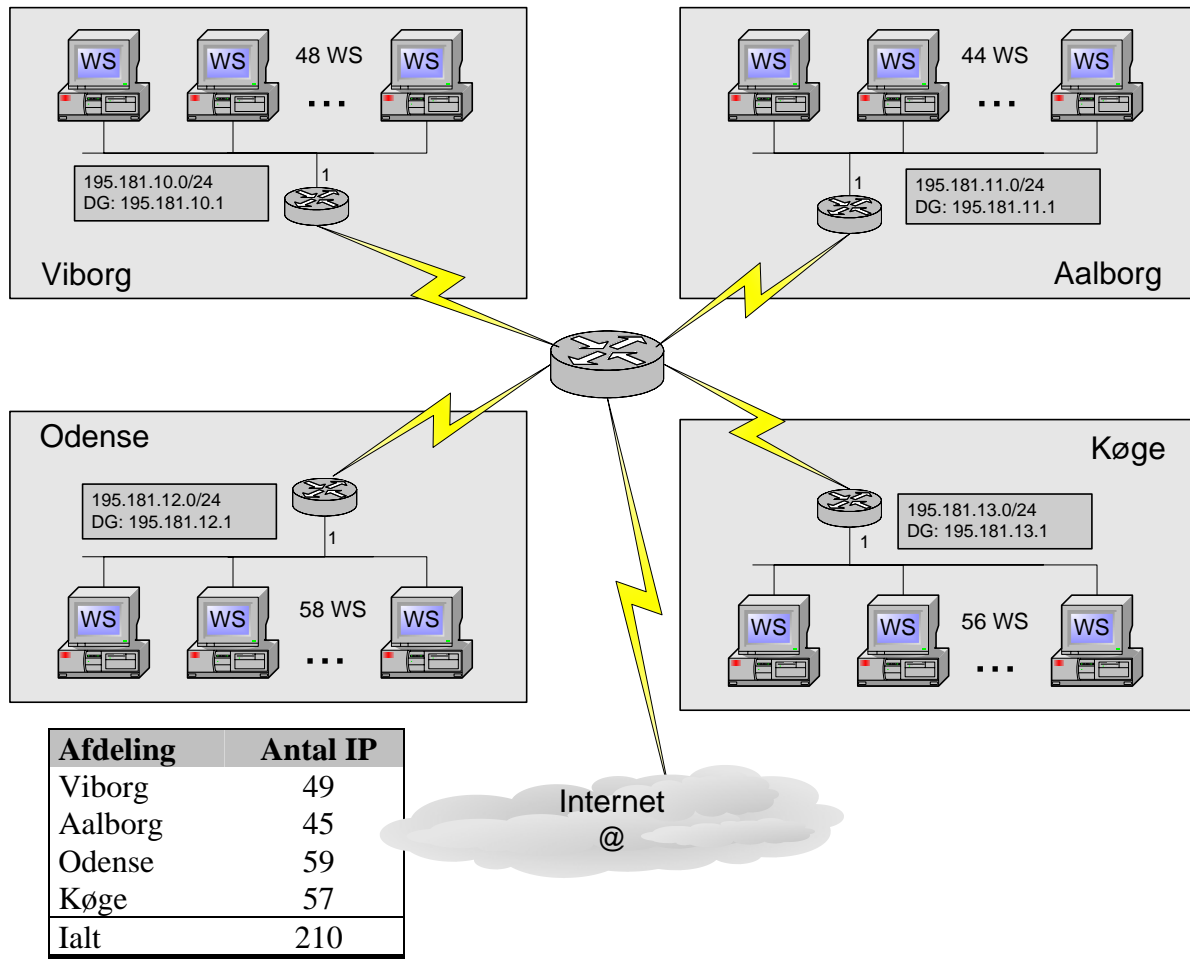


## Subnetting

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	} 195.181.54.0/24
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

