

## **NoC Communication Backbone – Demonstration**

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We have demonstrated the use of a system level modeling environment for performance evaluation by implementing a communication sub-system - 4×4 mesh based communication backbone of Network-on-Chip (NOC). This software tool allows you to design and analyze systems on a multi-domain environment. In the simulated network, performance parameters, such as throughput, latency, resource usage, and network load, can be extracted from a set of simulations. Each simulation is ran selecting different configuration parameters for each component of the network, as input and output buffer size, arbitration, allocation and route computation algorithm. This results in a database with the relationship of performance with configuration parameters. Then the database can be expanded with performance parameters extracted from hardware implementation where similar set of configuration parameters for the components are used. The system architect can make use of this database to select the best set of configuration parameters of the Network-on-Chip sub-system for the product's requirements. This results in a communication backbone without the need to invest time in the design process, reducing the cost of designing the final product while enhancing productivity of system design.