Fusion Access

Customer enablement

Chris Blum – Product Manager
Oct 2025

What is IBM Fusion Access?

- For people with existing SAN-based storage

- Built on IBM Storage Scale technology
  - o Includes Container Native Storage Access (CNSA) and GPFS

- Uses any SAN-based storage (FC / iSCSI / NVMeoF) to create a clustered, global file system using IBM Storage Scale

Key Features

- Scalable, Clustered filesystem
  - All data everywhere all the time
  - No capacity loss

- Leverages existing SAN infrastructure

- Snapshot capability

- Intuitive user experience

- Add and remove nodes

- Multipath for High Availability

- VM workloads primary focus
  - Containers work just as well

Primary benefits

- Leverage existing investments

- Modernize with low risk

- Unified platform

- Simplified management

- Reduced costs and risks

- Platform and Storage can be kept separate

Scale and Performance

- Storage cluster grows with OpenShift cluster and workloads

- Scale tested up to ~3,000 VMs on 6 bare metal hosts (one cluster)
  - Further scaling possible

- Red Hat verified performance for DB workloads like
  MariaDB and PostgreSQL

- IBM Storage Scale is not a new invention, but has been an enterprise storage technology for years

Direct consumption: SAN /NAS

Reuse existing storage
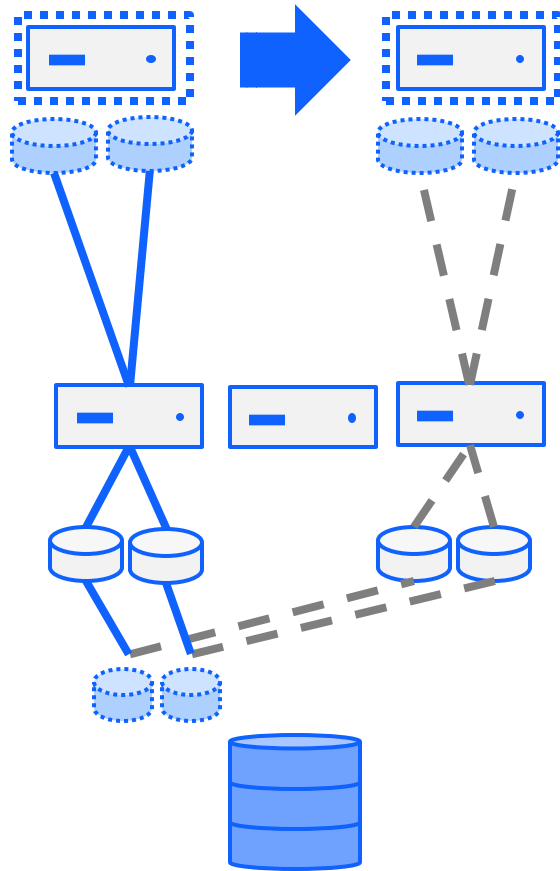
Architecture:
- **direct use of existing storage through CSI driver by vendor**
- SAN/ dedicated storage network can be leveraged

Configuration:
- 1:1 use of virtual volumes by existing storage
- all nodes must have SAN access + Fiber Channel SAN zoning must include all worker nodes

Performance:
- leverage capacity/performance/latency directly from enterprise storage

