

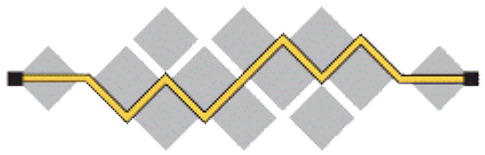
Technical Standards to Maintain

May 11, 2016

By

Dean L. Mischke, P.E., V.P.

Finley Engineering Company, Inc.



I E T F[®]



US CFR



“The nice thing about standards is that there are so many of them.”

Dr. Andrew S. Tanenbaum, Professor, Author, and author of MNIX a free UNIX like operating system.



BICSI



What is a Standard?

- According to the National Institute of Standards and Technology (NIST):
 - Common and repeated use of rules, conditions, guidelines or characteristics for products or related processes and production methods, and related management systems practices.
 - The definition of terms; classification of components; delineation of procedures; specification of dimensions, materials, performance, designs, or operations; measurement of quality and quantity in describing materials, processes, products, systems, services, or practices; test methods and sampling procedures; or descriptions of fit and measurements of size or strength.

<http://www.nist.gov/standardsgov/definestandards.cfm>

Types of Standards

- Basic Standard that defines the composition of a material
- Terminology
- Test and Measurement
- Process
- Interface/Interoperability
- Performance
- Design

Types of Standards

Legal



Code of Federal Regulations

Voluntary



Join other like minded to modify an existing standard or define a new standard
Open Source

Proprietary
Follow a Pre-Defined Standard

Key Players



IETF

- Internet Engineering Task Force: Standards arm of the Internet Society
- Founded in 1992 and is concerned with the evolution and smooth operation of the Internet architecture
- Has strong ties to the Internet Society through its Internet Engineering Steering Group and Internet Architecture Board
- Author of the RFC Standards
- Standards can be found at <https://datatracker.ietf.org/>
 - Active standards are free

ITU

- International Telecommunications Union
- Founded in 1865 and became a specialized agency of the UN
- Concerned about connecting the world with information and communication technologies
- Authors of the ITU standards
- Standards can be found at <http://www.itu.int/en/publications/Pages/default.aspx>
 - Select Publications by Sector
 - Active standards are free

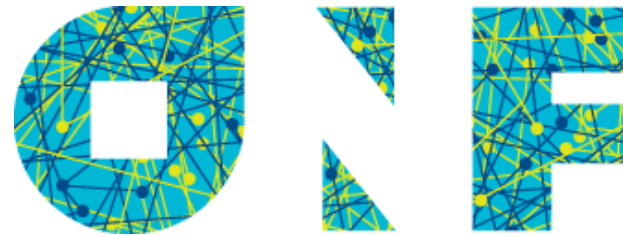
ANSI

- American National Standards Institute
- Voice of the US Standards with the intent to strengthen the US position in the marketplace
- Founded in 1919
- In 1987 realized the impact of foreign markets and became active in the International Standards Groups
- Author of the ANSI Standards
- Standards can be found at <http://webstore.ansi.org/>
 - Not free

IEEE

- Institute of Electrical and Electronic Engineers
- An association dedicated to advancing innovation and technical excellence for the benefit of humanity
- Founded in 1884 as AIEE
- A world-wide organization heavily involved in standards including Internet operation
- Author of the IEEE Standards
- Standards can be found at <http://standards.ieee.org/findstds/index.html>
 - Not free

Ones to Watch



Software Defined Networks



Network Function Virtualization

ETSI

- European Telecommunications Standards Institute
- Dedicated to produce top-quality standards for information and communications technologies
- Founded in 1988
- Working with many international companies to develop standards for Network Function Virtualization (NFV)
- Author of the ETSI Standards
- Standards can be found at [http://www.etsi.org/standards-search#Pre-defined Collections](http://www.etsi.org/standards-search#Pre-defined%20Collections)
 - Free

ONF

- Open Networking Foundation
- User driven organization dedicated to the promotion and adoption of Software Defined Networking (SDN)
- Founded in 2010
- In 1987 realized the impact of foreign markets and became active in the International Standards Groups
- Author of the OpenFlow Standards
- Standards can be found at <https://www.opennetworking.org/openflow-conformance-certification>
 - Free

Conclusion

HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)



Questions



Thank You

Dean L. Mischke
Finley Engineering Company, Inc.
715-930-7255
d.Mischke@fecinc.com
Finleyusa.com