn: 195.181.54.64/26  
 Subnet mask: 255.255.255.192  
 Broadcast: 195.181.54.127  
 Antal IP: 62

**Odense:** Netnavn: 195.181.54.128/25  
 Subnet mask: 255.255.255.128  
 Broadcast: 195.181.54.255  
 Antal IP: **126**



	Net del	Host del	
195.181.54.0	= 11000011.10110101.00110110.00	0000000	} 195.181.54.0/26
195.181.54.1	= 11000011.10110101.00110110.00	0000001	
195.181.54.2	= 11000011.10110101.00110110.00	0000010	
.	.	.	
.	.	.	
195.181.54.62	= 11000011.10110101.00110110.00	1111110	} 195.181.54.64/26
195.181.54.63	= 11000011.10110101.00110110.00	1111111	
195.181.54.64	= 11000011.10110101.00110110.01	0000000	
195.181.54.65	= 11000011.10110101.00110110.01	0000001	
.	.	.	
.	.	.	
195.181.54.126	= 11000011.10110101.00110110.01	1111110	} 195.181.54.128/25
195.181.54.127	= 11000011.10110101.00110110.01	1111111	
195.181.54.128	= 11000011.10110101.00110110.1	0000000	
195.181.54.129	= 11000011.10110101.00110110.1	0000001	
.	.	.	
.	.	.	
.	.	.	
.	.	.	
.	.	.	
.	.	.	
.	.	.	
195.181.54.254	= 11000011.10110101.00110110.1	1111110	} 195.181.54.128/25
195.181.54.255	= 11000011.10110101.00110110.1	1111111	

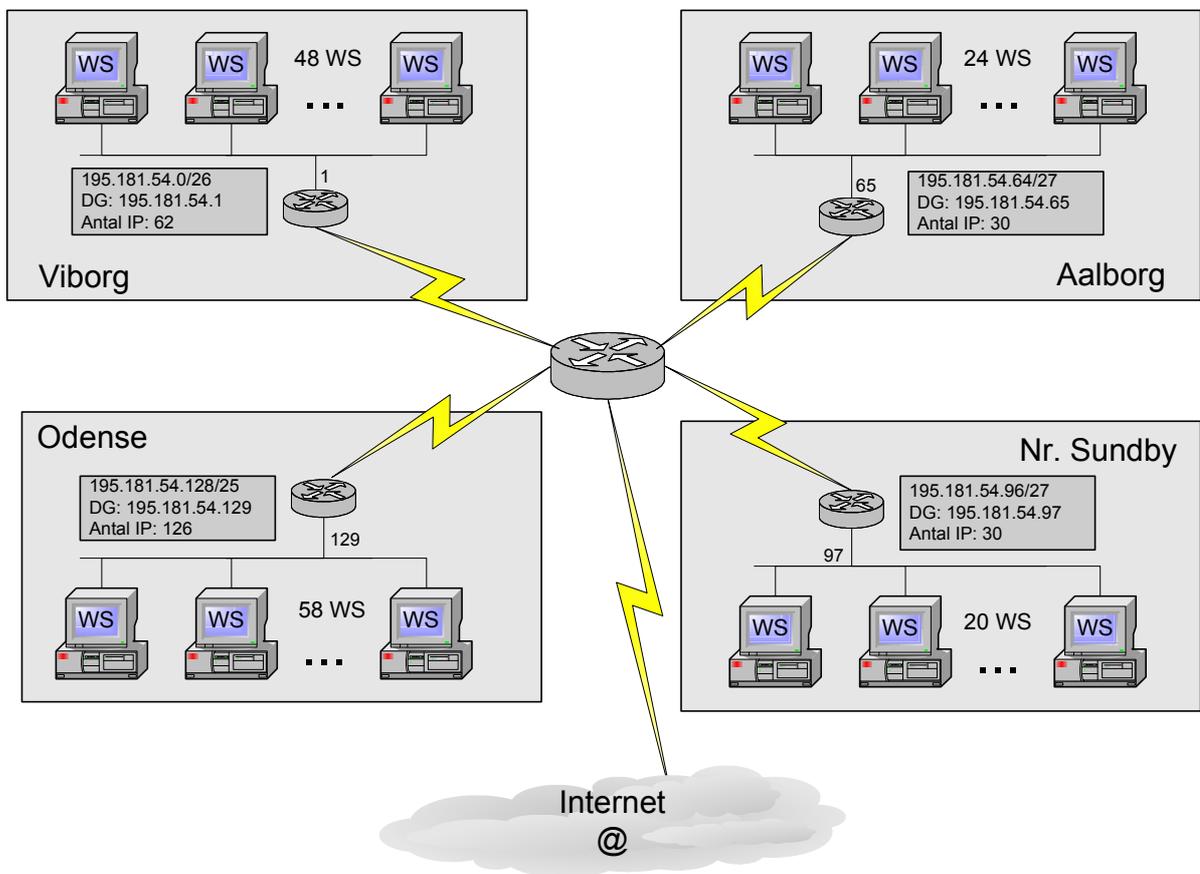
**Afdelingen i Aalborg flytter 20 maskiner til Nørre Sundby**

**Viborg:** Netnavn: 195.181.54.0/26  
 Subnet mask: 255.255.255.192  
 Broadcast: 195.181.54.63  
 Antal IP: 62

**Aalborg:** Netnavn: 195.181.54.64/27  
 Subnet mask: 255.255.255.224  
 Broadcast: 195.181.54.95  
 Antal IP: 30

**Nr Sund.:** Netnavn: 195.181.54.96/27  
 Subnet mask: 255.255.255.224  
 Broadcast: 195.181.54.127  
 Antal IP: 30

**Odense:** Netnavn: 195.181.54.128/25  
 Subnet mask: 255.255.255.128  
 Broadcast: 195.181.54.255  
 Antal IP: **126**



		Net del	Host del	
195.181.54.0	=	11000011.10110101.00110110.00	000000	}
195.181.54.1	=	11000011.10110101.00110110.00	000001	
195.181.54.2	=	11000011.10110101.00110110.00	000010	
.		.	.	}
.		.	.	
.		.	.	
195.181.54.62	=	11000011.10110101.00110110.00	111110	}
195.181.54.63	=	11000011.10110101.00110110.00	111111	
195.181.54.64	=	11000011.10110101.00110110.01	000000	
195.181.54.65	=	11000011.10110101.00110110.01	000001	}
.		.	.	
.		.	.	
195.181.54.94	=	11000011.10110101.00110110.01	111110	}
195.181.54.95	=	11000011.10110101.00110110.01	111111	
195.181.54.96	=	11000011.10110101.00110110.01	000000	
195.181.54.97	=	11000011.10110101.00110110.01	000001	}
.		.	.	
.		.	.	
195.181.54.126	=	11000011.10110101.00110110.01	111110	}
195.181.54.127	=	11000011.10110101.00110110.01	111111	
195.181.54.128	=	11000011.10110101.00110110.1	0000000	
195.181.54.129	=	11000011.10110101.00110110.1	0000001	}
.		.	.	
.		.	.	
195.181.54.254	=	11000011.10110101.00110110.1	1111110	}
195.181.54.255	=	11000011.10110101.00110110.1	1111111	

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