



SNIA Technical Work Group Policies and Procedures

SNIA Technical Council

snia-tc@snia.org

Revision 4.8

March 23, 2021

SNIA Technical Work Group Policies & Procedures

Revision History

Revision	Date	Sections	Originator	Comments
1.00	March 1, 2002	All	Technical Director and Technical Council	First Release
2.00 Trial-Use DRAFT	March 17, 2005	All	Technical Council Managing Director and Technical Council	Added IP Policy changes. Overhauled several sections.
2.1	May 20, 2005	All	Technical Council Managing Director and Technical Council	Minor changes based upon comments received during the trial use.
3.0	March 20, 2006	All	Roger Cummings, Dave Thiel, Arnold Jones	Reworked definitions & document classifications for harmony with IP policy. Separated document classifications from processes. Added Process definitions, including Approval and Standardization. Replaced TWG with TWB where appropriate.
3.1	October 29, 2006	6.5	Technical Council Managing Director and Technical Council	Created flow diagrams for the technical work approval processes. Reworked the text to match the flow diagrams.
3.2	April 11, 2007	6.5.5	Technical Council Managing Director and Technical Council	Updated Standards Process flow diagrams and associated text.
4.0	July 30, 2007	All	David Thiel, Arnold Jones, Jim Carlson, Technical Council	Add software development. Add "internal use" document classification. Many miscellaneous changes.
4.1	June 23, 2009	All	David Thiel, Don Deel	Strengthened Membership notification of SNIA Architecture/Software Votes and posting of results of final Call for IP. Improved labeling of Internal Use Draft documents and software. Added caveat regarding Kavi document sharing. Changed Periodic IP Reviews to occur every ~6 months, rather than at specific times in the year. Made "Other Software" work items not allowed at this time. Extensive cleanup done to improve layout, consistency and readability. All diagrams updated to be more in sync with the text. Corrected issues with the Index and added the newer SNIA logo.

SNIA Technical Work Group Policies & Procedures

Revision	Date	Sections	Originator	Comments
4.2	January 20, 2011	1.1.1, 2, 2.1, 2.4, 4.9, 6.3.2, 11.1, 11.5, 14	David Thiel, Don Deel, Alan Yoder	Update SNIA governance document references. Amplify Provisional TWG status. TC appoints temporary Chair(s) for new TWGs and vacancies. Remove TWG approval of temporary chair appointments. Define special TWG Chair elections to replace interim TWG Chairs. Labeling of unapproved drafts of final documents. New language for IP warning announcements at SMI-S TWG and SMI-TSG meetings. Eliminate the requirement of 10 days notice to TWG members before a vote to release material outside of the TWG. Clarify wording for Rough Consensus votes.
4.3	September 3, 2014	7.4.1, 7.4.2	Mark Carlson	Added information about Open Repositories
4.4			David Thiel, Arnold Jones, Mark Carlson, Bill Martin	Editorial improvements. Remove attendance requirements for TWG voting privileges. Clarify TWG Chair election process.
4.5	May 2, 2016		David Thiel, Arnold Jones, Mark Carlson, Bill Martin	Add CLA participation in TWGs.
4.6	July 17, 2019		David Thiel, Arnold Jones, Mark Carlson, Curtis Ballard	Update 4.1 and 4.2 regarding guest participation in meeting and joint meetings with Alliance Partners.
4.7	June 29, 2020	9, 11	David Thiel, Arnold Jones, Richelle Ahlvers	Update Official Vote Quorum. Add Development and Release of Other Work.
4.8	March 23, 2021	2.3, 2.6, 3.1, 4.1, 4.8, 4.11, 6.4.5	David Thiel, Arnold Jones	Better distinguish Charter and Program of Work. Describe TWG Lifecycle. Update definition of guest and guest attendance tracking. Revise TWG Membership and TWG Meeting Admission requirements. Revise joint meetings of TWGs. Revise standardization process for ISO PAS. Miscellaneous changes. Replace the term SNIA Technical Position with SNIA Standard or SNIA Software.

Suggestions for changes or modifications to this document should be sent to the SNIA Technical Council Managing Director at tcmd@snia.org.

SNIA Technical Work Group Policies & Procedures

The SNIA hereby grants permission for individuals to use this document for personal use only, and for corporations and other business entities to use this document for internal use only (including internal copying, distribution, and display) provided that:

1. Any text, diagram, chart, table or definition reproduced must be reproduced in its entirety with no alteration, and,
2. Any document, printed or electronic, in which material from this document (or any portion hereof) is reproduced must acknowledge the SNIA copyright on that material, and must credit the SNIA for granting permission for its reuse.

Other than as explicitly provided above, you may not make any commercial use of this document, sell any portion of this document, or distribute this document to third parties. All rights not explicitly granted are expressly reserved to SNIA.

Permission to use this document for purposes other than those enumerated above may be requested by e-mailing snia-tc@snia.org; please include the identity of the requesting individual and/or company and a brief description of the purpose, nature, and scope of the requested use.

Copyright © 2002 - 2021 Storage Networking Industry Association.

