Ceph for Tier-2 Storage at MSI

Benjamin Lynch, Ph.D.

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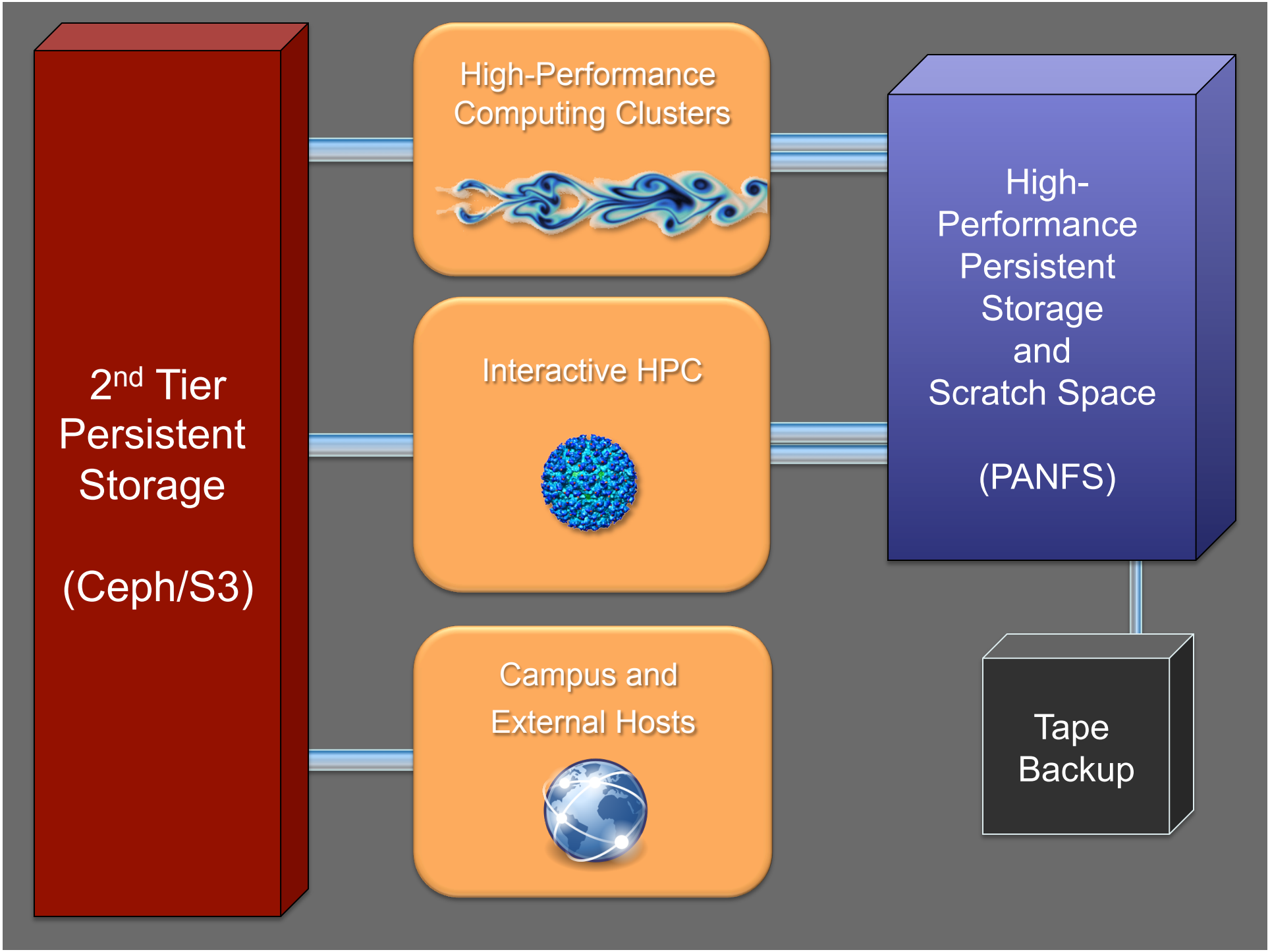
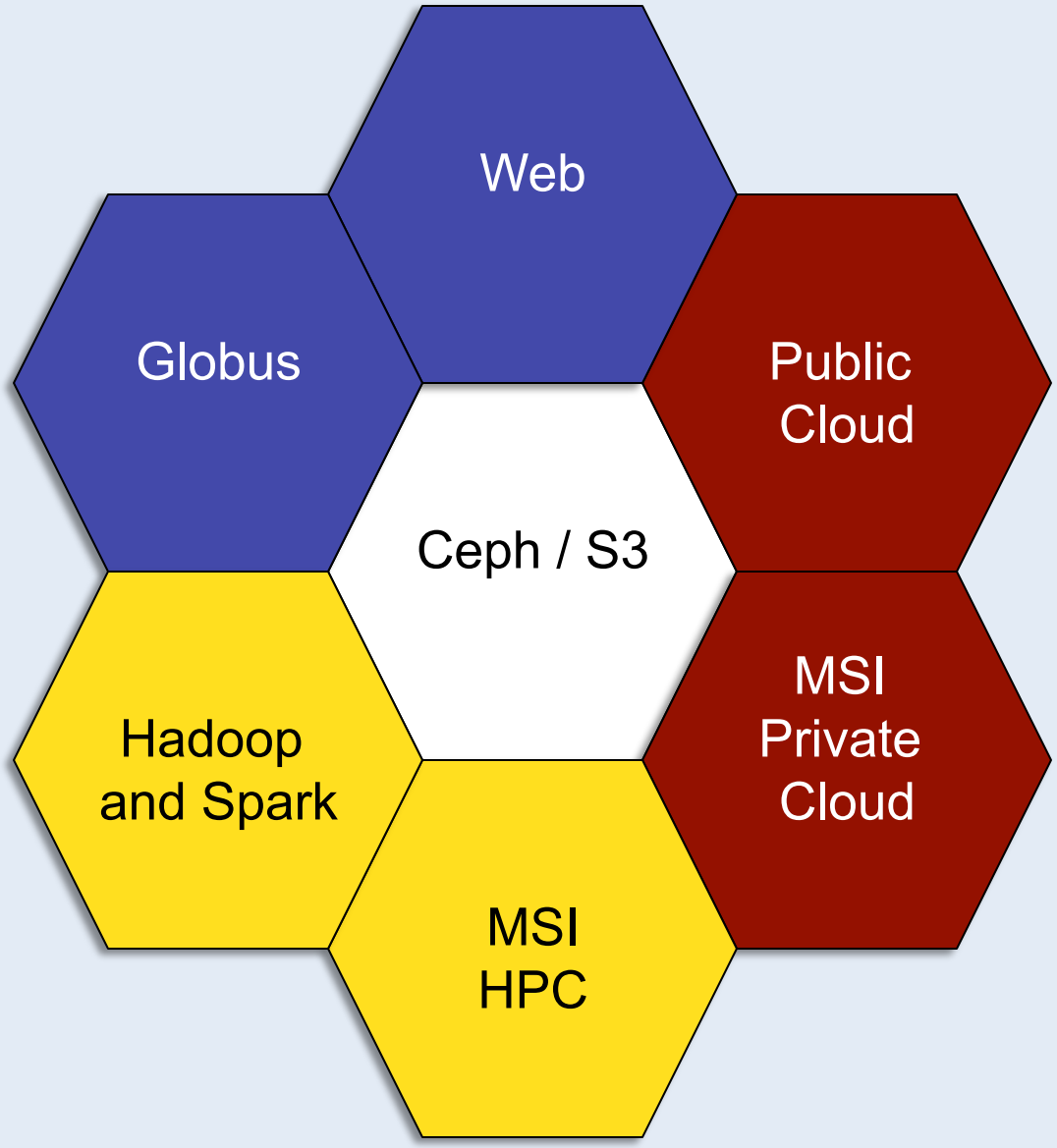

