

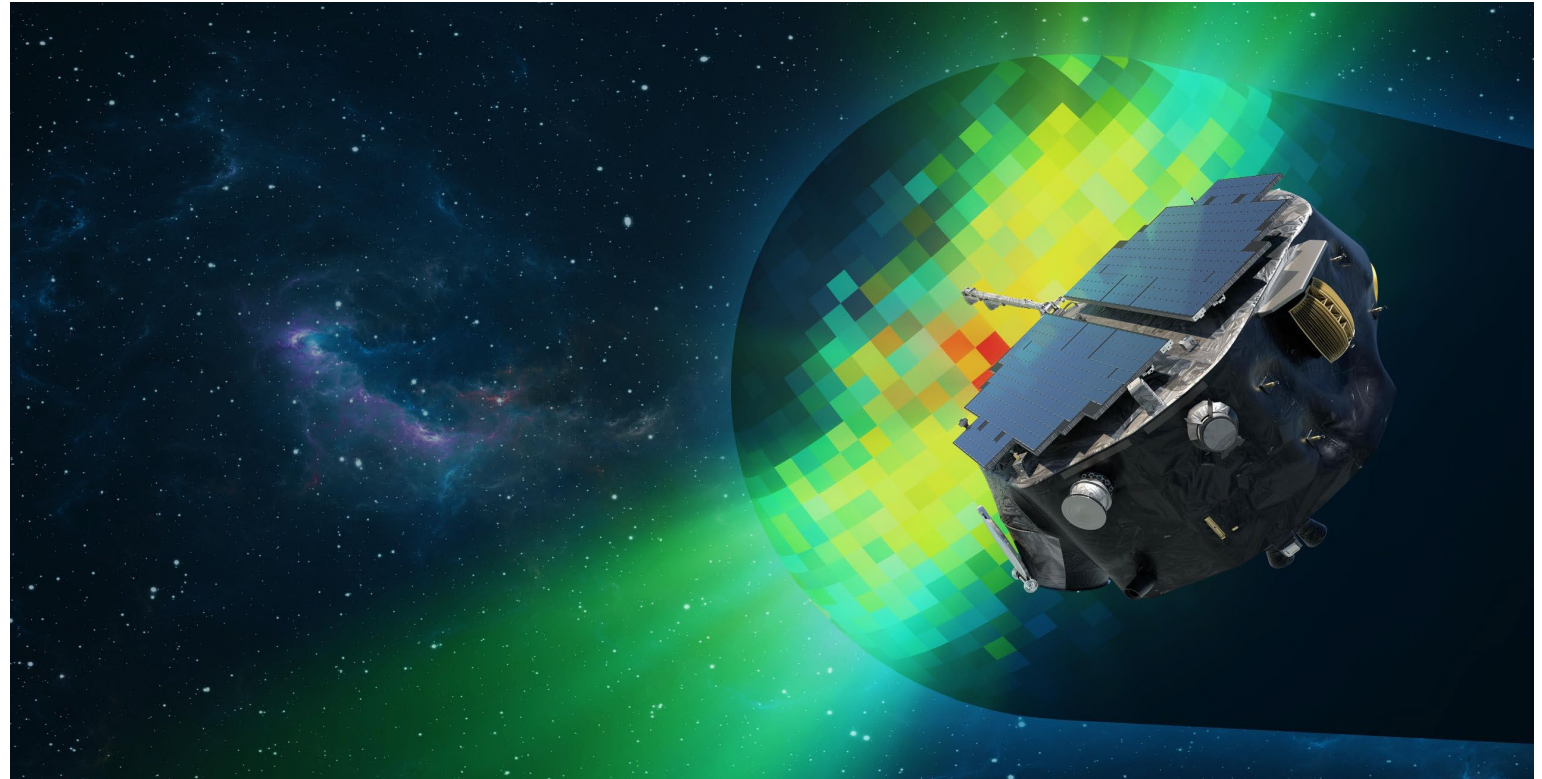
Event Driven Architecture for the IMAF Science Data Center

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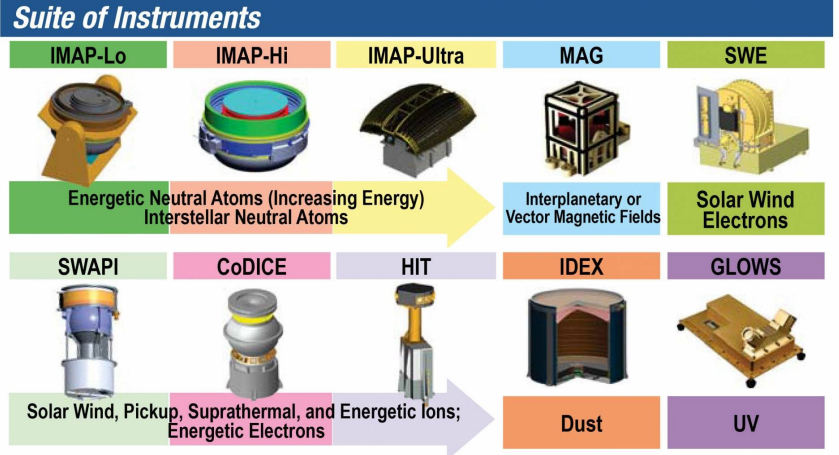
October 14th, 2024



