

HBC Owners & Industry Partners Discussion

Oakland, CA

February 2, 2011

Healthcare Owners Present: DoD-MHS (included PPMD and USAHFPA), Kaiser Permanente, Veterans Affairs, Sutter Health, Mayo Clinic

Comments are listed in the order of presentations & discussion:

Presentations:

Don Orndoff, SVP Kaiser Permanente

- Kaiser needs to find ways to be Faster, Better, Cheaper
- Major Initiative: *Kaiser 2015*, to improve construction & facilities
- Need to take a whole new approach in KP:
 - Instead of being localized, everyone needs to have an enterprise view of business, use common business practices to act as a national system instead of a collection of parts
 - Where is the value: One example of value is BIM, need to take the power of BIM to use for FM
 - Need to think Total Building Lifecycle Management
 - KP is committed to fully engage BIM; developed performance plan for 2011 that includes using BIM for lifecycle-FM
 - Kaiser will go first if needs be – ready to launch

Russell Manning – DoD-Military Health System (MHS), Portfolio Planning and Management Division

- Owners have the same problems with building information interoperability
- Trying to employ Total Building Lifecycle Management
- Owners and vendors need to work as a team
- Results from the survey from last meeting: interoperability was a high interest topic

- Owners still have problems with getting information to BIM from programming and from BIM to FM
- Data flow is an iterative process
- Next meeting will be in June 2011

Renee Tietjen - VA

- OmniClass mapping for Healthcare spaces has been completed for VA and for most of DoD-MHS Healthcare spaces
- New version of OmniClass Healthcare codes will be in SEPS

Questions:

- How can our Industry Partners (IP) distinguish between versions of CSI Tables, and software releases that owners are using to carry the data? The IPs need to know this type of information to be able to map or use our data. Owners will need get together and work with CSI to resolve
- Standards: problems with versions. There are several versions of the tables.
- Need to have a place to download a version that is live instead of static, like airline reservation data. Need to get away from a file based standards, have a live database. [Question: How will this affect contracts & deliverables?]
- buildingSMART provides database driven standards
- Will these group standards be coordinated with buildingSMART?
- buildingSMART will accept CSI standards for NBIMS
- DOD-MHS and KP are coordinating on Room Guide Plates for BIM
- Need to pick a format for delivery which is consistent. A PDF file will create problems when trying to transfer data from it-PDFs don't transfer data well. Need to explain the format such as (Excel--Version, date), provide a consistent location for the information.

- What should owners do? Provide all spreadsheet information in a file format which is consistently the same.
 - Web services provide the best flexibility to provide data.
- Should be able to go into SEPS, or whatever database so that information can be accessible
- Clear communications about: how to get data, who has approved it, application version, where the data is, how is it organized.
- There are rooms (spaces) and stuff (products) in rooms, so naming consistency becomes very important for rooms. This is easy to solve. The products become more difficult because there is so much more information. Can just point to the object for the information about the object.
- There is a lot of brainpower in this room, can we talk about how we can work iteratively?

Abeer Haddad, KP – Russ Manning, DoD-MHS

- DoD, KP, and (VA) have mapped the medical equipment.
- Will map information to ECRI and OmniClass Table 23 for June meeting.
- Question to IP: Are the owners providing the right information in the right format?

IP Questions to Owners:

- Can you give us specificity? What do you mean by numeric? What do you mean by integer? Do we mean “floating point number?” Which SQL (or other) version? Owners have to pick a standard; use standard nomenclature across all uses of that information. **This is not an IT problem, but a programming problem.**
- **It’s terribly important to call the same things only one thing.**

- Abeer/Russ' work needs to be defined in the units of measure first and then attributes – need someone with the software/programming point-of-view to help after the business process is done
- There are many groups that are working on standards – many are starting to come together
- The CMMS is the system for which this data exchange is for: CMMS is looking at how to scrub this data to see what is needed.
- **ACTION ITEM: Need to post the excel spreadsheet for the crosswalk to get feedback on the formatting and information so the owners can move forward.**
- Explain what the requirements are for the data (why is this a #1 instead of a #2) so the software developers understand the requirements. Provide examples in the definition to the interoperability levels: “This data field needs to be changeable because we are changing the AHU on a regular basis.”
- The crosswalk: some of these items cannot be only bi-directional because it might be dependent on what point in the process the activity is in. “Editable” has also the same issue.
- Why do we need it to be uni-directional vs bi-directional? Need to explain how we are using the data and how we want to use the data.
- **Owners should** focus on providing a performance specification rather than a proscriptive specification
- We are starting to see many industries putting their criteria on the WBDG.