Risks:
- potential **high number of LUNs per node** and multi-pathing challenges
- frequent changes of volume mappings - latency due to rescans and multipathing management
- speed of **de-/provisioning & mapping/parallelism of changes** => VM migration & provisioning
- **Possible limitations of snapshot & cloning**
- OpenShift cluster needs permissions on the storage system to de/provisioning and possibly other operations.
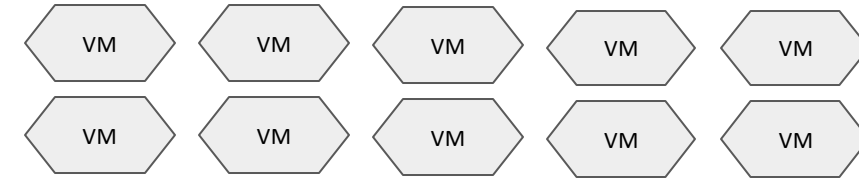
VMWare VMFS
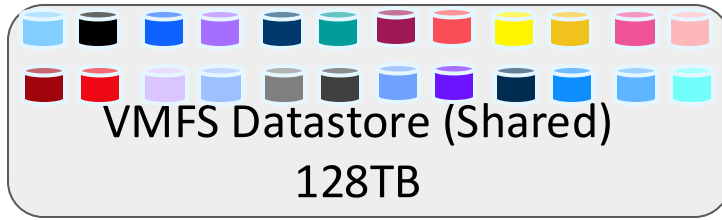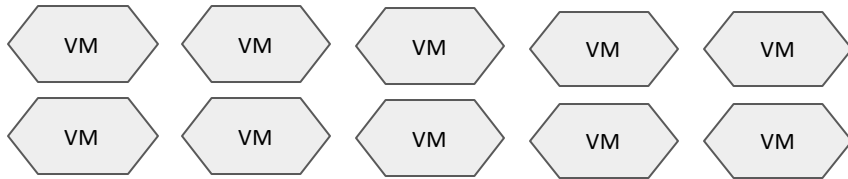
- Vmdks of varying sizes
- Live Migration
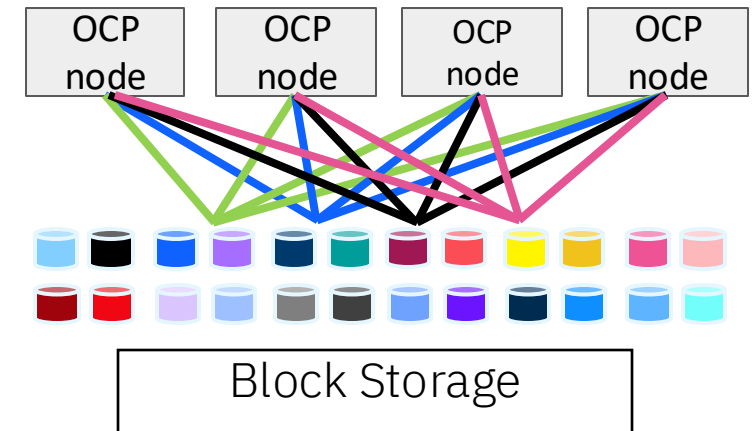- DR
- Raw Disk Maps
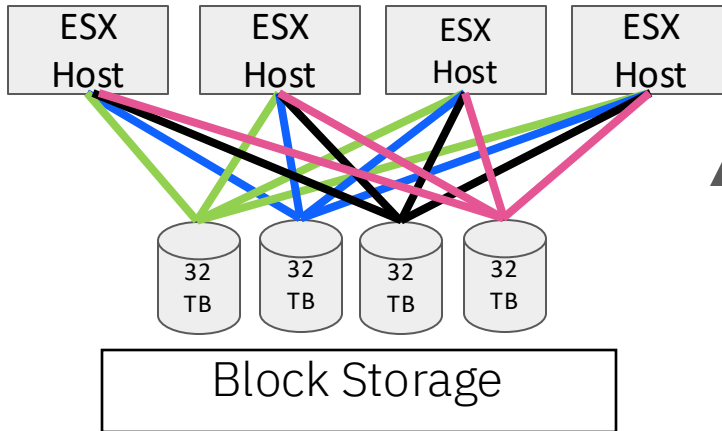
- SAN attached
- Shared fixed size few to 1 large LUNs per ESX host
- Multi-path

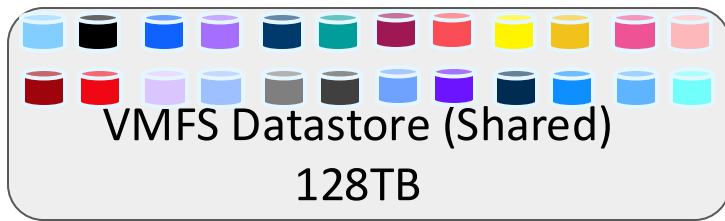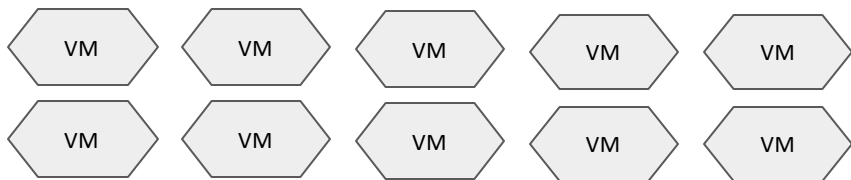# OpenShift Virtualization with block CSI

