



BUSINESS USES OF CEPH

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Presenter Introduction

- Enterprise IT engineer for 30 years:
 - SGI Irix, DEC UNIX, OpenVMS, AIX, HP-UX, Solaris, Oracle, RH, Ubuntu
- Founded Intelligent Systems Services, Inc. in 1994
- Storage technology prior to Ceph:
 - DEC/HP, Sun, IBM, EMC, Fujitsu etc.
- Ceph since 2013
 - Labs
 - Hosting
 - on-premise deployments
- First production was Cuttlefish (0.61)
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Pacemaker Clusters on RHEL with LVM

- **\$5B 24/7/365** US Company doing medical billing and processing
- 4 Ceph clusters:
 - 3x NVMe
 - 4 x OSD Nodes
 - 100 Gbps backend
- RHEL 8 and Pacemaker
- Ceph runs the block devices underlying HA-LVM
- RBD mapped on each node, LVM provides exclusive access via the `systemid` option



Ceph in Proxmox VE

- Global Auto company in Australia
- Proxmox Virtual Environment with hyperconverged Ceph
- Multiple Windows and Linux VMs
- 3x replication



VMWare iSCSI and NFS

- Certified Ceph with VMWare on the ISS Storcium solution in 2016
- iSCSI via Pacemaker clusters with HA resources
- NFS via HA Pacemaker clusters with XFS on RBD



Healthcare Information Archive

- RBD or QEMU libvirt
 - ZFS to NFS
 - CIFS
 - Borg
- ZFS works well, given the 4M filesystem block size at creation



K8s CephFS CSI as a default Storage Class

(“But I don’t need Rook”)

- [Ceph CSI](#) and its [Helm chart](#)
- Requires access to MONs
- Create a CephFS subvolume group
- Set as default Storage Class in K8s
- Can be inspected by direct mount



RGW S3

- Ceph RGW
- pfSense
- HAProxy
- Index pool on flash
- Buckets on EC
- Excellent results on [Wasabi S3 benchmark](#)

