

Presenting “Multi-Toroidal Interconnects:
Using Additional Communication Links To
Improve Utilization of Parallel Computers”
by Aridor et al. (aridor04)

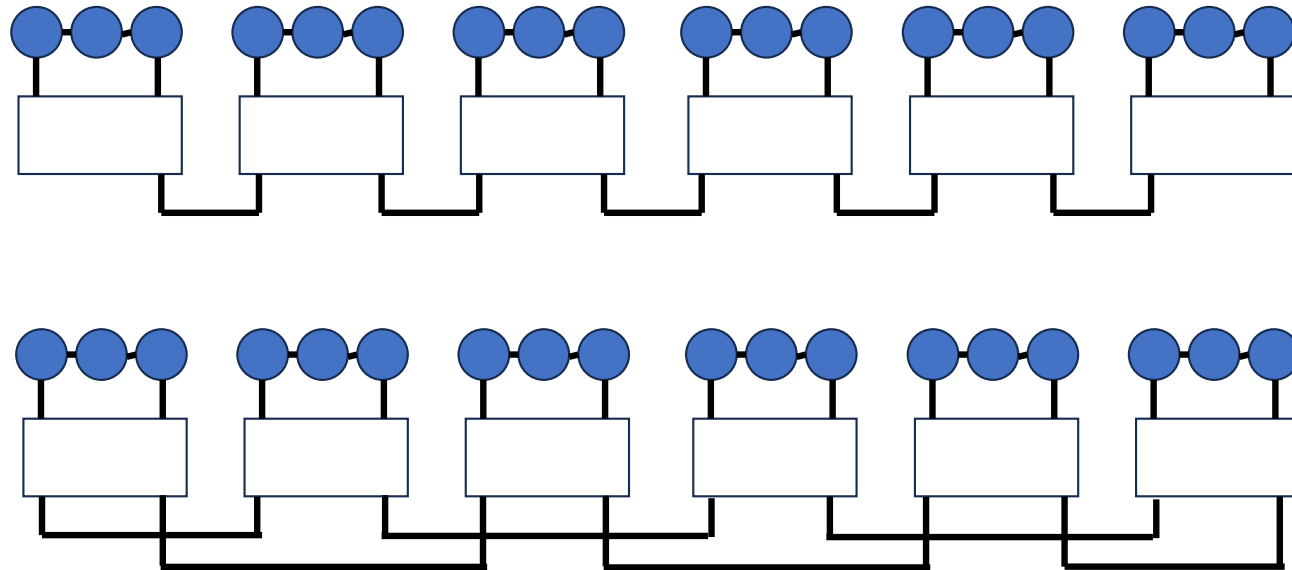
David Bunde

9/15/23

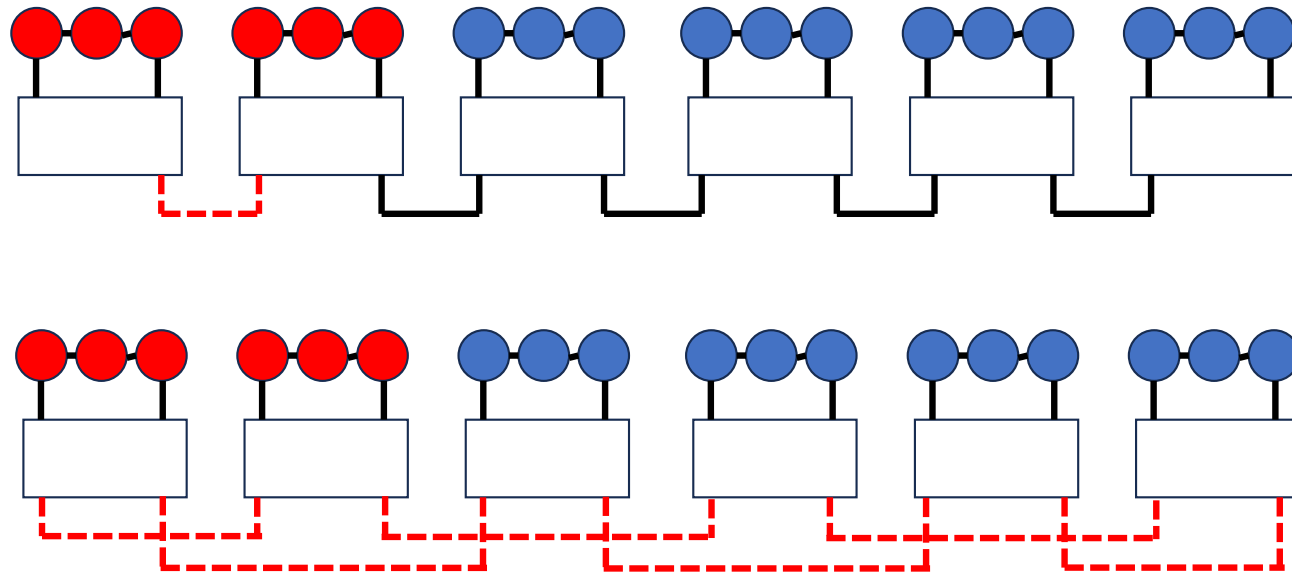
Contributions

- New topology for being able to allocate subtoroids of a machine in addition to submeshes
 - Achieves higher utilization with traces (e.g. 40% -> 60% on SDSC trace)

