Ceph on ARM

SoftIron, Inc.

Phil Straw • Chief Executive Officer
ARM Only

Since 2012
ARM64 & Storage

More than an instruction set

SoC Approach

Great for Storage

Ceph on ARM - SC19 Ceph BoF
Results

SoftIron results

Reference results
SoC not a chipset even in mentality

I/O Channels

DMA

Wait States
Not all SoCs are Equal
Software tuning

“Porting to ARM”

Entire Stack Important
Direct connect DMA ethernet/media storage

Velocity of Bytes

Not Processing!

Silicon Path Optimization
X86 versus ARM64

Heat
Power
I/O
Compute
Power, density, cooling MTBF

Airflow First

MTBF Uplift

ARM Only
Power overflow to more and more parts, cooling, more power, heat makes use more power in silicon...

Power = Waste
Waste = Crime
Lack of Imagination
Looking to the future (just a little)
Multiprocessor

Ceph Loves Horizontal

Ceph Scales Beautifully

Unprecedented Speed & Density

Ceph on ARM - SC19 Ceph BoF
Hardware acceleration

Erasure Code  Physics  Wire speed
We are hiring! Rockstars welcome
Thank you. Questions?

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