KALISTA IO

Get ready for a data storage revolution

Phalanx intelligent storage system overview

Executive summary

Beyond cold storage

Kalista IO is expanding the use case of SMR beyond archival storage — into SW development, database, web and cryptocurrency applications.

Just works

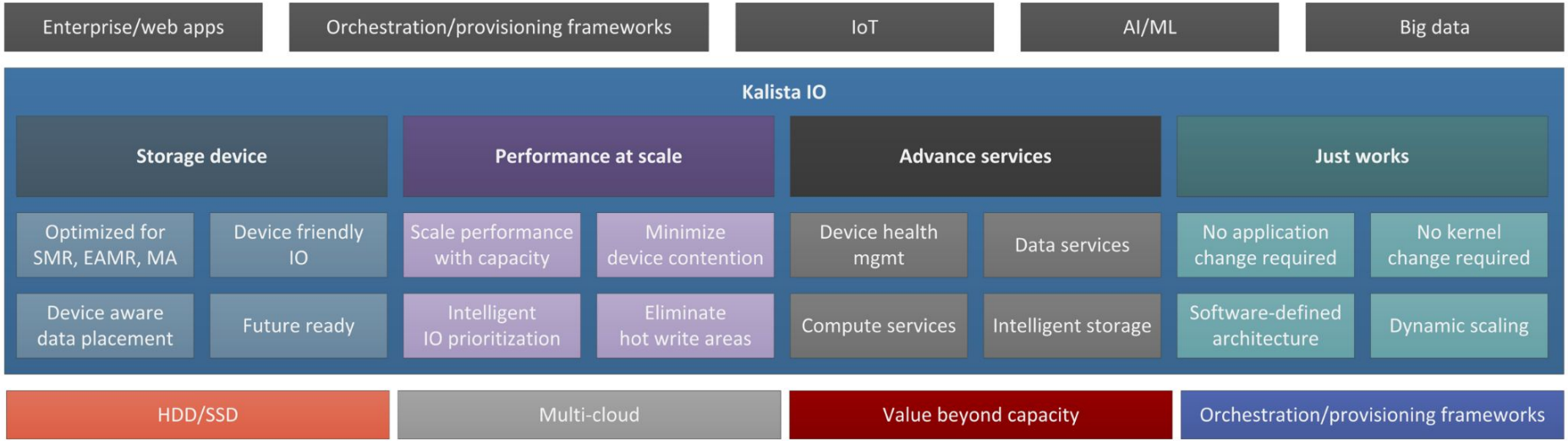
Phalanx enables SMR and next gen technologies on existing systems and software — all without application changes nor kernel modifications.