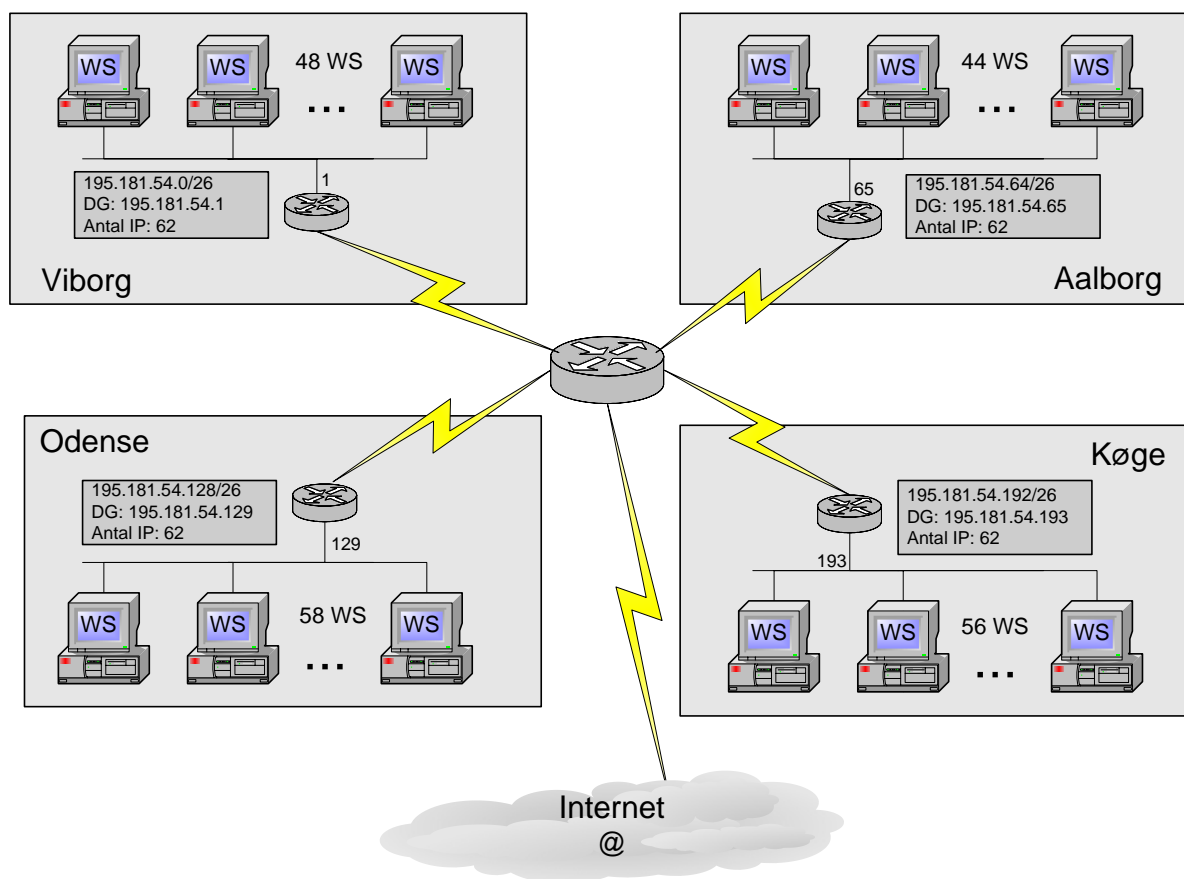
Ved at Subnette et klasse C net med 2 bit, kan følgende logiske net laves.

