SEARCCH
Sharing Expertise and Artifacts for Reuse through Cybersecurity Community Hub

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CHALLENGE

- Ad hoc cybersecurity experimentation severely retards scientific progress
- Use of one-off, painstaking, and error-prone processes; not shared for reuse and validation
- Lack of repeatable, reproducible, and reusable processes and other artifacts

SCIENTIFIC IMPACT

- Enable the community to build upon the work of others or to compare solutions
- Transform the way cybersecurity experimental research is conducted
- Advance the knowledge, understanding, rigor, and practice across CISE disciplines

BROADER IMPACTS

Society
- Greater scientific quality of cybersecurity research through validation, sharing/reuse, and community building
- Enhanced research leads to new effective solutions to real-world cybersecurity challenges

Education
- Lower barrier to researchers and students from underrepresented schools – enable them to quickly become active participants in cybersecurity research through shared access to

Metrics
- Contributions, contributors, visits, adoptions, engagement, publications

COMMUNITY

- Outreach and engagement activities to build active, diverse, online community around hub
- Enable direct sharing of expertise and crowd-sourcing research ideas and experiment design
- Grow hub to include collections of artifacts covering range of cybersecurity challenges

SEARCCH COMMUNITY HUB

- **Community-driven platform** lowers barrier to sharing and reusing research artifacts
- Share artifacts via **web interface** and **importer**
- Discover artifacts w/ **smart search** capability
- Exchange experiences via **ratings and reviews**
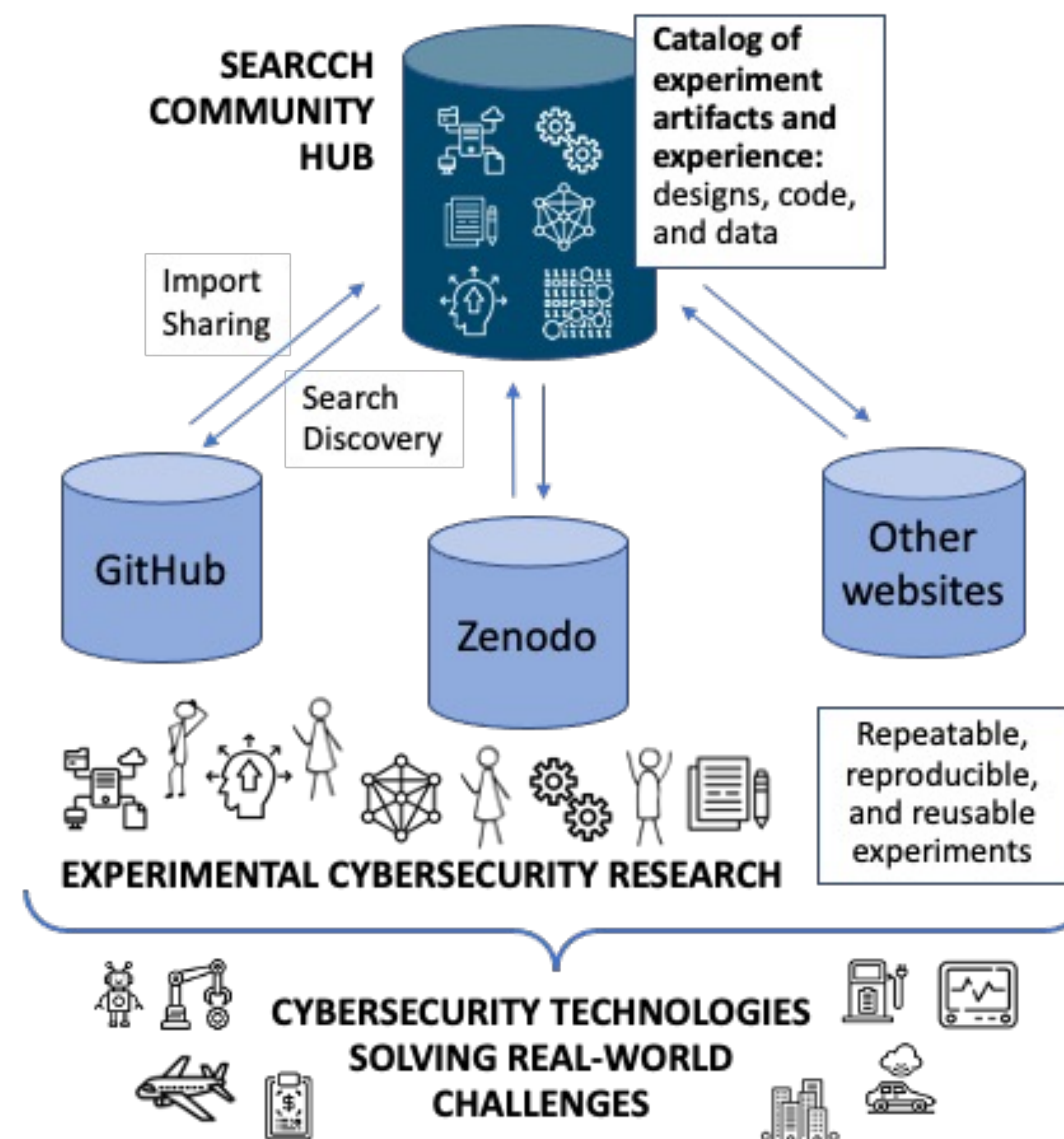