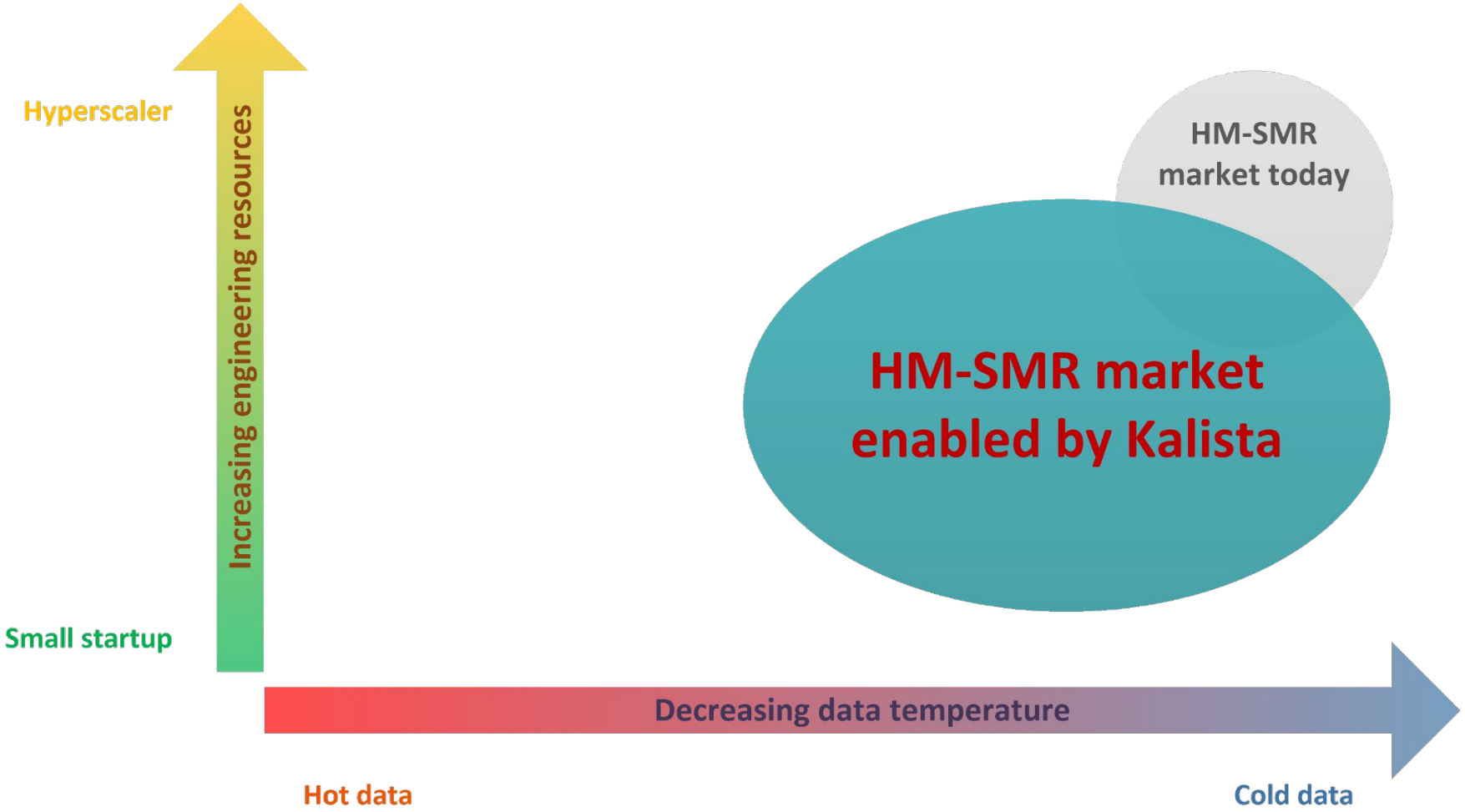
Performance at scale

Phalanx's device friendly design minimizes IO contentions and hot spots to deliver consistent and predictable performance at any scale.

Run everywhere

Phalanx is designed to fit into your existing workflows and environments. Deploy and operate Phalanx using existing orchestration and provisioning frameworks such as Kubernetes® and vSphere®.

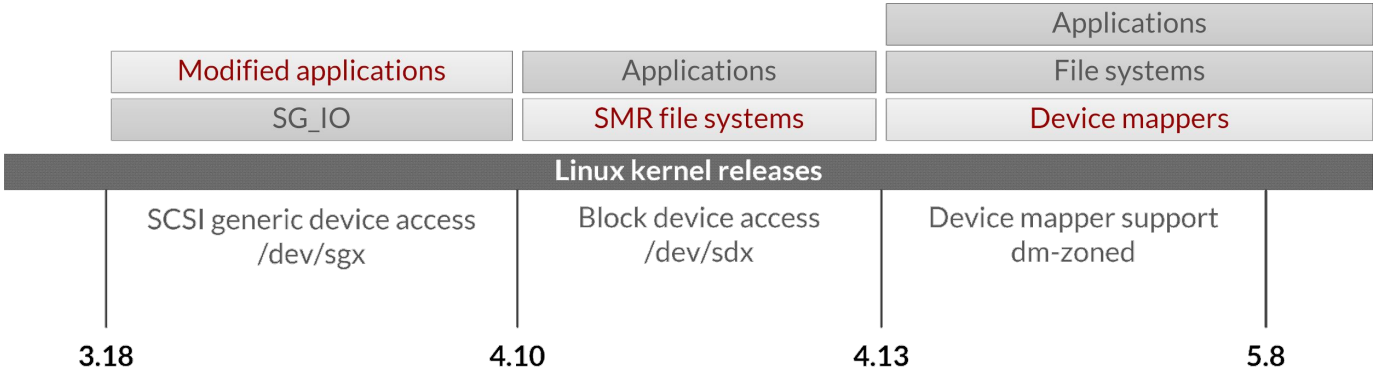




Phalanx

Reinventing the storage system

Current SMR compatibility solutions have **dependencies** and **limitations**



Phalanx is **kernel agnostic** and requires **no application changes**

Easy to deploy
Simple to operate
Runs everywhere

Deploy and operate Phalanx using existing orchestration and provisioning frameworks such as Kubernetes® and vSphere®. Phalanx is designed to fit within your current workflow and environment.

One line to SMR.

