

Thoth: Healing applications with resolver prescriptions



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Healing applications

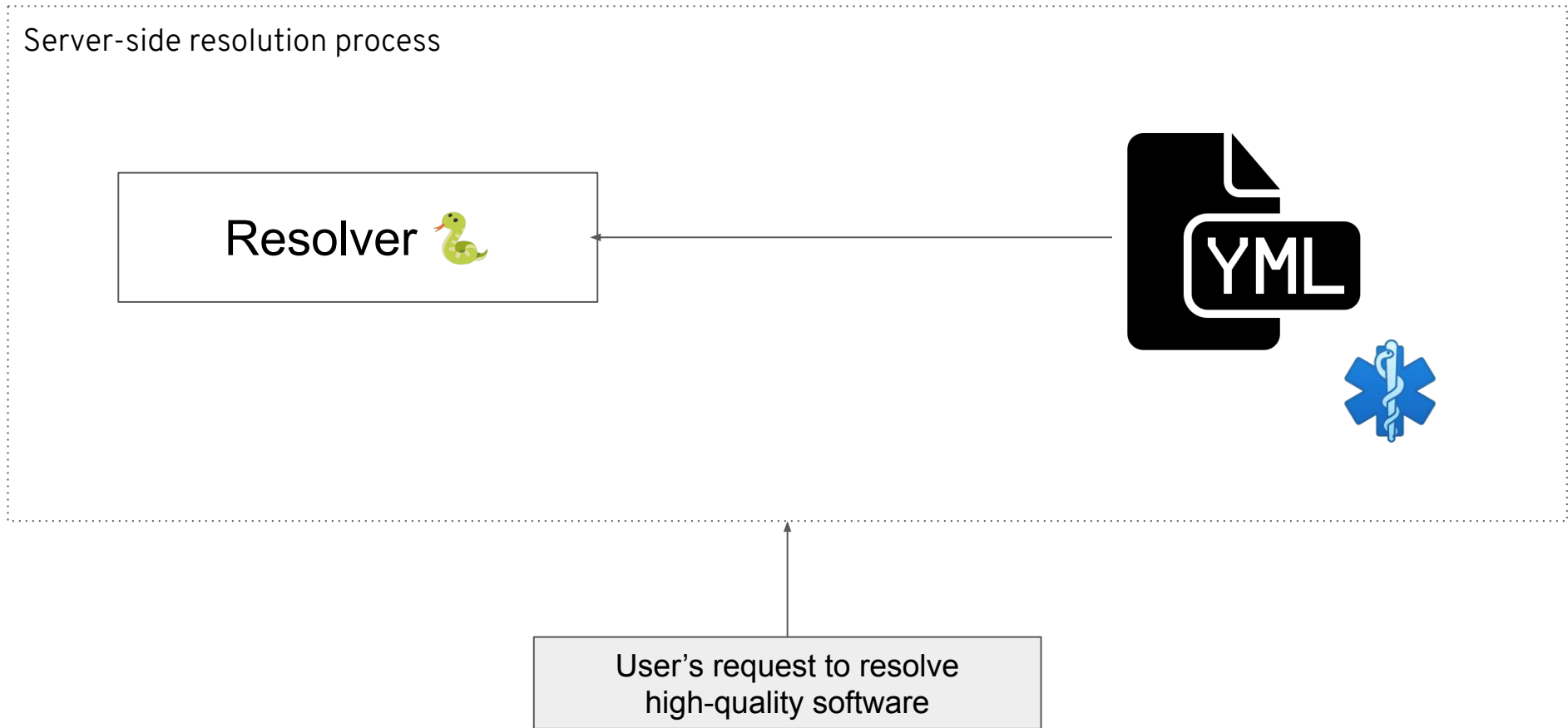
“Latest is not always the greatest”

