

# TISSUE Process

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### Background

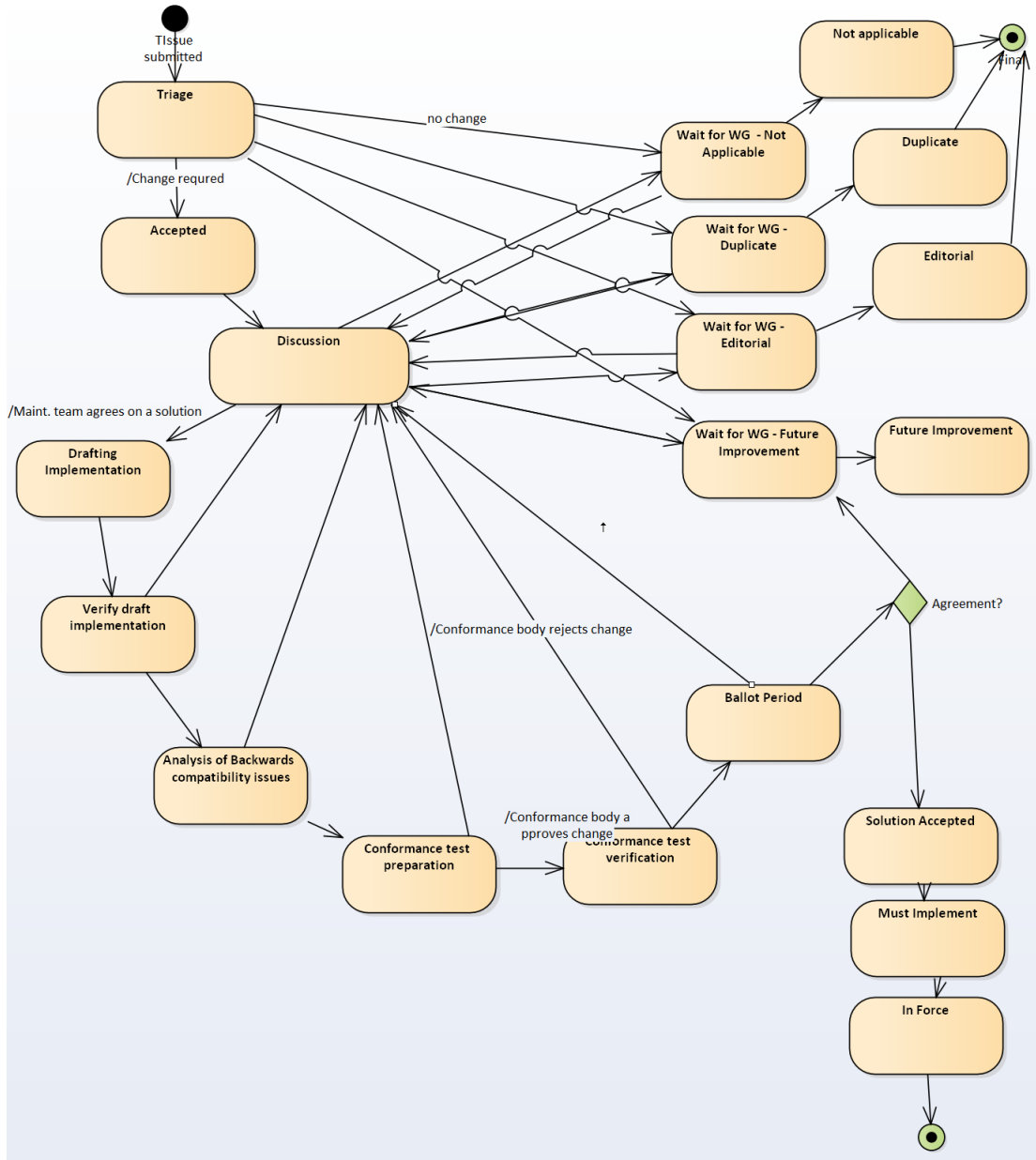
From the origins of IEC 61850 it was recognized that a responsive process was needed to address errors or omissions in the Standard which are likely to cause interoperability problems between devices on the market which have been validated against the appropriate conformance test procedures.

