



BEDES Strategic Working Group
Second Meeting—February 24, 2014 (9:00-3:30)
Building 90, Room 1144, LBNL (Berkeley, California)

Convener: Rick Diamond, LBNL
Facilitator: Dr. Jonathan Raab, Raab Associates, Ltd.
(See Attendees in Attachment 1)

9:00 Welcome, Introductions, and Review of Today’s Goals/Agenda –Rick Diamond and Jonathan Raab

Rick Diamond welcomed SWG members, explained his role, and commented that “BEDES is not to change the world, it is to facilitate people to change the world. Jonathan Raab reviewed the agenda and today’s goals

9:10 BEDES Philosophy, Scope, and Boundaries – Rick Diamond

Rick Diamond presented some preliminary thoughts about BEDES and what terms seem more or less appropriate for describing BEDES. The SWG Members then discussed alternatives to the BEDES acronym and naming.

- The five principles of BEDES philosophy (according to Rick):
 - Be useful
 - Be inclusive
 - Be unambiguous
 - Don’t preclude future functionality
 - Support future functionality where possible
- Terms that **do not** describe BEDES
 - Specification, Schema, Database
- Possibly in the future

- Exchange Protocol
- Technical standard- Possibly in the future
- What other terms could be used to describe BEDES?
 - Dictionary, glossary, nomenclature, lexicon, taxonomy, terminology
- SWG Discussion on Alternative name for BEDES
 - Think about making BEDES a “Standard” in the future or make it implicit that we are trying to “standardize”, but perhaps forgo a formal “Standard”
 - People are often confused by how to pronounce “BEDES” consider adjusting acronym to make it more apparent how to pronounce, e.g. BEEDS
 - The name will not be able to convey everything, the accompanying descriptive labeling is also important to convey what BEDES is intended to do
 - What are the main things that we want to communicate about BEDES?
 - BEDES is a common file format
 - Looking at something that is facilitating action, implementable, adoptable.
 - Or does the implementation piece come with the schema?
 - Theme of conversation: communication, exchange, sharing
 - BEDES is a data dictionary but does not state how to collect the data.
 - “BEDES/BEEDS—More than just a data dictionary, but not a standard yet”
 - Candidate alternative names and labels
 - BEEDS--Building Energy Exchange Data Standardization—a building energy data dictionary including field names, data types, units, and sources
 - BEDES--Building Energy Data Exchange Standardization—a building energy data dictionary including field names, data types, units, and sources
 - BEEDS--Building Energy Efficiency Data Exchange Standardization—a building energy data dictionary including field names, data types, units, and sources
 - Final Comments on alternative names/acronyms:
 - Change “field names” to “terms” since this is more like a dictionary than software
 - Ultimately BEDES doesn’t need to be an acronym but could just create a label instead (e.g., Building Speak, Building Language, Building Talk) along with a description

11:00 BEDES On-Going Management Plan: Hosting, Revising, Operation & Maintenance

This agenda item consisted of an exercise in which the SWG Members first discussed the Tasks: Types of Organizations that could Host BEDES; and the Criteria for Evaluating Hosting Options. LBNL presented starting lists for all 3 categories, and SWG Members suggested additions and refinements to these lists. The SWG then met in small groups to fill out a matrix ranking various types of organizations against the criteria as high, medium, and low. The facilitator/LBNL team then compiled the matrices from the 3 groups into one matrix, which was the basis of conversation following lunch. [The hand-out with the additions to the 3 lists, and the compiled matrix can be found as attachment 2 to this meeting summary.]

During the ensuing discussion, the SWG Members expressed preference for two different options for Hosting BEDES

- 1) **Open Source**-- based around an open source approach to updating and maintaining BEDES, likely with some nonprofit behind it
- 2) **Hybrid**--Non-profit hybrid based around national labs, DOE, and likely new nonprofit

While many SWG members had preference for one option over the other, all agreed that LBNL should flesh out both options for further reflection and discussion by the SWG.