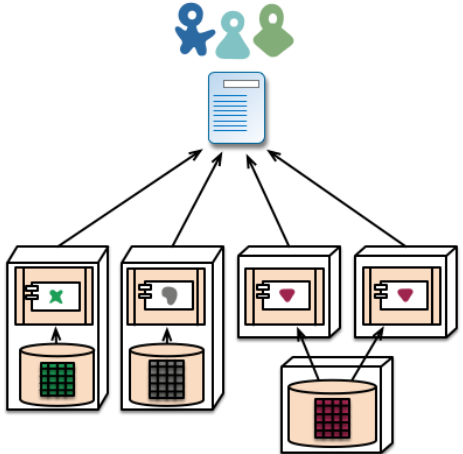
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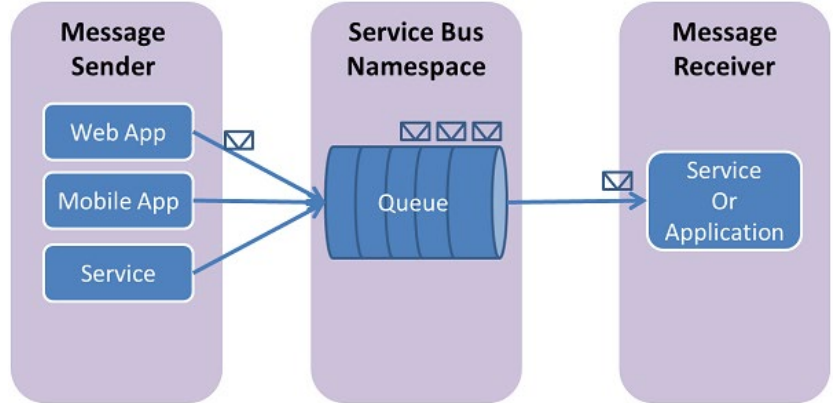
This presentation focuses on event driven processing pipelines in the cloud, through the design of the IMAP SDC.



