

Aegis is built on a **scalable, distributed** infrastructure with **automated** CI/CD pipelines

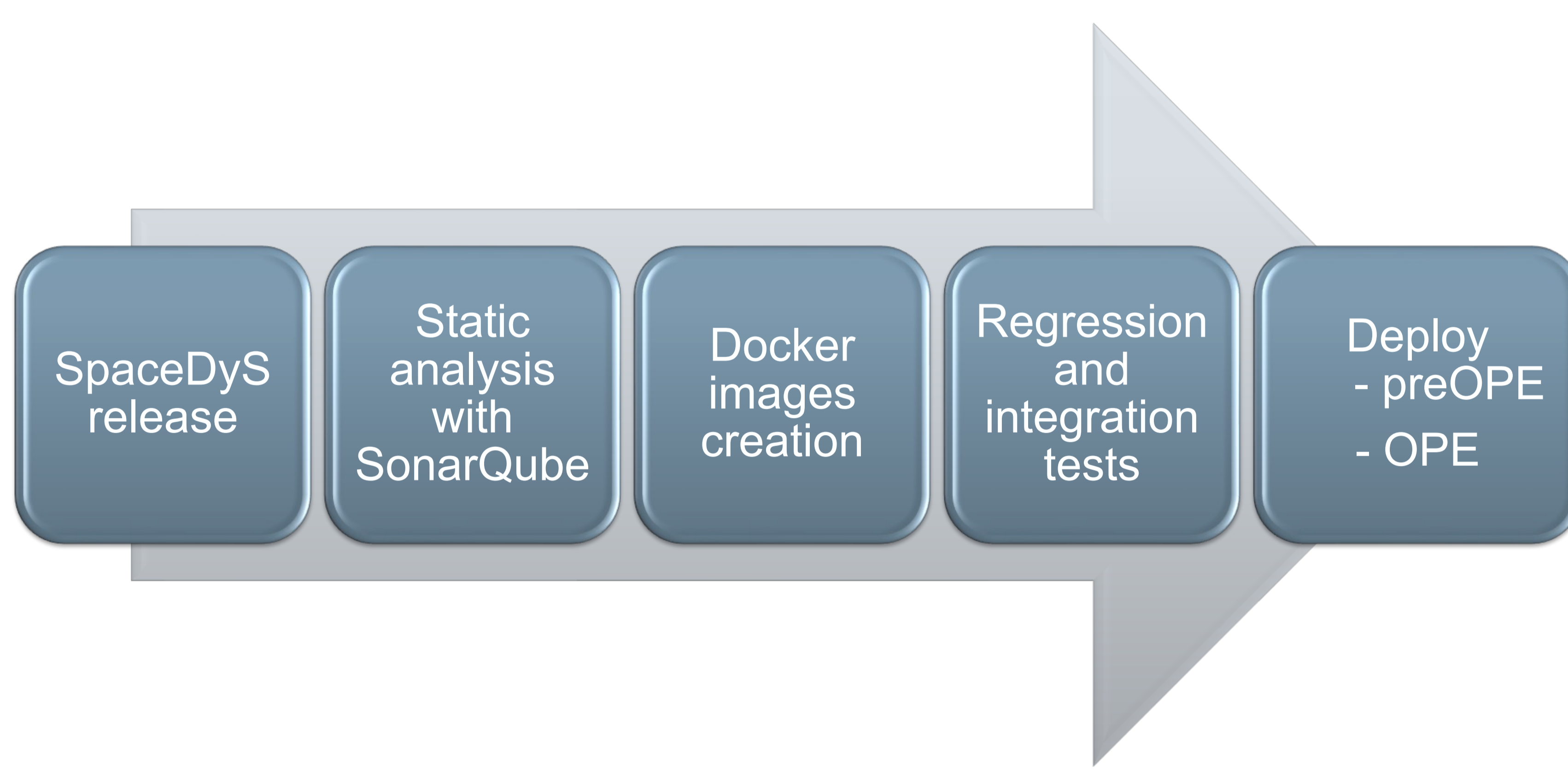


The Aegis orbit determination and impact monitoring system architecture

Background: Aegis is the primary data source for all main NEOCC applications including the public web portal. It continuously maintains a dynamic catalogue of all asteroids and assesses impact risks, updating the NEOCC risk list.