SNIA Technical Work Group Policies & Procedures

Table of Contents

1	INTRODUCTION	1
1.1	REFERENCES	1
1.1.1	<i>SNIA Documents that take precedence over this document.....</i>	<i>1</i>
1.1.2	<i>SNIA Documents that are subordinate to this document</i>	<i>1</i>
1.1.3	<i>Other reference documents</i>	<i>1</i>
1.2	DEFINITIONS AND ABBREVIATIONS.....	1
1.3	DOCUMENT TERMINOLOGY	4
2	TECHNICAL WORK GROUPS	5
2.1	FORMATION.....	5
2.1.1	<i>Provisional TWG.....</i>	<i>5</i>
2.1.2	<i>“Fully chartered” TWG.....</i>	<i>6</i>
2.2	CHARTER.....	6
2.3	PROGRAM OF WORK	6
2.3.1	<i>Adding, Deleting, or Removing a Work Item</i>	<i>6</i>
2.3.2	<i>Work Item Definition.....</i>	<i>7</i>
2.3.3	<i>Work Item Types.....</i>	<i>7</i>
2.3.3.1	<i>SNIA Architecture Work Item</i>	<i>7</i>
2.3.3.2	<i>SNIA Software Work Item.....</i>	<i>7</i>
2.3.3.3	<i>Document Work Item.....</i>	<i>7</i>
2.3.3.4	<i>Other Software Work Item</i>	<i>8</i>
2.3.3.5	<i>CLA Project Work Item (a.k.a CLA Project)</i>	<i>8</i>
2.3.4	<i>Work Item Approval Process.....</i>	<i>8</i>
2.3.4.1	<i>Document Work Items and SNIA Architecture Work Items</i>	<i>8</i>
2.3.4.2	<i>SNIA Software Work Items and Other Software Work Items.....</i>	<i>8</i>
2.3.4.3	<i>CLA Project Work Item (a.k.a. CLA Project)</i>	<i>9</i>
2.3.5	<i>Work Item Status</i>	<i>9</i>
2.4	CHAIRS.....	9
2.4.1	<i>Chair Responsibilities</i>	<i>9</i>
2.4.2	<i>Chair Rules and Restrictions.....</i>	<i>9</i>
2.4.3	<i>Chair Elections.....</i>	<i>10</i>
2.5	SECRETARY	10
2.6	TWG LIFECYCLE	12
3	TWG MEMBERSHIP AND PARTICIPATION.....	14
3.1	TWG MEMBERSHIP	14
3.2	CLA PARTICIPATION	14
3.3	TWG INDUSTRY EXPERT.....	15
4	TWG MEETINGS.....	16
4.1	MEETING ADMISSION REQUIREMENTS	16
4.1.1	<i>Representative.....</i>	<i>16</i>
4.1.2	<i>Guest</i>	<i>16</i>

SNIA Technical Work Group Policies & Procedures

4.1.2.1	MEMBER who is not a TWG Member	16
4.1.2.2	CLA Participant	16
4.1.2.3	Invited Non-SNIA member company	16
4.1.3	<i>Uninvited Non-SNIA member company</i>	16
4.1.4	<i>SNIA Advisor</i>	17
4.1.5	<i>SNIA Staff and SNIA Contractors</i>	17
4.2	JOINT MEETING WITH ALLIANCE PARTNER(S)	17
4.3	SNIA SYMPOSIA AND SNIA TECHNICAL SYMPOSIA.....	17
4.4	ADDITIONAL MEETINGS.....	17
4.5	ANNOUNCEMENTS AND CANCELLATIONS	18
4.6	INFORMAL MEETINGS	18
4.7	AGENDA.....	18
4.8	ATTENDANCE TRACKING.....	18
4.8.1	<i>Representative Attendance Tracking</i>	18
4.8.2	<i>Guest Attendance Tracking</i>	18
4.9	MINUTES.....	19
4.10	INTELLECTUAL PROPERTY ANNOUNCEMENTS	20
4.11	JOINT MEETINGS OF TWGs.....	20
5	TWG SUB GROUPS	21
5.1	FORMATION AND STRUCTURE	21
5.2	OPERATION	21
6	DEVELOPMENT AND RELEASE OF SNIA ARCHITECTURE AND DOCUMENT TECHNICAL WORK.....	23
6.1	DEFINITIONS.....	23
6.2	COPYRIGHTS AND DISCLAIMERS.....	23
6.3	SNIA TECHNICAL DOCUMENT CLASSIFICATIONS	23
6.3.1	<i>In-Development Document Classifications</i>	24
6.3.1.1	Internal Use Draft.....	24
6.3.1.2	Working Draft.....	24
6.3.1.3	Trial-Use Draft.....	24
6.3.2	<i>Completed Document Classifications</i>	25
6.3.2.1	<Base TWB> Proposal.....	25
6.3.2.2	SNIA Technical Proposal.....	26
6.3.2.3	SNIA Standard.....	26
6.4	SNIA TECHNICAL DOCUMENT APPROVAL PROCESSES.....	26
6.4.1	<i>Release Process</i>	27
6.4.2	<i>IP Review Process</i>	29
6.4.2.1	Periodic IP Review Process.....	29
6.4.2.2	Final Document IP Review Process	29
6.4.3	<i>Technical Approval Process</i>	32
6.4.4	<i>Architecture Approval Process</i>	33
6.4.5	<i>SNIA Standardization Process</i>	38
6.4.5.1	PAS Explanatory Process.....	38

SNIA Technical Work Group Policies & Procedures

6.4.5.2	Comment Resolution Process.....	39
6.4.6	<i>Errata Review Process</i>	39
6.5	TEST SPECIFICATIONS.....	42
7	DEVELOPMENT AND RELEASE OF SNIA SOFTWARE TECHNICAL WORK ..	43
7.1	DEFINITIONS.....	43
7.2	LICENSES, COPYRIGHTS AND DISCLAIMERS.....	43
7.3	SOFTWARE PACKAGE CLASSIFICATIONS	44
7.3.1	<i>In-Development Software Package Classifications</i>	44
7.3.1.1	Internal Use Draft.....	44
7.3.1.2	Working Draft.....	44
7.3.1.3	Trial-Use Draft (analogous to beta test).....	45
7.3.2	<i>Completed Software Package Classifications</i>	45
7.3.2.1	SNIA Software	45
7.4	SOFTWARE PACKAGE APPROVAL PROCESSES	46
7.4.1	<i>Open Repositories</i>	46
7.4.2	<i>Software Release Process</i>	46
7.4.3	<i>IP Review Process</i>	48
7.4.3.1	Periodic IP Review	49
7.4.3.2	Final SNIA Software IP Review Process	49
7.4.4	<i>SNIA Software Approval Process</i>	50
7.4.5	<i>Software Errata Review Process</i>	54
7.4.5.1	Software Errata Rationale.....	54
7.4.5.2	Software Errata Review.....	55
7.5	TESTS AND TEST SPECIFICATIONS.....	57
8	DEVELOPMENT AND RELEASE OF OTHER SOFTWARE TECHNICAL WORK	58
9	DEVELOPMENT AND RELEASE OF OTHER SNIA-BRANDED WORK.....	59
9.1	SCOPE.....	59
9.2	GENERAL GUIDELINES.....	59
9.3	APPROVAL AND RELEASE PROCESS	59
9.4	REVIEW PROCESS	59
9.4.1	<i>In-Meeting Review</i>	60
9.4.2	<i>Electronic Review</i>	60
9.5	DECISION PROCESS.....	60
10	SNIA ARCHITECTURE AND SNIA SOFTWARE INTELLECTUAL PROPERTY PROCESS	61
10.1	DESIGNATION AS SNIA ARCHITECTURE OR SNIA SOFTWARE.....	61
10.2	IP REVIEW	61
10.2.1	<i>Periodic IP Review</i>	61
10.2.2	<i>Final IP Review</i>	61
10.2.3	<i>IP Review follow-up</i>	61
11	TWG VOTING.....	62

