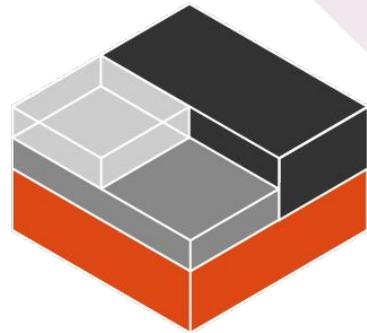


Fully redundant LXD cluster

Bullet proof storage, networking and compute on the cheap

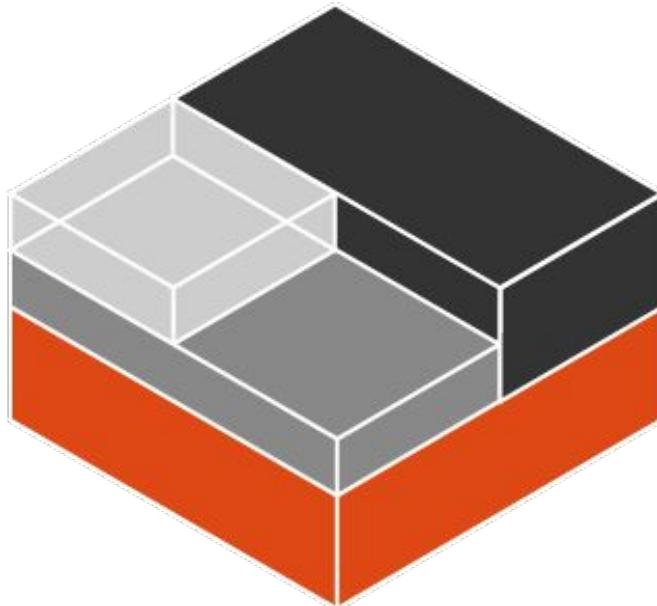


Stéphane Graber
LXD project leader

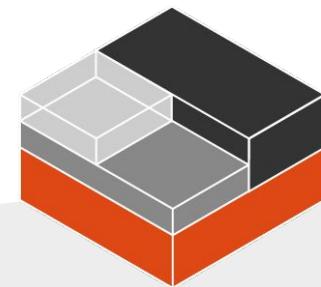
@stgraber
<https://stgraber.org>
stephane.graber@canonical.com

CANONICAL + ubuntu

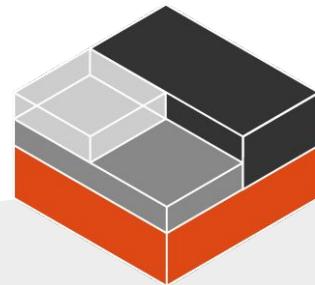
What's LXD?



What's this all about?



How did I get there?



The last dedicated server

CPU

Xeon E3-1270 v6

4 cores, 8 threads, 3.80Ghz from 2017.

RAM

32GB DDR4

2x 16GB

NIC

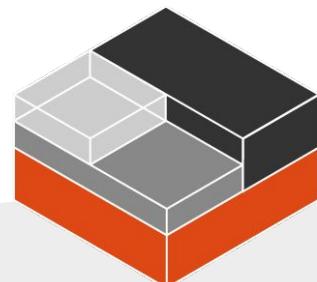
Intel I-210 gigabit

Actually internet connectivity capped at 500Mb/s upload.

DISK

2x 2TB HDD + 2x 500GB NVME

Everything run in RAID-1 locally.



The new hardware

3x

CPU

2x Xeon E5-2630 v3

8 cores, 16 threads, 2.40Ghz from 2014.

RAM

64GB DDR4

4x 16GB

NIC

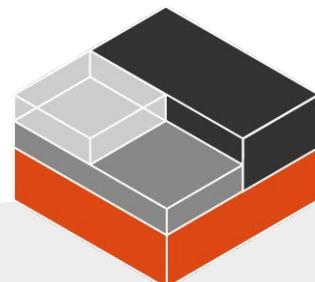
2x Intel I-350 gigabit + 4x Intel X540 ten gigabit

WAN is now gigabit symmetric with no restrictions.

