Meeting Minutes

TC 7.06 Building Data Exchange Subcommittee
Tuesday, February 07, 2023, 10:00 – 12:00 EST
Atlanta, GA

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Attendees

Name	Affiliation	E-Mail	Member (VM, CM, or Guest)	YEA Member?
Nicholas Long	NREL	nicholas.long@nrel.gov	VM TC7.6	N
David Eldridge	GBA	deldridge@grummanbutkus.com	VM TC7.6	Super YEA
Mark Borkum	PNNL	mark.borkum@pnnl.gov	Guest	N
Jason DeGraw	ORNL	jason.degraw@gmail.com	PCM	N
Kelly Majewski	JLL	kelly.majewski@jll.com	PCM	Y
M Kunwarn	ORNL	kunwarn1@ornl.gov	PCM	Y
Jie Xiong	NREL	jie.xiong@nrel.gov	TC7.6	N
Lauren Adams	NREL	lauren.adams@nrel.gov	VM TC7.6	N
Marco Pritoni	LBNL	mpritoni@lbl.gov		
Sagar Rao	AEI	sagar.rao@outlook.com	Guest	
Yeonjin Bae	ORNL	baey@ornl.gov	PCM	N
Mahabir Bhandari	ORNL	bhandarims@ornl.gov	PCM	
Mike Brauch	FEMP	michael.brauch@hq.doe.gov		N
Michael Bobker	CUNY BPL	michael.bobker@ccny.cuny.edu	Guest	N
Scott Duncan	Georgia Tech	duncan@gatech.edu	Guest	N
Brittany Wilkins	Carrier	Brittany.Wilkins@carrier.com	Guest	N
Gregory Cmar	Interval Data Systems	gregory_cmar@intdatasys.com	Guest	N
Michael Wang	P2S	mjaywang@gmail.com	Guest	Y
Larry Spielvogel	Engineer	spielvogel@comcast.net	Guest	N
Hailey Brennan	LeaDRS	hbrenna@spectrumenergyllc.com	Guest	Y

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Meeting

10:00   Introductions   All

               Acknowledgment of previous meeting minutes
               (http://tc0706.ashraetcs.org/)

10:10   Announcements and Remarks   Long

10:15   Old Business / Action Items   Long

Item	Owner	Due Date	Status
Potential program on Building EQ, its portal, and API for TC7.6 programs in Atlanta	Balbach, Long	8/1/2022	Move to Winter meeting
Meeting to discuss IBPSA/ASHRAE BDE alignment before next IBPSA BDE meeting	Long, Rao	9/15/2022	Done, but will be ongoing
Tracking relevant standards, guidelines, and projects related to BDE. Start the layout of the content for data.ashrae.org.	Hitchcock, Long, Goel,	2/28/2022	Moved to new item
Industry Coalition Outreach	Mathew	3/31/2022	Complete
Visual on how the BDE-related standards and guidelines overlap/connect.	Adams, Long	8/5/2022	Complete
Building EQ Use Case for BuildingSync Validation tool	Adams,	7/31/2022	Updated
Send minutes to Yeonjin Bae (baey@ornl.gov) & Annie Smith (smithannelise314@gmail.com)	Long	2/2/2022	Complete
Paper writing on building data exchange*	Long	3/15/2023	
Create draft data.ashrae.org website and post image for review*	Long, Adams	4/15/2023	

          * New item

10:45   Round Table on Building Data Exchange Updates

          Programs –
                Report out to main TC.

APPLICATIONS	**Standard 211:** ASRHAE Commercial Building Energy Audits	
	To establish consistent practices for conducting and reporting energy audits for commercial buildings.	

RULESETS AND "QUERYING"	**Schematron:** A rule-based validation language — Used for validation, data reporting, and QA, QC, and filtration	**BuildingSync Asset Extractor**	**Standard 229P:** Protocols for Evaluating Ruleset Implementation in Building Performance Modeling Software — This standard establishes tests and acceptance criteria for implementation of rulesets (e.g., modeling rules) and related reporting in building performance modeling software.

OBJECT MODELS AND ONTOLOGIES	**BuildingSync-gem:** A repository of helpers for reading and writing BuildingSync XML files — For using that data to drive energy simulations of the subject building	**Standard 223P:** Designation and Classification of Semantic Tags for Building Data — To provide a dictionary of uniform semantic tags. These tags enable interoperable use of descriptive information on building data.	**BRICK, Haystack:** Standardized semantic metadata about a building — To improve the understanding and managment of building data

SCHEMAS	**HPXML:** High Performance XML — Creates a common language for the industry's transactions, making it easier and less expensive to collect and exchange information among contractors, program administrators, implementers, government, evaluation consultants, and other information trading partners.	**BuildingSync:** To address the lack of an industry-standard collection format for energy audit data	**gbXML:** Green Building XML — It is the language of buildings that allows disparate 3D building information models (BIM) and architectural/engineering analysis software to share information with each other	**Standard 205P:** Representation of Performance Data for HVAC&R and Other Facility Equipment — To facilitate automated sharing of equipment performance characteristics by defining data models and data serialization formats.

