

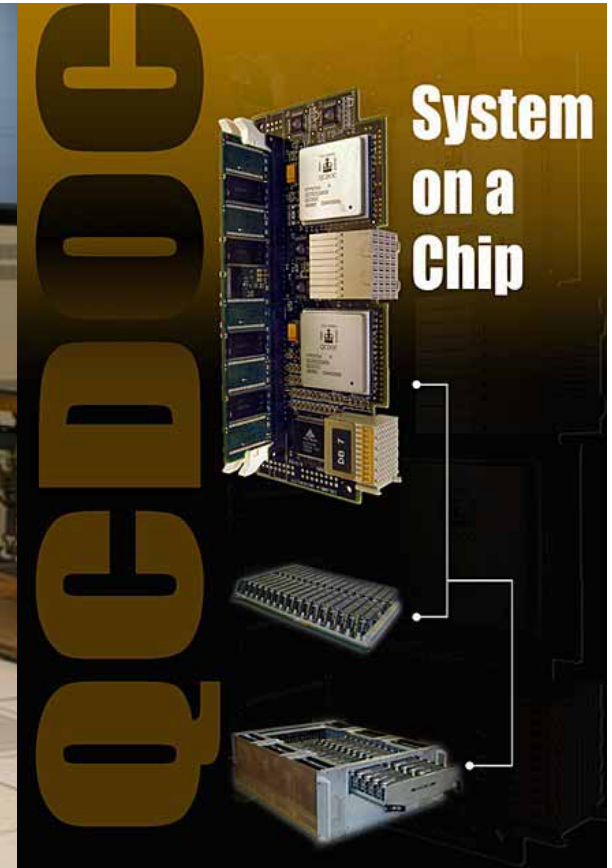


UKQCD Plans for QCDOC

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UKQCD machine schedule

- **today**
 - 64-node (Edinburgh)
 - shared 512-node + 4 × 1k-node (Columbia)
- **Nov 2004**
 - 12k-node + 2k-node + 2 × 64-node (Edinburgh)



- **UKQCD has adopted the ILDG data sharing policy, ie we will**
 1. mark up our data using the QCDML standard
 2. adopt a policy to make our data generally available as soon as possible
subject to a minimum of 6 months exclusive use by UKQCD and collaborators
 3. announce on the ILDG web pages, at the time of production, our chosen action and parameter values, and when our configurations will be made generally available through ILDG
- **UKQCD and RBC have agreed to share data generated by the first two 2k-node QCDOC machines**
 - and will release the data according to ILDG policy 6 months after the first refereed journal publication for each data set
- **UKQCD and SciDAC have agreed to adopt a common policy for QCDOC data**
 - that conforms to ILDG policy
 - is subject to exclusion periods to be agreed on a case-by-case basis

2k-node machines

▪ 2+1 flavour improved staggered (RHMC)

- $24^3 \times 64$, $a \cong 0.12$ fm, $am_{ud}/am_s = 0.0078/0.039 = 1/5$, 30k trajectories
- topology
- improved staggered light valence quarks
 - light hadron spectrum, flavour singlet mesons and glueballs, B_K
- + NRQCD heavy valence quarks
 - Y spectrum, B mixing, leptonic and semileptonic decays
- overlap light and charm valence quarks
 - light hadron spectrum, structure functions, proton decay, $D_{(s)}$ decay constants
- Wilson valence quarks
 - exploratory study of $K \rightarrow \pi\pi$ decays

▪ 2+1 flavour domain wall (RHMC)

- $16^3 \times 32$, $a \cong 0.12$ fm, $m_s \cong$ physical value, $am_{ud}/am_s \cong 1/4$, 5k trajectories
 - light hadron spectrum, proton decay, ...
 - algorithmic studies of various valence overlap/DWF implementations

12k-node machine

- **2+1 flavour improved staggered**
 - probably... more ensembles with smaller lattice spacings, larger volumes and smaller m_{ud}
 - same physics objectives
- **2+1 flavour overlap/DWF**
 - possibly... physically more relevant ensembles
 - depending on relative cost compared to improved staggered

**Next ILFT Network Meeting
7-10 March 2005, Edinburgh**