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## Single-Root Input/Output Virtualization (SR-IOV) with Linux Containers <sup>[1]</sup>


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Virtualization is a technology offering an abstraction layer between software and hardware. It can emulate a hardware platform in order to provide the operating system abstractions of various resources. It is also a means to easily manage hardware resources and to run services in the cloud. One of the main disadvantages of the traditional hypervisor-based virtualization is, however, that it introduces a large overhead with respect to memory and CPU1 usage. Linux\* Containers (abbreviated to LXC) is a lightweight alternative to the traditional approach, providing separation of namespaces and file systems while running all processes on a single kernel. Combined with Single-Root Input/Output Virtualization (abbreviated to SR-IOV) it can provide a solution that allows the containers to appear in the network as separate compute-nodes with exclusive MAC2 addresses, while sharing one link and physical network adapter.

**Link:**[Article on digit.in](#) <sup>[2]</sup>**Copy of the coverage:** [Single-Root Input\\_Output Virtualization \(SR-IOV\) with Linux Containers \\_ Digit.pdf](#) <sup>[3]</sup>

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### Links

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- [3] [http://test-static-05.web.cern.ch/sites/test-static-05.web.cern.ch/files/press-coverage/Y/M/Single-Root%20Input\\_Output%20Virtualization%20%28SR-IOV%29%20with%20Linux%20Containers%20\\_%20Digit.pdf](http://test-static-05.web.cern.ch/sites/test-static-05.web.cern.ch/files/press-coverage/Y/M/Single-Root%20Input_Output%20Virtualization%20%28SR-IOV%29%20with%20Linux%20Containers%20_%20Digit.pdf)