

P1906.1.1

Submitter Email: bushsf@research.ge.com

Type of Project: New IEEE Standard

PAR Request Date: 11-Feb-2017

PAR Approval Date: 23-Mar-2017

PAR Expiration Date: 31-Dec-2021

Status: PAR for a New IEEE Standard

1.1 Project Number: P1906.1.1

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard Data Model for Nanoscale Communication Systems

3.1 Working Group: Nanoscale and Molecular Communications (COM/SDB/NanoCom)

Contact Information for Working Group Chair

Name: Stephen Bush

Email Address: bushsf@research.ge.com

Phone: 518-782-7399

Contact Information for Working Group Vice-Chair

Name: Andrew Eckford

Email Address: aekford@gmail.com

Phone: +1 416 736 2100 ext 70152

3.2 Sponsoring Society and Committee: IEEE Communications Society/Standards Development Board (COM/SDB)

Contact Information for Sponsor Chair

Name: Mehmet Ulema

Email Address: m.ulema@ieee.org

Phone: +1 732 957-0924

Contact Information for Standards Representative

Name: Mehmet Ulema

Email Address: m.ulema@ieee.org

Phone: +1 732 957-0924

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 12/2017

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 08/2018

5.1 Approximate number of people expected to be actively involved in the development of this project: 10

5.2 Scope: This standard defines a common YANG [RFC 6020] data model for IEEE 1906.1-2015 nanoscale communication systems.

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: The YANG data model defines a common network management and configuration data model for nanoscale communication systems. In so doing, it fulfills several purposes: it enforces requirements to be compliant with IEEE 1906.1-2015, it describes nanoscale communication systems, it represents the fundamental physics impacting IEEE 1906.1-2015 systems, it defines configuration and management for simulation and analysis, and finally, it defines a self-describing data structure used in repositories of nanoscale communication experimental data.

5.5 Need for the Project: A standard network and management and configuration data model enables efficient understanding and use of IEEE 1906.1-2015 systems and simulations. A standard data model is needed to ensure that systems and simulations are compliant with IEEE 1906.1-2015. A standard data model is needed to serve as human and machine readable documentation of IEEE 1906.1-2015 systems. Because small-scale communication systems interact directly with nanoscale physics, a data model is needed that represents fundamental physics. A common data model is needed to accurately and fairly compare and contrast IEEE 1906.1-2015 systems. Repositories of experimental data from small-scale communication systems require clear and accurate documentation for the data to be meaningful. This common data model will provide a self-describing data model that can address this purpose.

5.6 Stakeholders for the Standard: The stakeholders are primarily researchers in small-scale communication systems design, and development.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: Yes

If yes please explain: The namespace of the YANG model will follow the 'Allocation of Uniform Resource Names in IEEE standards' as specified by the IEEE-SA Registration Authority.

7.1 Are there other standards or projects with a similar scope?: No

7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: No

8.1 Additional Explanatory Notes: RFC 6020: YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF)
RFC 7950: The YANG 1.1 Data Modeling Language