IMAP and pipeline requirements

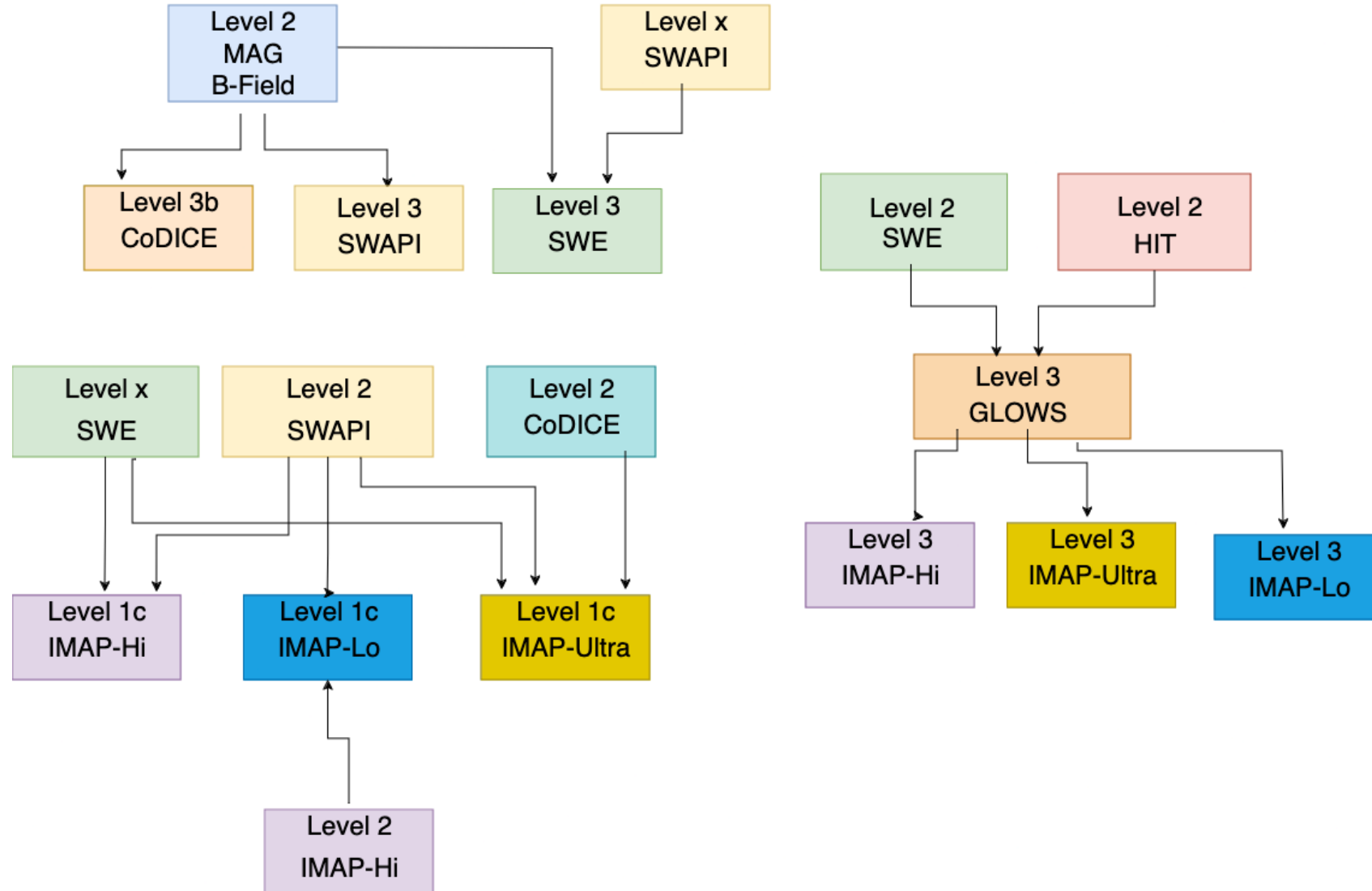


Microservices

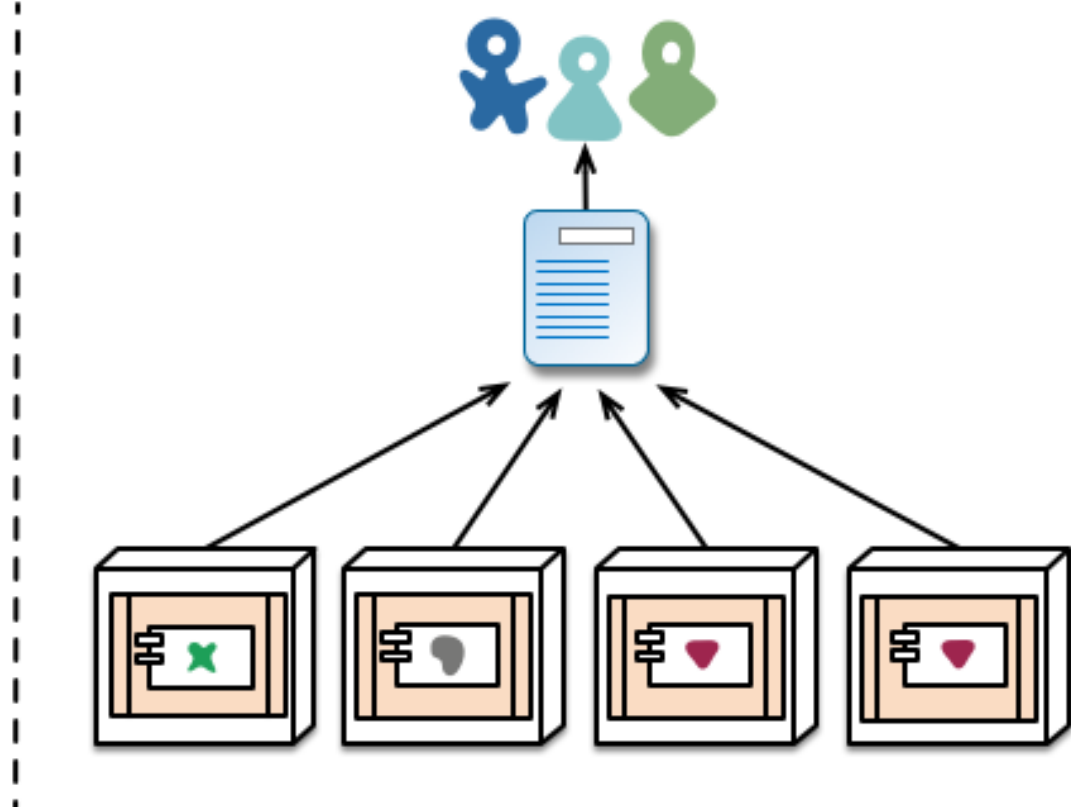
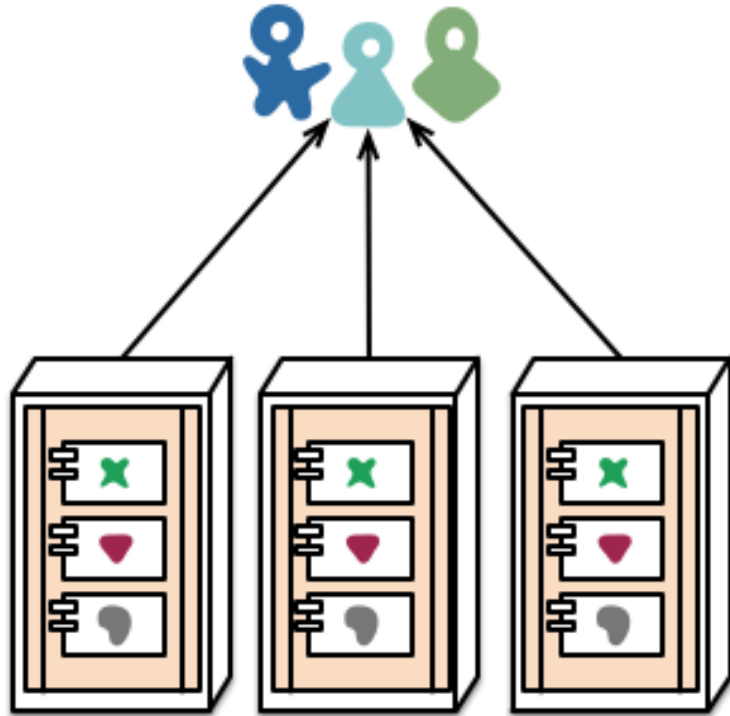


