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Improving Networking Performance of a Linux Node

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Linux networking performance is excellent. Linux networking stack is perfect, it is very effective. There are many options that could be configured for different cases. This article is devoted to questions related to networking stack implementation and configuration. Questions related to effective configuration will be discussed. Possible problems and solutions will be shown. Different options for configuration will be discussed. Questions will be discussed on the example of a computational cluster as well as on the example of a generic node. Effective usage of existing solutions is very important in both cases. Different aspects of configuration of the networking stack in general, configuration of TCP/IP stack, configuration of networking interfaces, real as well as virtual, are discussed in this article. In the end several recommendations are given.

Keywords: computational clusters, Linux, networking, networking protocols, kernel, sockets, NAPI, GSO, GRO.

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