2nd Tier Persistent Storage
(Ceph/S3)
High-Performance Computing Clusters
Interactive HPC
Campus and External Hosts
High-Performance Persistent Storage and Scratch Space
(PANFS)
Tape Backup



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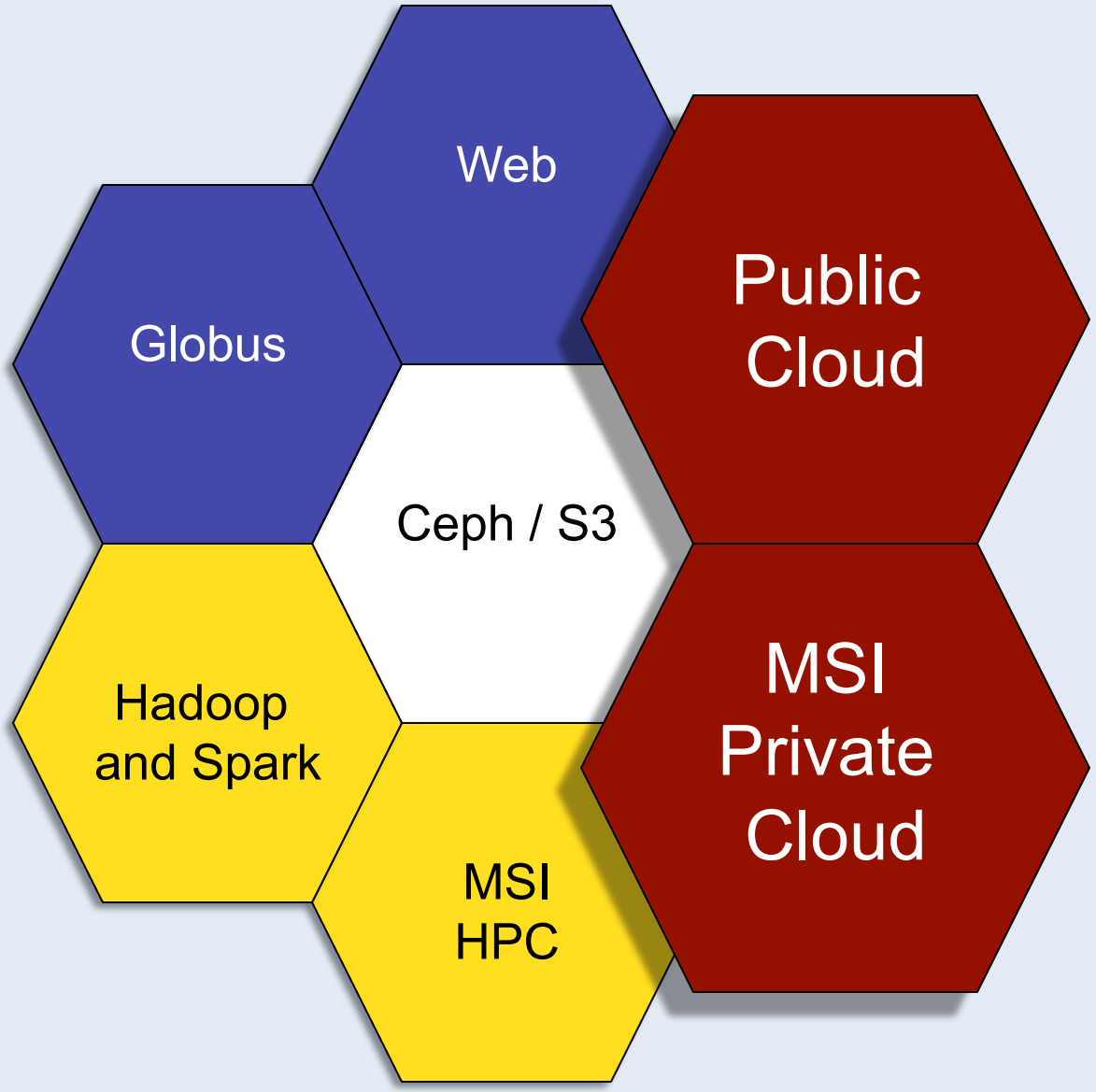

