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Virtual clusters as a way to experiment software

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In this article we represent researches done in virtualization sphere which help to create computing infrastructures based on container clusters.

Consider an opportunity to create different topologies and test software behaviour without the need to construct real network topologies with real nodes. One of such examples is an application running on multiple nodes over a network. We cannot rely on experiments made using Internet because it doesn't provide exact repetition of experiment conditions. However, another topology or network characteristics can speedup computations thus such experiments should be done. Nowadays virtualization techniques enables instant creation of virtual clusters and it's even possible to simulate the conditions of poor communication between nodes, to limit the bandwidth, to add delays like in real network, to add some errors (BER) and so on.

We investigate available tools and do experiments with different limitations on network and node characteristics.

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