The TISSUE process has been a vital part of the development of IEC 61850. However, it has been recognized that a more formal process would be of value to the market, industry, and community in order to reduce the number of interpretations required to understand tissue resolution. At the same time, the IEC is recognizing that additional standards need a faster revision process, and the TISSUE process of IEC 61850 is seen as a likely model.

This document aims to provide a comprehensive description of the process and the responsibilities of each user.

### States

The basis of the TISSUE process is the following state machine:



At each stat change a comment shall be entered explaining the choice of next state.

### Triage,

When a TISSUE is first reported, the **Namespace delegates** for the relevant part determine whether the issue raised is a valid interoperability problem. At this stage, the **Namespace delegates** and the **TISSUE Reporter** are permitted to add comments as needed to progress the decision. From here, the **Namespace delegates** transition to one of the following five states. Note that four of these states transition through a state where the **WGdelegate** must confirm the transition to final. The **Namespace delegates** may need to consider if an abstract test case is required.

### **Not Applicable**

When a TISSUE is determined to be a question, misunderstanding, or otherwise not a valid problem in the standard, the **Namespace delegates** shall set the TISSUE to **Not Applicable**. To make this transition, the TISSUE shall be commented with explanation of the choice. If the **Namespace delegates** realize that the test procedures need improvement, they shall submit a problem report to the appropriate testing committee.

### **Duplicate**

When a TISSUE is determined to be a duplicate of another TISSUE, the **Namespace delegates** shall set the TISSUE to **Duplicate** and add a Link to the TISSUE which addresses the issue

### **Editorial**

When a TISSUE is determined to be an obvious typographical error in the standard, the **Namespace delegates** shall enter a comment explicitly stating the change to the text of the Standard, and set the TISSUE to **Editorial**

### **Future Improvement**

When a TISSUE is determined to be a problem in the standard which does not cause immediate interoperability problems, the **Namespace delegates** may transition the TISSUE to **Future Improvement**. No resolution of the TISSUE will be considered at this time, it will be addressed when the next revision of the Standard is considered.

### **Accepted**

When a TISSUE is determined to be a valid interoperability issue or to be a worthwhile improvement, the **Namespace delegates** shall set the TISSUE to **Accepted** and begin work on a proposed solution. **Namespace delegates** may comment the TISSUE at this state.

### **Discussion**

When the **Namespace delegates** have a proposed solution, the TISSUE shall be transitioned to **Discussion** state. Any registered user may comment the TISSUE.

### **Drafting Implementation**

When the discussion results in a solution that has not been opposed, the **Namespace delegates** transition the TISSUE to **Drafting Implementation**.

### **Verify draft implementation,**

When the **Namespace delegates** have submitted a comment with the explicit changes to the standard, they will transition the TISSUE to **Verify draft implementation**. At this state, any registered user can comment the TISSUE. Any objection to the draft implementation will cause the **Namespace delegates** to transition the TISSUE back to **Discussion**.

### **Analysis of compatibility issues**

During this state, the **Namespace delegates** indicate the backward, forward compatibility impacts associated with the proposed solution.

### **Conformance Test Preparation**

During this state, the **Conformance test body actors** draft changes to the applicable test procedures for tissues against standard that has associated conformance test procedures. Priority is given to interoperability tissues. When the **Conformance test body actors** are satisfied with the draft the Tissue is transitioned to **Conformance Test Verification**. If, during the drafting of test changes, some problem with the testability of the proposed solution, the **Conformance test body actors** shall transition the Tissue to **Discussion**.

### **Conformance Test Verification**

In this state, the draft changes to the test procedures are circulated for all interested parties to comment. When the test procedure draft is accepted, the **Namespace delegates** shall transition the Tissue to Ballot Period. If a problem is found with the test procedures, the **Namespace delegates** shall transition the Tissue to **Discussion**.

### **Ballot Period**

The TISSUE will remain in this state for up to 30 days. If a negative comment is entered which cannot be resolved, the **Namespace delegates** shall transition the Tissue to **Discussion**. Otherwise, at 30 days the Tissue shall transition to **Solution Accepted**.

