HiveIO

White Paper

Hive Fabric: Cost-Effective Disaster Recovery for KVM Based Production Platforms

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Executive Summary

Increasingly, organizations are aware that Disaster Recovery (DR) options, and solutions, no longer need to be based on the same vendor solution as the Production environments and that these solutions can be more affordable. These alternative solutions can also greatly reduce both licensing and architectural complexity. Hive Fabric provides such an alternative, particularly for those production environments that are deployed on KVM hypervisor and architecture.

Answering the Call

For those customers that are leveraging a KVM based hypervisor such as Nutanix Acropolis, Open Stack, or Amazon AWS, HiveIO offers a simple, powerful, and cost-effective DR solution to protect your business in the event of a disaster. With a common underlying architecture, Hive Fabric provides some unique benefits to create a seamless and efficient DR strategy. Deploying Hive Fabric as a DR solution also prevents further single vendor lock-in. Hive Fabric is based on open source solutions, improving agility and flexibility should requirements change over time.

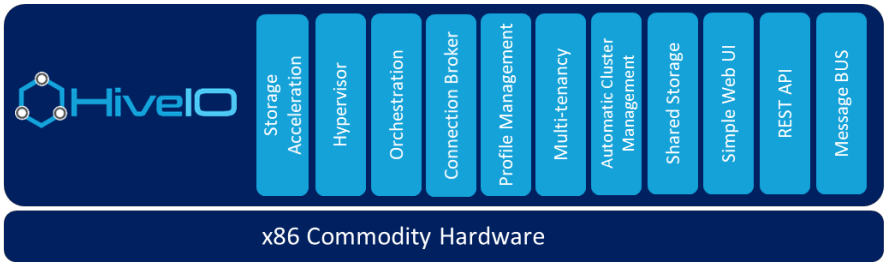
Key Benefits

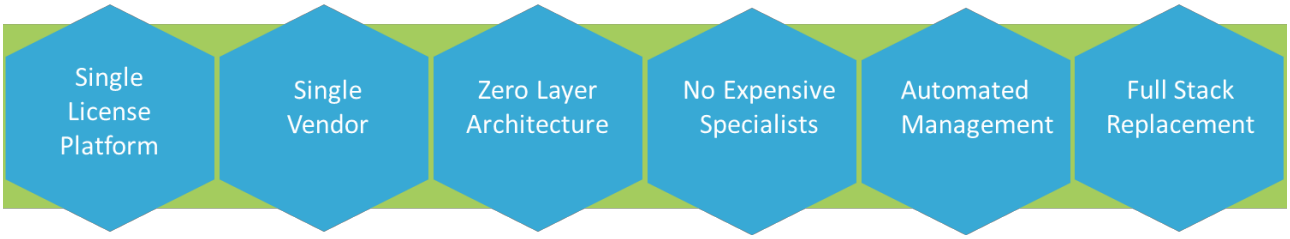
Hive Fabric provides a fast, stable, and robust platform that delivers benefit to any enterprise running a KVM based hypervisor. Some of these benefits include:

- Virtual Machines can be seamlessly migrated from their current platform to Hive Fabric and boot natively providing a high performing, low cost, alternative DR solution
- Hive Fabric leverages any x86 hardware without strict adherence to narrow HCLs, allowing customers to extend the lifecycle of their current IT assets and mix and match hardware to meet their budgetary requirements
- Backups can be restored directly to Hive Fabric and be operational within minutes

Hive Fabric™ Overview

Hive Fabric brings to market an industry first, an all in one software defined datacenter in an easy to deploy and manage platform. Hive Fabric installs on a wide range of x86 commodity hardware allowing customers to quickly and efficiently build out private clouds at significantly lower cost. Hive Fabric provides a platform to run and manage a wide variety of applications and services.





Physical

Hive Fabric is installed on bare metal servers and can consume a wide array of x86 commodity hardware. The Compute, Memory, Storage and Network are pooled together to provide the resources to run Guest VMs and applications with protection and dynamic resource allocation that pooling multiple servers provides.