**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

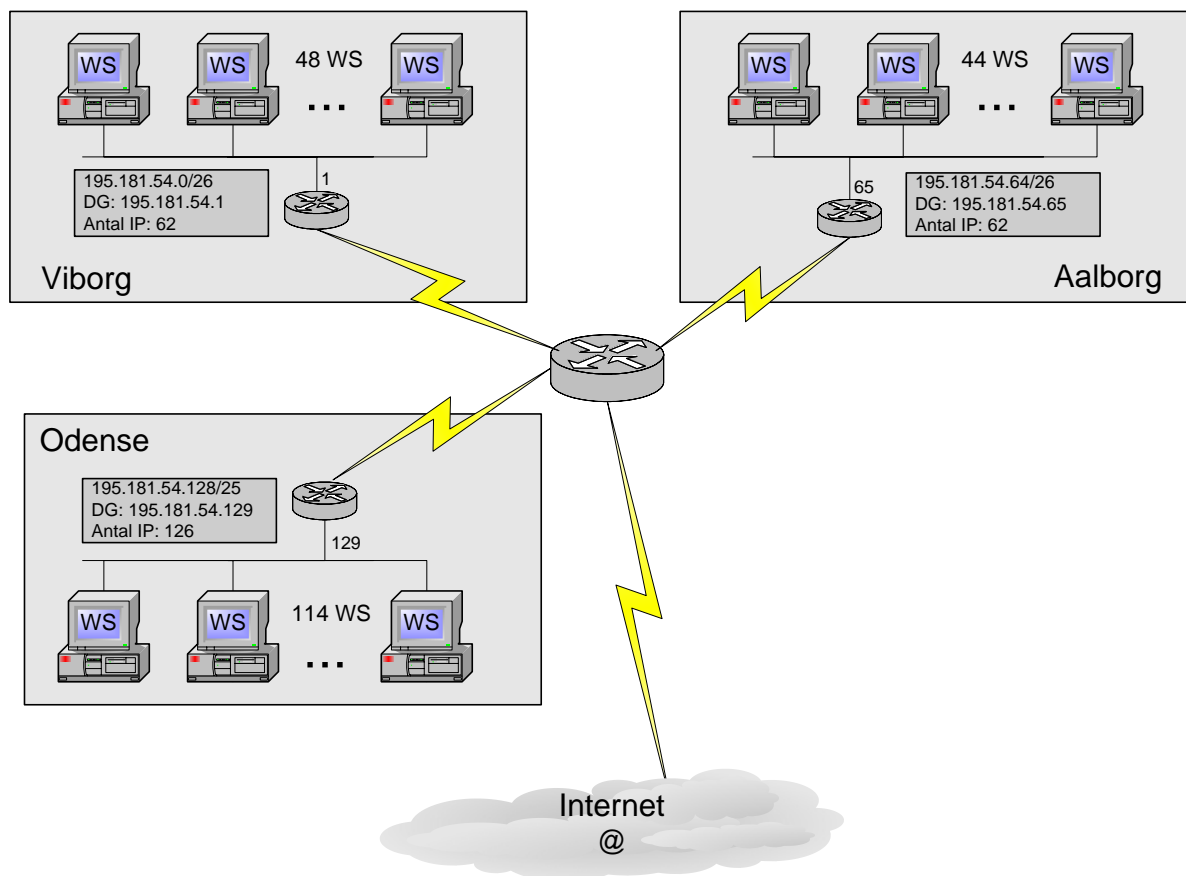


		Net del	Host del	
195.181.54.0	=	11000011.10110101.00110110.00	0000000	}
195.181.54.1	=	11000011.10110101.00110110.00	0000001	
195.181.54.2	=	11000011.10110101.00110110.00	0000010	
.		.	.	}
.		.	.	
195.181.54.62	=	11000011.10110101.00110110.00	1111110	}
195.181.54.63	=	11000011.10110101.00110110.00	1111111	
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	}
195.181.54.127	=	11000011.10110101.00110110.01	1111111	
195.181.54.128	=	11000011.10110101.00110110.10	0000000	}
195.181.54.129	=	11000011.10110101.00110110.10	0000001	
.		.	.	}
.		.	.	
195.181.54.190	=	11000011.10110101.00110110.10	1111110	}
195.181.54.191	=	11000011.10110101.00110110.10	1111111	
195.181.54.192	=	11000011.10110101.00110110.11	0000000	}
195.181.54.193	=	11000011.10110101.00110110.11	0000001	
.		.	.	}
.		.	.	
195.181.54.254	=	11000011.10110101.00110110.11	1111110	}
195.181.54.255	=	11000011.10110101.00110110.11	1111111	

Figur 2 – Netværket 195.181.54.0 subnettet med 2 bit

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

<b>Viborg:</b>	Netnavn:	195.181.54.0/26
	Subnet mask:	255.255.255.192
	Broadcast:	195.181.54.63
	Antal IP:	62
<b>Aalborg:</b>	Netnavn:	195.181.54.64/26
	Subnet mask:	255.255.255.192
	Broadcast:	195.181.54.127
	Antal IP:	62
<b>Odense:</b>	Netnavn:	195.181.54.128/25
	Subnet mask:	255.255.255.128
	Broadcast:	195.181.54.255
	Antal IP:	<b>126</b>



	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		}
.	.	.	
.	.	.	
.	.	.	}
.	.	.	
.	.	.	
195.181.54.254	= 11000011.10110101.00110110.11111110		}
195.181.54.255	= 11000011.10110101.00110110.11111111		