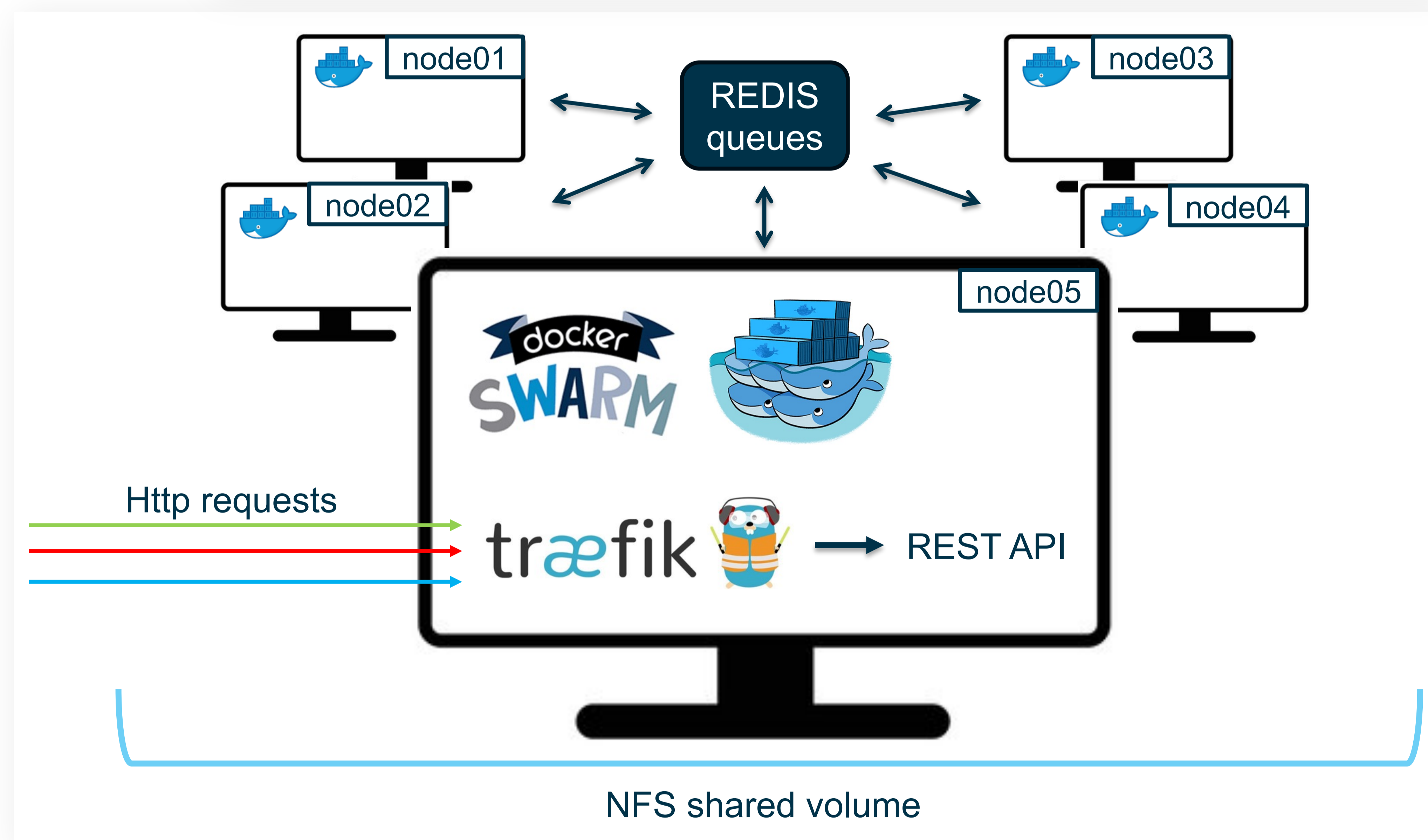
GitLab CI/CD pipeline

Following modern DevOps practices, the automated pipeline spans from the industry supplier SpaceDyS's software delivery to deployment of Docker services in target environments.



Aegis specifications

- Total RAM: approx. 2000 GB
- Total cores: approx. 200 cores
- 6 Docker nodes on the ESA cloud: computation distributed across these Virtual Machines via Redis queues.
- REST APIs for asynchronous processing and external requests.
- Dedicated node for Aegis API external calls (e.g., ephemerides generation)



Conclusion: This infrastructure is essential to manage the rapidly increasing data volumes expected from new telescopes in the coming months and years.

Future developments: implement a dedicated database for efficient data storing; adopt Kubernetes for automatic scaling.

Scan QR code for access:



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