INVITATION TO NSF COMMUNITY

- The SEARCCH portal has been **prepopulated** with many artifacts from **major cybersecurity conferences**, such as ACSAC and USENIX Security
- **Contribute** and **make use** of artifacts and expertise in the SEARCCH hub
- Take **ownership** of your artifacts!!

## VISIT US AT

https://hub.cyberexperimentation.org/

HIGH-LEVEL ARCHITECTURE

- SEARCCH is comprised of a **front end** and an **importer tool** which enable users to interact with a **back end** that supports consumption and curation of artifacts via a **knowledge graph** and a **metadata store**
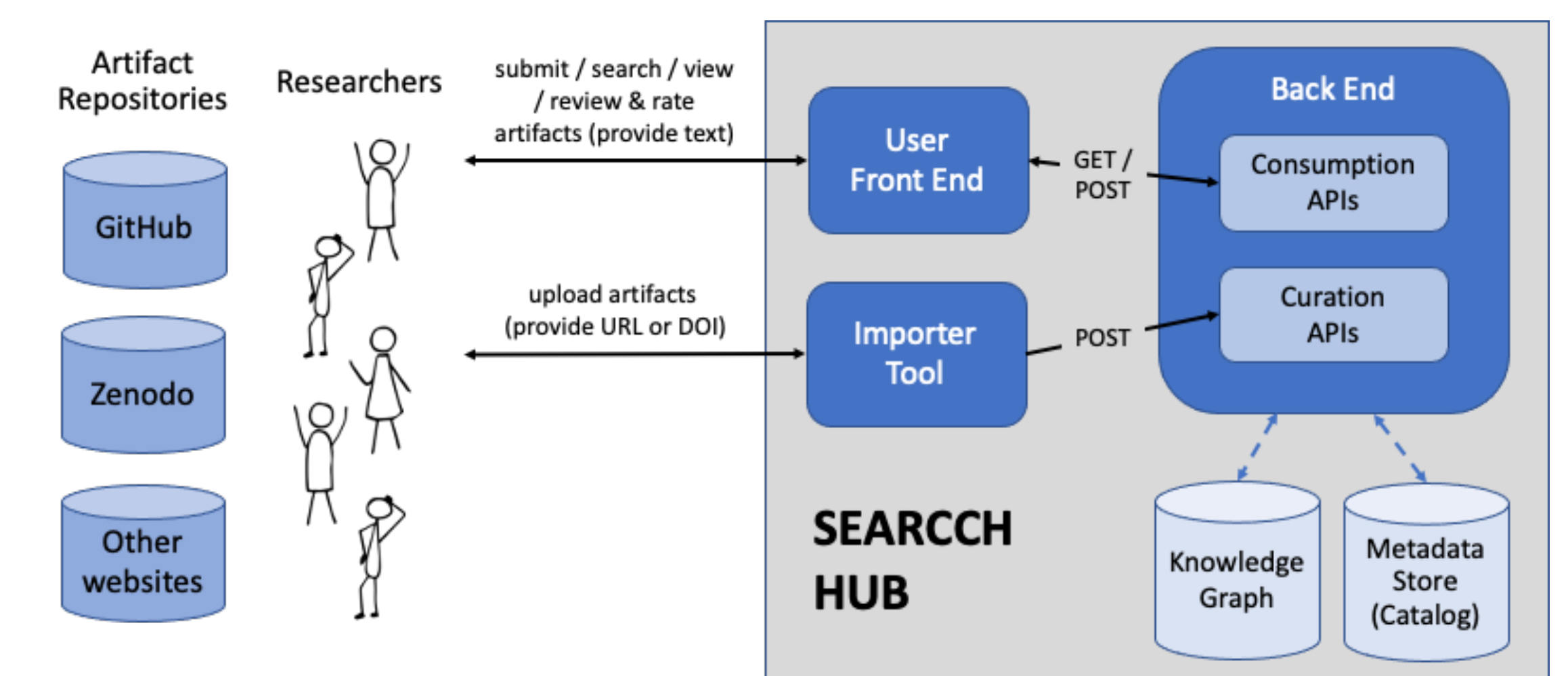
IMPORTER TOOL