DATA DICTIONARIES	**Other**	**BEDES:** Building Energy Data Exchange Specification — A dictionary of terms and definitions commonly used in tools and activities that facilitate the exchange of information on building characteristics and energy use	**ASHRAE Terminology:** Comprehensive online glossary of the built enviroment

Lorem ipsum

PROTOCOLS AND SPECIFICATIONS	**Data Models Specification / Standard 232P:** Schema-Based Building Data Model Protocols — Define building data structures and conventions for data exchange among building performance models	**Guideline 20:** Documenting HVAC&R Work Processes and Data Exchange Requirements — To define a systematic procedure for documenting work processes (Use Cases) and data exchange requirements for specific HVAC&R activities.	**XSD:** XML Schema Definition	**JSONSchema:** vocabulary that allows you to annotate and validate JSON documents

IPBSA:
- Data Models Working Group Specification
- Compliance and Certification Reporting
- Climate Information

- Where do we store this graphic
  - Data.ashrae.org – where to we keep this document.
  - Special issue of journal on data
  - Supports the idea of paper
  - Marco and Jason DeGraw willing to help
  - AI – Nicholas to ask for paper writers?

- Building EQ schematron file was passed

          Standards and Schema   All

                - 229P

No updates

                - 223P – Semantic Interoperability

Draft in work

- 205

It has been published. Transferring from SPC to SSPC. Heat pumps

- 232P – Data Protocols

No quorum on Sat meeting. Lots of content.

- 231P – CDL

Working on draft. It is in good shape.

- BEDES and Mapping Manager

No new updates

- gbXML

No new updates

- HPXML

BEopt exporting to HPXML.

- BuildingSync

Working on BuildingSync – Gem. Website cleanup buildingsync.net. Working on user engagement, new TAG created.

- Guideline 20

Need to socialize more. Undergoing an update.

Controls & Optimization   All
- BRICK

NREL and CSM are working on a project to unify the two projects together.

- Haystack

Same as above.

- RTAR

We are all generating data but we are leaving the vendor the gate keeper to the data. We want the vendor to push their data to a data lake. The real work is around storing the vendor identifiers: name description -> site key (e.g., what building), the equipment (e.g., VAV box), point name (e.g., temperature). Need to worry about internationalization. Data liberation and plug and playable.

Keys can be added to 223P. Controls applications might just read it on the BACnet network but the RTAR will not focus on control—it will be a "remote" historian.

No limitation on the amount of data that one can collect.

Design & Construction   All

- IBPSA BDE

IBPSA USA BDE – focused on data exchange on data exchange-based applications. They generate consensus documents modeled after W3C approach. They have one for climate data, SPC232P-rules for defining specs (IBPSA is not a standards organization). Consensus docs are new to our industry.

They are slowing down at the moment, but in the spring will start on the energy modeling input and output.

IBPSA will add a slot to their agenda.

The long timeline is an issue throughout IBPSA. 241P – Standard to Address Mitigation of Airborne Infection Transmission.
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- BuildingSync Gem

New TAG. Updated the Gem to be a more formal part of the OpenStudio project. Now the BuildingSync gem can be called from the workflow (before this was not possible).

Proposals to update the geometry and better integration with Audit Template.

https://docs.google.com/presentation/d/1r_PajNVRaFVpKPvNrkyZK1yFLMa8m86J/edit#slide=id.p35.

Public Agency Programs, Organizational
Updates, Compliance and Reporting   All

- DOE Updates

No updates

- ASHRAE Building EQ
- Asset Score and Audit Template

Updated to latest BuildingSync. Includes exporting Carbon Emissions.

Development of the quick building assessment tool with very high-level tools. Rated over 2000 schools.

Revisiting Audit Template to Asset Score.

- UBID

A geometry of the "thing" that occupies the space. From the geometry, they encode a string which is the UBID. Does not require an API. No major updates on the project.

PNNL is developing an online tool to help generating UBIDs. Now it is part of ESPM. Becomes the RTAR's site key.

https://portfoliomanager.energystar.gov/pm/glossary#StandardId

- IEA Annex 70

Remove from agenda.

- CTS – Compliance Tracking System

Exists in ESIA 432 and Energy Act of 2020. Requires a facility to enter their facility's energy and water data. Requires audits every 4 years and requirements to implement cost effective ECMs. 27 top tier and 80-90 subagencies that are required to report to

CTS. They worked to align with BEDES and BuildingSync to support 3rd party contractors.

It is an unfunded mandate to supply the data. Enabled BSync for vendors. Updating their schemas is a significant lift.

They are encouraged about Audit Template. There are two websites, CTS and public facing dashboard. Data are exported nightly from CTS to dashboard.

Need to figure out Water ECMs.

New requirements are constantly coming down the line. EO 14057.

AT can export facility level data now. So, they can export spreadsheets of the data as needed to CTS.

11:30	Break (if needed)	
11:30	New Business	
	ASHRAE & IBPSA BDE Committee Partnership	TBD

If there is anything that we need them to undertake, we can ask them

Any interest in writing papers – contact Marco Pritoni <mpritoni@lbl.gov>

11:35	Adjourned early