1:30 **BEDES as Potential Formal Technical Standard**

Max Sherman from LBNL discussed his experience with ANSI and ASHRAE standard setting and responded to questions from the SWG Members. The SWG then did an exercise to delineate the pros and cons of turning BEDES into an ANSI Standard.

- Key points in Max Sherman's presentation, and his response to SWG questions:
 - What do we mean by standard? Anyone can write a standard. But what we are usually talking about is voluntary, nongovernmental standards that people write for other people to use.
 - There is only one body in the US that can write American national standards (ANSI). They authorize other SDOs to write standards. There are ~300 certified groups that write standards with ~20 large ones, e.g., ASHRAE.
 - When you are talking about definitions, you can do it in the standard format.
 - Standards take a long time to get consensus, which ANSI does not define as unanimity, just a substantial majority. The National Fenestration Rating Council (NFRC) in contrast requires unanimity
 - Standard developer has to go through a specific process to get ANSI recognition
 - ANSI requires that you review a standard every 5 years and if you don't review, they revoke it in 10 years. You have to find some standards organization to review it.
 - ANSI does not keep you from changing the standard more often than every 5 years
 - ANSI requires that it can't be an unreasonable financial burden to participate in standard making or to get a standard

- ASTM and ASHRAE charge money for using standards.
- There are 2 processes to update a standard: update the whole standard (~6 months). Also, continuous maintenance, make continuous changes and only vote on the changes. Takes more work from committee maintaining it
- BPI as an alternative standard route option
 - RESNET and BPI only needs their board to call it a standard. Has a loose set of rules
- BEDES does not have to be a standard, unless someone wants to enforce adherence. If always in flux and dynamic, then maybe better to not be a standard
- However, being an ANSI standard offers protection from critics
- Open source doesn't dovetail with standard, hard to show that you have complied, changing all the time and can't prove you complied
- Could utilize multiple levels: an underlying wiki community that discusses and then it is lifted to a more formal and ANSI-compliant standard adoption process

Below is the compiled list of pros and cons of BEDES becoming a formal standard from the SWG small group exercise:

Pros:

- 1) Standard to reference provides credibility
- 2) Additional rigor
- 3) Help ensure complete/consistent information
- 4) Could enable certification and compliance
- 5) Give everyone ability to have input (but could be achieved other ways)
- 6) May help market move quicker
- 7) Defined updating process (not ad hoc)
- 8) Allow laws and codes to reference BEDES Standard
- 9) Known refresh time provides certainty

Cons:

- 1) If only Dictionary may not qualify as Standard
- 2) Consensus process can gum up works

- 3) May deter open source community
- 4) Could enable certification and compliance w/o standard
- 5) Time consuming to update
- 6) Pre-mature for now since don't have product
- 7) DOE has enough leverage to promote w/o standardization process
- 8) Standard groups often want to charge—so would have to pay to use
- 9) If over specify could over constrain or deter third party software providers

Additional SWG Comments on BEDES becoming a Standard or not:

- May want to not have standard initially but move to standard over time.
- Can reduce some of cons by who is standard body
- We may not have control on some entity requesting movement to code
- Should consider whether cons can be addressed either through standard or other means
- Understand milestones and process for becoming standard, so have head start and compatible with standard adoption process
- Is having to pay for it a show-stopper, or is there a work-around
- Follow data standards adoption process (e.g., Oasis standard) rather than formal ANSI/ASHRAE standard process
- See if can address the cons to become a standard; and on the flip-side see if can capture the pros through a non-formalized standard process
- Use cases don't travel into the standards adoption process

The SWG agreed that LBNL should do some further investigation and reflection on whether or not it makes sense to move BEDES into a Standard, and if so when and how, and discuss again with SWG.