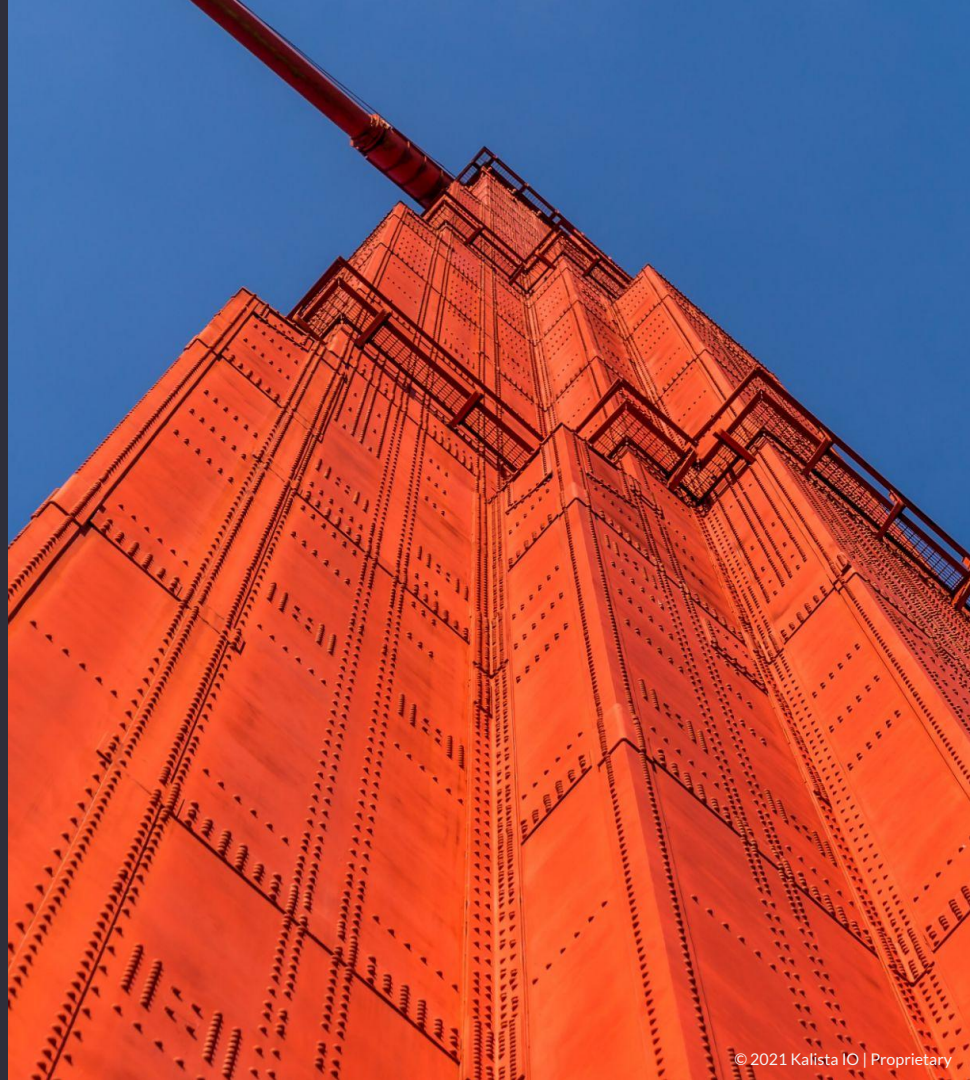
```
] docker run --privileged -v /mnt:/mnt:rshared -v /md:/md:shared phalanx -d /dev/sdc -bm
```

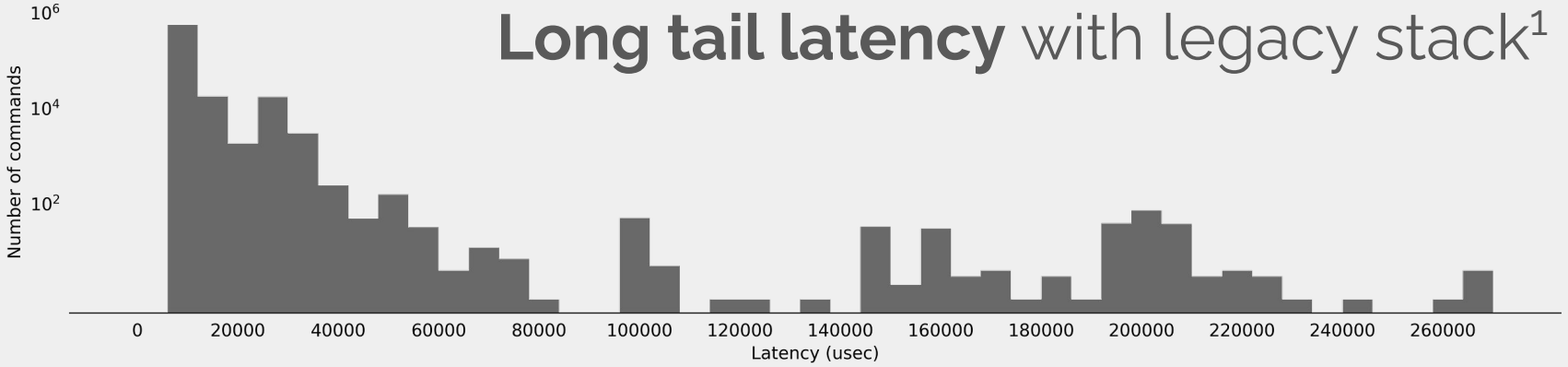
No storage silos.

