**David Hay, Cluster Engineer, LINBIT**

## TITLE
**Open Source Standards for Storage**

## ABSTRACT

The Linux kernel has a large set of very powerful storage functionalities such as LVM, thin provisioning, RAID, SSD as HDD caches, deduplication, targets/initiators, and DRBD. They are all compatible on the data plane, but each brings its own control mechanism.

We can make use of all of these tools to build and manage block storage volumes (replicated either synchronously or asynchronously) as part of a larger storage cluster.

With the use of a management layer which integrates with OpenStack Cinder and Kubernetes FlexVolume (and potentially the new Container Storage Interface standard), we can provide a fully open source stack which provides persistent storage to containers, virtual machines, and baremetal nodes.

This approach can be really powerful for IO-intensive workloads such as databases and works well both on hyper-converged infrastructure or on dedicated storage nodes. It lays the groundwork for highly viable reference architectures that leverage existing standards and stable software.

## BIOGRAPHY

A long-time administrator of all things Linux and Storage, David Hay ties the room together as a Cluster Engineer at LINBIT. David started out with Linux back in the 2.4 kernel days, since then having planned and implemented countless clustered systems both large and small, leveraging HA and cloud technologies to great effect. When not liberating the enterprise world with free and open software, he spends his time tinkering with electronics and metalworking.