3:00 Next Steps & Workplan for Strategic Issues

Dr. Raab reviewed the workplan and discussed potential agenda items for next SWG meeting including:

- Hosting options for BEDES

- Whether Standards path for BEDES makes sense, and if so how and when
- Naming and Branding of BEDES

The SWG then suggested additional potential agenda items for the SWG including:

- Use Case interface with BEDES
- Implementation Plan for BEDES
 - Pilots
 - Partners/key actors
 - Time horizon and roll out
 - Using carrots, sticks, or both

Attachment 1 - Attendance 2.24.14 SWG Meeting

| 2/24 SWG in person | Affiliation |
|-----------------------|----------------------------------|
| Andrea Mercado | LBNL |
| Avery Kitner | Empowered Energy Solutions |
| Audrey Lee | CPUC |
| Bob Hendron | NREL |
| Carmen Best | CPUC |
| Devan Johnson | KW-Engineering |
| Elena Alschuler | Department of Energy |
| Jessie Knapstein | Energetics. Inc. |
| John Mejia | LBNL |
| Jonathan Raab | Raab Associates |
| Marc Costa | Energy Coalition |
| Marshall Duer-Balkind | DC Department of the Environment |
| Matt Golden | EDF |
| Steve Abercrombie | Innovate Washington |
| Shankar Earni | LBNL |
| Magnus Cheifetz | Building Energy |
| Rick Diamond | LBNL |
| Robin Mitchell | LBNL |
| | |
| 2/24 SWG phone | Affiliation |
| Amir Roth | Department of Energy |
| Darren Port | NEEP |
| Angela Ferrante | Energi |
| Adam Wallen | SkyFoundry |

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|-----------------|-------------------------------------|
| Lindsay Robbins | NYSERDA |
| Andy Frank | Sealed Homes |
| Jayson Antonoff | Institute for Market Transformation |
| Matej Harangozo | greeNEWit |
| Erik Larson | Building Energy |
| Bob Schultz | PNNL |
| Robin LeBaron | National Home Performance Council |
| Michael Deru | NREL |
| Supriya Goel | PNNL |
| Krishnan Gowri | PNNL |
| Julie Caracino | National Home Performance Council |
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Attachment 2 (Hosting Hand-Out and Matrix Exercise Results)

Scenarios for Hosting BEDES

Rick Diamond

February 24, 2014

Background. There are several questions about how BEDES should be maintained and further developed, and who should best do it. There is a related question of whether BEDES should be adopted as a Technical Standard by one of the industrial organizations such as ASTM/ANSI or ASHRAE.

Tasks. We have identified the following tasks for the support, maintenance, and upgrades for BEDES:

1. **Maintenance. Error fixing and annual updates.** After release, users will identify issues that will need attention.
2. **User support.** Users will have questions about Use Cases and other issues on functionality.
3. **Upgrades and future development,** e.g., BEDES 2.0. There are several features that could be added to future versions of BEDES.
4. **Promotion and market engagement.** Develop a plan for how to promote and engage market players, and implement it.
5. **Other:**
 - a. **Compliance and Certification?**
 - b. **Education and Training**
 - c. **Branding**

Types of Organizations that could Host BEDES. We've identified different categories of entities that could host BEDES. These include:

1. **Non-profit organizations,** e.g., NRDC, CEE, Green Button, ISO, UL, etc.
2. **For-profit organizations,** e.g., Google, Microsoft

3. **Universities**, e.g., CMU, ASU, UCD, etc.
4. **National Laboratories**, e.g., ORNL, NREL, LBNL, NIST
5. **Federal Agencies**, DOE, EPA, GSA, DOD, Commerce/Census, EIA
6. **Other:**
 - a. **State Energy Agencies**, CA CEC, NYSERDA
 - b. **Open Source Community** (e.g., health data consortium)
 - c. **Standard Organizations--** ASHRAE, ANSI, ASTM

Criteria for Evaluating Hosting Options. We have identified the following potential criteria for evaluating organizations/entities for hosting BEDES:

1. **Accessibility:** Will the organization/entity provide access to BEDES by all interested users?
2. **Support:** Does the organization/entity have financial resources to maintain BEDES and future updates?
3. **Neutrality:** Does the organization/entity have special interests that would prevent it from being fair and impartial?
4. **Expertise:** Does the organization/entity have domain knowledge to support BEDES?
5. **Stability:** Does the organization/entity have a stable organization with relatively low-turnover in staff and support?
6. **Flexibility & Adaptability:** How fast could the organization/entity update versions, and how easily could it expand new use cases?
7. **Promotion & Market Engagement:** Does the organization/entity have expertise and experience in market engagement?
8. **Other:**
 - a.