Event-based processing

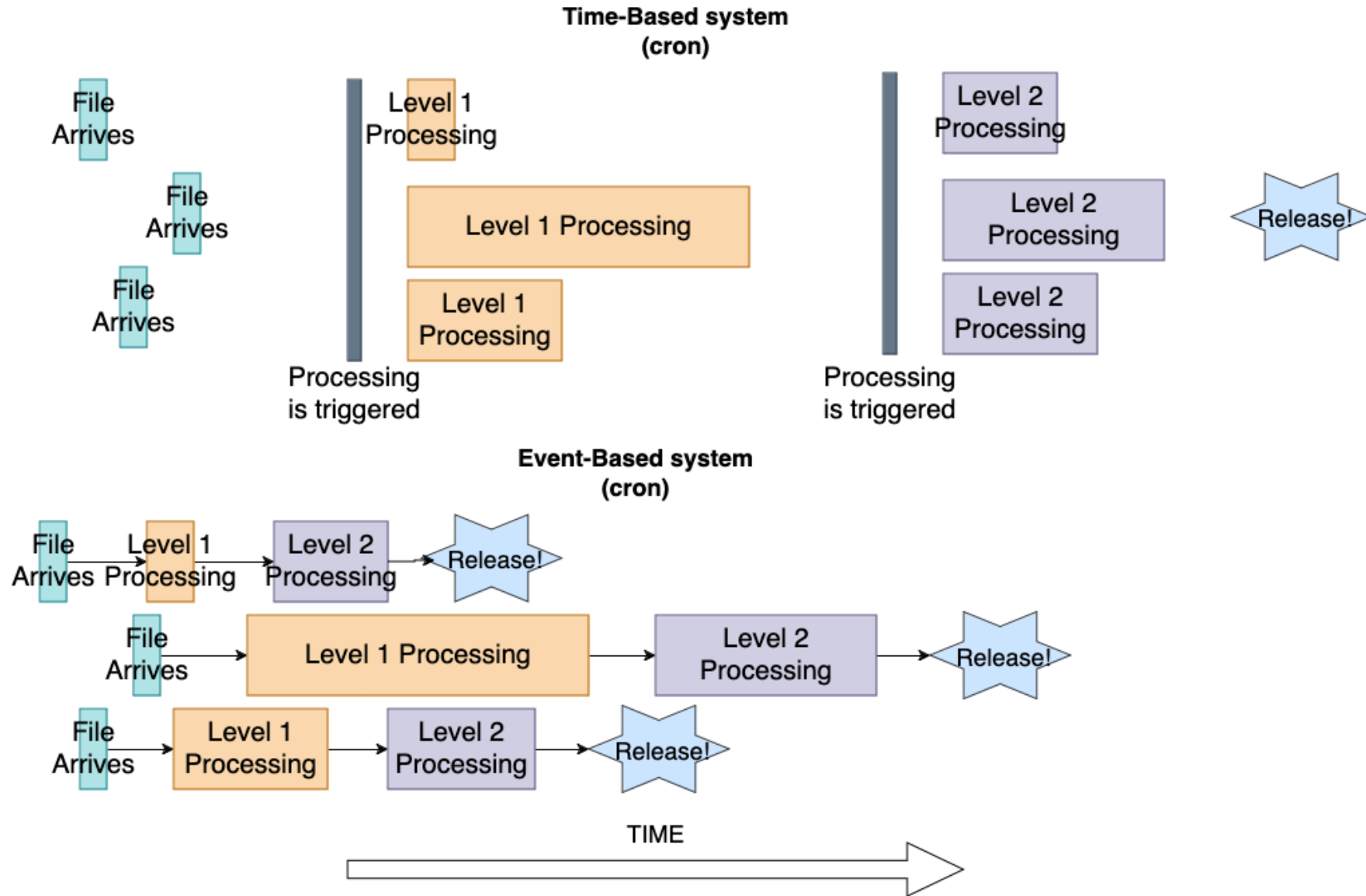
IMAP data processing requires a flexible system of file dependencies, due to the interconnectedness of the 10 instruments on board.



