

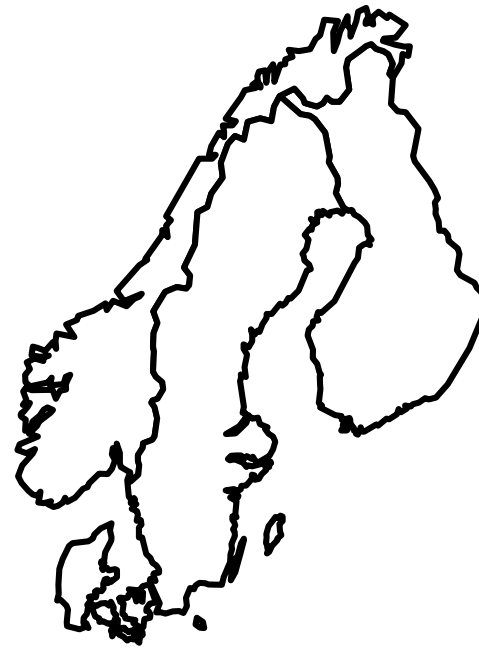
# NDGF

The Nordic Distributed  
Tier-1

Presented at the GDB Meeting at CERN  
June 21<sup>st</sup> 2005

# Who?

- Denmark
- Finland
- Norway
- Sweden



# The Nordic Tier-1

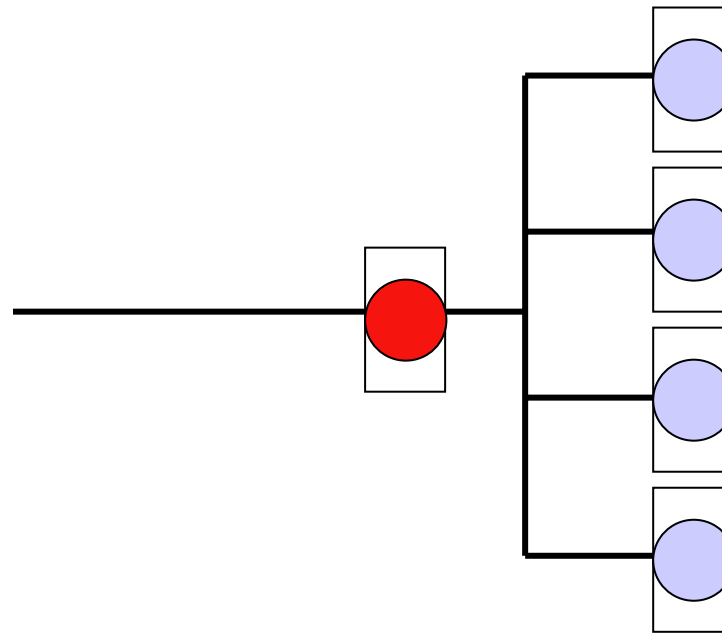
- The Nordic Tier-1 will be distributed
  - amongst all countries
  - amongst centers within the individual countries
- However there will be only one
  - interface from the rest of the world
  - network connection to Europe

# Distributed Tier-1

- A distributed Tier one has been chosen because
  - None of the resources available will be exclusive to LCG
  - A high up-time is much easier to achieve with a distributed Tier-1