Scenarios. Based on the tasks and criteria, we see the following matrix as a way to evaluate different scenarios for the potential BEDES hosts.

Please rate each organization/entity type as HIGH, MEDIUM, or LOW. (Suggest moving across each row and thinking of the relative strengths and weaknesses of the various types of organizations/entities).

| | Non-Profits Highs:7 | For-Profits Highs: 6 | Universities Highs: 6 | National Labs Highs: 7 | Federal Agencies Highs:6 | State Energy Agencies Highs: 1 | Standard Organizations Highs: 4 | Open Source Community Highs:13 | Hybrid—DOE/National Lab/Non-Profit (Note: Scored highest for Group 2) |
|--|------------------------------------|---|---------------------------------|-----------------------------------|------------------------------------|--|---|--|---|
| Accessibility | Med(1/3) High (2) | Low(1/2) Med (3) | Low (1) Med (2); High (3) | Med (1); High (2/3) | Low (1); High (2/3) | Low (1); High (2) N/A (3) | Low (1/2); | High (1/2/3) | |
| Support | Med (1/3) Low/Med (2) | Low (1); Med-High (2); High? (3) | Low (1/3) Low-Med (2) | Low (3) Low/Med (2) Med (1) | Low (1/3) Med (2) | Low (1/2) Group 3? | Low (1) Medium (2) Group 3? | Low (2) High (1) Group 3? | |
| Neutrality | Low (1) Med (3) High (2) | Low (1/2) Med (3) | Med (3) High (1/2) | Med (3) High (1/2) | Low (1/3) High (2) | Low (1) Med(2) Group 3 ? | Low (1) High (2) Group 3? | High (1/2) Group 3? | |
| Expertise | Med (1) High (2) Group 3? | Low (1) High (2) Group 3? | Med (1) High (2) Group 3? | High (1/2) Group 3? | Low (1) High (2) Group 3? | Med (1/2) Group 3? | Med (1) High (2) Group 3? | High (1/2) Group 3 | |
| Stability | Low-Med (2); Variable (1) | Low (1) Med/High (2) Group 3? | Med (2) High (1) Group 3? | Med (2) High (1) Group 3? | Med (2) High (1) Group 3? | Low (2) Med (1) Group 3? | Med (1) High (2) Group 3? | Low-High (2); Med (1) Group 3? | |
| Flexibility & Adaptability | Med (1) High (2) More (3) | Low (1/2) More (3) | Low (1) Med (2) Group 3? | Low (2) Med (1) Group 3? | Low (1/2) Less (3) | Low (1/2) Less (3) | Low (1/2) | High (1/2/3) | |
| Promotion & Market Engagement | Low (1) High (2) Group 3? | Low (1) High (2) Group 3 | Low (1/2) Group 3? | Low (1/2) Group 3? | Low (2) Med (1) Group 3? | Low (1/2) Group 3? | Low (1) Med (2) | Low-Med (2) Med (1) | |
| Other: Governance | Med | Low | Low | Med | Low | Med | Med | Med | |

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|--|---------------------------------|------|------|-----|------|-----|------|------|--|
| Group 1 | | | | | | | | | |
| Other: Adoption potential Group 1 | Med | High | Low | Med | Med | Med | Med | High | |
| Other: Compliance /Cert Group 2 | High (if mission central) | Med | Low | Med | Med | Med | High | Low | |
| Other: Motivation Group 2 | Med-High | High | High | Med | High | Low | Med | High | |

Organizations/Entities and Criteria for Hosting BEDES