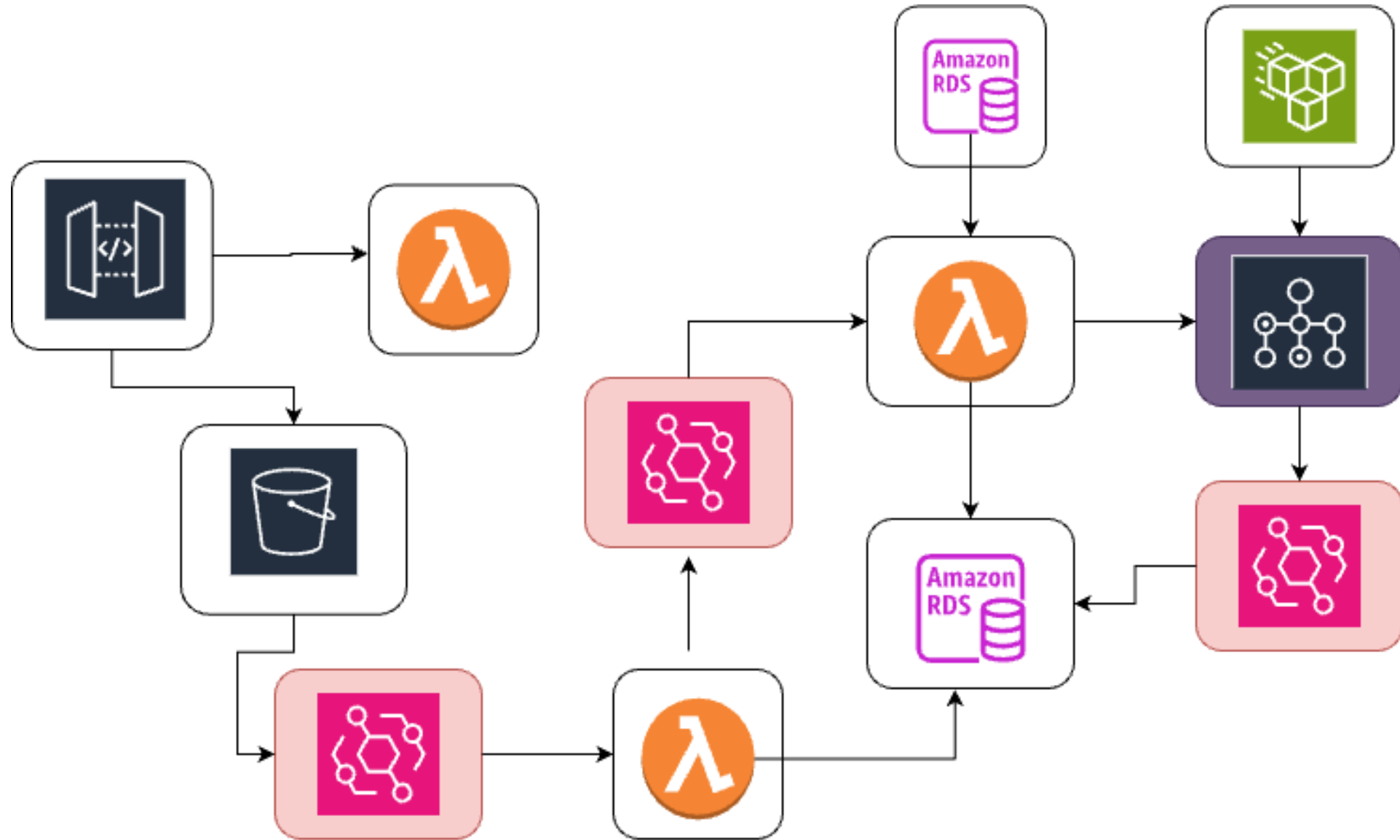
Microservices limit responsibilities for each component and isolate changes.



