

**GraCaSI**

**STANDARDS ADVISORS**

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**-PRESENTATION-**

**UNSTICKING THE AD HOC  
(INFO FOR EVERYONE)**

**P802.3BT, 4-PAIR PoE TF  
SEPT 10-11-12, 2014  
OTTAWA, ON CANADA**

**GEOFF THOMPSON  
GRACASI S.A./LINEAR**

## **NORMATIVE VS. INFORMATIVE**

- **WHAT KIND OF TEXT SHOULD BE IN THE STANDARD?**
- **WHAT GOVERNS THIS?**

## **NORMATIVE VS. INFORMATIVE**

- **WHAT KIND OF TEXT SHOULD BE IN THE STANDARD?**
- **WHAT GOVERNS THIS?**

## **WHAT KIND OF TEXT SHOULD BE IN “THE STANDARD”?**

- IT SHOULD BE LIMITED TO  
NORMATIVE TEXT
- THIS IS GOVERNED BY:  
CL. 6.4.1 IEEE-SA SB OPS MANUAL  
CL. 10 SA 2014 STYLE MANUAL

# IEEE-SA SB OPS MANUAL

## 6.4. IEEE standard document structure

### 6.4.1 Normative and informative

Normative material is information required to implement the standard and is therefore officially part of the standard. Informative material is provided for information only and is therefore not officially part of the standard.

### 6.4.2 Frontmatter

The frontmatter of an IEEE standard is informative.

### 6.4.3 Notes and footnotes

Notes and footnotes are informative except as noted in subclauses 6.4.4 and 6.4.5.

The *IEEE Standards Style Manual* provides further information about notes and footnotes. 6.4.4 Notes to tables and footnotes to tables.

A note to a table is informative. A footnote to a table is normative.

### 6.4.5 Notes to figures and footnotes to figures

A note to a figure is informative. A footnote to a figure is normative.

### 6.4.6 Normative references

Normative references are documents that contain additional material that is necessary to implement the standard. Thus, normative references are indispensable when applying the standard. Each normative reference shall be cited, and the role and relationship of each normative reference shall be explained in the body of the standard.

IEEE and other nationally or internationally recognized standards developing organizations (SDOs) are preferred as the source of normative references. Documents published by other organizations may be cited provided the document is publicly available at a cost that is not unreasonable at the date of publication of the IEEE standard. Documents that are cited as normative references, but that are developed by organizations that are not nationally or internationally recognized SDOs, shall include the edition or date of publication in the citation. References to standards that are not active are permitted, provided such standards are publicly available at the date of publication of the IEEE standard. Draft standards may be used as normative references if they are unambiguously dated, readily available, and retrievable at the date of publication of the IEEE standard. Please consult with an IEEE Standards project editor if such inclusion is necessary.

References to specific clauses or subclauses, tables, and figures of another document shall include the date of said document.

# IEEE-SA SB OPS MANUAL

## 6.4. IEEE standard document structure (continued)

### 6.4.7 Shall, should, may, and can

The word *shall* indicates mandatory requirements strictly to be followed in order to conform to the standard and from which no deviation is permitted (*shall* equals *is required to*).

The word *should* indicates that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required (*should* equals *is recommended that*).

The word *may* is used to indicate a course of action permissible within the limits of the standard (*may* equals *is permitted to*).

The word *can* is used for statements of possibility and capability, whether material, physical, or causal (*can* equals *is able to*).

# 2014 IEEE-SA STANDARDS STYLE MANUAL

## 10. The body of an IEEE draft standard

### 10.1 Normative and informative clauses

Subclause 6.4.1 of the IEEE-SA Standards Board Operations Manual defines which parts of a standard are normative and which parts of a standard are informative.

Normative text is information that is required to implement the standard and is therefore officially part of the standard. Informative text is provided for information only and is therefore not officially part of the standard.