Digby Christian – Sutter Health: Interoperability in Design & Construction

- Required to cut project duration by 30%
- Absolute cap on funding
- Scope is highly complex
- Overruns funded from Team's profits
- No program compromises allowed

- Almost all no typical repeatable spaces in the building – all acute care
- Very little admin, office, or conferencing space
- Sutter is completing the project a few million dollars under budget and under schedule
- WHAT drives success?
 - Focus on risk – define uncertainty
 - Clear owner’s goals – certainty of scope
 - Having contractual alignment between project goals and contracts
 - Optimizing decision sequence
 - Budget certainty – used as much automated estimating as possible – created a visual graphic output for reporting
 - Ensure design is really finished (shop drawings should be a part of design)
 - Schedule certainty
 - **Designing for fabrication:** to minimize risk - get a big team, early & deep engagement. Visual control of conflict; real-time access to all project documentation; include information regarding reporting about budget; designers approved fabricators 3D model for steel; brought in Otis and found out that their elevators wouldn’t fit- had to redesign; brought in CE Toland for the stairs and found out that the stairwells were too small;
 - Modeled the rebar, the non-typical studs,
 - Modeled the space reservations for hangers, and where the hangers were. Used a Trimble system to locate the hangers.
 - Were able to do a lot of complex welding in the warehouse
 - Brought in the real stairs in early
 - The ductwork needed to be built **exactly** to the model
 - Did they actually build the model? They scanned and then back checked against the model to make sure. Reality and model are the same

- The challenges?
 - How do you handle duplicate design & fabrication models within disciplines –complex referencing across disciplines
 - Software version synchronization across companies
 - Lack of backwards compatibility of the software versions
 - Limited automated updating and identification of changes
 - Limited automated checking for code, licensing regulatory compliance – not a lot of automated checking, used people to review and kept missing things.
 - There was not a handoff between the design model to a fabrication model; there was one model (CAD-DUCT was used). BIM didn't increase the overall cost of the project. Did cost a bit more in design and a bit less in construction.
- Traditional design
 - Rework, iteration
 - Pass incomplete information downstream
 - Rework at the start of each phase
 - Risk is shifted downstream
- Need to change business work processes
 - Mechanical systems: the designer and the fabricator worked together to do the work, so that what was designed could be actually fabricated
 - Paid a bit more to do this kind of modeling but Sutter had absolute budget certainty. Design is faster, which saves money in escalation.
- Questions Sutter has: How are the owners going to be able to consume the model info later, as the software versions will have changed over the delivery of the project. Need open standards so this won't be a problem.
- The Construction Administration time is shifting to the front; but at the end the Construction Administration time will be almost nil. The owner will see a bottom line that is more predictable.

- Future RFPs will not specify software, but will specify to design for fabrication, whole building commissioning from the beginning
- Sutter comments:
 - Don't know how or if the model will be used by FM
 - Sutter has seen that BIM is a standard minimum now in contracts
 - Sutter interviewed and put together a team, selecting the best trades from the offerors
 - The second time around things will get much better than the first

Questions:

- Are the owners going to be using GIS?
 - VA has a mandate to move to GIS in the future
 - DoD-MHS will also be moving in this direction
 - KP has not given it too much thought
 - All this data can be transferred from design to ESRI or Maximo right now
 - Must use to track buildings across the country. This is possible right now by defining the local coordinate system and tying it to the GIS coordinate system.
 - Need to have the mechanical designer/builder provide a 3D model (one platform) for use. **Google: go to You Tube: Revit MEP API**
- Owner example of problems: Large MEP contractor uses three platforms for one effort: 2D for design, transferring that design to modeling in BIM, and then remodeling it again in fabrication software. Owners don't want to be paying for doing things three times.
 - Owners need to look at the general conditions in a contract, and include training in the requirements so people can be brought on board early so that everyone is on board with BIM and its implementation.
 - The software only solves niche problems today, not the owners problems.