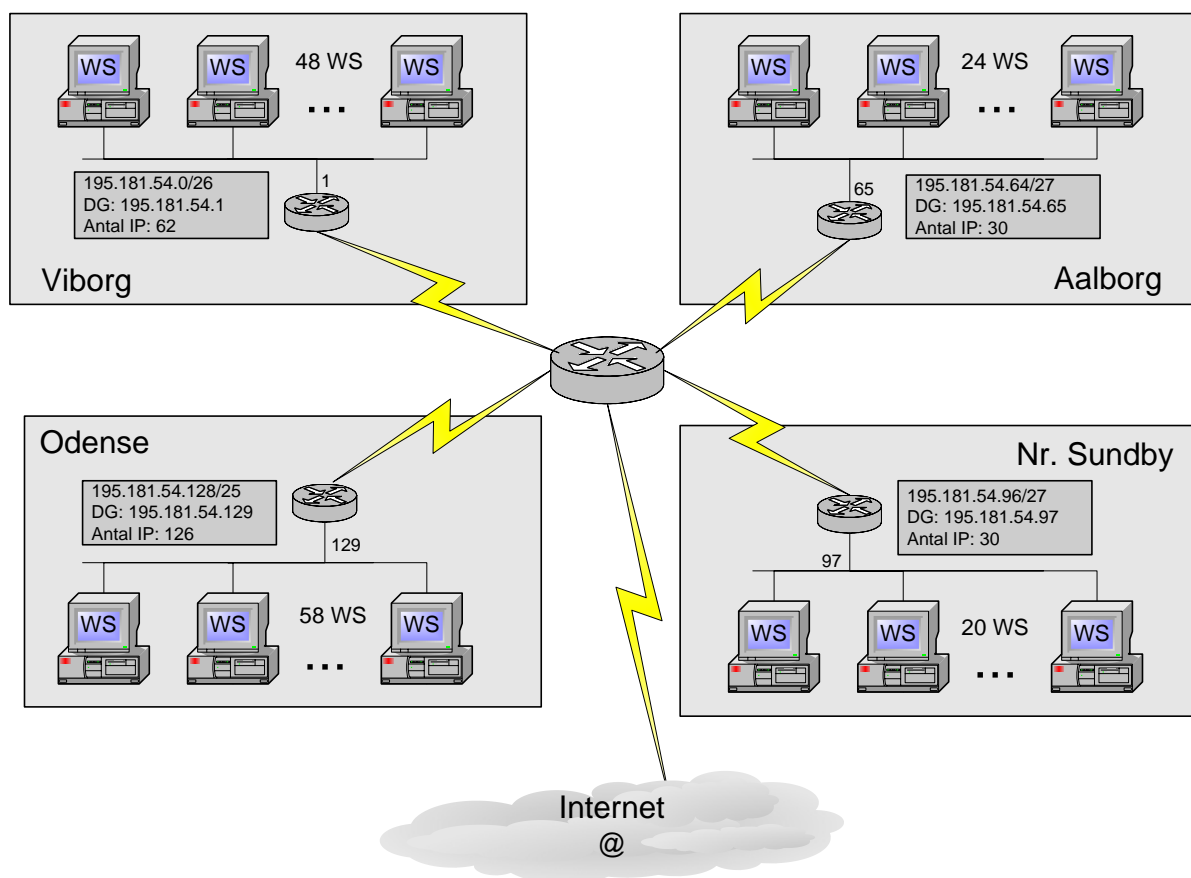
195.181.54.0/26

195.181.54.64/26

195.181.54.128/25

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

<b>Viborg:</b>	Netnavn:	195.181.54.0/26
	Subnet mask:	255.255.255.192
	Broadcast:	195.181.54.63
	Antal IP:	62
<b>Aalborg:</b>	Netnavn:	195.181.54.64/27
	Subnet mask:	255.255.255.224
	Broadcast:	195.181.54.95
	Antal IP:	30
<b>Nr Sund.:</b>	Netnavn:	195.181.54.96/27
	Subnet mask:	255.255.255.224
	Broadcast:	195.181.54.127
	Antal IP:	30
<b>Odense:</b>	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	}
195.181.54.1	= 11000011.10110101.00110110.00	0000001	
195.181.54.2	= 11000011.10110101.00110110.00	0000010	
.	.	.	}
.	.	.	
195.181.54.62	= 11000011.10110101.00110110.00	1111110	}
195.181.54.63	= 11000011.10110101.00110110.00	1111111	
195.181.54.64	= 11000011.10110101.00110110.01	0000000	}
195.181.54.65	= 11000011.10110101.00110110.01	0000001	
.	.	.	
195.181.54.94	= 11000011.10110101.00110110.01	1111110	}
195.181.54.95	= 11000011.10110101.00110110.01	1111111	
195.181.54.96	= 11000011.10110101.00110110.01	0000000	}
195.181.54.97	= 11000011.10110101.00110110.01	0000001	
.	.	.	
195.181.54.126	= 11000011.10110101.00110110.01	1111110	}
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	11111110	}
195.181.54.255	= 11000011.10110101.00110110.1	11111111	

195.181.54.0/26

195.181.54.64/27

195.181.54.96/27

195.181.54.128/25

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