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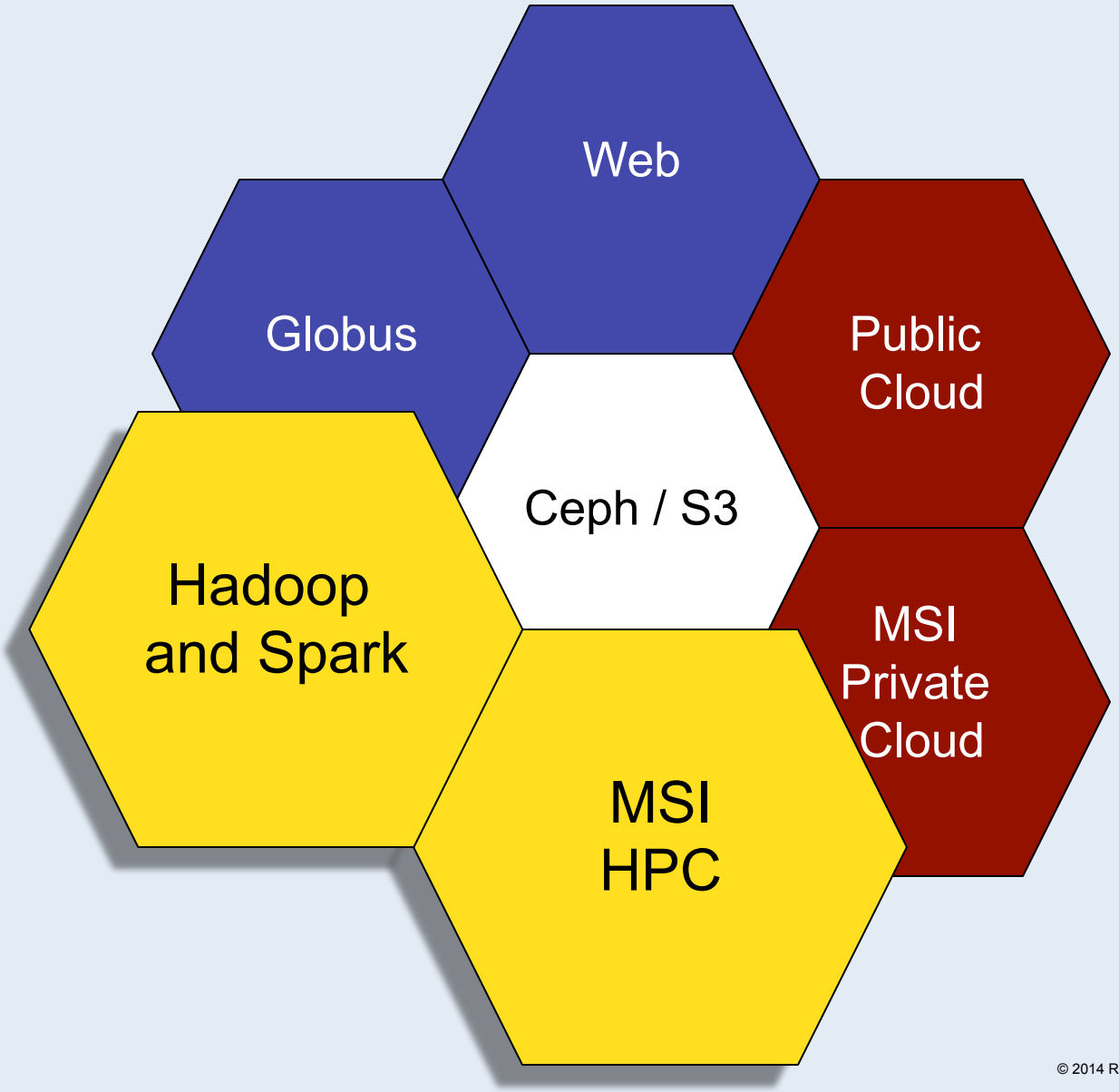

