CWE HW REST API Proposal

Accellera IPSA Working Group

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Current Automated Method
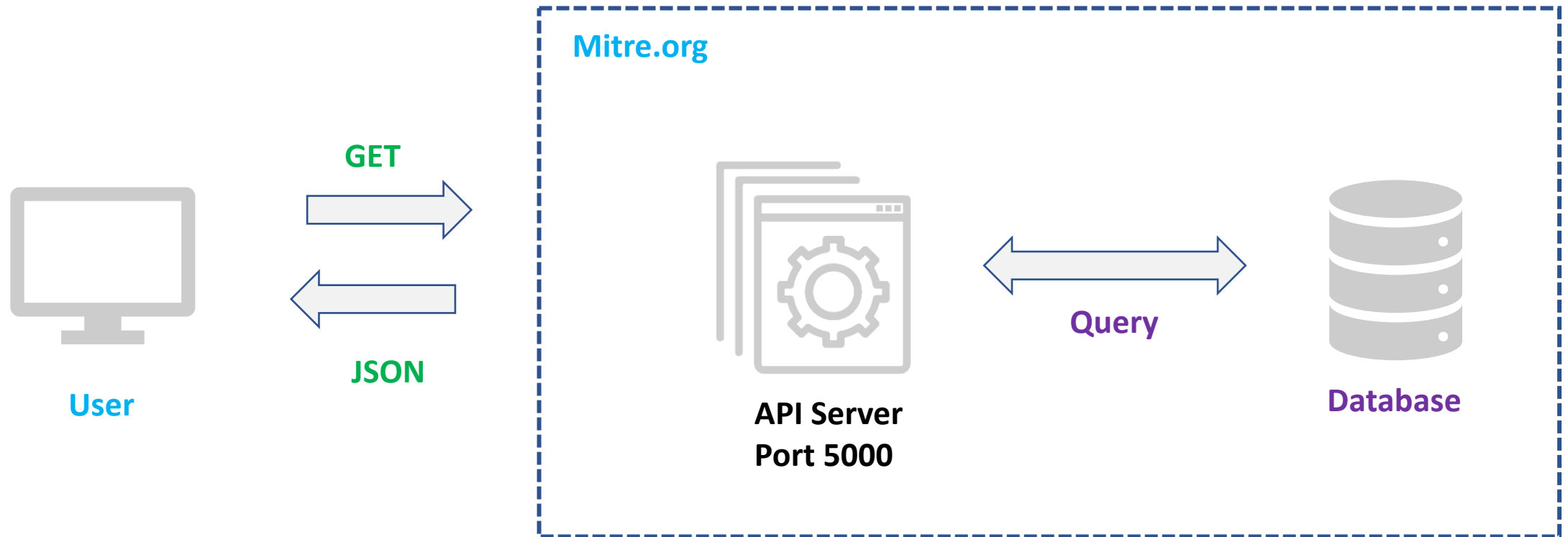

Mitre.org

HW CWE Subset

Local Server

API Server Port 5002

Query

Database

GET

JSON

User

https://localhost:5002/api/v1/cwe/hw?CWE-ID=1245
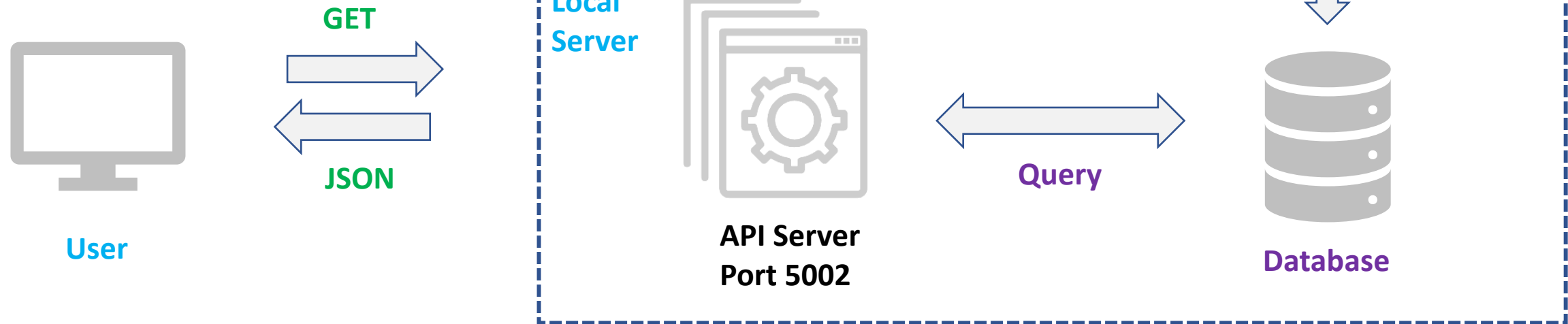
Domain name   Path   End point   Query

CWE HW REST API (Draft Proposal Only)

GET

JSON

User

Mitre.org

**API Server
Port 5000**

Query

Database

https://cwe.mitre.org:5000/api/v1/cwe/hw?CWE-ID=1245

Domain name   Path   **End point**   **Query**

CWE HW REST API Discussion

o **REST Infrastructure**
  - CWE HW REST source to be MITRE instead of users
    - Single, common and trusted source of retrieving data
    - EDA Vendors will use the input to create security objectives from the database of weaknesses (using SA-EDI)
  - Support a REST server on same host but different port (e.g. current website on port 80, REST on port 5000)
  - Demo was made using Python and Flask on port 5001
  - Assume secure, scalable, tested and maintained

o **API definitions from community**
  - Support CWE HW data access from mitre.org for tool workflow automation
  - Requesting a GET only (no updates, creates or deletes)
  - Include version in the path (e.g. v1) for easy upgrades to new versions
  - Includes ALL, query by fields or specific field information
  - Verify data available is clean and complete for SA-EDI compliance
    - Data is currently a subset – verify short term CSV sufficient
    - Discuss fields needed from full set API
  - Users should not overwhelm the system and store last local copy in case of temporary outages
  - For reference, CWE XML info: https://cwe.mitre.org/data/xml/cwec_latest.xml.zip which uses this schema https://cwe.mitre.org/data/xsd/cwe_schema_latest.xsd

Accellera SA-EDI tool REST Use Cases

- **REST Infrastructure**
    - Data queried from trusted source, mitre.org
    - Source for up-to-date and new information
    - JSON Format
    - Support EDA tool usage and accessibility of an SA-EDI compliant database

- **API definitions**

	API/Get Request	Example
1	Complete list of CWE HW entries	Full JSON list - e.g., 1194-Hardware Design, with some hierarchy
2	List of all matching categories and view	Members of the category – debugging, security flow issues (e.g., 1196)
3	List of all matching specific field(s)	
4	Record of parent CWE	CHILD_ID = 1195 and return PARENT_ID(s)
5	Meta data of all possible values for CWE field	For collection building, sorting (e.g., 8 possible technologies)
6	Return entry Version and Timestamp	Request current version
7	List of entries modified between version releases	startver=1; endver=2
8	Delta between Entry Dates	startdate=01/22/22; enddate=today