- PVCs of varying sizes
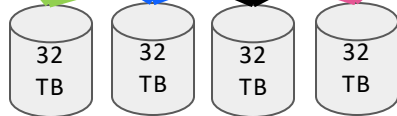- Live Migration?
- DR?
- Raw Disk Maps

- SAN attached
- Block storage CSI driver
- Multi-path
- 1:1 Multiple shared LUNs of varying sizes based on VMs requiring PVCs

1. Older array does not expect to have LUN CRUDs driven by VM activity.
2. Hosts expect storage to be segmented to the Fiber Channel network with nothing going over TCP/IP.
3. Storage admin is exposed to all the activity instead of throwing single large LUNs over to the Virtualization admin. OpenShift admins need creds to CRUD things on the array.

VMWare VMFS

Same architecture

OpenShift Virtualization with Fusion Access
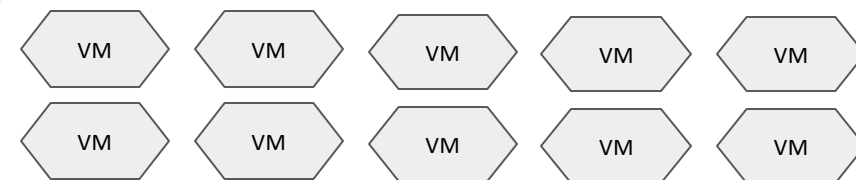
VMFS Datastore (Shared) 128TB

- Vmdks of varying sizes
- Live Migration
- DR
- Raw Disk Maps

- PVCs of varying sizes
- Live Migration
- DR
- Raw Disk Maps

Fusion Access Filesystem Storageclass 128TB

ESX Host ESX Host ESX Host ESX Host

OCP Node OCP Node OCP Node OCP Node

- SAN attached
- Shared fixed size few to 1 large LUNs per ESX host
- Multi-path
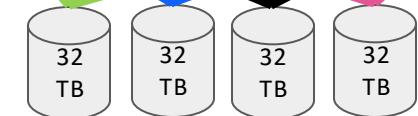
- SAN attached
- Shared fixed size few large LUNs per OCP node
- Multi-path

32 TB 32 TB 32 TB 32 TB

32 TB 32 TB 32 TB 32 TB

Block Storage

Block Storage

CSI vs SDS vs Fusion Access

|	CSI	SDS	Fusion Access
	OpenShift		
		SDS Operator • Automation • Self-healing • Replication	Fusion Access Operator • Automation • Self-healing • ~~Replication~~
	Storage vendor CSI	Storage vendor CSI	Fusion Access CSI
	Your pre-existing storage		

