



Parts Identifier Database

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General

The parts identifier (PID) database is a small reliable database that stores and delivers the PID numbers.

D/I/L/P	001-999	001-999	0001-FFFF	-	0001-FFFF	-	AA-ZZ	001-999	-	00-99	00-99	001-999
Project	System ID	Subsystem ID	Item Type ID	Dash	Item Number	Dash	Country of Origin	Responsible Institution ID	Dash	Detector ID	Final Destination	Intermediate Destination
F	F	F	F		F		F	F		M	M	M

Every entry in the hardware DB will need a PID

PID use cases

See Jim's talk from the last meeting:

https://indico.fnal.gov/event/50462/contributions/222814/attachments/146750/187609/PID_UseCase-paul.pptx

The PID database and service

The PID database works with the Hardware database

It will provide REST APIs to generate PIDs and automatically insert them into the Hardware database

Only defined combinations of

Project+SystemID+SubsystemID+ItemTypeID

will be allowed – see next slide on defining these

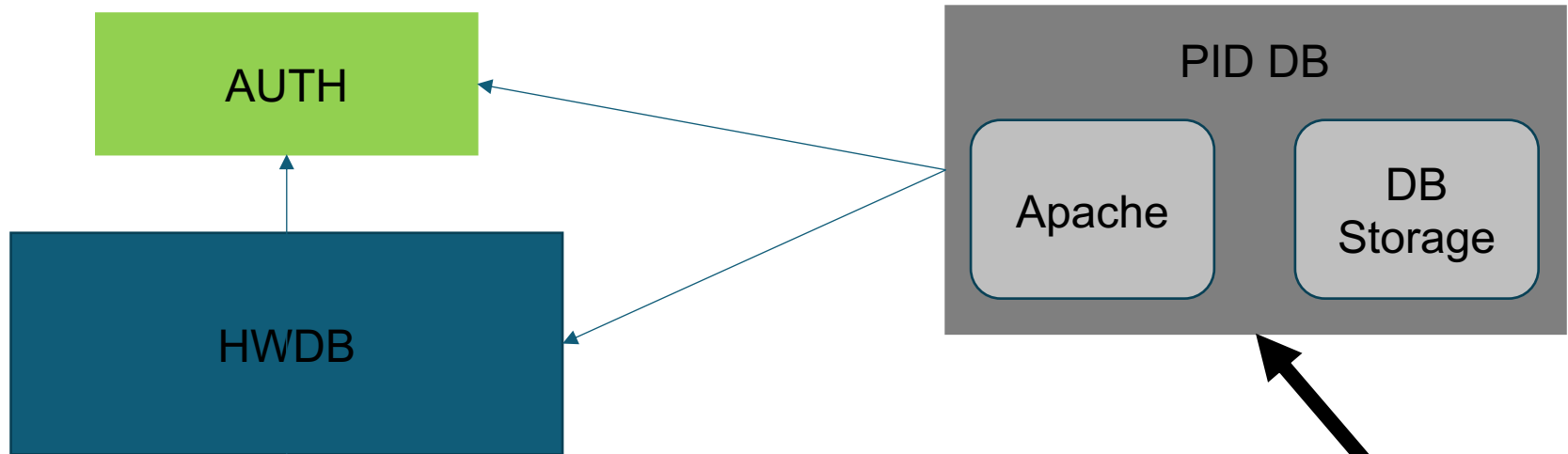
Additional functionality to get information on e.g. remaining number of ItemNumbers for that combination

Definitions needed from consortia

	A	B	C	D	E	F	G
1	Project	System Name	System ID	Subsystem Name	Subsystem ID	Item Name	Item Type ID
2							
3	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Completed APA	1	Top APA	1
4	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Completed APA	1	Bottom APA	2
5							
6	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	APA Frame	2	Head bar	1
7	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	APA Frame	2	Foot bar	2
8	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	APA Frame	2	High slot side bar	3
9	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	APA Frame	2	Low slot side bar	4
10	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	APA Frame	2	Ribs	5
11	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	APA Frame	2	Conduits top	6
12	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	APA Frame	2	Conduits bottom	7
13	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	APA Frame	2	Mesh panels	8
14							
15	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	X layer head board	1
16	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	X layer middle foot board	2
17	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	X layer foot board	3
18	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	U layer middle foot board	4
19	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	U layer high foot board	5
20	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	U layer low foot board	6
21	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	U layer middle side board, no slot	7
22	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	U layer middle side board, slot	8
23	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	U layer end side board	9
24	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	U layer middle head board	10
25	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	U layer left end head board	11
26	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	U layer right end head board	12
27	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	V layer middle and right head board	13
28	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	V layer left head board	14
29	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	V layer middle foot board	15
30	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	V layer end foot board	16
31	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	V layer middle side board, no slot	17
32	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	V layer middle side board, slot	18
33	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	V layer end side board	19
34	D	FD1-HD Anode Plan Assemblies (base wire planes)	3	Geometry Boards	3	G layer middle foot board	20

We need to collect the valid combinations that define DUNE parts, spreadsheet example from APA (not final)