- Owners can start tweaking our contracts to put in requirements that will help provide software vendors with a market.
- The detailers union is concerned that they will be out of a job with BIM. Owners need to put into the contracts the BIM requirements so that the mechanical companies are required to do it. If this is an owner's requirement, not the detailer company's requirement, then the union will adapt to it rather than protest against the change.
- GSA asked contractors what information the AE's are providing that isn't required for a contractor. There is about 20% additional work that isn't required.
- The AE's need to have the lead designers, and then let the fabricator work for the designer to figure out how to detail the work.

CMMS/CAFM & MEDICAL AND FURNITURE EQUIPMENT Systems

- How do owners get information from BIM to these systems
- The translation system will be COBie with the Healthcare Extension. HBC will provide a report at the next meeting in June 2011
- KP is committed to leverage BIM into FM.
- Will this be for new or also existing facilities? DOD-MHS: start with new and add existing. KP: start with new as well. VA: start with new, move to existing
- DoD-MHS has some draft contract language for two exports: medical equipment and building equipment exports.
- **COBie II by default is XML.** Ask for a COBie schema, and then define what form owners want it in. COBie II submittals need to pass the COBie checker.
- Owners need to require in the BIM Execution Plan what the COBie output file will export. Owners need to specify what content is required in the contract to be provided in the COBie format. The BIM

Execution Plan also needs to define who does what. **Content, format, and who is responsible for what.**

- Advice: Owners should define COBie content within the standard format as far as possible, and only add columns if absolutely necessary.
- GSA started by asking what FM needs.
- When and where is COBie injected into the workflow? Why not collect this data during design and construction? This data would be a natural byproduct of the workflow.
- Owners should provide the PFD in a COBie format(??)
- Contracts need to say that the COBie information needs to be extracted from the BIM(s) and other data systems as appropriate
- Owners have to show people what is required and force the change through contracting requirements.
- Need to put into the contracts that Owners have a BIM based Commissioning strategy.
- Not all the FM information will be coming from the BIM, a lot of other information will be coming from other places
- How shall enforcement be done? Need to have penalties if the information isn't provided.
- Need Metadata to come with the COBie file; Navy has a good documentation for this.
- The information that we need in COBie is already required in our contracts for deliverables; COBie is just a different format. Sometimes people think this causes problems because it provides an audit trail.
- The industry is shifting from “drawings and specs” to data management. How are we going to check to see if the data is valid? The owners need to figure this out.
- Once the BIM becomes available, there has to be a decision about what is the one source of truth---is it in the CMMS or BIM? CMMS

should be the source of truth for data and the BIM should be the source of truth for space, location, etc.

- Owners need to decide how to invest and keep the information valid; how to support keeping the models up to date. How will we manage this?
- KP has 8 regions; KP regions now will be measured using the same benchmark.
- The vendors need to have projects to bid on. The owners need to provide projects.
- Perhaps the owners can do some case studies/pilots.
- Need to implement today, and refine over time, instead of waiting until things are perfect.
- Can we bite off some things to do today?

Next Steps

- We do not need a separate meeting on FLCM data point mapping details.
- Naming conventions are important (lock in OmniClass soon)
- **Have people in this group help owners develop contract language.**
- If the owners have small projects that can be used for pilots, that would be helpful.
- CodeBook has normalized all the DoD-MHS BIM data that was put on the web
- TMA Systems is willing to do a COBie challenge to pass the data from BIM to TMA Systems (Note: This is not Tricare Management Activity, but the company TMA Systems.)
- Consolidation
 - Medical Equipment & Furniture/Medical Equipment Management
 - Add: Commissioning processes and how BIM can be used for building commissioning & BIM data commissioning
 - Use for sustainability – saving energy
 - We wanted a group where we can have a dialogue, can't let this group get too large or that won't happen
 - Need to have some interoperability In the design & construction issues
 - 1/3 of the cost of the medical center is in the mechanical systems

- A web forum might be a good way to communicate between the Owners and the IPs
- How can the data loop get going to feedback to the whole process – how to compare design to PFD
- How does an owner to do cost modeling during planning?

What is the Value to meeting with the HBC

- Change Mission Statement from “vendor” to “Industry Partner”
- Participate and react to tangible results: contract language, OmniClass, Standards, pilot projects. How can we owners help our industry partners market their solutions?
- Have the survey propose ideas about how to collaborate and communicate
- Provide information on pilot projects
- Provide feedback on individual industry partner presentations??
- Next meeting will be June 28-30 in Washington, DC.
- Provide feedback as to how the meetings should be formatted.