SNIA Technical Work Group Policies & Procedures

- 11.1 OFFICIAL VOTE..... 62
 - 11.1.1 *Quorum*..... 62
 - 11.1.2 *Official Voting Process*..... 62
 - 11.1.3 *Official Vote Required*..... 63
 - 11.1.4 *Grant Authority of an Official Vote*..... 63
 - 11.1.5 *Electronic Votes*..... 64
- 11.2 ROUGH CONSENSUS..... 64
- 11.3 APPEAL PROCESS..... 64
- 12 SNIA WEB SITE..... 65**
 - 12.1 AUTOMATIC OPT-IN 65
 - 12.2 TWG ONLINE STATUS..... 65
 - 12.3 DOCUMENT SHARING 65
- 13 TECHNICAL COUNCIL MANAGING DIRECTOR COMMUNICATION 66**
 - 13.1 REQUIRED NOTIFICATION 66
- 14 TECHNICAL WORK GROUP REVIEWS 67**
- 15 POLICIES AND GUIDELINES FOR SOFTWARE DEVELOPMENT 68**
 - 15.1 GENERAL POLICIES AND GUIDELINES FOR ALL SOFTWARE DEVELOPMENT 68
 - 15.2 POLICIES AND GUIDELINES FOR ALL SOFTWARE DEVELOPMENT WITHIN TWGs 68
 - 15.3 POLICIES AND GUIDELINES FOR SNIA SOFTWARE DEVELOPMENT 68
 - 15.4 POLICIES AND GUIDELINES FOR OTHER SOFTWARE DEVELOPMENT 70
- 16 SNIA RESOURCES FOR TWGS 71**
 - 16.1 EMAIL REFLECTORS..... 71
 - 16.2 WEB SITE AREA 71
 - 16.3 CONFERENCE CALL RESOURCES 71
 - 16.4 SNIA STAFF SUPPORT..... 71
 - 16.5 TECHNICAL COUNCIL..... 71
 - 16.6 FEEDBACK PORTAL..... 71
 - 16.7 CLA PROJECT REPOSITORY..... 71
- 17 INDEX..... 72**

1 Introduction

The primary objective of this document is to establish fair and consistent policies and procedures for the operation of SNIA Technical Work Groups. This document is owned and maintained by the SNIA Technical Council under the provisions of the Policies and Procedures of the SNIA.

This document is intended for use by all Members and Participants of the Storage Networking Industry Association.

1.1 References

1.1.1 SNIA Documents that take precedence over this document

- 1) “Policies and Procedures of the Storage Networking Industry Association” (SNIA P&P).
This document was written under V4.21 (November 16, 2017) of the SNIA P&P.
- 2) “Storage Networking Industry Association (SNIA) Intellectual Property Policy” (SNIA IP Policy).
This document was written under Version 4.0 of the SNIA IP Policy.
- 3) “Bylaws of the Storage Networking Industry Association” (SNIA Bylaws).
This document was written under the November 16, 2017 version of the SNIA Bylaws.

The current, authoritative version of each of the above documents is available at http://www.snia.org/about/corporate_info/documents/ and http://www.snia.org/about/corporate_info/ip_policy/.

1.1.2 SNIA Documents that are subordinate to this document

“Guidelines for Approval of SNIA Technical Work Groups (TWG) v3.0”, Revision Date August 8, 2011.

This document is available at <https://members.snia.org/wg/Members/home/resources>.

1.1.3 Other reference documents

- 1) “SNIA Contributor Agreement for Non-Members Version 1.0 Version Data March 25, 2016” (CLA Agreement). The current version is available at: <https://www.snia.org/opensource>.

1.2 Definitions and Abbreviations

Charter

A short text that clearly explains the purpose and objectives of a Technical Work Group (TWG). The Charter conveys the scope, relevance and uniqueness of the TWG, and thereby constrains the TWG activities to only those fulfilling the scope. The Charter acts as a "summary"

	introduction to the TWG for SNIA membership, other TWGs, and outside interested parties.
CLA Agreement	SNIA Contributor Agreement for Non-Members.
CLA Participant	Individual who has executed a CLA Agreement for a specific CLA Project.
CLA Project	A SNIA Architecture Work Item or SNIA Software Work Item that has been designated a CLA Project by the TC and the SNIA Board.
MEMBER	A Voting Member or a Participant of SNIA, i.e., a MEMBERS (sic) as defined in the SNIA IP Policy.
Official Vote	A TWG vote that is required to be conducted as defined in section 11.1.
Program of Work	A list of Work Items that a Technical Working Body has been tasked to perform.
Representative	An individual who is on the roster of the TWG.
SNIA	Storage Networking Industry Association
SNIA Architecture	As defined in the SNIA IP Policy, Technical Work done by a TWG that is formally designated as SNIA Architecture by the SNIA Board.
SNIA Software	As defined in the SNIA IP Policy, Technical Work done by a TWG that is formally designated as SNIA Software by the SNIA Board.
SNIA Technical Document	Technical Work in document form that has completed one or more of the document approval processes defined in section 6.4.
SNIA Work-in-Progress	As defined in the SNIA IP Policy, Technical Work in draft form that the SNIA Board might ultimately consider for formal designation as SNIA Architecture or SNIA Software.
Software Module	An individual item of software code, binary, executable, etc.; typically organized as a single file.
Software Package	A collection of software modules and associated documentation.
Technical Work	As defined in the SNIA IP Policy, Technical Work means Work which is developed, created, modified, or accepted by a Technical Working Body within the Charter and scope of its activities. Technical Work may include Single Work, Joint