Hardware DB + PID DB



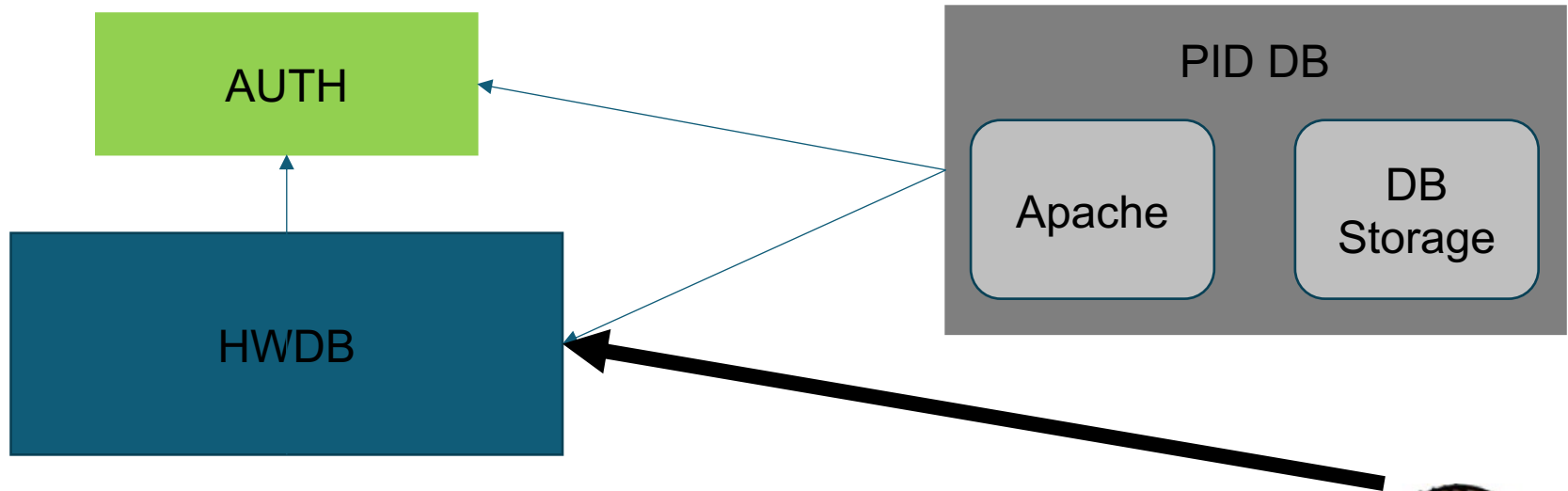
Initial injection of PIDs

Generate a PID (or several) for your ItemTypeID

These will automatically be inserted into the HWDB to make them available



Hardware DB + PID DB

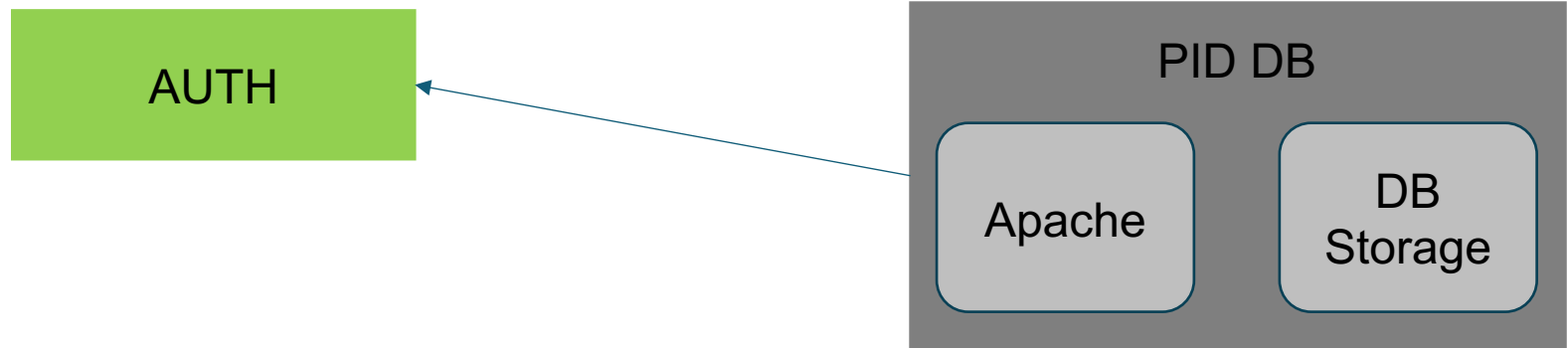


Subsequent update of parts

Interact with the HWDB to insert e.g.
QA/QC data



Hardware DB + PID DB



Scanning PIDs

Ask the PID DB

Assume we still want authentication



PID DB Functions

GenerateID (Project, SystemID, SubsystemID, ItemTypeID)

GenerateIDBulk (...)

ListIDs (...)

GetLastItemID (...)

GetNumRemainingIDs (...)

UpdateID (PID, <info>)

ScanID (QR or Barcode)