Line and ring of allocation units



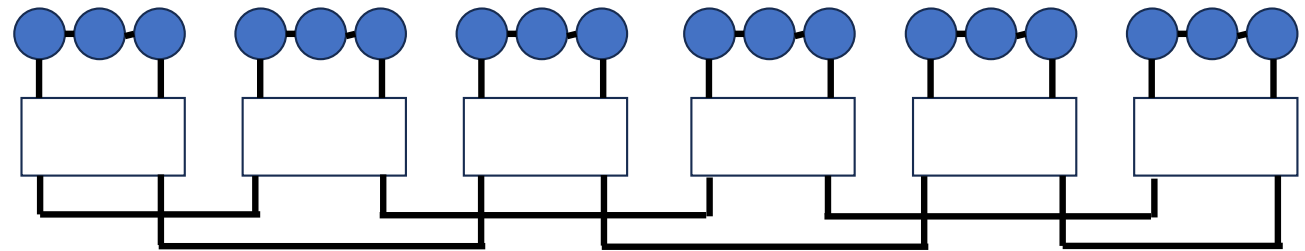
Allocating sublines and subrings



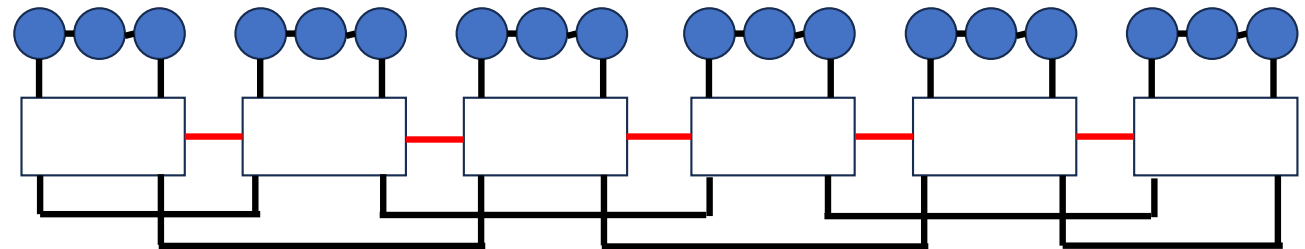
Note point of view: Jobs are not ever allowed to share links

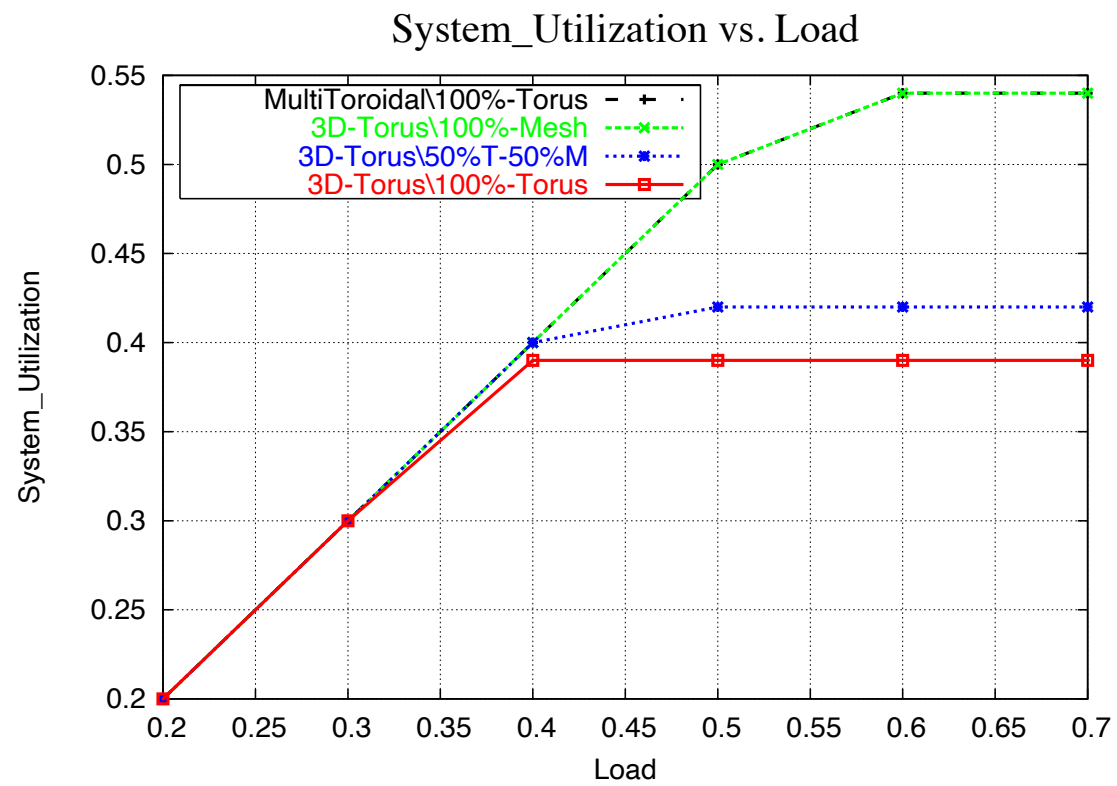
Adding another link per switch (per dimension)

Torus:



Multi-torus:





(a) - CTC