	Work, and Contributed Work, as defined in the SNIA IP Policy.
Technical Working Body	As defined in the SNIA Policies and Procedures, a group within the SNIA whose primary focus is on technical development activities. The Technical Council (TC) and all Technical Work Groups (TWGs) are considered Technical Working Bodies.
TC	SNIA Technical Council. See SNIA P&P.
TCMD	SNIA Technical Council Managing Director. See SNIA P&P.
TWB	Technical Working Body
TWG	SNIA Technical Work Group. Sometimes referred to as SNIA Technical Working Group. See section 2.
TWG Member	A MEMBER, that has joined and retained membership in the TWG (section 3).
TWG Voting Member	A TWG Member that is an SNIA Voting Member. See SNIA P&P.
Work	As defined in the SNIA IP Policy, Work means architecture, specifications, proposed standards, information, data, materials, publications, white papers, presentations, proposals, documents, software, firmware, computer programs, and code, but does not include hardware or mask works. Additionally, Work specifically includes architecture and specifications which are based on the ideas in software developed in or contributed to a TWG for use in SNIA Software.
Work Item	Technical Work that is a named constituent of the Program of Work of a TWB. Where the result of a Work Item is SNIA Work-in-Progress, the definition of the Work Item will include the intended disposition of the material and a rough schedule.

1.3 Document Terminology

May	Indicates an action that is optional.
Optional	Describes an action that may or may not be performed. If performed, the action shall be performed as described.
Shall	Indicates an action that is mandatory and must be performed.
Should	Indicates an action that is optional, but it is <i>strongly</i> recommended that the action be taken.

2 Technical Work Groups

Technical Work Groups (TWGs) are subject-focused groups of SNIA Members and SNIA Participants, chartered by the SNIA to carry out the original technical work of the organization.

Each TWG is provided with resources by the SNIA to assist the TWG in the execution of its Charter and the publication and promotion of TWG developed materials. For example, a TWG may receive an e-mail reflector, web space, coordination of face-to-face Work Group meetings, and other benefits of SNIA support.

The SNIA Technical Council (TC) is the body entrusted with management oversight of TWGs. Each TWG is chartered by the TC and is expected to produce meaningful material of technical merit. The TC is responsible for creating and dissolving TWGs, establishing policies and procedures for TWGs, overseeing the charters, work, and state of new and existing TWGs, and reviewing TWG relevancy.

Bounded by a program of work, a TWG has a finite lifetime and may be dissolved by the TC when it has no planned work or insufficient participation.

2.1 Formation

The process for the formation of a TWG is described in the document “*Guidelines for Approval of SNIA Technical Work Groups*”. Formation of a new TWG requires the approval of the TC.

When a TWG is formed, the TC approves an initial Charter and an initial *Program of Work* containing *Work Items*.

When a new TWG is formed, the TC shall appoint a chair or co-chairs for the new TWG, to serve on a temporary basis until TWG Members and their Representatives are recruited and either the annual election of TWG chairs takes place or a special TWG chair election is held.

2.1.1 Provisional TWG

To assist the formation of new TWGs, the TC may grant Provisional Approval to a proposed TWG, creating a Provisional TWG (TWG in Provisional State – see section 2.6). The purpose of a Provisional TWG is to complete the TWG formation process by socializing its agenda, recruiting members, creating its proposed Charter, and creating a Work Item List to be presented to the TC as part of the request for the creation of the TWG. A Provisional TWG is not considered a TWG as defined by the SNIA IP Policy and therefore does not invoke provisions of the SNIA IP Policy.

A Provisional TWG shall not perform technical work. This restriction includes work on developing any material that may become SNIA Architecture or SNIA Software.

However, a Provisional TWG shall perform work related to its charter. This includes collecting requirements, promoting the planned work of the TWG, seeking members, planning work, etc.

A Provisional TWG is encouraged to seek fully chartered status as soon as possible so that it is able to proceed with all aspects of its charter.

2.1.2 “Fully chartered” TWG

The TC may create a TWG as “fully chartered” (Active State – see section 2.6) or create a Provisional TWG (Provisional State) and later “upgrade” the Provisional TWG to Active State. A “fully chartered” TWG is considered a formal TWG as defined by the SNIA IP Policy. See section 2.6 for information on TWG States.

2.2 Charter

The TWG is responsible for keeping its *Charter* up to date. This responsibility includes bringing proposed updates to the TC and keeping this information up to date in the appropriate section on the SNIA web site.

Whenever a TWG proposes changing its Charter, the TWG shall poll Representatives to ascertain whether the proposed change may cause TWG Members or their Representatives to leave the group. The TWG shall also make good faith efforts to ascertain whether the proposed change will prevent SNIA MEMBERS who are considering joining the TWG from actually joining the TWG. This information shall be considered by the TWG in deciding whether or not to forward the proposal to the TC. The intent of this provision is not to provide each TWG Member with a veto over TWG activities; the intent is to enable fully informed decisions that avoid unconsidered side-effects.

Proposals to change the Charter of a TWG, along with the poll results, shall be presented to the TC and approved by the TC before taking effect.

2.3 Program of Work

Each TWG shall have one or more defined Work Items that collectively are the Program of Work of the TWG. The TWG is responsible for keeping its *Program of Work* up to date, including the status of all Work Items. This responsibility includes bringing proposed updates to the TC and keeping this information up to date in the appropriate section on the SNIA web site.

2.3.1 Adding, Deleting, or Removing a Work Item

Whenever a TWG proposes adding, deleting, or modifying a Work Item, the TWG shall poll Representatives to ascertain whether the proposed change may cause TWG Members or their Representatives to leave the group. The TWG shall also make good faith efforts to ascertain whether the proposed change will prevent SNIA MEMBERS who are considering joining the TWG from actually joining the TWG. This information shall be considered by the TWG in deciding whether or not to forward the proposal to the TC. This information shall also be provided to the TC for consideration in its deliberations. The intent of this provision is not to provide each TWG Member with a veto over TWG activities; the intent is to enable fully informed decisions that avoid unconsidered side-effects.