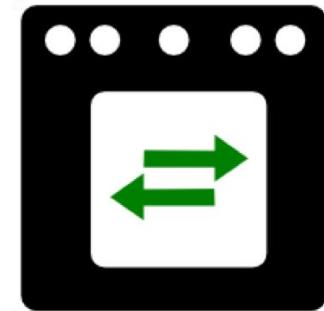
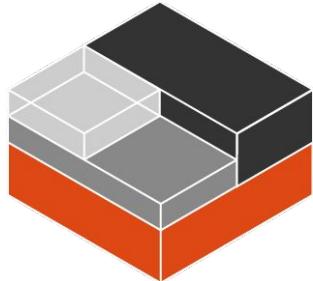
DISK

2x 6TB HDD + 2x 4TB HDD + 2x 2TB SSD + 2x 500GB NVME

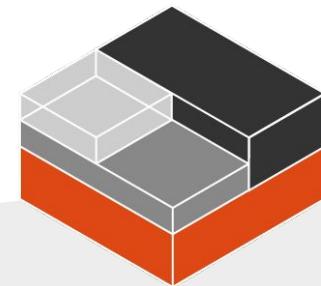
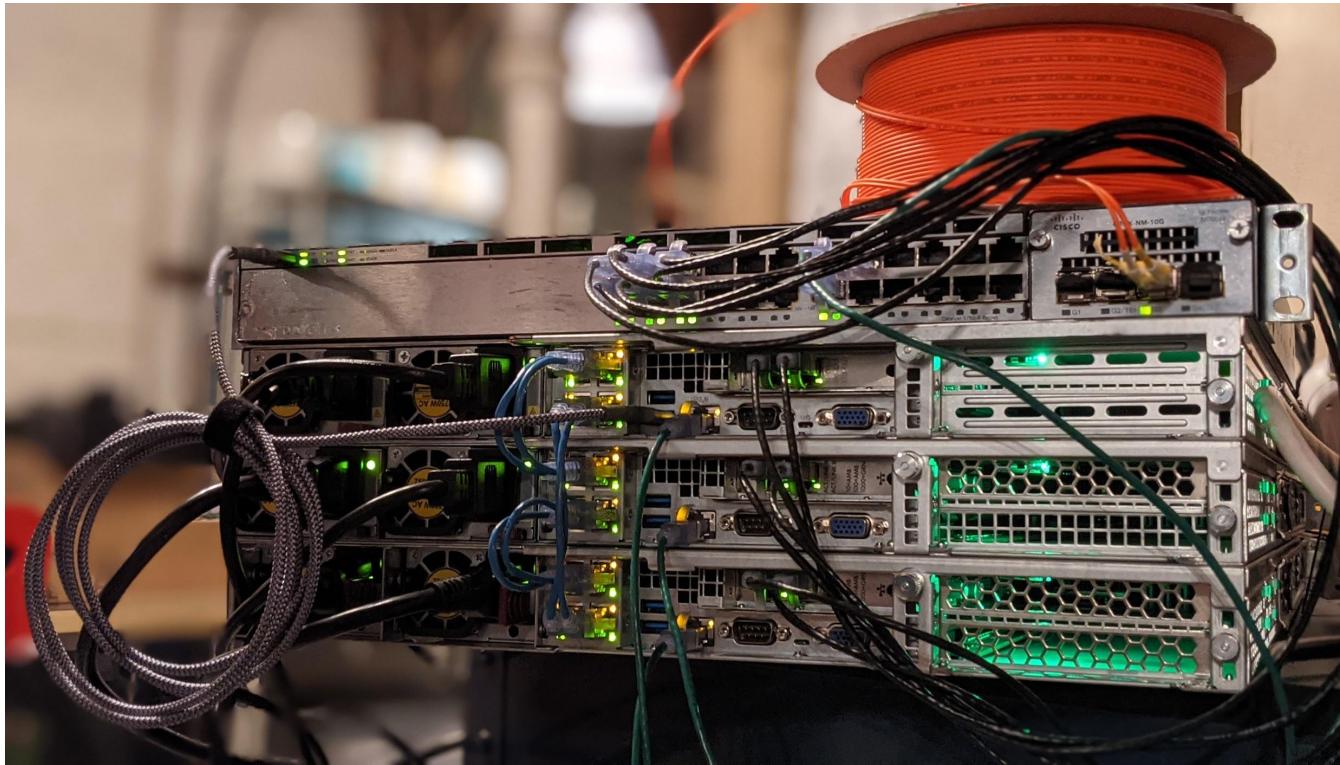
Now using Ceph for storage (3 replicas).



