Contribution ID: **8** Type: **not specified**

Astronomical Archive as a Service: A Microservices-Based Hyperconverged Infrastructure

Thursday 27 February 2025 14:40 (20 minutes)

The explosion of astronomical data necessitates innovative solutions for archiving, accessing, and processing these vast datasets.

This abstract presents "Astronomical Archive as a Service" (AAaaS), a novel approach built upon a hyperconverged infrastructure (HCI) and leveraging microservices technology.

AAaaS aims to provide a scalable, resilient, and cost-effective platform for managing astronomical data. HCI simplifies infrastructure management by converging compute, storage, networking, and virtualization resources.

By adopting a microservices architecture, AAaaS decomposes the archive into independent, loosely coupled services, each responsible for a specific function (e.g., data ingestion, metadata management, query processing, data retrieval). This modular design enhances scalability, fault tolerance, and maintainability.

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Session Classification: Session 7 - Data Management Systems - part 2