HWDB

1. Component Types need to be created by Architects

2. Liaisons from each consortia

3. The 2nd DUNE HWDB tutorials & training site

Architects

- Could Hajime, Norm, Ana Paula, and Vladimir be Architects?
- Should make the all liaisons from consortia Architects as well.

The liaisons

- The list is updated recently (thanks to Steve Kettell) -

- **FD1 APA : Brian Rebel - searching for a replacement**
- **FD1 Photon Detector System : Mike Eads (Norm Buchanan)**
- **FD1 TPC Electronics : Martin Tzanov**
- **FD2 BDE : Martin Tzanov**
- **FD2 CRP : Jean-Francois Muraz**
- **FD2 TDE : Slavic Galymov**
- **FD2 PDS : Gustavo do Amaral Valdiviesso (for HD)**
  might have a different person for VD. Will reply by June 21st.
- **FD DAQ : Roland Sipos**
- **FD1 HV : Steve Magill**
- **FD2 HV : Steve Magill**
- **Calibration Hardware : Nuno Barros**
- **Installation : James Stewart**
- **DUNE QA Specialist, James Mateyack**

The DUNE HWDB Training Site

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Just realized that we should add one more section for the Architects, "how to create Component Types"…

- Mostly done (mostly by our student, Urbas Ekka!)
- Plan to share with Jim, Norm, Ana Paula, Steve, and Vladimir tomorrow for reviews for ~a week.
- If everything looks good, we'll take a doodle-poll to find the best time for the liaisons to attend the two-day tutorials.

- Two-day tutorials:
  Likely somewhere towards the end of this month or the beginning of July.

- Tutorial slides will be generated based on this training site.

PID section

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PID

The Parts Identifier (**PID**) is a 32-characters alphanumeric string that is used to uniquely identify all the LBNF and DUNE components that are used during the construction of the LBNF facility (including both the far site at the Sanford Underground Research Facility – SURF and the near site at Fermilab) and of all the corresponding detectors. The parts identifie forms a unique identifier for that part in the hardware database. Each part which has important information associated with it must have a parts identifier assigned so the data can be archived in the hardware database. The parts identifier is used for all equipment bar codes, QR codes, tags and other systems of identification. The PID is composed of 10 fields, of which 7 are required. More information about PIDs can be found under LBNF/DUNE Parts Identifier: EDMS 2505353.

Link to the PID doc in the EDMS

Project Identifier (required)

The project identifier is a single character in the range A-Z representing the major divisions in the DUNE/LBNF enterprise. The designations are as follows:

- **D**: DUNE (includes approved far detector modules and near detectors)
- **I**: Integration (includes cryostats, cryogenic plants, system engineering, installation …..)
- **L**: LBNF (includes Conventional facilities, cavern services, …..)
- **P**: Future project.

System Identifier (required)

The system identifier is a three-digit (001-999) number representing the major subdivisions in responsibility for LBNF/DUNE. In general, each detector consortium is assigned a separate system identifier and the consortium is then assigned the responsibility of defining the sub-systems and components under their authority.

▶ **Click to expand table**

Subsystem Identifier (required)

The subsystem ID is a three-digit number (001-999) defined by the consortium or responsible group. Its purpose is to allow the consortia to separate the major components under their responsibility into subsystems.

PID section

A long list is displayed in a pop-up window

This lesson is in the early stages of development (Alpha version)

Institution	Country	Country Code	Responsible Institution ID
Fermi National Accelerator Laboratory	USA	US	001
CERN	Switzerland	CH	002
Yerevan Institute for Theoretical Physics and Modeling	Armenia	AM	003
Centro Brasileiro de Pesquisas Físicas	Brazil	BR	004
Centro de Tecnologia da Informacao Renato Archer	Brazil	BR	005
Fluminense Federal University	Brazil	BR	006
Universidade Estadual de Campinas	Brazil	BR	007
Universidade Estadual de Feira de Santana	Brazil	BR	008
Universidade Federal de Alfenas	Brazil	BR	009
Universidade Federal de Goias	Brazil	BR	010
Universidade Federal de São Carlos	Brazil	BR	011
Universidade Federal de São Paulo	Brazil	BR	012
Universidade Federal do ABC	Brazil	BR	013
Universidade Federal do Rio de Janeiro	Brazil	BR	014
Universidade Tecnológica Federal do Paraná	Brazil	BR	015
University of Toronto	Canada	CA	016
York University	Canada	CA	017

Show Table

Key Points

REST API section

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POST item

Jump to GET counterpart

When you post an item, the database generates a unique DUNE PID and assigns it to the item. Posting an item calls on the `/component-types/<type_id>/components` API endpoint. For the following example we will post an item with Component Type ID `Z00100400005`. You can execute the command using the following line:

Bash

```
CURL -H "Content-Type: application/json" -X POST -d @Add_AnItem_Test_Parts_1.json 'APIPATH/component-types/Z00100400005/components'
```

And entering the following JSON.

Code

```
{
    "component_type": {
        "part_type_id": "Z00100400005"
    },
    "country_code": "US",
    "comments": "Testing...",
    "institution": {
        "id": 186
    },
    "manufacturer": {
        "id": 7
    },
    "specifications": {
        "Last name" : "Muramatsu",
        "First name" : "Hajime"
    }
}
```

When posting an item, the following fields are **required**:

- part_type_id
- country_code
- institution
- specifications

When excecuted, you should receive a response similar to the following:

Output

```
{
  "component_id": 153639,
  "data": "Created",
  "part_id": "Z00100400005-00014",
  "status": "OK"
}
```

Which displays the assigned PID, `Z00100400005-00014`.

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Python API usage section

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Example 1.1: A very simple example

The simplest way to upload hardware items to the HWDB is to create a spreadsheet where the top several rows form a "header" that indicates, at minimum, that the "Record Type" being uploaded is "Item," and either the "Part Type ID" or the "Part Type Name." (Both may be given, but they must indicate the exact same component type. There must be an empty row between the header and the section containing the actual data.

	A	B	C
1	Record Type	Item	
2	Part Type ID	Z00100300012	
3	Part Type Name	Z.Sandbox.HWDBUnitTest.doodad	
4			
5	Serial Number	Institution	Manufacturer
6	SN000001	(186) University of Minnesota Twin Cities	(50) Acme Corporation
7	SN000002	(186) University of Minnesota Twin Cities	(50) Acme Corporation
8	SN000003	(186) University of Minnesota Twin Cities	(50) Acme Corporation
9	SN000004	(186) University of Minnesota Twin Cities	(50) Acme Corporation
10	SN000005	(186) University of Minnesota Twin Cities	(50) Acme Corporation

Items.xlsx

Example sheets are provided, that you can directly use as they are!

To test uploading this spreadsheet, enter:

Bash

```
hwdb-upload Items.xlsx --submit
```

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Status summary

- Both versions of the HWDB are running fine.
- The liaison list is mostly updated (need to clarify for the PDS..)
- The HWDB training site is close to its v1.0.
  Will start to share tomorrow for its reviews for ~a week.
- Shooting for holding the 2nd HWDB tutorials around the end of this month.