**The Need is Known …**

Glenn,

Having now had similar discussions at both Electrical and Mechanical Integration meeting, it is clear we have broad consensus amongst the technical leads that a components database would be very beneficial and that if we want all the technical groups to use a common system, we should get this going now. The need is very much technically-driven not project management driven. People have come up with a broad range of possible uses down the road (well beyond what IRMIS does now), and ranging from a portal to 'all' information about component types to use as an electronic traveler system for all the new equipment for all the new equipment coming for the MBA. Initially though, we want to start with something simple. At Tom's suggestion, we have asked Ned to lead a small working group to come up with an initial scope. Proposed WG members are Stillwell, Lill, Fornek, Grossman, Carwardine.

John (Carwardine)

**Where do we start?**

- **Get Input From …**
  - APS Upgrade Technical Systems
    - *Ben's Use Case*
    - *Input from Diagnostics*
    - *Input from Controls*
    - *What is needed now, what is needed later*
  - Experience with existing systems
    - *IRMIS (Controls)*
    - *Equipment Tracking System (Power Supplies)*
  - Experience in the accelerator community
    - *IRMIS 3 (NSLS-II)*
    - *DISCS (Distributed Services for Control Systems) (Collaboration led by FRIB)*
    - *CLS*

**Ben's Use Case**

- **Capture Important Characteristics of Components and Component Types**
- **Grouping of Components for Different Scenarios**
  - Component Instance vs. Component Types

**What do we want from it … initially?**

- **Component Types – Generic types of components found on an accelerator**
  - Define component types.
    - *Name (unique)*
    - *Description*
    - *Category (used to group similar types)*
- **Components – Specific designs of particular component-types**
    - *Description*
    - *Associate to a Component-type*
    - *Vendor(s)*
    - *Part #*
    - *WBS Number(s) (where used) (make it a 'property')*
    - *Documentation Links (specs, drawing packages, vendor manuals, quotes, etc)*
    - *Est. Cost*
    - *Allow arbitrary fields (metadata) to be added to components (things unique to that component type)*
  - Allow for virtual component types (i.e. a black box)
  - Clone new component definition from an existing component definition (for component types that are almost the same)
- **Grouping Components**
  - Group components into "collections" (like a parts list)
  - Group collections with other collections and additional component types
    - BPM System Type 1
      - BPM Assembly
      - Cables
      - Libera Instrumentation
    - *BPM System Type 2*
      - BPM Assembly
      - Cables
      - BSP100
  - For uniform installations, define for one sector (or double sector), check a box for "x40" or "x20"
  - Define "virtual cables" between assemblies
- **General**
  - View database without logging in

- Require login for editing
- Constrain modifications to original author or admin

- **Use Cases**
  - Build a complete list of components required to be installed.
  - Support cost estimates.
  - Each component and component type has a direct link to documentation.
  - How many of these would be required for the MBA?
  - For each WBS, how many component/component types have been identified?

**What do we want from it … later?**

- Capture Machine Design Components
  - Create list of components types and assemblies required for installation
  - These components have Component Names (which must follow the naming convention)
  - These components have Locations (Building, Room, Rack/Enclosure)
- Capture all Component Instances
  - Instances are real components of a particular type
  - Instances of unique IDs (serial numbers)
  - Allow tracking of component instances from purchase to installation
- Identify cables to be pulled
- Calculate required power
- Track production, testing, installation of component instances
- Show me all PVs associated with this BPM
- Show me all the components associated with this gate valve
  - *Compressed air*
  - *Gate valve assembly*
  - *Gate valve controller*
  - *Cables*
  - *IOC*

**What's Next**

- **Provide an excel spreadsheet template for capturing component-type definitions**
- **Provide a web-based application for**
  - Defining component types
  - Defining assemblies

- Defining MBA instances
-