10
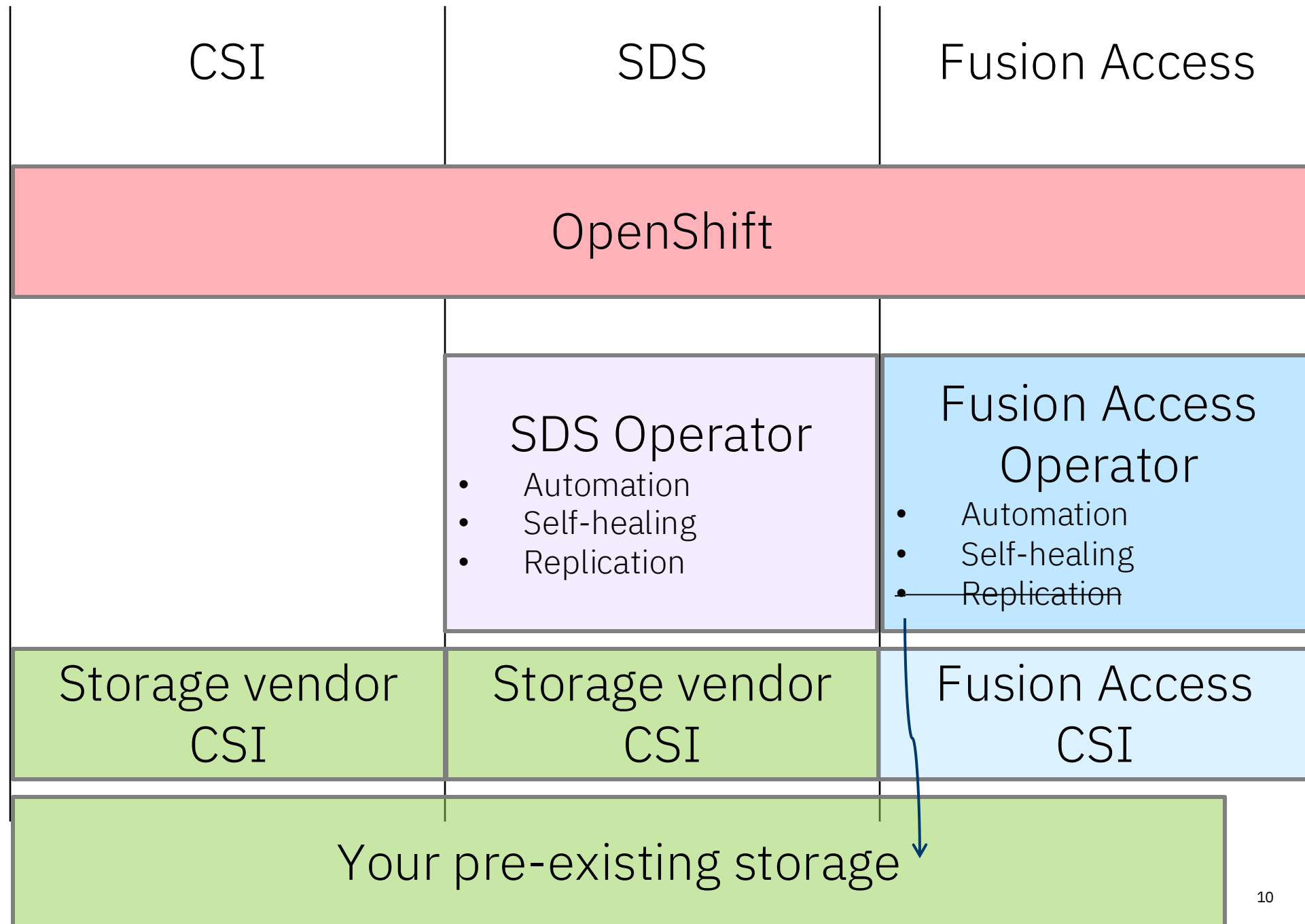
What are we talking about today?

Question: Can we help with an
easier install experience and better day-2 management?