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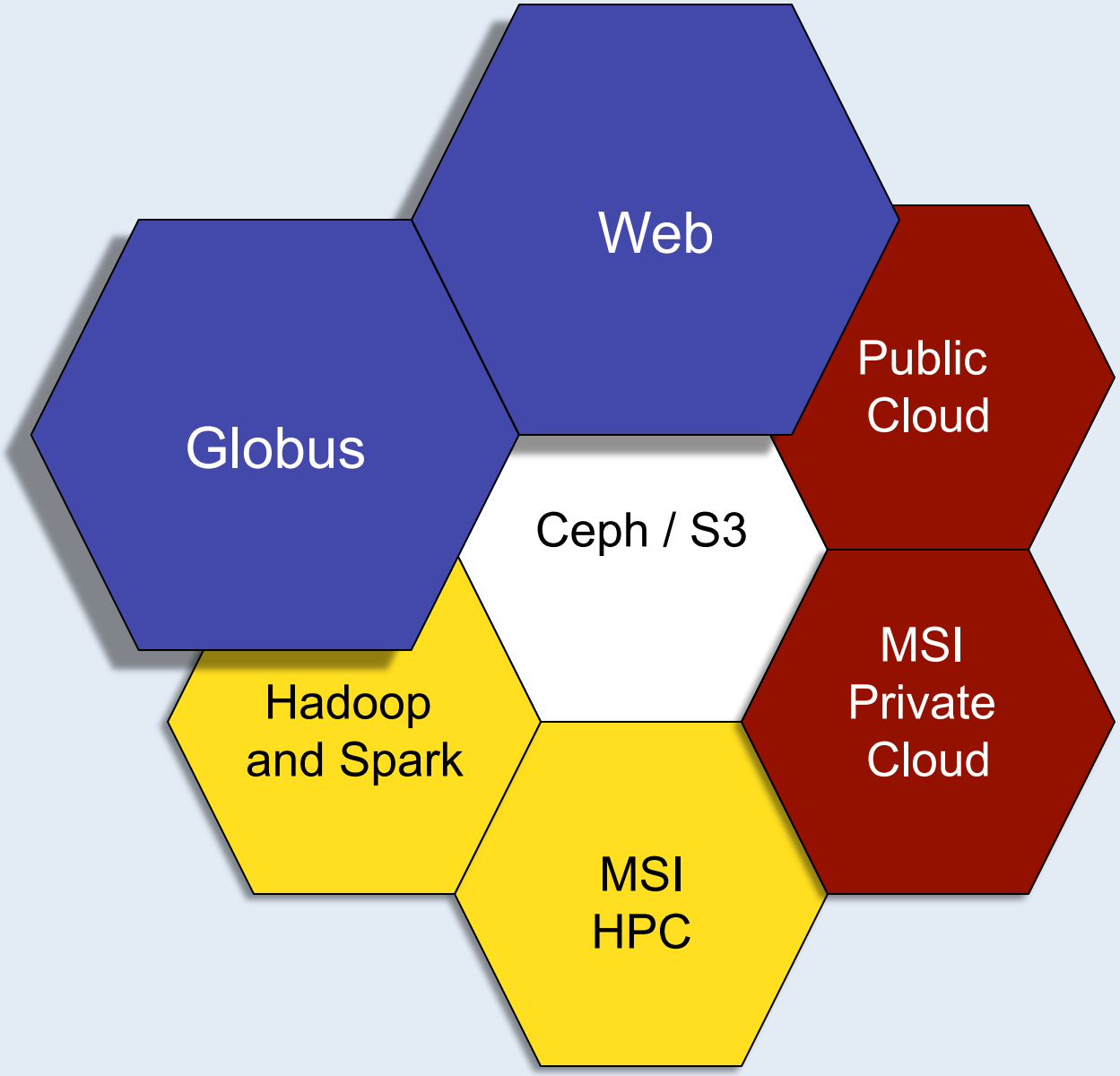