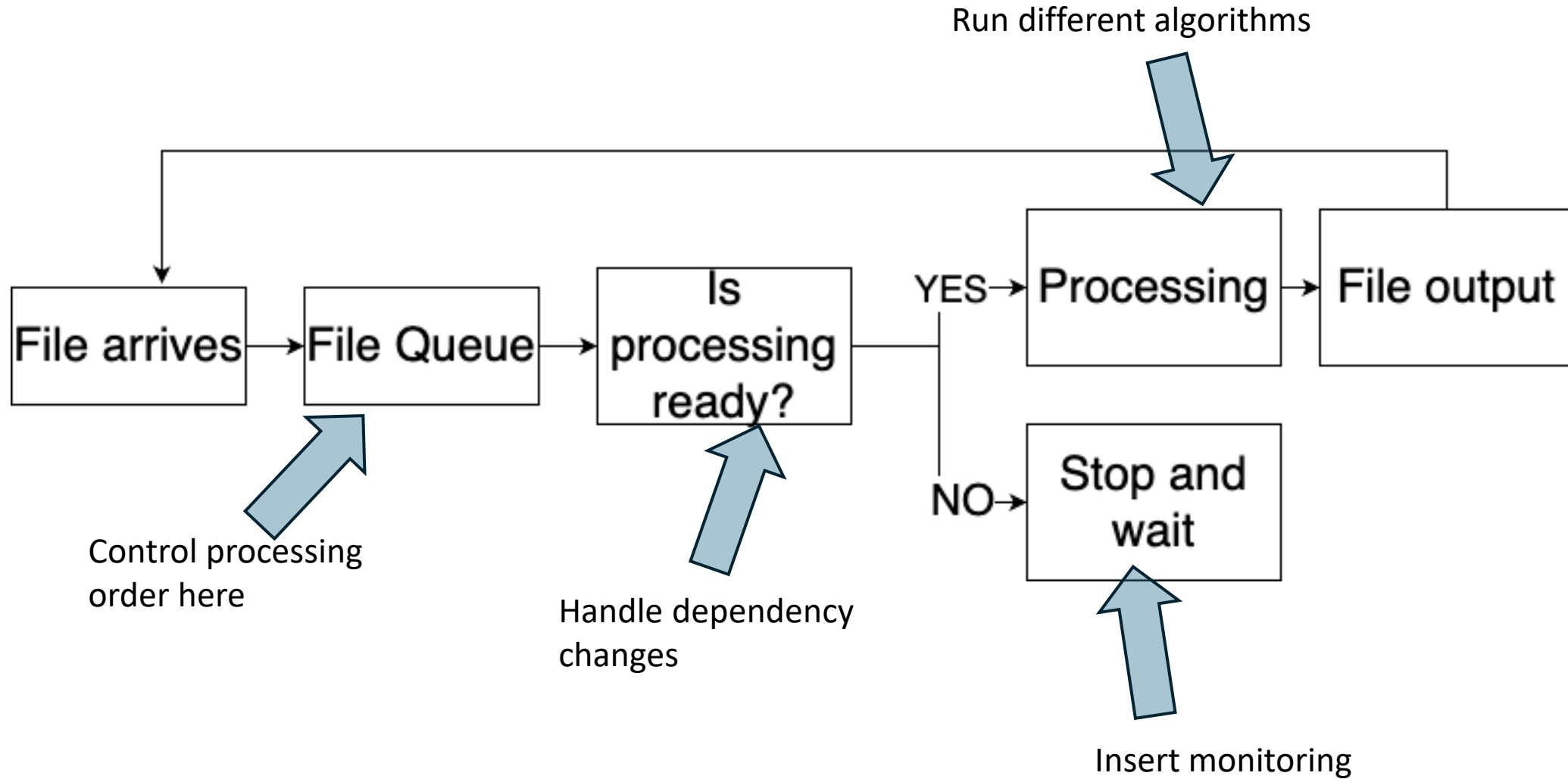
An event driven architecture creates a flexible system which can complete processing as soon as files are ready.



Queues connect and organize the whole system by moving events from service to service

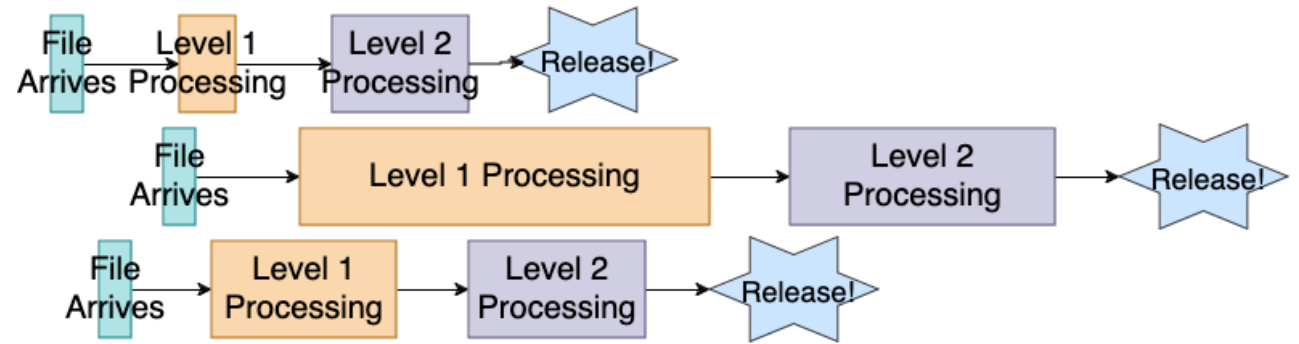


This flexible design allows for the IMAP SDC to react to changing requirements and scale processing as needed.