Yes

Fusion HCI
Fusion Control Tower

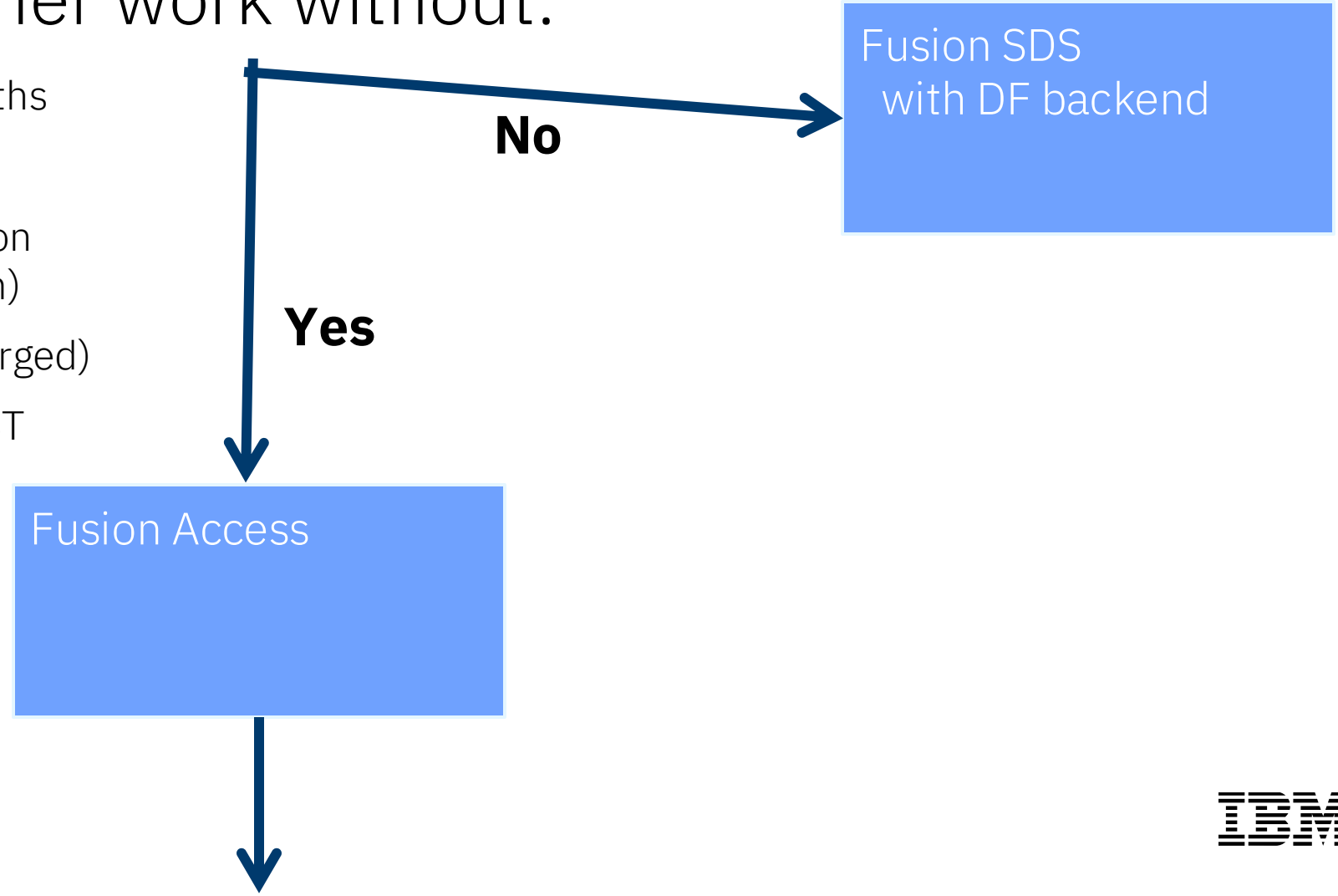**No**

Fusion SDS

Fallback

IBM.
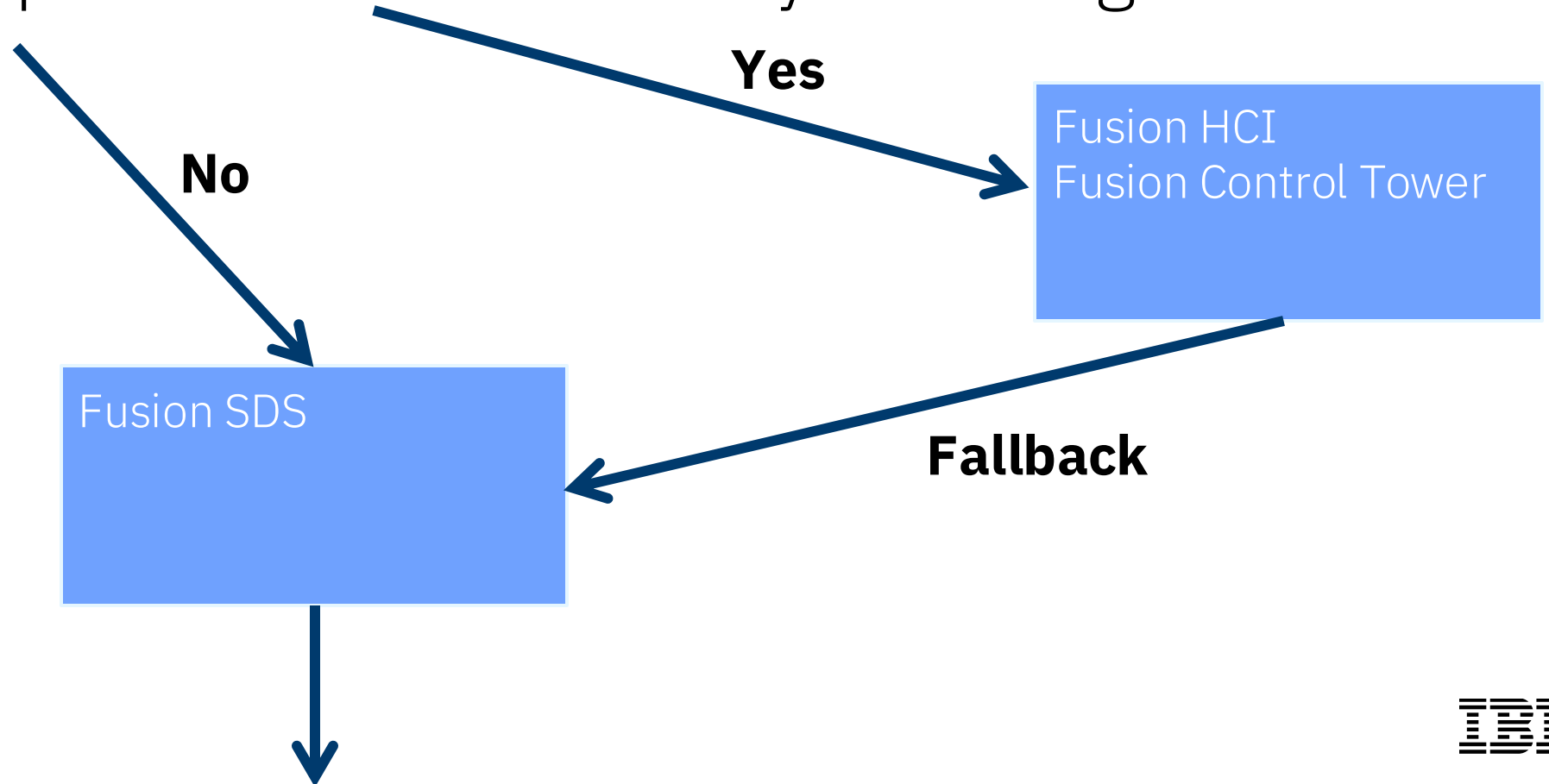
What are we talking about today?

Question: Can customer work without:

- DR in the next 9-12 months
- Encryption
- OpenShift-level replication (on top of SAN replication)
- Local disks (hyper-converged)
- Fast Backups through CBT

No

Fusion SDS with DF backend

Yes

Fusion Access

What are we talking about today?

Question: Customer workloads only running in VMs?

Yes, only VMs

"Fusion for Virt" subscriptions!
   Provides OVE-aligned pricing

No, mixed with containers

Regular Fusion
licenses & subscriptions

D0ZQWZX - IBM Fusion **Advanced** for Virtualization
per Managed Server Subscription License

D0ZR0ZX - IBM Fusion **Essentials** for Virtualization
per Managed Server Subscription License

Prefer Advanced this includes:

- Backup capacity
- DR functionality (future item)
- Fusion Control Tower capabilities

IBM

Fusion Access Value

Fusion Access features

- VM live migration (through RWX storage class)

  o   Note: all based on file-PVs, no problem for Virt workloads though!