### **Solution Accepted**

Allows for batching of Tissues such that changes to implementations do not occur more than once a quarter. When the deadline is reached or there is a decision to expedite the current batch, all Tissues in this state shall be transitioned to **Must Implement**.

### **Must Implement**

Provides a waiting period to warn vendors that changes to the conformance test procedures are approaching. At this point, a device can be tested with or without the changes required by the TISSUE. Once a quarter, any Tissue that has been in this state for six months shall be transitioned to **In Force**.

### **In Force**

Tissue process is complete. All devices tested must conform to this behavior.

### **Final**

Once a TISSUE has reached a Final state the only change that can be made is to add links so that future TISSUE that affect the resolution can be noted.

### **Waiting for WG approval**

The **WGdelegate** must approve a TISSUE transition to **Not Applicable, Duplicate, Editorial, or Future State**

## Roles

The following roles have been identified in the TISSUE process. It is expected that at least two individuals will be assigned to each role. Note that there are independent roles for independent domains. For example, the role **Namespace Delegate** applies to each part of a Standard, and **WGdelegate** applies to each Working Group responsible for a family of Standards (61850, 62351, etc.). An individual can have multiple roles.

- **Namespace delegate (NOW)** : considering that IEC 61850 is divided into namespaces (ref part IEC 61850-7-1), each namespace is under the responsibility of one **Namespace delegate**, by delegation of the TC secretary or *Owning WG* convenor/project leader. Each delegate is in charge of building-up and validating the content of the namespace, in coordination with the other delegates of namespace interacting with his own one. **Namespace delegates** are members of TC57 WGs but can also be members of other TC of the IEC. Namespace content management is fully compliant with IEC directives. Because of the wideness of some namespaces, it can be envisaged to breakdown the namespace per sub-domains and to have one expert leader per sub-domain, in charge of managing the maintenance of the considered sub-domains (typically, but not exclusively based on LN Groups breakdown). Each document should have at minimum two **Namespace delegates**. **UML Model Managers** will typically be **Namespace delegates**. IEC 61850-1-2 provides additional information on these roles.
- **WGdelegate** – typically convenor of the WG which is responsible for maintaining this specific document, and at least one alternate.

- **TISSUE reporter:** express a feedback to the standard editorial team of one part (or possibly many) of the standard about a technical issue in the published content – may be anybody who has logged into the Tissue database
- **Tissue process viewer:** monitor the list of raised TISSUES and their resolution. This request a public access
- **Conformance test body actors:** review changes for testability.
- **Group of Experts:** works out a proposal for a solution of the TISSUE under the lead of the **Namespace delegates** of the concerned part. If many parts are concerned, then a key namespace delegate is animating the resolution process, usually the one whose part is the most concerned by the Tissue. The Group of Experts is composed of WG experts nominated by the **Owning WG**, including all **Namespace delegates** and their substitute if any, as well as their associated **UML Model Managers**.

## TISSUE record

Creating a TISSUE:

The screenshot shows the 'Create a new tissue' form in the IEC 61850 Tissue Database. The form includes a navigation bar with 'Home', 'Technical Issues', 'Search', 'Settings', and 'Sign Out'. The main heading is 'Create a new tissue'. Below this is a sub-heading 'Report of an editorial, common or technical issue or asking a question'. The form contains several input fields: 'A short subject\*', 'Report relates to the following part of IEC 61850:' (a dropdown menu showing 'Part 1 (2001)'), 'Page\*', 'Clause\*', and 'Paragraph\*'. There are two large text areas for 'Detailed description of the issue\*' and 'Detailed description of the proposed solution to solve the issue\*'. An 'Attachment' section has a 'Choose File' button and 'No file chosen' text. At the bottom, there is an 'Add New Tissue' button and footer links for 'Privacy', 'Contact', and 'Disclaimer'.