Any additions and/or modifications to a TWG's approved *Program of Work* shall go through the Work Item Approval Process (section 2.3.4). This includes but is not limited to the following:

- Modifications to the definitions of previously approved Work Items
- Creation of new Work Items
- Deletion of Work Items (other than by completion)

2.3.2 Work Item Definition

A Work Item is a complete deliverable (or related set of complete deliverables) toward which the TWG is actively making progress. Each Work Item must be within the scope of the Charter of the TWG.

The statement of each Work Item must include:

- Name (by which it is referenced)
- Scoping statement that describes the Work Item
- Deliverables
- Target schedule date(s)
- Work Item type
- Intended disposition of this Work Item when complete

2.3.3 Work Item Types

Each Work Item must be of one of the following types. These types of Work Items are defined because different processes apply to Work Items of different types.

2.3.3.1 SNIA Architecture Work Item

A Work Item is of SNIA Architecture type if it may have as a deliverable or if it may significantly influence the technical content of SNIA Architecture or a de-jure standard.

2.3.3.2 SNIA Software Work Item

A Work Item is of SNIA Software type if it may have SNIA Software as a deliverable or if it may significantly influence the technical content of SNIA Software. A SNIA Software Work Item may include associated documentation.

The Charter of a TWG with a SNIA Software Work Item must specify the license(s) under which the TWG may accept Contributions of software and the license(s) under which the TWG may release software. The licensing provisions of the Charter must be approved by the TC and the SNIA Board.

2.3.3.3 Document Work Item

A Work Item is of Document type if it leads to a document (not software) deliverable that does not rise to the level of SNIA Architecture.

Examples of Document Work Items include white papers, dictionary terms, and SNIA tutorials.

2.3.3.4 Other Software Work Item

A Work Item is of Other Software type if it has a software deliverable that does not rise to the level of SNIA Software. An Other Software Work Item may include associated documentation.

Policies and procedures for Other Software Technical Work are not yet defined, and Other Software Work Items are not allowed at this time.

2.3.3.5 CLA Project Work Item (a.k.a CLA Project)

A CLA Project is a SNIA Architecture Work Item or SNIA Software Work Item that has been designated a CLA Project by the TC and the SNIA Board.

In order for a CLA Project designation to be considered, the Charter of a TWG must explicitly allow CLA Projects.

A CLA Project is distinguished from other similar Work Items in that it allows contributions from CLA Participants.

2.3.4 Work Item Approval Process

As part of the TWG Work Item approval/review process, the TC will determine the document classification (6.3) and the process to be followed for approval of the resulting material.

For Work Items of SNIA Architecture or SNIA Software type, the TC will inform the SNIA Board and the SNIA Membership accordingly, and the Work Item will be designated as a SNIA Work-in-Progress.

2.3.4.1 Document Work Items and SNIA Architecture Work Items

A TWG may create or modify Work Items that are within the scope of its existing Charter with an Official Vote (11.1).

The TWG Chair shall notify the Technical Council Managing Director (TCMD) of the change within 7 days. The TCMD will then notify the TC that a TWG Work Item change has occurred. The TC has 30 days from the TCMD's notification to veto the Work Item change. If no veto is generated within this time period, then the Work Item change is automatically approved. During this period, the TWG has contingent authorization to proceed as though the change was approved.

If a Work Item change is vetoed, the veto will provide an explanation of the reasons why it was vetoed. A TWG may resubmit a Work Item change after addressing all issues generated by the original veto.

2.3.4.2 SNIA Software Work Items and Other Software Work Items

A TWG may request that the TC add or modify a Work Item to its Program of Work. The TWG shall work with the TCMD and a representative of the TC to specify the proposed

Work Items and any associated changes to the Charter of the TWG. The proposal must be presented to the TC and approved by the TC (with added/changed licenses also subject to approval by the SNIA Board) before the change becomes effective.

2.3.4.3 CLA Project Work Item (a.k.a. CLA Project)

In order for a CLA Project to be considered, the Charter of a TWG is required to explicitly allow CLA Projects.

A CLA Project shall be added to the TWG's Program of Work by the specified process for the SNIA Software Work Item or SNIA Architecture Work Item. In addition, the CLA Project shall be approved by the SNIA Board of Directors.

A TWG may request that the TC add or modify a CLA Project Work Item to its Program of Work. The TWG shall work with the TCMD and a representative of the TC to specify the proposed Work Items and any associated changes to the Charter of the TWG.

2.3.5 Work Item Status

The TC may request status on the development of a Work Item at any time.

2.4 Chairs

2.4.1 Chair Responsibilities

The main purpose of a TWG Chair is to assure that meetings run smoothly and stay focused on the meeting's agenda. In addition, the Chair is responsible for keeping the TCMD informed of the status of all activities in the TWG.

The responsibilities of a TWG Chair include but are not limited to the following:

- Assuring that meetings are run in a *Professional Manner* following an approved agenda.
- Assuring that all bylaws, policies and procedures of the SNIA are followed by the TWG.
- Ensuring that meeting attendance is recorded (4.8)

Each TWG Chair, when requested by the TCMD, is responsible for creating a Status Report of their respective TWG.

2.4.2 Chair Rules and Restrictions

The following rules and restrictions shall apply to TWG Chairs.

- A TWG shall have one or two Chairs.
- A TWG may have two Chairs and in such a case the two Chairs will be referred to as Co-Chairs and shall work for different MEMBERS.
- In the case of a vacancy, the TCMD or the TC may appoint an interim Chair or Co-Chairs, to serve until a special chair election is held or the annual election of chairs takes place.

- The TC may remove a Chair or Co-Chair if their duties are not being performed properly and in a professional manner.
- Any time there is a dispute between two Co-Chairs that needs to be resolved; it shall be resolved by an Official Vote (11.1).