- No extra replication (use 100% of SAN capacity in OpenShift)

- All data, everywhere, all the time

  o   Easy and Quick recovery on node loss

- Snapshots (quick & thin) + Cloning

- DR (not at GA)

  o Priority on delivering async DR, without latency limitation ("Regional DR")

Fusion Access Roadmap

Now

July

- Secure boot (KMM)
- Node add / remove
- LUN add / remove
- RWX PVs for VMs

Soon

4Q 2025

- Secure boot (KMM) enhancements

- Primary FS removal / dependency removal
  - Be able to lose / unmount first LUN

- Independent Fileset scaling to 3k -> 6k per filesystem (might slip)
  - Will allow up to 42k PVs ~ 14k VMs per cluster

Later

Mid 2026

- HA / Metro DR (based on Ramen)
- OpenShift FIPS mode support
- Fusion Access consumes PVs

IBM   Red Hat

Demo video (7:30 min)

https://youtu.be/ayXgD4e61k4

Where do I find …?

- On Youtube
  - Values: https://youtu.be/5zzIN2W75Zk
  - Demo: https://youtu.be/ayXgD4e61K4

- Fusion Access blog post

  - URL

- "For Virt" Part IDs

  - D0ZQWZX (advanced)
    D0ZR0ZX (essentials)

- Get a quote / funnel start

  - Ask your Sales team
  - https://access.ibmfusion.eu

Who do I ask …?

- Sales / Quoting
  - Rob Coventry - rdcoven@us.ibm.com

- IBM Product Management
  - Chris Blum – cblum@ibm.com
  - Brandon Mann - mannbr@us.ibm.com

- Red Hat Product Management
  - Peter Lauterbach - pelauter@redhat.com

Thanks for listening

time for questions

Backup slides

Positioning

Virtualization for business agility

Red Hat OVE

2.9.1 content

Fusion Essentials for Virtualization (F1)

Lowest price point on bare metal and only for OVE

High availability storage, live migration of VMs, cluster wide encryption

Upgrade part is available

Hidden part solely for cost containment

Virtualization for the enterprise

Red Hat OVE

Fusion Advanced for Virtualization (F2)

Primary focus for business critical VMs on bare metal

Highly available storage, with day 1 data protection, disaster recovery, and data discovery for governance

Start here for virtualization opportunities and move only to meet specific needs

Container Orchestration

Red Hat OKE

F2, F3, F4

Deploy client container workloads at lowest price point, and virtualization workloads as needed

Use F2 for virtualization workloads only on bare metal instead of deep discounts for F3, F4

Deliver storage services for virtualized workloads to compete and win

Enterprise Applications

Red Hat OCP/OPP

F2, Fusion Advanced (F3), Fusion Advanced Enterprise (F4)

Primary focus for modernization and resilient container native workloads

Deliver comprehensive data services for trustworthy and compliant enterprise applications

Start here for hybrid cloud environments deploying Data and AI solutions

Sales channels

Virtualization for business agility

Red Hat OVE

2.9.1 content

Fusion Essentials for Virtualization (F1)

Availability:

IBM direct

IBM Business Partners

Permitted in ELA: No

Red Hat SKU: *ODF standalone* [TBD: ODFv without provider mode 256GB RAW per cluster equivalent to about 10 IBM nodes]

Upgrade to IBM Fusion Advanced for Virtualization available as an IBM part – *also from ODFv ?*

Virtualization for the enterprise

Red Hat OVE

Fusion Advanced for Virtualization (F2)

Availability:

IBM direct

IBM Business Partners

Permitted in ELA: Yes

Red Hat SKU: *ODF standalone,* or Red Hat partner with competitive CSI and storage vendors or with IBM to include data services

Container Orchestration

Red Hat OKE

F2, F3, F4

Availability:

IBM direct

IBM Business Partners

Permitted in ELA: Yes

Red Hat SKU: *ODF standalone,* or Red Hat partner with competitive CSI and storage vendors or with IBM to include data services

Enterprise Applications

Red Hat OCP/OPP

F2, Fusion Advanced (F3), Fusion Advanced Enterprise (F4)

Availability:

IBM direct

IBM Business Partners

Permitted in ELA: Yes

Red Hat SKU: OCP with *ODF standalone*, or OPP with ODF Essentials, or OPP with ODF Advanced upgrade, both without provider mode 256GB RAW per cluster

Project relationship
(What are we building)

MVP developed by Red Hat

IBM Fusion

IBM Scale

Fusion
Access*

CNSA

Reusing mostly preexisting Scale features

*Fusion Access is non-committed working title for this project