Hypervisor

Hive Fabric includes the Hypervisor, that is automatically installed, configured and managed by the platform during installation. Hive Fabric will allocate resources from the hypervisor to a Virtual Machine (VM) automatically and will ensure that VMs can migrate between hosts, are protected by High Availability, and that the Hive Cluster is equally balanced across all member servers. Should a physical component within the cluster fail, the Hive Cluster will automatically restart any Guest VMs in the pool on other available appliances in the Cluster, resulting in maximum uptime for the environment. Balancing a cluster allows for the fair sharing of resources and ensures that the resources available are used in the most efficient manner possible.

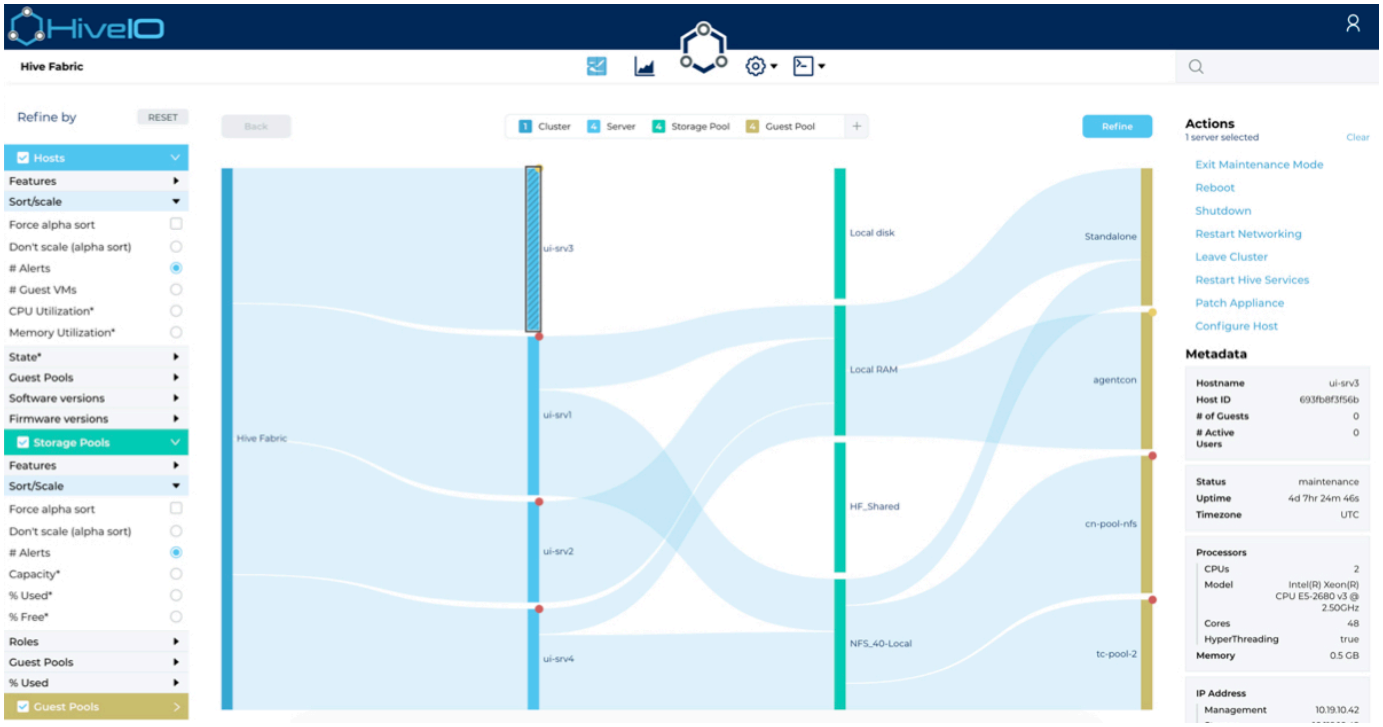
Management

Hive Fabric has a unique distributed approach to management. The cluster is self-managing and each server can act as the cluster manager. This is automatically managed by Hive Fabric and there is no configuration required on the part of the administrator. A new server is simply added to the cluster. Clusters can be heterogeneous from a physical server perspective, making it simple to benefit from existing investment in infrastructure and build out the scale of the cluster with new servers. There is also no hard limit on the number of servers in a cluster making it much simpler to architect and design Hive Fabric deployments.