2.4.3 Chair Elections

At the beginning of each calendar year, a TWG shall hold Chair elections. The annual election provides the opportunity for other interested TWG participants to become Chair or Co-Chair. All Sub-Groups within a TWG shall also hold annual Chair elections. The TCMD shall conduct the annual Chair elections by an Official Vote.

The TCMD shall issue a call for nominations a minimum of two (2) weeks before the election start date.

Any Representative may nominate a candidate. Self-nomination is allowed.

Each candidate for election to Chair/Co-Chair shall be a Representative. Existing Chairs are welcome to re-run and there is no term limit.

One week before the close of the nomination period, the TCMD shall publish the list of nominees in order to inform the Representatives and allow additional nominations to be made.

If only one candidate seeks a Chair position, then that candidate will become the Chair and no election is required.

If exactly two (2) candidates seek a Chair position, then those candidates will become the Co-Chairs and no election is required.

If three (3) or more candidates seek a Chair position, then an Official Vote (section 11.1) shall be conducted where each voter (section 11.1.2) may vote for zero, one, or two of the candidates. The two candidates with the greatest number of votes will be Co-Chairs of the TWG. In the event of a tied vote:

- a) if there is a single candidate receiving the largest number of votes, the TCMD shall conduct a run-off election among the remaining candidates
- b) if multiple candidates received the largest number of votes, the TCMD shall conduct a run-off election among those candidates via an Official Vote.

When a TWG Chair position is held by an interim Chair and the regular annual election is not imminent, the TCMD shall conduct a special Chair election.

2.5 **Secretary**

A TWG may elect a Secretary, someone other than the Chair. The Secretary is responsible for ensuring that correct meeting notes are taken and distributed, scheduling votes, taking and counting the votes, and keeping a roster of TWG members that are eligible to vote when an Official Vote (section 11.1) is called.

The responsibilities of a TWG Secretary include but are not limited to the following:

- Distribute an agenda for each conference call and meeting at least 2 days prior to the event.
- Take detailed minutes as described in section 4.9.
- Distribute minutes for each conference call and meeting within 5 working days after the event.
- Keep the conference call schedule up-to-date on the SNIA Web site.

If a TWG does not elect a Secretary, then the above duties become the responsibility of the Chair. At the start of a meeting, where there is no Secretary present, the TWG Chair may assign someone else in the meeting the duty of taking the meeting minutes.

2.6 TWG Lifecycle

A TWG has a lifecycle defined as a set of TWG States. A TWG is always in one of the states of the TWG lifecycle. All TWG State transitions required the approval of the TC.

A TWG begins in either as a Provisional TWG (section 2.1.1) in the Provisional State or as a “fully chartered” TWG (section 2.1.2) in the Active State.

The Provisional State is a short-term state during which a charter is developed and technical work planned, but not performed. A Provisional TWG may transition to Active State or be Dissolved.

The Active State is the “normal” state during which a TWG carries out work within its Charter. Most sections of this document assume a TWG in the Active State. A TWG in the Active State may transition to the Maintenance State or the Dissolved State.

The Maintenance State is a state where the TWG has decided, with TC approval, to meet irregularly as needed. Otherwise, the TWG is the same as a TWG in the Active State. This is intended for situations where the TWG has nothing to do until some external event or input happens, e.g., a software TWG performing only maintenance as issues are reported or a TWG waiting for external approvals of a standard and having no other work to perform. A TWG in the Maintenance State may transition back to the Active State or transition to the Dissolved State.

The Dissolved State is the terminal state for TWGs when their work has been completed and/or there is no longer a reason for the existence of the TWG. TWG materials are archived; the TWG does not otherwise exist.

The following table summarizes the states of the TWG lifecycle and the attributes of a TWG in the various stages of the TWG lifecycle.

TWG States with Attributes

Attribute	TWG State			
	Provisional	Active	Maintenance	Dissolved
Meetings	Regularly scheduled	Regularly scheduled	As needed	No
SNIA-provided resources	Full	Full	Full	Archive
Charter	Yes (draft)	Yes	Yes	No
Work Items	No	Yes	Yes	No
Technical Work	No	Yes	Yes	No
Members	Yes	Yes	Yes	No
IP Policy	Not Applicable	Yes	Yes	Yes
Leadership	TC appointed	Elected	Elected	TC
Transitions allowed	>Active >Dissolved	>Maintenance >Dissolved	>Active >Dissolved	None
Formal TWG	No	Yes	Yes	No

3 TWG Membership and Participation

3.1 TWG Membership

A MEMBER becomes a TWG Member when a Representative of that MEMBER joins the TWG. The MEMBER remains a TWG Member until the MEMBER requests that its TWG membership be terminated. Being a TWG Member obligates the MEMBER to provisions of the SNIA IP Policy relevant to this TWG.

Participation in a TWG includes (for Representatives):

- Being listed on the TWG membership roster (Causeway member list)
- Access to the Web Site Area (section 16.2), Email Reflectors (section 16.1), CLA Project Repositories, and other materials of the TWG
- Right to attend all TWG meetings
- Right to contribute to Rough Consensus (section 11.2)

The rules for participation in a TWG are as follows:

- A MEMBER must not have a SNIA IP Policy Waiver in place.
- A Representative may join a TWG. This may, under the SNIA IP Policy, obligate the Representative and/or the Representative's company/organization with respect to any of the work items of the TWG.
- A MEMBER may have multiple Representatives in a single TWG.
- Designated SNIA Staff and SNIA Contractors may participate in a TWG as an aspect of their assigned duties.

3.2 CLA Participation

CLA Participation is for a specific CLA Project of a TWG.

