Accelerating Apps & HCI Storage Performance with Persistent Memory

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Pmem Enables Apps with New Capabilities:

Promise of PMEM for Apps such as SAP Hana, Redis & GemFire

Databases that work a lot faster

Keep data in-memory rather than write to disk – faster & persistent

Applications that reboot faster

In-memory is now non-volatile

Faster streaming applications

PMEM has bigger cache than DRAM

Highly Precise Real-time processing

PMEM is byte-addressable

Applications that restart faster in HA

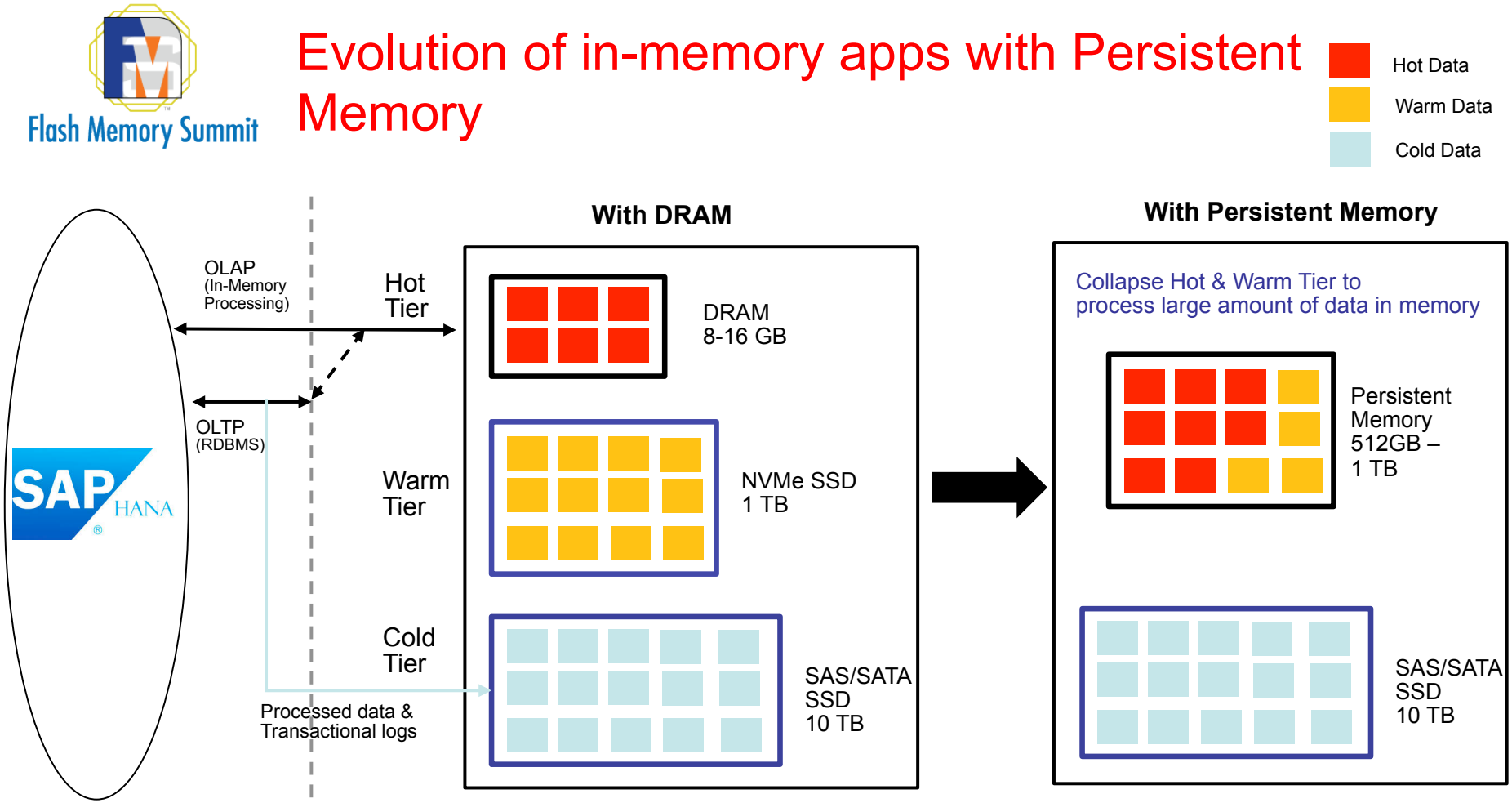
4 minutes with Pmem vs 50 minutes with SSD

Lower hardware TCO

PMEM is cheaper than DRAM

Flash Memory Summit

Evolution of in-memory apps with Persistent Memory



Using Persistent Memory to Accelerate HCI Storage Performance

How can we provide differentiated value with Pmem in HCI storage tier?

Create a new persistent memory tier for metadata (benefits ALL apps)

1. Read-modify-write with persistent memory as byte addressable is 100X faster than block storage
2. Faster metadata access for dedup, checksum etc results in reduced CPU utilization and higher IOPS for all apps
3. Faster reboots due to persistence of metadata in persistent memory (save time for not having to rebuild metadata from logs)