Management is achieved through the REST-API or a simple to use Web UI. The REST-API is used by the UI so everything that can be achieved in the UI can be automated through the REST-API.

Orchestration

The Orchestration layer continues to differentiate Hive Fabric with the ability to create VDI Guest Pools and broker them out to end users natively using RDP, which provides for easy rollout and almost universal support for Fabric out the box. Metrics, alerting, and monitoring round out the solution, providing insight into each layer, including the hardware, and provide the capability to automatically self-heal and load balance the VDI pools.



Hive Fabric™ Difference

Active Disaster Recovery

Hive Fabric acting as a DR target, for those organizations currently operating KVM based production environments, provides several immediate benefits, including:

- Significantly more cost-effective platform for operating virtualized servers or desktops within production or DR environments
- Sharing the same underlying architecture, Hive Fabric minimizes the interruption of critical processes and safeguards business operations
- Granular management: customize and monitor your own Disaster Recovery needs for your business

VM Compatibility

Hive Fabric introduces an alternative approach to DR for those organizations that are looking to avoid further vendor lock-in. Hive Fabric reflects a practical focus on compatibility and solving real world problems.

Hive Fabric provides native compatibility for KVM based vendors (Nutanix, Open Stack, AWS) that delivers seamless virtual disk cutovers and migrations. Additionally, Hive Fabric has been architected to allow virtual disk conversions on-the-fly from foreign hypervisors.

- Increase operational efficiency by migrating virtual machines and not recreating them
- The conversion is completed from an intuitive UI built in Hive Fabric, not a third-party application
- No platform expertise is required in order to deploy virtual desktops, virtual machines, or shared storage

Commodity Hardware

The rate of change within IT is dramatic and increasing at a rapid rate. Hive Fabric enables organizations to shift from fine-tuned specialized infrastructure and virtualization layers to general-purpose commodity building blocks.

Hive Fabric allows organizations to break free from the narrow HCLs of other vendors:

- Existing hardware can be leveraged due to Hive Fabric's extensive Hardware Compatibility List
- Server hardware is now truly commoditized with Hive Fabric's ability to cluster across heterogenous server infrastructure and CPU architectures allowing an enterprise to have different hardware for production and DR
- Hive Fabric is licensed on a per-server basis - the licensing model is designed to be simple. HiveIO will not penalize you for optimizing the hardware foot-print for your DR environment. Run higher densities in DR to optimize your cost without impacting the end user and business experience.

Conclusion

HiveIO brings numerous benefits to an organization looking to deploy a DR solution for the first time or drive down cost from their existing DR environment. All the benefits discussed in this whitepaper apply not only to DR but also production environments. For those organizations who are looking to upgrade their DR environment or have made technical investments in other KVM based solutions , reach out to info@hiveio.com to speak with one of our technologists and find out how we can help you in more detail.

Hive Fabric, a KVM based SDDC, provides organizations with the power and flexibility to serve in production and DR solutions.

Hive Fabric offers the performance and low latency necessary for uncompromised end-user experience. This architecture provides a high-density platform that scales as your business grows extending customer capabilities in the datacenter:

- Rollover quickly, without reconfiguration
- Move from production to recovery without unnecessary VM conversions
- Simplify management and administration by eliminating complex infrastructure and moving to a composable infrastructure
- Provide one of the most affordable virtualization solutions in the industry without compromising performance
- Significantly lower both acquisition and ongoing costs by running VMs and applications on a software defined datacenter – Hive Fabric.

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