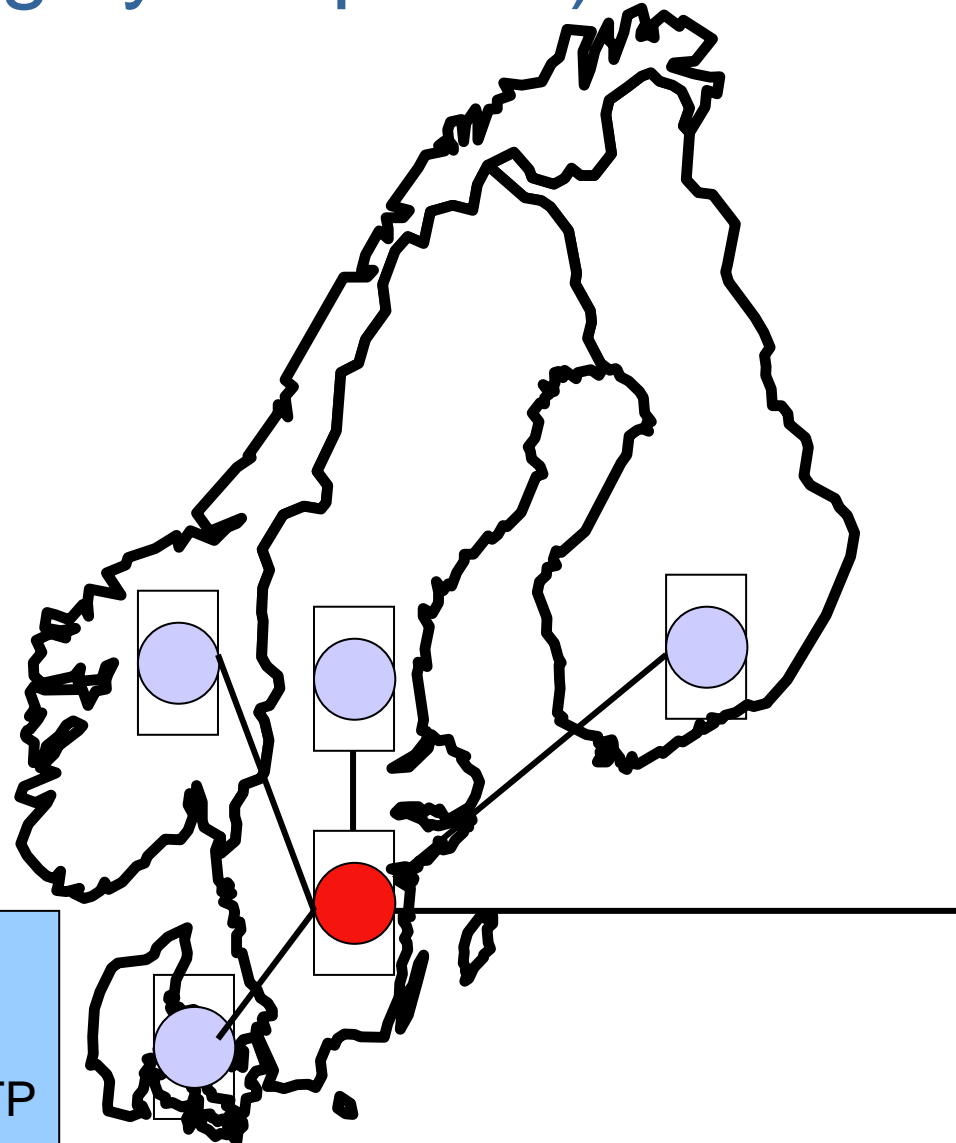
# Standard Tier-1 design (highly simplified)





 SRM

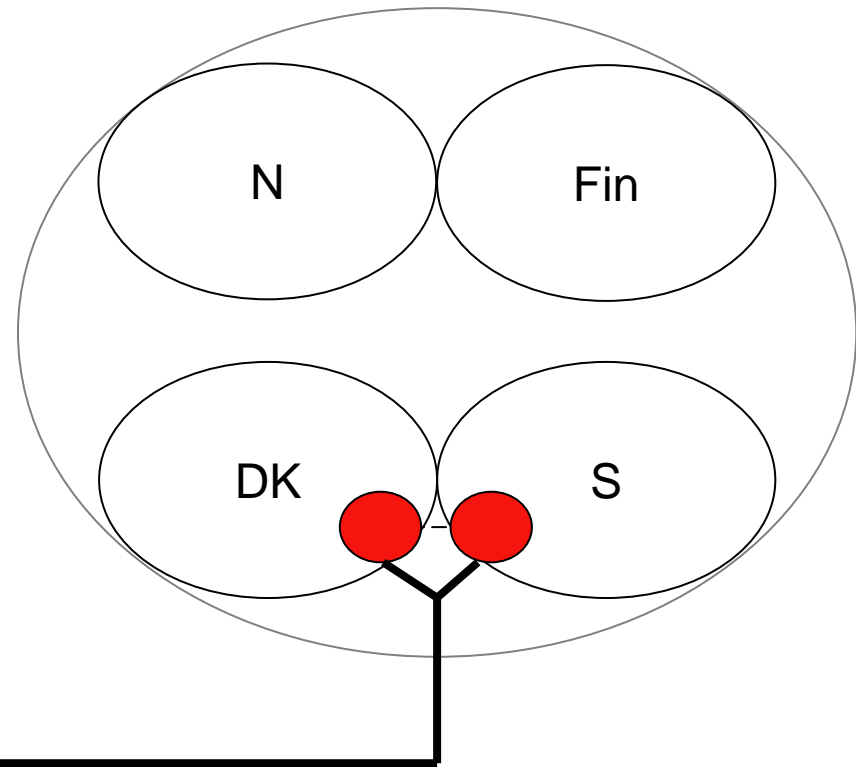
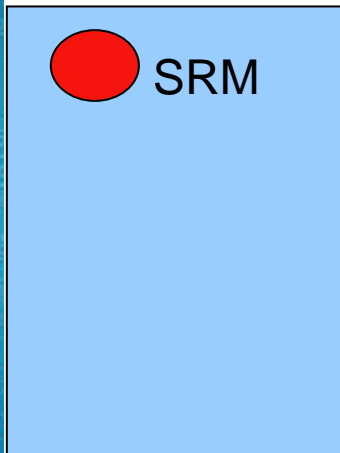
 gridFTP