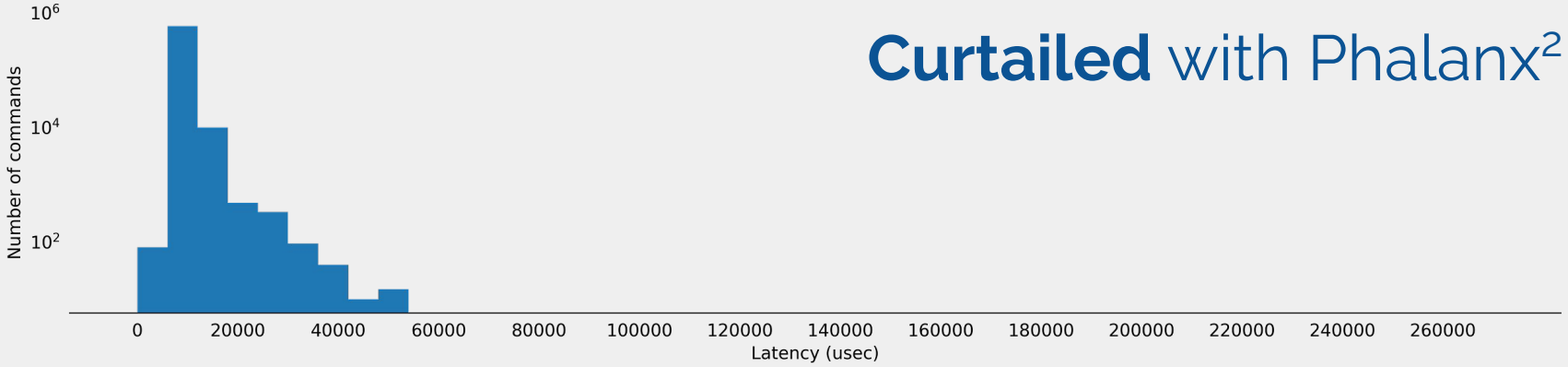
Unify and simplify — Phalanx supports both conventional as well as zoned devices. So you don’t have to worry about mixing and matching devices.

Interop tested with major device vendors

Consistent, predictable performance at every scale — so your applications run at any scale.







Phalanx keeps devices

level headed

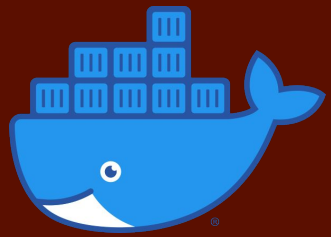
There is magic in every IO.

Each request is intelligently prioritized and streamlined to reduce contention and eliminate hot spots.

SMR use cases with Kalista IO

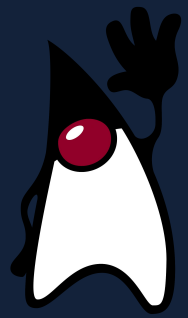
Phalanx + SMR =

Going beyond blob storage



Phalanx + SMR + compute =

Enabling innovation



Phalanx + SMR + crypto =

HODLing your XCH

Doing it ALL, with HM-SMR.

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"There is nothing impossible to him who will try." — Alexander

References

1. Testing conducted by Kalista IO in July 2020 using XFS file system with Linux kernel 5.4.0-42-generic, and Intel® Core™ i7-4771 CPU 3.50GHz with 16GiB DDR3 Synchronous 2400 MHz RAM, and Western Digital Ultrastar DC HC530 CMR drive connected through SATA 3.2, 6.0 Gb/s interface. Write bench created a single 1GB file and executed 600,000 write commands each overwriting the first 64KB region of the file to capture latency values.
2. Testing conducted by Kalista IO in July 2020 using preproduction Olympus (Phalanx) software with Linux kernel 5.4.0-42-generic, and Intel® Core™ i7-4771 CPU 3.50GHz with 16GiB DDR3 Synchronous 2400 MHz RAM, and Western Digital Ultrastar DC HC620 host managed SMR drives connected through SATA 3.2, 6.0 Gb/s interface. Write bench created a single 1GB file and executed 600,000 write commands each overwriting the first 64KB region of the file capture latency values.

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