

## Attendees:

- Georg Ferdinand Schneider (Individual CLA but affiliated with Schaeffler)
- Gonçal Costa [LaSalle University]
- Richard Pinka [CTU Prague]
- Karl Hammar (Jönköping University)
- María Poveda-Villalón (Ontology Engineering Group - Universidad Politécnica de Madrid)
- Madhumitha SENTHILVEL (RWTH AACHEN UNIVERSITY)
- Joel Bender (Cornell University)
- Salvatore Cataldi (BELIMO Automation AG)
- Anna Wagner (Individual but affiliated with PROSTEP)
- Nicolas Pauen (RWTH Aachen, Germany)
- Daniel Peintner (Siemens, WoT Things)
- Mathias Bonduel (KU Leuven)
- Serge Chávez-Feria (Ontology Engineering Group - Universidad Politécnica de Madrid)
- Sjoerd Rongen (Taxonic)
- Jeroen Werbrouck (Ghent University)
- Katja Breitenfelder (Fraunhofer IBP, TU Munich)
- Mads Holten Rasmussen (NIRAS)
- Zhen Chen (University of Strathclyde, UK)
- Jyrki Oraskari (RWTH Aachen)
- Seppo Törmä (VisuaLynk, FI)

## Date and time

- 12/01/2021, Tuesday, [16:00-17:30@UTC/ 17:00-18:30@CET/ 08:00-09:30@PST/ 00:00-01:30@CST](#)

## Agenda (tentative)

1. Introduction of new participants
2. “Current state of IFC5” by [Léon van Berlo \(buildingSMART International\)](#)
  - <https://www.buildingsmart.org/about/technical-roadmap/>
3. Q&A
4. Exchange with WoT WG - Use Cases (IG-Use Cases Call 12 January 2021)
  - Git based workflow
    - fork <https://github.com/w3c/wot-usecases>
    - directly work on index.html
    - Pull Request back into <https://github.com/w3c/wot-usecases>
  - Examples use cases are:
    - <https://github.com/w3c/wot-usecases/pulls>
5. Open Discussion

## Minutes

1. Introduction of new participants
  - a. Nicolas (Nico) Pauen (RWTH Aachen)
  - b. Salvatore (Sal) Cataldi (Belimo Automation AG)
  - c. Daniel Peintner (Siemens, WoT)
2. [Presentation latest developments of IFC5](#) by [Léon van Berlo \(bS Intl.\)](#)
  - a. <https://www.buildingsmart.org/about/technical-roadmap/>
  - b. bsDD is where linked data technologies are coming into buildingSMART
  - c. Emphasis on “Language Independency” in terms of implementation. Embarked a fully model-based approach in schema development. Use UML for modelling and scripts to convert to specific serialisations such as STEP, RDF, etc.
  - d. Recognized Limitations of IFC4
    - i. Geometry kernel too big
    - ii. Structure has many dependencies
    - iii. Advanced data modelling structures
  - e. Planned is a Modularization of IFC: Core functionalities will be known as “IFC 5” and updated every 3-5 years, whereas other parts are modules, which will be updated individually and have shorter release cycles (1-3 years)
    - i. Core functionalities: Geometry kernel, data types,
    - ii. Currently, there is a task force (incl. vendors) to script IFC 4.3 (monolithic) to IFC 5 (modular)
  - f. UML is used for defining entities
    - i. Using property inheritance
    - ii. Automatically creating various file types of the schema (EXPRESS, JSON, RDF, XSD, etc.)
  - g. IFCProduct tree is supposed to be finished by next week (can/will be shared with the group)
  - h. Overall transformation is supposed to be done by summer, IFC 5 will hence be available from Q3/4-21
  - i. Q&A
    - i. [Anna Wagner]: How is your intention to create a linked data derivative of IFC. Potentially, a reuse of BOT is interested in this? BOT ontology is of interest; Hopes to reuse if possible. Sees modularisation as advocated by BOT developers as future step ahead.
    - ii. [Mathias Bonduel]: How will the RDF output look like?
      1. Literal translation of IFC5, but it's expected to be closer to more concise ontologies such as BOT
      2. Sharing of the RDF/web ontology: not public yet
    - iii. [Georg Schneider] How is the working procedure of buildingSMART developing IFC5? Taskforce is running; speed needs to be balanced with IFC4.3 to be released soon