A CLA Participant has the following participation rights:

- Read-only access to the CLA Project Repository for the documents and software of the CLA Project
- Ability to offer Contributions (as defined in the CLA Agreement) for consideration by the TWG

CLA Participants do not have the right to:

- Attend TWG meetings (except by explicit invitation (section 4.1.2.2))
- Access the TWG's Email Reflectors
- Access the TWG's Web Site Area
- Vote on any matter

The rules for CLA participation in a TWG are as follows:

- The individual must have executed a CLA Agreement for the CLA Project in which the individual participates

3.3 TWG Industry Expert

During the development process a TWG may require the assistance of a non-SNIA Member Industry Expert. The Chair of a TWG, with an Official Vote (section 11.1), may make a request to the TCMD that the desired Industry Expert be granted a SNIA Individual Membership at no charge so that they may join and participate in the TWG. If granted by the SNIA Executive Committee in consultation with the TC, the Industry Expert shall be offered an Individual Membership with all rights associated with it. If this offer is accepted, the Industry Expert shall agree to all policies and procedures associated with a SNIA Individual Membership, including the SNIA IP Policy. The TCMD will review the Industry Expert's membership on an annual basis.

It is not the intent of this provision that it be used in any way to subvert the intent of the SNIA IP Policy. Therefore, the use of an Industry Expert from a company that may reasonably be considered a candidate for SNIA membership shall be carefully considered by the TWG, the TCMD, and the TC.

4 TWG Meetings

4.1 Meeting Admission Requirements

4.1.1 Representative

Any number of Representatives may attend any meeting of the TWG, i.e., any TWG Member may be represented by any number of individuals at any meeting of the TWG.

4.1.2 Guest

A guest is any attendee of a TWG meeting who is not on the TWG membership roster.

4.1.2.1 MEMBER who is not a TWG Member

Any MEMBER (that is not a TWG Member) that is bound by the SNIA IP Policy may have individuals attend a total of at most two meetings of any TWG (of which it is not a member) within any 12 month period for the purposes of TWG membership consideration. This shall be recorded in the attendance for the meeting. Attendance is restricted to observation only; there shall be no active participation.

4.1.2.2 CLA Participant

A CLA Participant may attend a TWG meeting only by specific invitation of the TWG Chair/Co-Chairs. CLA Participant guests may actively participate within the bounds of their invitation.

4.1.2.3 Invited Non-SNIA member company

The chair/co-chairs of a TWG or the SNIA business development function may request that the SNIA Executive Director invite representatives of a company that is not an SNIA member to a specific TWG meeting as guests. The company must be eligible for SNIA membership.

After approval by the Executive Director, the chair/co-chairs may issue the invitation to the representatives.

If the TWG meeting is part of an SNIA or other event, the guest must be a registered event attendee. A non-SNIA member company may be invited and attend meetings of a TWG as a guest at most twice within any 12 month period.

Guests are restricted to observation only and shall not actively participate in the meeting.

4.1.3 Uninvited Non-SNIA member company

If an individual not representing a MEMBER is present without an invitation, the TWG chair/co-chairs shall request that the individual withdraw and inform the TCMD and SNIA Executive Director. If the individual refuses to withdraw, the chair/co-chair shall a) in the case of an on-line attendee, expel the individual from the call, or b) in the case of

an in-person attendee, suspend the meeting and inform the TCMD and the Executive Director of the situation.

4.1.4 SNIA Advisor

The SNIA Board of Directors or the TC may designate individuals as advisors to a TWG. These individuals may attend TWG meetings and participate ONLY in non-technical content. These individuals participate on behalf of the SNIA and they and their companies are not subject to the obligations of the SNIA IP Policy.

4.1.5 SNIA Staff and SNIA Contractors

Designated SNIA Staff and SNIA Contractors may participate in a TWG as an aspect of their assigned duties.

4.2 Joint meeting with Alliance Partner(s)

This section addresses joint meetings of a TWG and Alliance Partner(s).

The SNIA Joint-Meeting-Notice slides, available from the TCMD and at <https://members.snia.org/wg/twgchairs/document/33400>, shall be presented at the start of the meeting. A similar set of slides from the Alliance Partner(s) shall also be presented. These slides establish each Alliance Partner's rules for participation in the meeting.

The TWG should be familiar with the relevant terms of the Alliance Agreement(s) between the SNIA and the Alliance Partner(s).

4.3 SNIA Symposia and SNIA Technical Symposia

The SNIA regularly sponsors *SNIA Symposia* and *SNIA Technical Symposia* where Technical Working Bodies (TWBs), Committees, Initiatives, and Forums may meet face to face.

TWGs and TWG Sub Groups are encouraged to meet face to face at least twice a year and should consider SNIA Symposia and SNIA Technical Symposia as venues for these meetings.

4.4 Additional Meetings

TWGs may meet face to face outside of (and in addition to) the SNIA Symposia and SNIA Technical Symposia. For such meetings, one of the TWG members should host the meeting by providing meeting room facilities, including internet access and conference call capability. TWGs may consider the use of a SNIA Technology Center for such meetings.

In addition, TWGs should make use of phone conference calls on a regular basis to help accelerate the completion of the TWG's Program of Work. See section 16.3 for available conference call resources.

4.5 Announcements and Cancellations

The following rules apply to all *face to face* meeting announcements and cancellations.

- A minimum 14 day notice shall be given for any meeting announcement or cancellation.
- Meeting cancellations require TCMD approval.

The following rules apply to all *conference call* meeting announcements:

- A minimum 7 day notice shall be given for meeting announcements.
- Changes to the published schedule of a regular reoccurring conference call shall have a minimum 7 day notice for the announcement of changes.

4.6 Informal Meetings

Meetings that do not meet the criteria for a proper meeting announcement (section 4.5) will be classified as *Informal Meetings*. There are certain restrictions that apply to *Informal Meetings* that are described in section 11.1 (Official Vote) of this document.

4.7 Agenda

At least 7 days prior to any meeting a written draft Agenda shall be distributed to the TWG members and any other invited attendees.

The purpose for prior distribution of a draft Agenda for a meeting include:

- Informing TWG members and invited attendees of the purpose of the meeting
- Enabling attendees to plan and prepare for the meeting
- Providing a notice of matters of substance that will be decided at the meeting.

When the purpose of a meeting is to conduct on-going work, it is sufficient to list on the agenda “ongoing work” on a specified approved TWG Work Item. All planned Official Votes shall be specifically on the agenda.

4.8 Attendance Tracking

Good record keeping makes accurate attendance tracking necessary. The SNIA IP Policy makes accurate attendance records essential.

