Fermilab U.S. DEPARTMENT OF ENERGY Office of Science

Hardware DB - PID DB

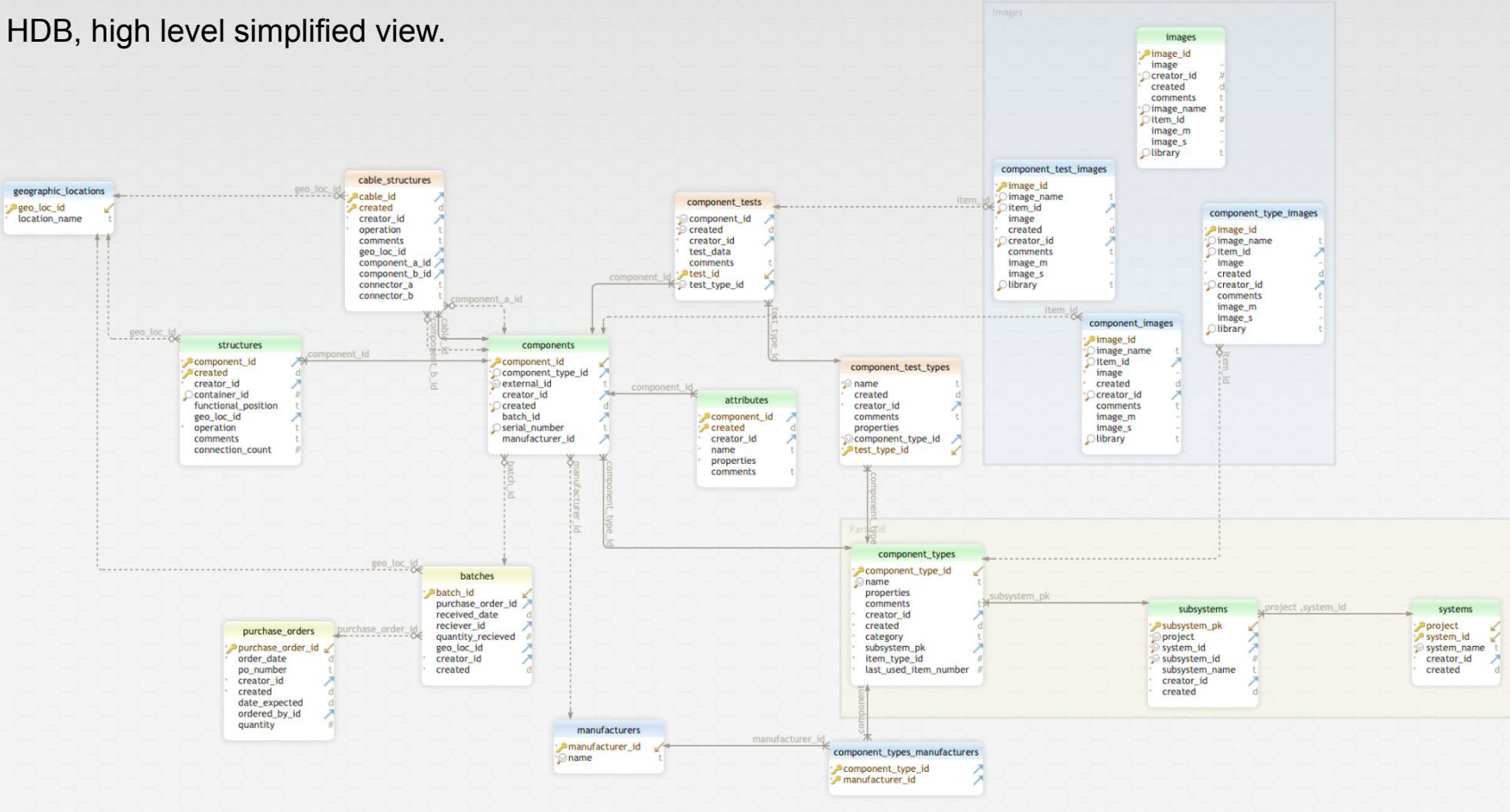
Stephen White, Vladimir Podstakov

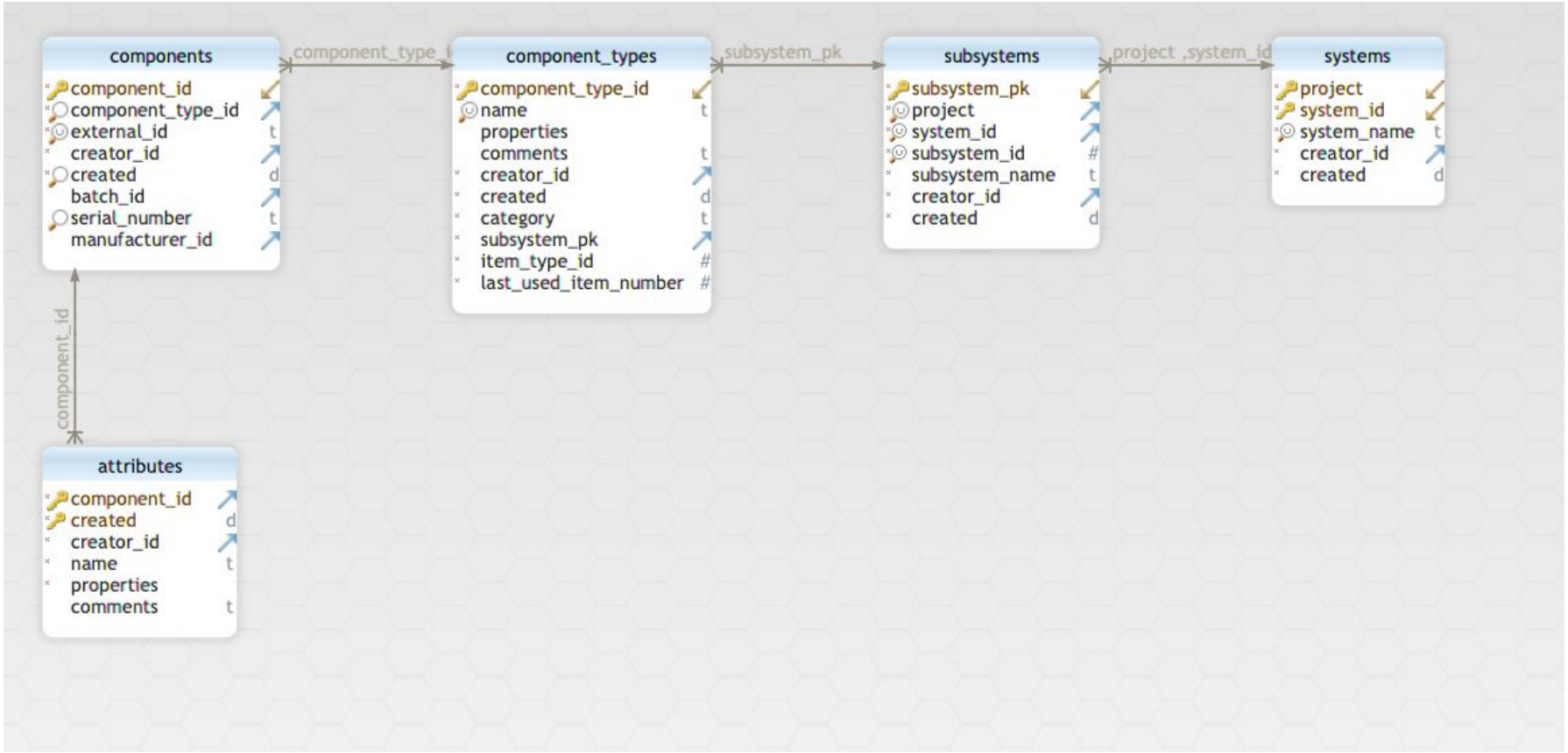
October 2021

	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						
33	D						
34	D						

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

HDB, high level simplified view.




components
component_id
component_type_id
external_id
creator_id
created
batch_id
serial_number
manufacturer_id
component_type_i
component_types
component_type_id
name
properties
comments
creator_id
created
category
subsystem_pk
item_type_id
last_used_item_number
subsystem_pk
subsystems
subsystem_pk
project
system_id
subsystem_id
subsystem_name
creator_id
created
project ,system_id
systems
project
system_id
system_name
creator_id
created
component_id
attributes
component_id
created
creator_id
name
properties
comments

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

2 New Tables, and some fields:

- Systems
  - Project, System Id, System_name
- Subsystems
  - Subsystem_pk (internal sequence number),
  - Project, System Id (to link back to Systems)
  - Subsystem_id Subsystem_name
- Component_types (Item Type)
  - Subsystem_pk
  - Item_type_id
  - Last_used_item_number
- Components
  - External_id (time to rename to part_id)
- Attributes (The mutable data)
  - Detector ID
  - Final Destination
  - Intermediate Destination

New Forms & changes:

- Systems data entry form
- Subsystems data entry form
- Component_types - should display system/subsystem it is part of?

- Form to request 1-N Labels
  - We expect HDB to return 2 files
    - 1 with bar coded labels
    - 1 with QR coded labels

Workflow

How will the Data Entry of Components into HDB be done?

- Under the current system it is done manually by the users
  - Part IDs are complex, human errors will occur when Part IDs are entered.

- HDB creates a component for every label generated.
  - Part IDs (the unique part) will always be entered correctly and the field will become non-editable by users.
  - * There will be empty records as users request more labels then they use.