- iv. [Joel Bender] Do you have to be a member of buildingSMART to collaborate with the taskforce? Officially, yes.
- v. [Seppo Törmä] Is there a change in IFC5 away from file-based data exchange? Léon: Both use cases possible through language independent implementation path: Files and triples on the web.
- vi. [Daniel Peintner] Language Independency: There might be also expressions you might not express in every target language? A: tbd
- vii. [Mathias Bonduel] Potential suggestion is a [Linked Data Fragments](#) approach allows for a low footprint sparql endpoint.
- viii. [Léon, Mathias] -> Discussion on classification and combination of bSDD and IFC
  - 1. New [bSDD](#) as aggregation service for OTLs (Object Type Libraries), libraries of concepts, including IFC
- ix. [Jyrki Oraskari] (Side note) Our simple bSDD Ontology: <https://www.linkedbuildingdata.net/IFC4-PSD/PsetDef/index-en.html>
- x. Info on bSDD API prototype: <https://github.com/buildingSMART/bSDD/tree/master/2020%20prototype>
- xi. GraphQL API: <https://bs-dd-api-prototype.azurewebsites.net/graphiql/>
- xii. [Anna Wagner] What if there are contradicting properties from other standards? [Léon] Huge effort, No chance to have them all aligned. bSDD is rather open in this regard.
- xiii. [Georg] The modularisation intended by IFC5 is a similar effort as realised by the SAREF modular ontologies. Léon and Maria will have a follow up on this.
- xiv. [Georg] Objectified relationships -> Level 1 - Level 3 developed in CG discussions. How will this be implemented. Answer: This should be interesting. Would be great to have a follow up on this.
- xv. [Seppo] RDF\* could be an option for property modelling mechanism.

### 3. Discussion (pending questions)

- a. Q [Georg]: IFC 4.3 has been “former” IFC5 (Bridge, Road etc.)?
- b. Q [Seppo]: What does “scripting” mean in the context of Léon’s presentation?
- c. Q [Joel, Mads]: Property modelling mechanism should be interesting for a follow up.
- d. Q [Mathias]: SHACL based validation, e.g. as currently done in the Flemish Road Agency publishing SHACL and terminology/vocabulary: <https://wegenverkeer.data.vlaanderen.be/>. Looking if this Flemish OTL can be entered/linked in the bSDD
- e. Q [Anna]: How definitions are grouped/aligned/validated in bSDD
- f. Q [Goncal]: Relation and alignment IFC5 and BOT
- g. Q [Katja]: How can an engagement of the W3C LBD CG could look like? -Also to be discussed internally-
- h. Q [Georg]: Is there a plan to revive a “Linked Data @ buildingSMART technical room”? (former Linked Data Working Group inside bSI)

4. Exchange with WoT WG - Use Cases (IG-Use Cases Call 12 January 2021)
  - a. Current working version <https://w3c.github.io/wot-usecases/>
  - b. Git based workflow
    - i. fork <https://github.com/w3c/wot-usecases>
    - ii. directly work on index.html
    - iii. Pull Request back into <https://github.com/w3c/wot-usecases>
  - c. Examples use cases are:
    - i. <https://github.com/w3c/wot-usecases/>
5. Open Discussion

## Next Call

- [26/01/2021, Tuesday, 16:00-17:30@UTC](#)

We are interested in getting suggestions from the community about potential agenda items for the following calls. Please send your suggestions to [public-lbd@w3.org](mailto:public-lbd@w3.org), whether you have a short presentation to bootstrap the discussion, and an approximate duration you think the discussion will last.

## Previous minutes

<https://www.w3.org/community/lbd/meeting-minutes/>