



## GRACEFUL DEGRADATION IN PRESENCE OF FAULTS

The Fabriscale fabric manager (FFM) is a new generation of fabric management that ensures more efficient and reliable operation of data centres and high performance computing clusters based on InfiniBand technology. The FFM provides network agnostic routing, which ensures efficient routing independently of the network layout and the fault scenario, and makes it suitable for fail-in-place network design.

A key benefit of the FFM is that applications will be minimally affected by network problems due to Fabriscale's graceful degradation in presence of faults. For fat-trees Fabriscale outperforms existing OpenSM (OSM) routing with 13%-80%, depending on the case under inspection. In fact when Fabriscale uses just 1 VL it achieves higher throughput than OSM using 8 VLs, as shown in figure 1 below.

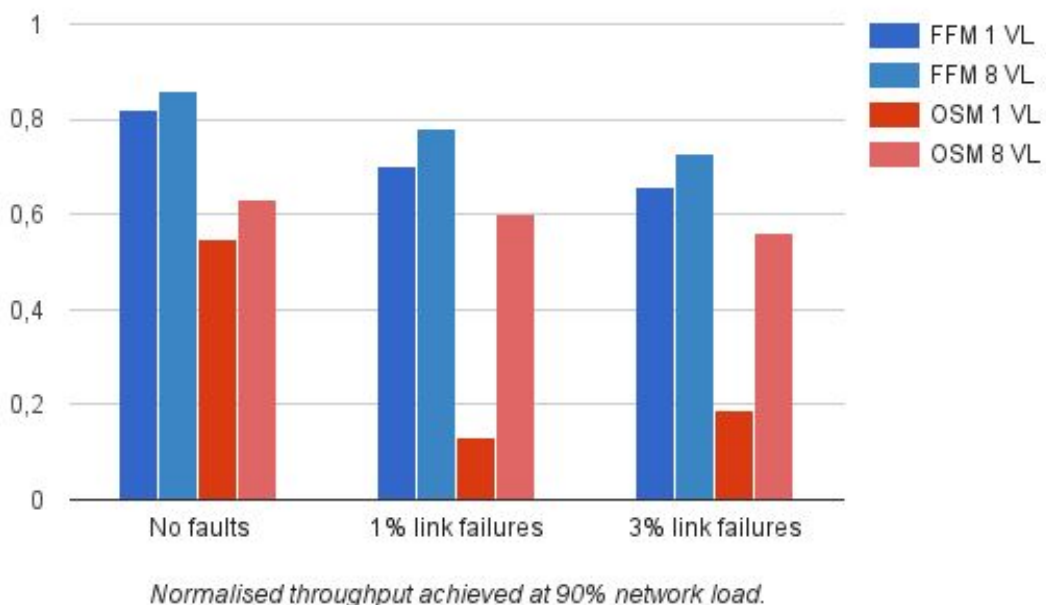


Figure 1: Throughput comparison between FFM and OSM for a 12-ary 3-tree in presence of link failures, where 1 and 8 VLs are considered, given a uniform traffic pattern.

OpenSM use the the fat-tree algorithm for the results with 1 virtual lane and the DFSSSP algorithm for the results with 8 virtual lanes. The FFM supports deadlock free routing using any number of virtual lanes.

For more information about the Fabriscale fabric manager please visit <http://fabriscale.com> or contact us at [info@fabriscale.com](mailto:info@fabriscale.com).