The screen above is used to create a new Tissue with the fields:

- Short Subject – a concise description of the problem
- Part – which document the problem occurs in
- Page, Clause, Paragraph – the location in the document
- Detailed description – complete description of the problem and any relevant affects
- Proposed solution – it is expected the reporter will suggest an appropriate resolution to be considered by the editors.

From that point, the Tissue can be updated:



## 1610 PIXIT Ct18 application

**Proposer:** ZIV GRID AUTOMATION, J. Lopez Sarralde

**Created:** 04 Jan 2018

**Status:** Triage

**Part:** Part 10 (2012; Edition 2)

**Links:**

**Page:** 38

**Clause:** Table 26

**Paragraph:**

**Issue:** This tissue is referred to "UCA Conformance Test Procedures for Server Devices with IEC 61850-8-1 Edition 2 interface Revision 1.0" + "TPCL version 1.2.1".

- 1) I think that "PIXIT Ct18" should be mentioned in "sCtl10", "sCtl15", "sCtl16", "sCtl18", "sCtl21", as it is mentioned in "sCtl7", "sCtl17" and "sCtl19" test cases.
- 2) Additionally, in "sCtl16 test d.1)" should indicate "Client sends SelectWithValue request, on response+ sends Operate request" as "sCtl15 test d)" does.
- 3) On the other hand, why in SBOes internal validation can be performed in SelectWithValue or Operate (PIXIT Ct18) and in SBOs it has to be done in Select? For example, see "sCtl15" or "sCtl16".

### Proposal:

Discussion	Public	Created	Status	Ballot until	Editor
Add a comment*: <div style="border: 1px solid #ccc; height: 80px; width: 100%;"></div>					
Status	<input type="checkbox"/>		Triage		
Public comment:	<input type="checkbox"/>				
Ballot until:	<input type="text"/>				
Attachments:	<input type="button" value="Choose File"/>	No file chosen			
<input type="button" value="Add comment"/>					



## Rights

- **Namespace delegate:**

The **Namespace delegate** has the responsibility for a particular part. This role transitions the TISSUE from all states except **Conformance Test Preparation** and **Waiting for WG approval**

- **WGdelegate**

The **WGdelegate**, typically the convenor and an alternate, has the responsibility to verify any TISSUEs transitioned to a Final state, other than “In Force”

- **TISSUE reporter:**

This is any user that is logged in. Is able to open a new TISSUE.

- **Tissue process viewer**

This is a user that is not logged in or identified. Only right is to view existing TISSUEs and public comments.

- **Conformance test body actors**

Delegates of the conformance test procedures working group. This role has the right to transition the TISSUE from **Conformance Test Preparation State**

- **Group of Experts**

This is all the **Namespace delegates** for a specific Working Group. This role can comment TISSUEs at states as described below.

## Attachments

Attachments can be submitted according to commenting rights. The Namespace delegate may make them public, along with the comment. Only logged in users can see attachments.

The following table indicates rights to comment at each State:

	technical expert	extended expert	TISSUE proposer	other users	anonymous
Tissue visible	TADIBFW	TADIBFW	TADIBFW	TADIBFW	TADIBFW
Pubble	TADIBFW	TADIBFW	TADIBFW	TADIBFW	TADIBFW
Nonpublic comment visible	TADIBFW	TADIBFW	T-----	-----	-----
Can submit comment without approval	TADIB-W	TADIB--	T-----	-----	-----
Can submit comment but requires approval	-----	-----	--D-B--	--D-B--	-----
Can approve a comment	T-D-B--	-----	-----	-----	-----
Can change visibility of comment	TADIBFW	-----	-----	-----	-----

Legend	
technical expert	NameSpace delegate, WGDelegate, UMLModelManager of the part the TISSUE is against.
Extended expert	Additional experts with a role: Group of Editors, ConformanceTestBodyActor
TISSUE proposer	the user that proposed the TISSUE
other users	other users logged in
anonymous	anybody not logged in

T	State Triage
A	State Accepted
D	State Discussion
I	State Drafting Implementation until Conformance test Verification
B	Ballot Period
F	State Solution Accepted, Must Implement, In Force, Not applicable, Duplicate, Editorial, Future Improvement
W	States Wait for WG approval