- Which older versions of packages should the resolver pick?
 - Stochastic resolver based on gradient-free reinforcement learning algorithms
 - Previously:
 - Aggregated knowledge in the database
 - Aggregated knowledge in a form of pipeline units written in Python
 - Now:
 - Aggregated knowledge in the database
 - Aggregated knowledge in a form of pipeline units written in Python
 - Pipeline YAML configuration - prescription

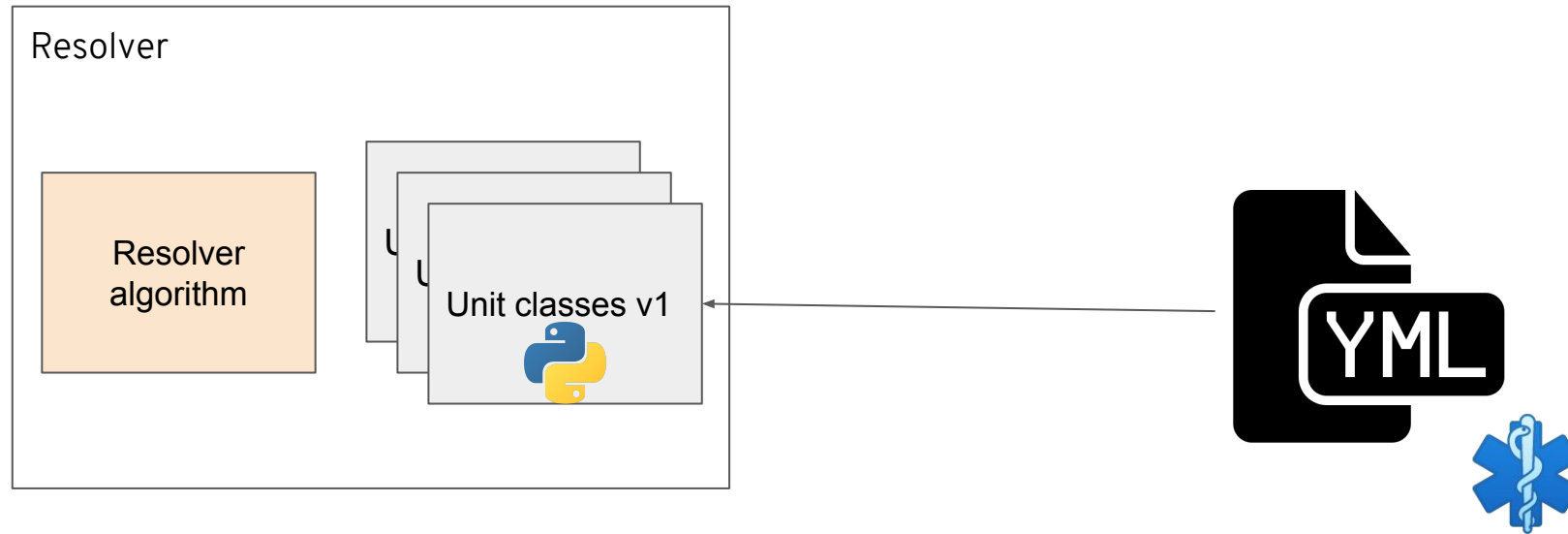
Prescriptions

- Declarative interface to the resolution process
 - Thoth's "*Tabula Smaragdina*"
 - *Truth! Certainty! That in which there is no doubt!*
- Used in Adviser and Dependency Monkey
- Pipeline units described using a YAML file
 - Pipeline unit type and its configuration used in the resolution process
- Opens a possibility to easily create pipeline units specific for recurrent issues or use-cases following a pattern
 - e.g. a pipeline unit specific for ODH use case when resolving for ODH base container images
 - ...