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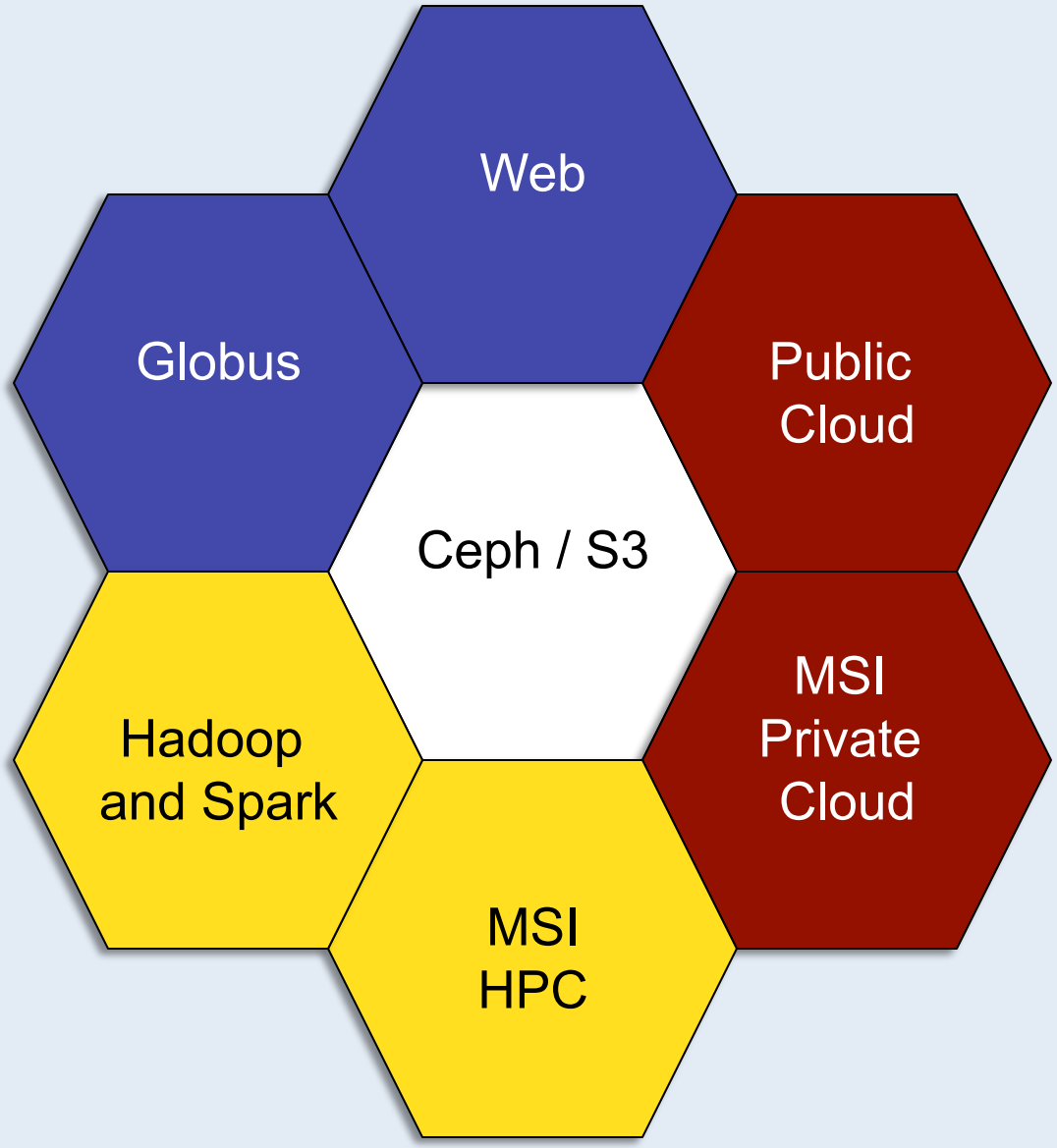