# Nordic Tier-1 design (highly simplified)

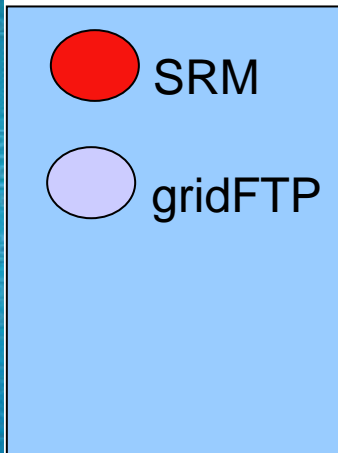


-  SRM
-  gridFTP

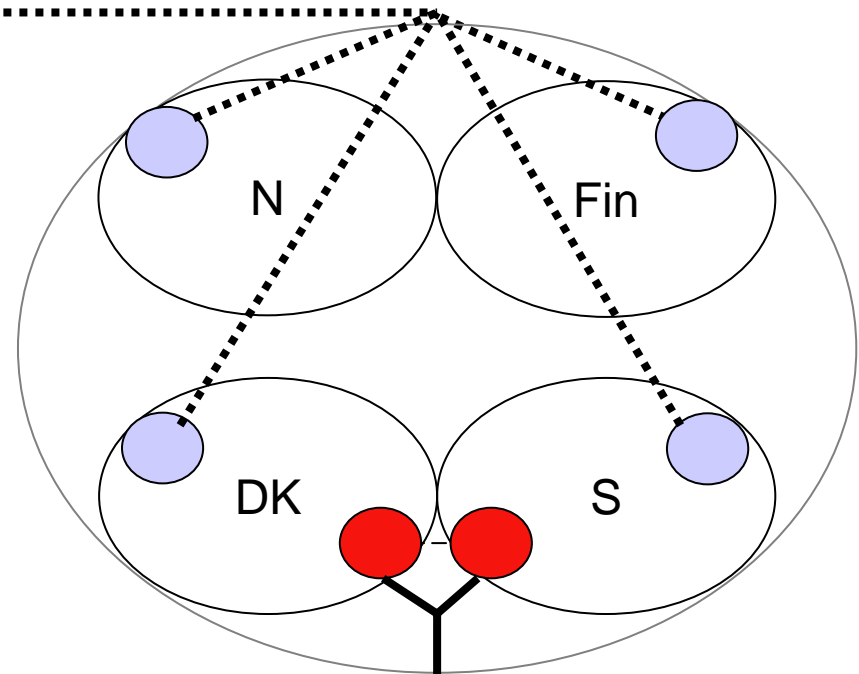
# Distributed Tier-1 Design



# Distributed Tier-1 Design



Storage Access

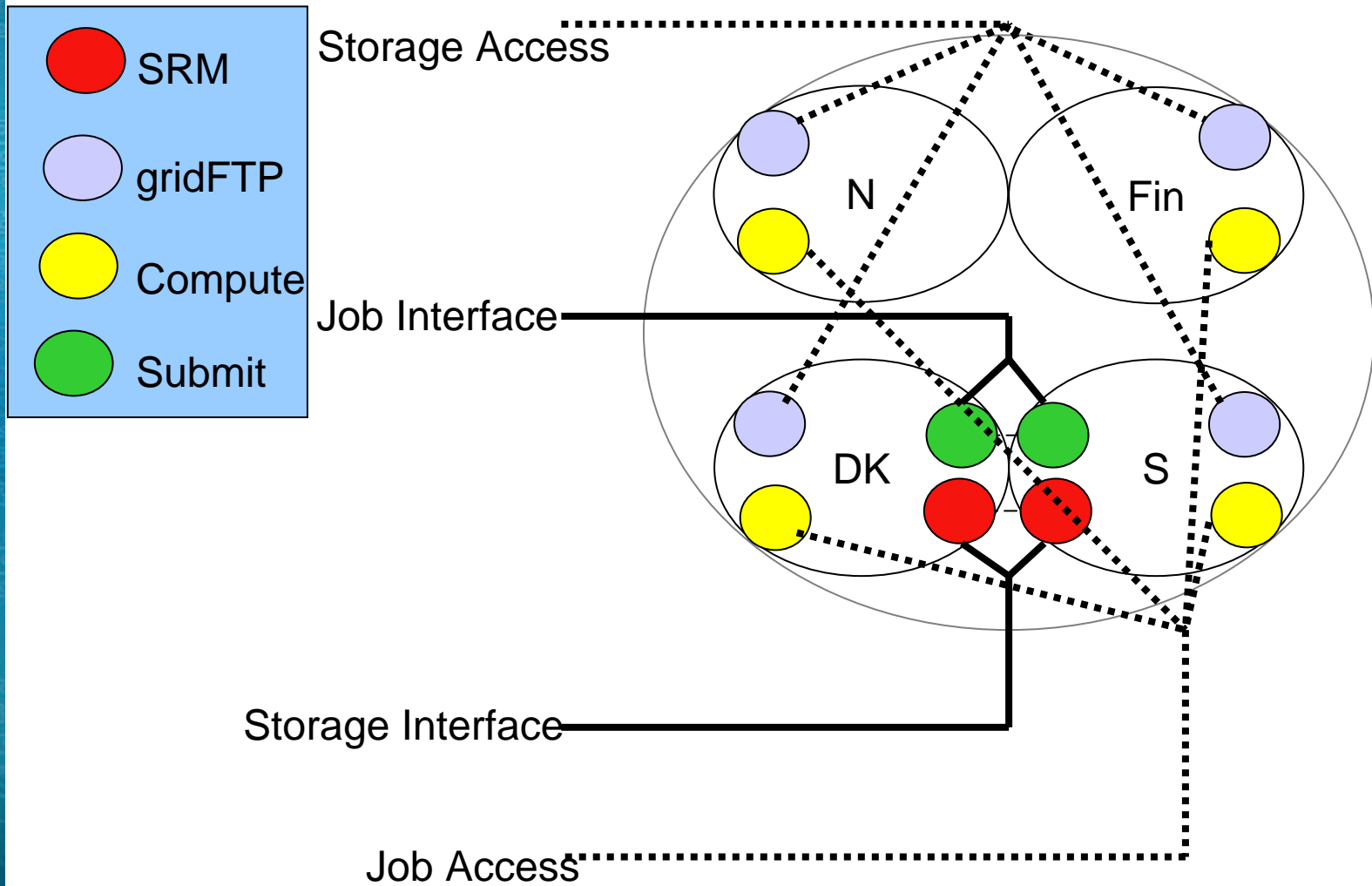


Storage Interface





# Distributed Tier-1 Design



## Expected Resources (Early Numbers)

<i>Year</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
<i>CPU (kSI2K)</i>	393	452	1855	3582	4790	7190
<i>Disk (TBytes)</i>	85	170	584	1798	2950	4370
<i>Tape (TBytes)</i>	80	170	1210	1940	2800	3790
<i>WAN(Gbit/sec)</i>	10	10	10	10	10	10

# Expected Resources ATLAS

<i>Year</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
<i>CPU (kSI2K)</i>	300	300	700	1400	1800	2300
<i>Disk (TBytes)</i>	60	70	200	700	1300	2000
<i>Tape (TBytes)</i>	60	70	200	700	1300	2000
<i>WAN(Gbit/sec)</i>	1	2	5	10	20	20

# Expected Resources ALICE

<i>Year</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
<i>CPU (kSI2K)</i>	93	152	505	932	1240	1490
<i>Disk (TBytes)</i>	25	100	234	498	800	1070
<i>Tape (Tbytes)</i>	20	100	210	440	700	990
<i>WAN(Gbit/sec)</i>	10	10	10	10	10	10

# Expected Resources CMS (very early numbers)

<i>Year</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
<i>CPU (kSI2K)</i>			650	1250	1750	3400
<i>Disk (TBytes)</i>			150	600	850	1300
<i>Tape (TBytes)</i>			800	800	800	800
<i>WAN(Gbit/sec)</i>	2.5	2.5	2.5	2.5	2.5	2.5



# Status

- We are running ARC
- Early prototype in final design
- Some portions should be tested during SC3



NDGF