Prescriptions in the resolution process

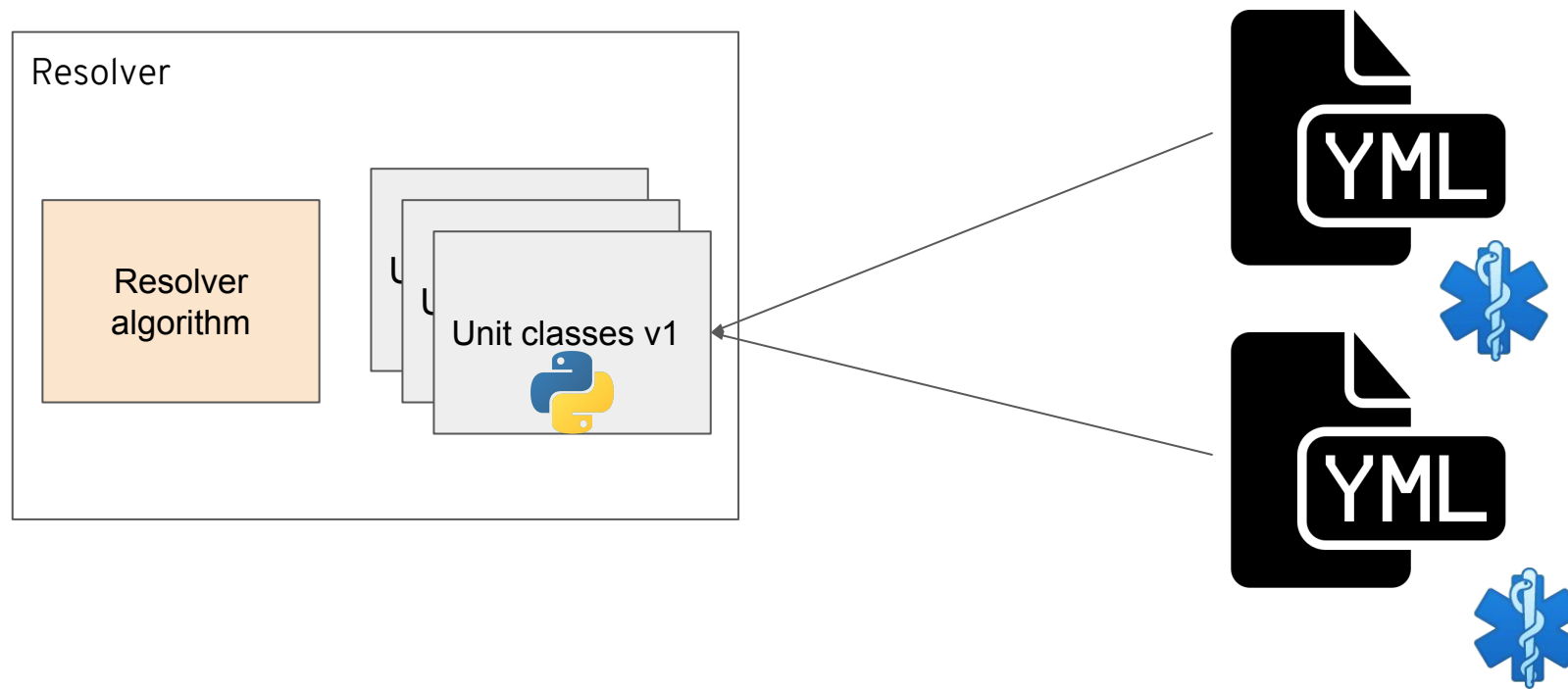


Prescriptions in the resolution process



- YAML configuration is mapped to generic Python classes implementing the YAML interface