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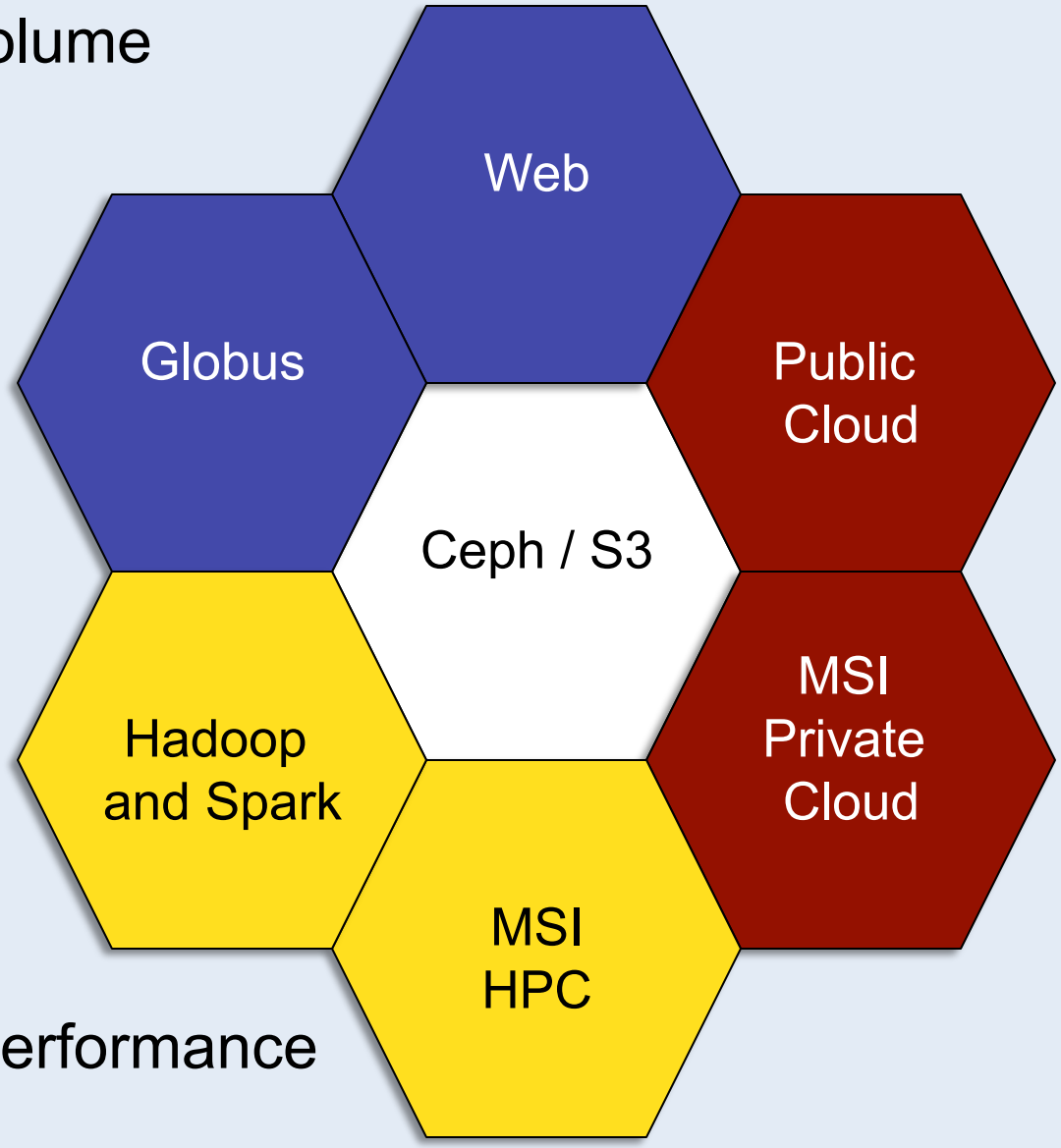
Scalable volume



High availability

Scalable performance

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Why Ceph?

- Scalable
- Fault-tolerant
- Flexible configuration
- Flexible support

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Our Ceph Cluster

- Cluster Specs
  - Ceph 0.94.5 (Hammer)
  - 3 PB raw disk
  - 4+2 erasure coding for most data
  - 4 load-balanced gateways (civetweb)
  - 10GigE network
  - 3 monitors
- Applications
  - Genomics workflows on public & private cloud compute resources
  - Data staging for HPC applications
  - Data staging for Hadoop / Spark cluster
  - Bulk store of stale data

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Acknowledgements

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- Matt Mix (Network Administrator)

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