The software

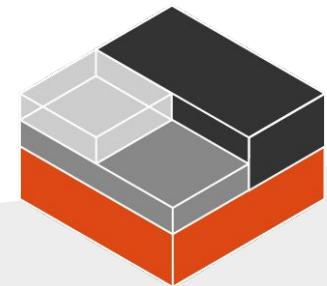


The final setup

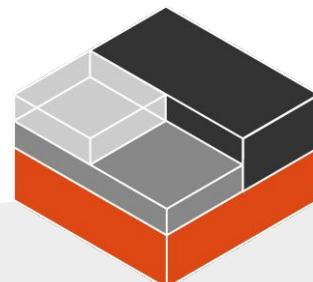
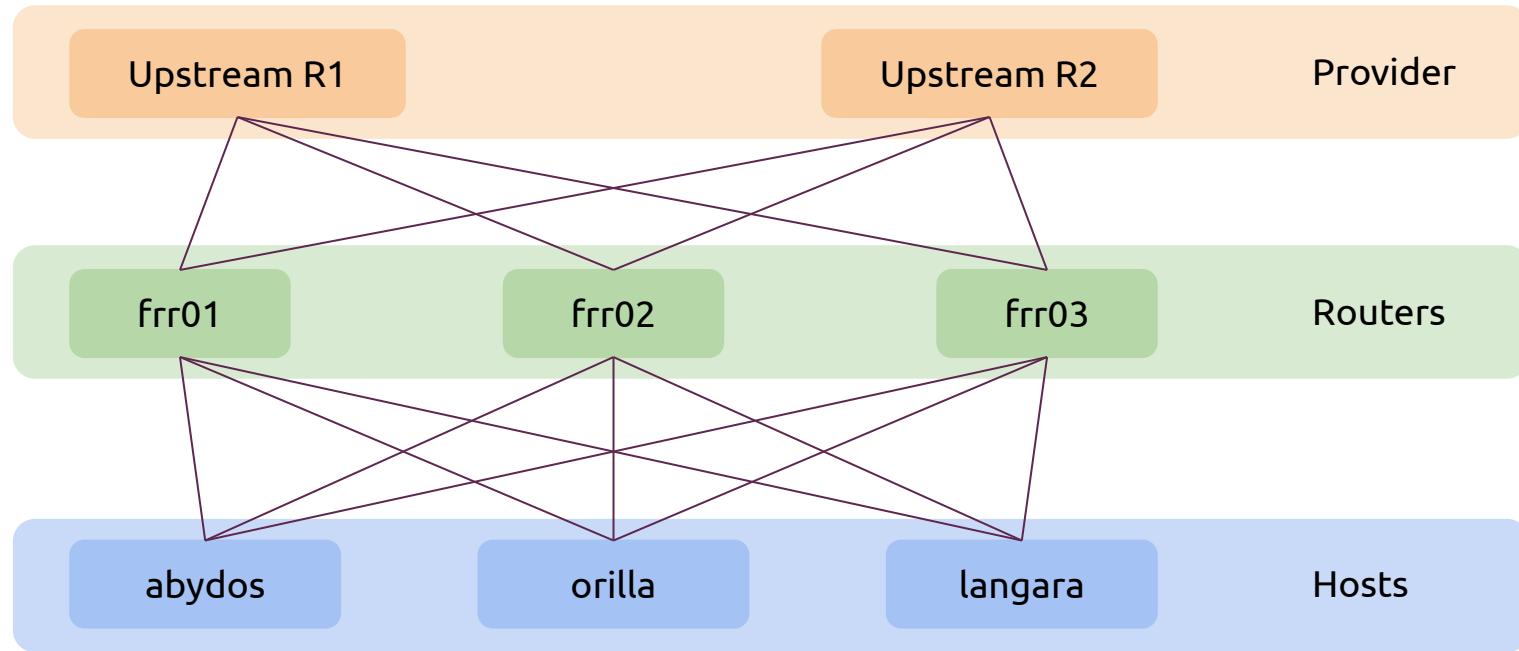