Prescriptions in the resolution process

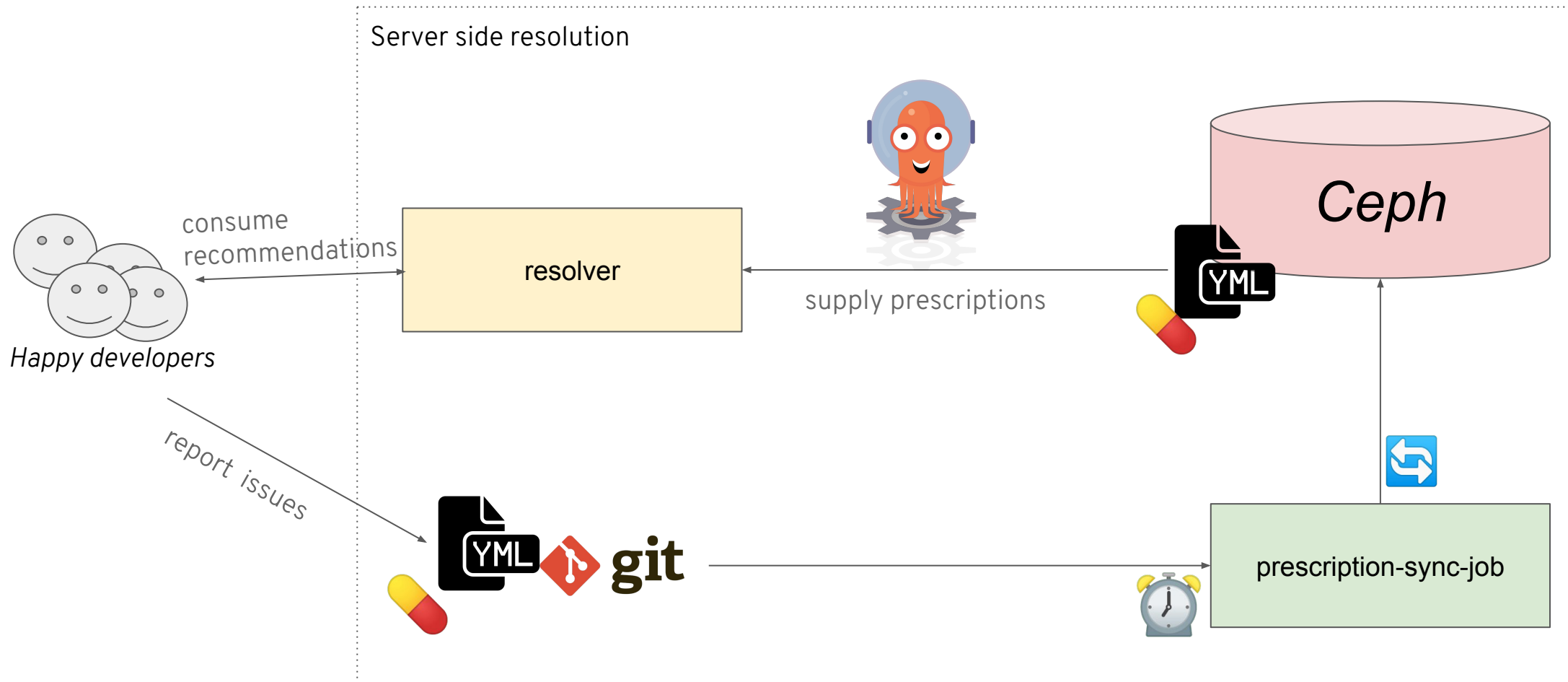


- Multiple prescription files can be supplied (they are namespaced)
- Combining different use-cases (configuring the server-side resolution process)




Prescriptions in a Thoth deployment

- Prescriptions managed as data
 - [thoth-station/prescriptions](#) repo holds the configuration
 - maintained by Thoth and Thoth community
 - **Every contributor is welcomed** 🙏
- Synced to Ceph using Thoth's prescription-sync-job
 - <https://github.com/thoth-station/prescription-sync-job>
 - The file is supplied to adviser using Argo workflows
 - Configured for each deployment separately
 - *Own prescriptions?*

Prescriptions in a Thoth deployment



Prescriptions

- Documentation 
 - <https://thoth-station.ninja/docs/developers/adviser/prescription.html>
- Prescriptions for open-source projects used by Thoth 
 - <https://github.com/thoth-station/prescriptions>
- Syncing logic 
 - <https://github.com/thoth-station/prescription-sync-job>

Thank you

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