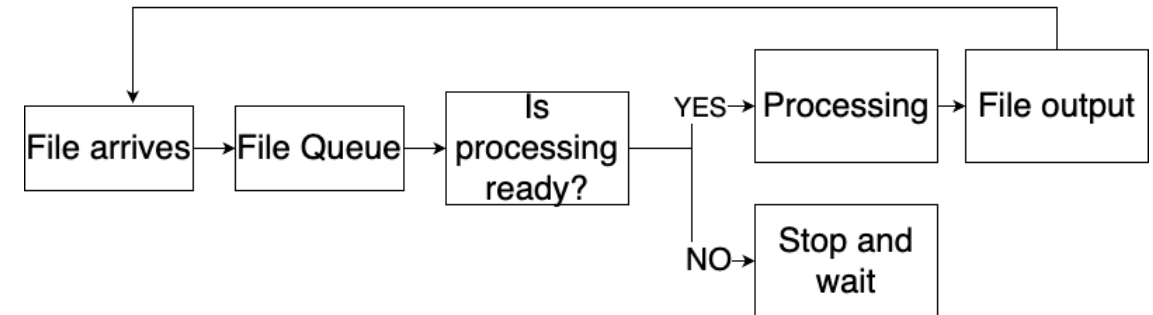


In summary, event driven processing in the cloud can create flexible, reusable, and quick pipelines for science data processing and access management.

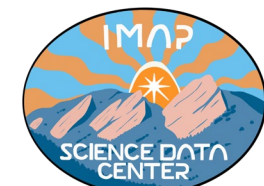
Event based processing allows for faster processing of sequential steps of data.



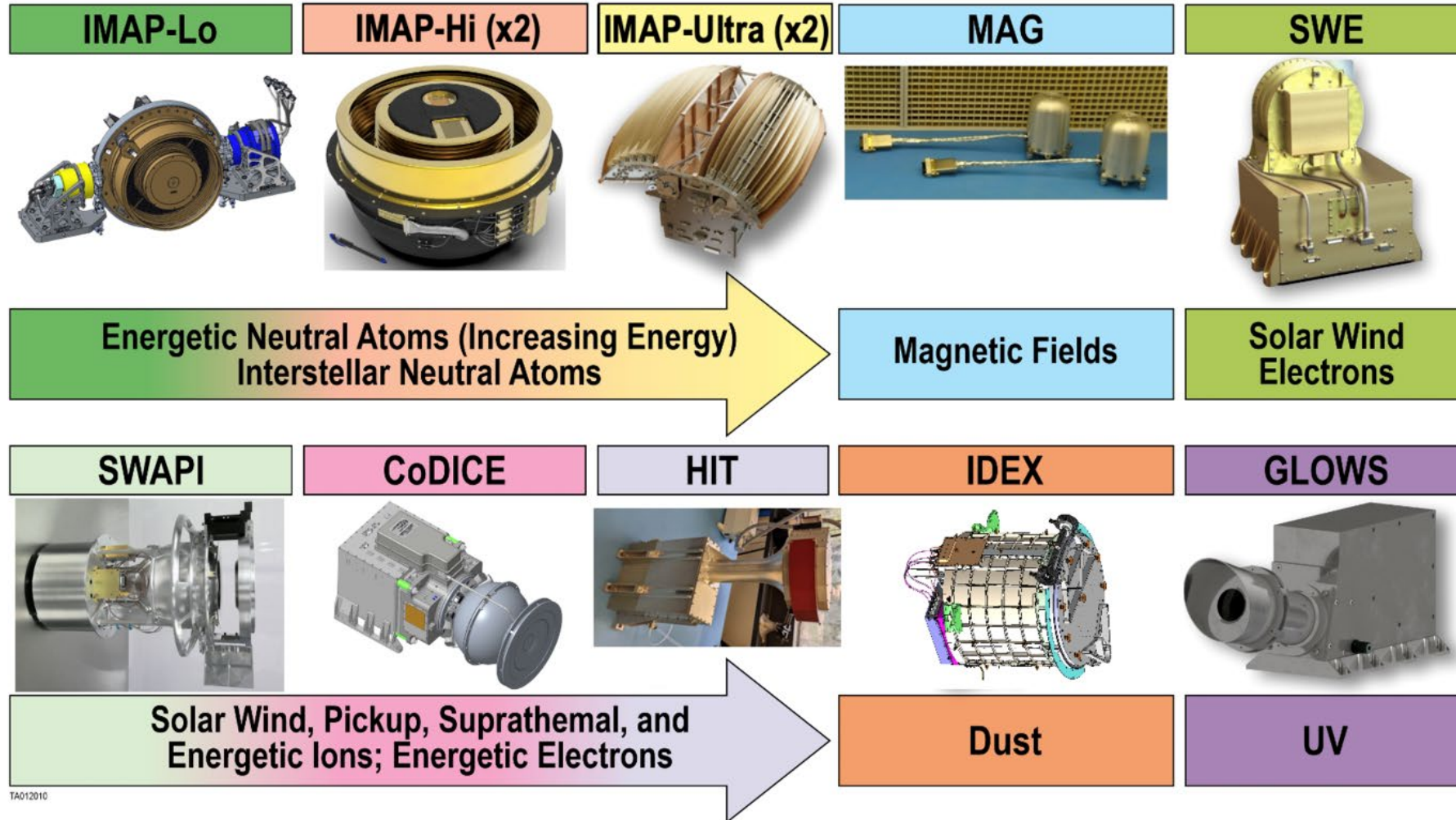
Microservices can allow for flexible and reliable pipelines.



