DDN

IME®

IME® Infinite Memory Engine

HPC Burst Buffer & Application Accelerator

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Roger Goff
Systems Engineer
rgoff@ddn.com

Even Building the World's Fastest PFS . . .

Will NOT Fix These I/O Challenges

PFS Locking

PFS are not designed for today's mixed I/O & ensembles

Storage Latency

HDD seek times & network traversing add latency

Fragmented I/O Patterns

Mal-aligned apps slow down the PFS & entire cluster

Out of Core Data

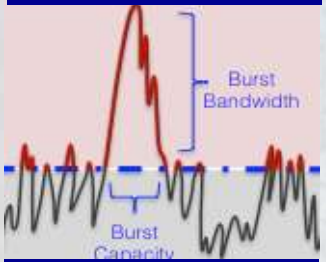
Many datasets are too big for expensive DRAM

No matter how many HDDs you add to a PFS, you can't break I/O bottlenecks without a burst buffer

IME: A Burst Buffer & Way, Way, Way Beyond

Cache is only the beginning. Right out of the box, IME does so much more . . .

BURST BUFFER



Most cost & space efficient way to provision peak performance

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DRAM EXTENDER

No dataset is too big with TBs or even PBs of fast, cost efficient NVMe

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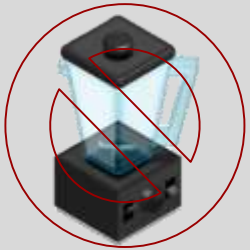
APP OPTIMIZER



Dynamically aligns mal-formed I/O into striped writes without code mods

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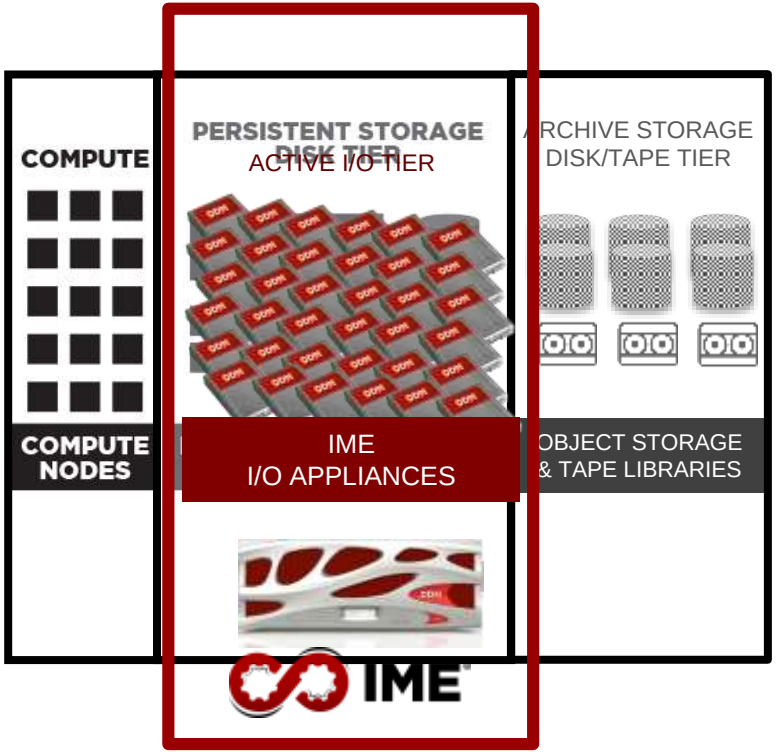
PFS ACCELERATOR

Finally breaks POSIX locking bottleneck with instant open/close

4 IME - The New I/O Acceleration Architecture

An *active I/O tier*, inserted between compute and PFS

DDN IME software virtualizes NVMe SSDs into a single pool of shared memory that accelerates I/O, PFS & Applications



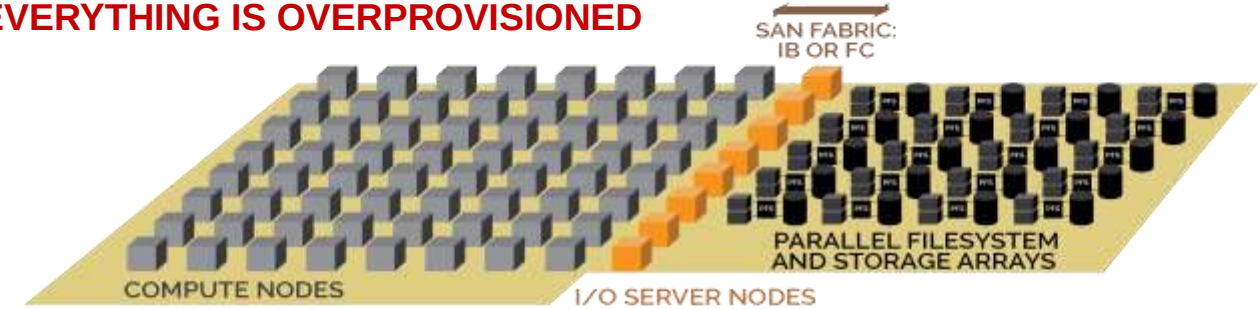
The Next I/O Provisioning Revolution:

DDN Decouples Physical Storage from Compute Resources!

BEFORE

Too Many: COMPUTE NODES DISKS, NETWORKING NODES, ARRAYS, ADMIN, H/W

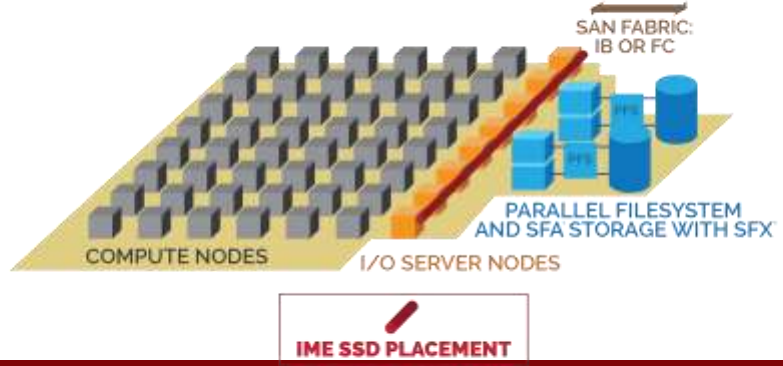
EVERYTHING IS OVERPROVISIONED



AFTER

Much Fewer: COMPUTE NODES DISKS, NETWORKING NODES, ARRAYS, ADMIN, H/W

A LOT MORE SPEED TO THE APPLICATION & A LOT LESS COMPONENTS



Thank You!

Keep in touch with us

sales@ddn.com

@ddn_limitless

company/datadirect-networks

2929 Patrick Henry Drive
Santa Clara, CA 95054

1.800.837.2298
1.818.700.4000