Normative text (information required to implement the standard) includes the following:

- The main clauses of the documents including figures, tables, and equations
- Footnotes to tables
- Footnotes to figures
- Annexes marked “(normative)”

Informative text (text provided for information only) includes the following:

- Frontmatter
- Notes to text, tables, and figures
  - At the first instance of a note associated with text, a table, or a figure, the following should appear:
    - NOTE—Notes to text, tables, and figures are for information only and do not contain requirements needed to implement the standard.
- Annexes marked “(informative),” e.g., Bibliography

***Interspersed normative and informative text is not allowed.*** As such, neither clauses nor subclauses shall be labeled as informative. Contact IEEE-SA content publishing staff early in the process if there are questions as to whether material in the draft should be labeled as normative or informative.

# 2014 IEEE-SA STANDARDS STYLE MANUAL

## 10. The body of an IEEE draft standard

### 10.1 Normative and informative clauses (DIGEST VERSION)

**Normative text** is information that is required to implement the standard and is therefore officially part of the standard.

**Informative text** is provided for information only and is therefore not officially part of the standard.

Informative text (text provided for information only) includes the following:

- Notes to text, tables, and figures
- Annexes marked “(informative),”

***Interspersed normative and informative text is not allowed.***

As such, neither clauses nor subclauses shall be labeled as informative.

# SYSTEMS VS COMPONENTS

GraCaSI

- **WE DO SYSTEMS ENGINEERING SO OUR USERS DON'T HAVE TO.**
- **ESPECIALLY IN TWISTED PAIR, OUR CUSTOMERS EXPECT TO JUST PLUG IT IN AND HAVE IT WORK.**
- **CABLING IS A GIVEN:**
  - **INSTALLED BASE**
  - **0.5M ` 100M  $\geq$  CAT5**
  - **0 – 4 IN LINE CONNECTORS**
  - **(NOTHING MORE)**

# CONFORMANCE vs. INTEROPERABILITY

GraCaSI

**OUR JOB IS TO MAKE SURE THAT:**

**IF A DEVICE CONFORMS TO THE 802.3 STANDARD**

**THEN IT MEETS THE NECESSARY AND SUFFICIENT  
CONDITIONS TO**

**ASSURE      SYSTEM INTEROPERABILITY**

**EACH COMPONENT GETS TO VARY WILDLY WITHIN ITS TOLERANCE,  
YET WHEN YOU PLUG TOGETHER AN 802.3 SYSTEM IT JUST WORKS.**

**WE GIVE UP MAXIMUM POSSIBLE PERFORMANCE TO ACHIEVE THIS**

**SYSTEMS ASSURANCE BY DESIGN**

**(AT SOME SACRIFICE OF PERFORMANCE)**

**WE SPECIFY INTERFACE SIGNALS AND PERFORMANCE RATHER THAN  
DEVICE IMPLEMENTATION**

# LINK SEGMENT VS. CHANNEL

GraCaSI

**WE NEED TO CLEAN UP OUR TERMINOLOGY.**

**WE NEED TO DEAL IN TERMINOLOGY THAT'S CORRECT FOR 802.3**

**THE TERMS:**

**CHANNEL:**

**FROM CABLING STANDARDS, NOT COMPLETE  
USE ACROSS 802.3 NOT PRECISE/CONSISTENT**

**LINK SEGMENT:**

**PROPER 802.3 TERM, PRECISE.  
IN USE SINCE 1980s  
USED ELSEWHERE IN 802.3  
COMPLETE FROM DEVICE TO DEVICE**

**“CHANNEL” MEANS SOMETHING ELSE (NOT APPLICABLE TO OUR  
WORK) IN AN 802.3 CONTEXT**

**SPECS: WHAT ARE THE ADJUSTMENTS NECESSARY?**

**LINK SEGMENT: MDI TO MDI**

**(CABLING) CHANNEL: LEAVES OUT CONNECTORS THAT MATE  
TO MDI AT EACH END.**

# ACTION REQUIRED

GraCaSI

1. CLEAN UP OUR TERMINOLOGY.
2. USE INTERNAL, ESTABLISHED, PRECISE TERM
3. CONVERT TIA “CHANNEL”  $\Leftrightarrow$  802.3 “LINK SEGMENT”
4. MOVE 4.1.2 AND (POTENTIAL) 4.1.3 TO INFORMATIVE ANNEX

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