- Python application partially **automates task of creating metadata** that describes an artifact
- Allows manual editing of metadata prior to export
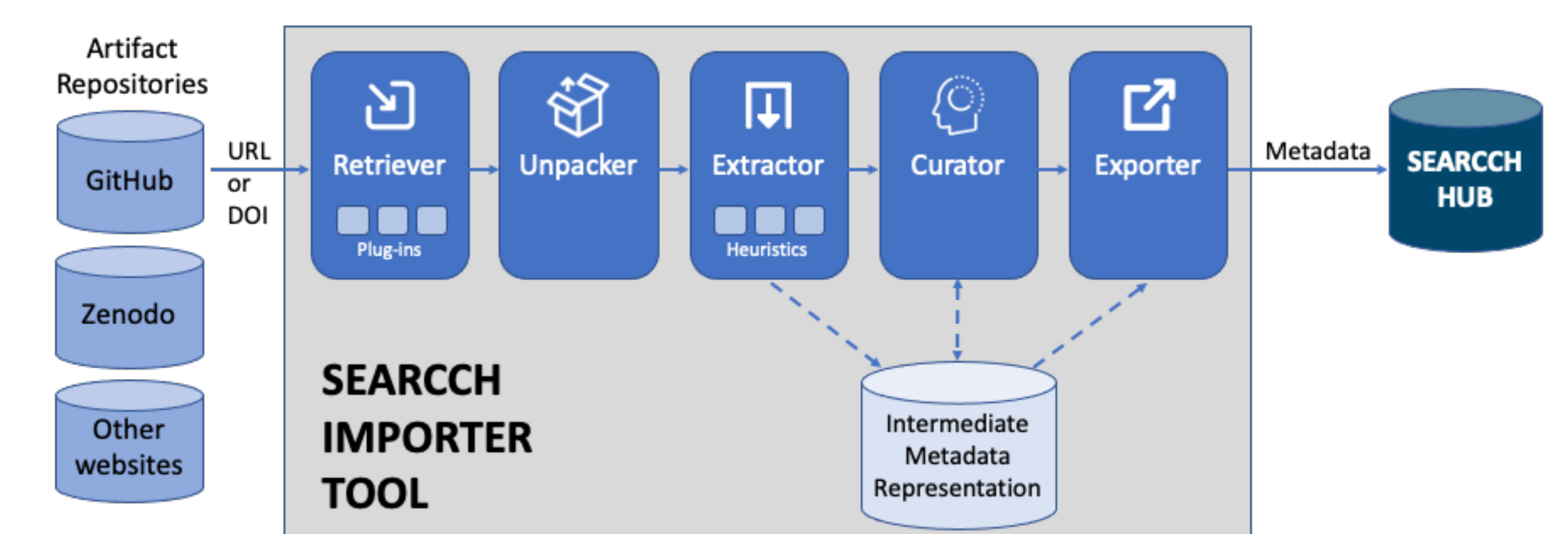
HUB FEATURES & CAPABILITIES

- Submit artifact
- Search artifacts
- View artifacts
- Rate & review artifacts
- Favorite artifacts
- Manage Account
- Best Practices
- FAQ