The final setup

```
Terminal
stgraber@castiana:~$ lxc cluster list
+-----+-----+-----+-----+-----+-----+
| NAME | URL | DATABASE | STATE | MESSAGE | ARCHITECTURE | FAILURE DOMAIN |
+-----+-----+-----+-----+-----+-----+
| abydos | https://[2602:fd23:8:200::100]:8443 | YES | ONLINE | fully operational | x86_64 | default |
+-----+-----+-----+-----+-----+-----+
| langara | https://[2602:fd23:8:200::101]:8443 | YES | ONLINE | fully operational | x86_64 | default |
+-----+-----+-----+-----+-----+-----+
| orilla | https://[2602:fd23:8:200::102]:8443 | YES | ONLINE | fully operational | x86_64 | default |
+-----+-----+-----+-----+-----+-----+
stgraber@castiana:~$ lxc storage list
+-----+-----+-----+-----+
| NAME | DESCRIPTION | DRIVER | STATE | USED BY |
+-----+-----+-----+-----+
| hdd | | ceph | CREATED | 6 |
+-----+-----+-----+-----+
| shared | | cephfs | CREATED | 0 |
+-----+-----+-----+-----+
| ssd | | ceph | CREATED | 38 |
+-----+-----+-----+-----+
stgraber@castiana:~$ lxc network list
+-----+-----+-----+-----+-----+-----+-----+
| NAME | TYPE | MANAGED | IPV4 | IPV6 | DESCRIPTION | USED BY | STATE |
+-----+-----+-----+-----+-----+-----+-----+
| anycast-1 | ovn | YES | 10.174.48.1/24 | 2602:fd23:8:1001::1/64 | | 5 | CREATED |
+-----+-----+-----+-----+-----+-----+-----+
| anycast-2 | ovn | YES | 10.196.128.1/24 | 2602:fd23:8:1002::1/64 | | 5 | CREATED |
+-----+-----+-----+-----+-----+-----+-----+
| anycast-3 | ovn | YES | 10.124.138.1/24 | 2602:fd23:8:1003::1/64 | | 5 | CREATED |
+-----+-----+-----+-----+-----+-----+-----+
| default | ovn | YES | 10.65.122.1/24 | 2602:fd23:8:1000::1/64 | | 13 | CREATED |
+-----+-----+-----+-----+-----+-----+-----+
stgraber@castiana:~$
```



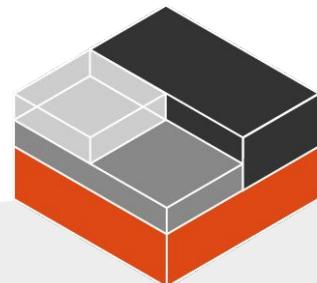
The final setup



Conclusion

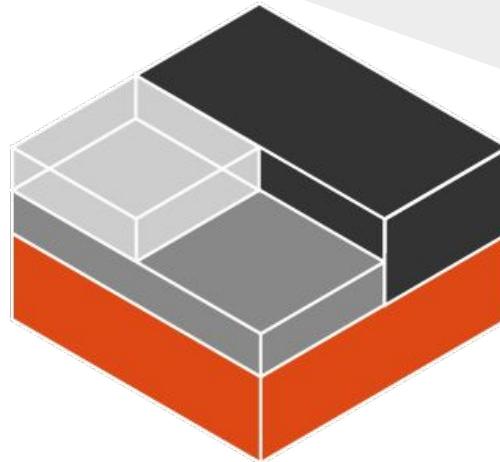


More details about the setup: <http://bit.ly/3sqwYvU>



Questions ?

LXD website: <https://linuxcontainers.org/lxd>
Online demo: <https://linuxcontainers.org/lxd/try-it>
Community: <https://discuss.linuxcontainers.org>



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