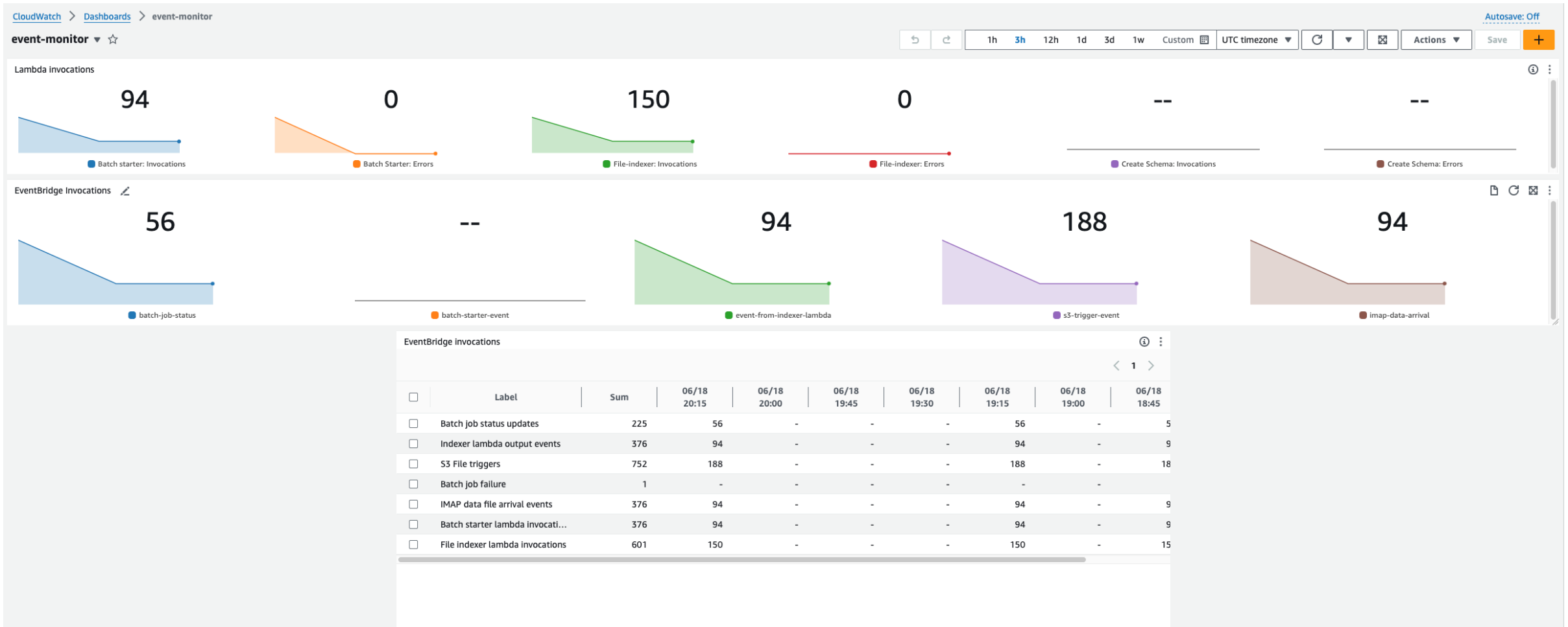
Questions?



IMAP Instruments



Monitoring



Sources

- <https://martinfowler.com/articles/microservices>