4.8.1 Representative Attendance Tracking

Attendance at every TWG meeting (face-to-face or concall) shall be recorded using the SNIA website tool for attendance tracking. The information recorded for each attendee shall include at least: attendee’s name, name(s) of company/organization represented, and email address. If an attendee is a guest (section 4.1.2) this shall be noted in the list of attendees.

4.8.2 Guest Attendance Tracking

A guest is an attendee of a TWG meeting who is not on the TWG membership roster (section 4.1.2).

Each TWG Chair shall maintain a TWG Guest Attendance Log spreadsheet, located in the Administrative folder of their Causeway group. The Chair shall record attendance in this spreadsheet for any guest at a meeting. The guest attendance (name, company, and email address) shall also be recorded in the minutes of the meeting.

At the beginning of a meeting the TWG Chair will notify any SNIA Member guest that attendance at the meeting will count towards obligating, under the SNIA IP Policy, their company to the work items of the TWG. If according to the TWG Guest Attendance Log, this is the 3rd time anyone from a company that is not a TWG Member has attended a TWG meeting in the last 12 months, the TWG Chair shall request that the individual withdraw and inform the TCMD and SNIA Executive Director. If the individual refuses to withdraw, the chair/co-chair shall a) in the case of an on-line attendee, expel the individual from the call, or b) in the case of an in-person attendee, suspend the meeting and inform the TCMD and the Executive Director of the situation.

Immediately after any TWG meeting in which guests attended, the TWG Chair shall notify the TCMD of the guests by emailing a copy of the updated TWG Guest Attendance Log to the TCMD.

Upon notification the TCMD shall:

- For SNIA Members: Remind via email each guest and their company's Primary Representative about the SNIA policy for guest attendance at TWG meetings.
- For invited non-SNIA Members: Provide necessary information to SNIA Member Services for Membership recruitment.

4.9 Minutes

At every TWG meeting (face to face or conference call) if the TWG does not have a Secretary (section 2.5) the Chair shall appoint someone to take the minutes of the meeting.

The minutes of a meeting as a minimum shall include:

- Record that the SNIA IP Policy meeting announcement was made at the start of the meeting
- Results of the call to approve the minutes of the previous meeting
- Action Items
- Results of Official Votes (section 11.1)
- Results of discussions
- Update on near-term deliverables
- The name and contact information of the person recording the minutes
- The actual attendance or a pointer to where attendance is recorded

The minutes of every TWG meeting shall be posted via the Causeway meeting tool on the SNIA Web site within 5 business days of the meeting.

At the next TWG meeting, the minutes from the prior meeting shall be reviewed, corrected as necessary, and approved through a vote.

4.10 Intellectual Property Announcements

At the start of every meeting the TWG Chair (or Chair representative) shall announce to all present:

“You are hereby informed that, under the SNIA IP Policy, your presence at this meeting may obligate you and/or your company/organization with respect to any of the work items of the SNIA [name(s)] Technical Working Group[s].”

Joint meetings of multiple TWGs are an example where multiple TWGs should be listed in the above announcement.

This announcement and the fact that it was given shall be recorded in the meeting minutes.

4.11 Joint Meetings of TWGs

When two or more TWGs meet together it shall be considered a concurrent meeting of all of the TWGs involved in the meeting. Each individual in attendance must be eligible to attend a meeting of all of the involved TWGs, and shall be considered to have attended a meeting of each of the involved TWGs.

Individuals who are not members of all of the TWGs meeting jointly are guests and are limited in their participation as described in section 4.1.2.

5 TWG Sub Groups

In order to accomplish a TWG's Program of Work, it may be necessary to sub divide the work into smaller groups called Sub Groups. TWGs may optionally form Sub Groups as defined below.

5.1 Formation and Structure

The following rules and restrictions apply to the formation and structure of Sub Groups.

- A Sub Group requires an Official Vote of the TWG membership to be created or disbanded.
- A Sub Group shall only work on approved TWG Work Items (section 2.3) and shall not create new Work Items. The parent TWG shall assign all Work Items.
- A Sub Group shall have a Chair.
- A Sub Group may have two Co-Chairs and in such a case the two Co-Chairs shall work for different MEMBERS.
- The appointment of a Chair or Co-Chair requires an Official Vote (section 11.1).
- A Sub Group may have a Secretary (section 2.5).
- A Sub Group shall have at least 3 active MEMBERS.
- A Sub Group shall not create additional Sub Groups.
- The TCMD shall be notified of a new Sub Group within 7 days of its creation. The TCMD will then notify the TC that a new Sub Group has been formed, giving the TC the opportunity to review it. The TC then has 30 days from this notification of the new Sub Group formation to veto it. If no veto is generated within the given time period, then the new Sub Group is automatically approved. During this period, the TWG has contingent authorization to proceed as though the change will be approved.

5.2 Operation

Sub Groups shall follow all of the procedures for meetings that apply to the parent TWG (section 4).

In addition to the rules that apply to a TWG, the following rules apply to Sub Groups.

- Each Sub Group Chair, or someone representing the Chair, should give a Sub Group status report at every meeting of the parent TWG.
- Each Sub Group should consider SNIA Symposia and SNIA Technical Symposia as venues for face to face meetings.
- A Sub Group may meet separately from its parent TWG.
- Sub Groups shall not release any type of technical material without approval of their parent TWG, which may in turn require additional TC approval.

- Upon completion of all of its assigned Work Items, a Sub Group shall be dissolved by its parent TWG.
- A Sub Group may be dissolved at any time by an Official Vote (section 11.1) of its parent TWG.
- For the purpose of applicability of the SNIA IP Policy, the scope of a Sub Group is the parent TWG.

6 Development and Release of SNIA Architecture and Document Technical Work

The development and release of SNIA Architecture and Document Technical Work is governed by the policies and procedures defined in this section.

6.1 Definitions

The term Technical Work used in this section relates to SNIA Architecture Work Items and Document Work Items. The term Technical Work as it relates to other categories such as SNIA Software Technical Work is described elsewhere in this document (section 7.1).

Technical Work is technical material that is developed, created, modified, or accepted by a Technical Working Body (TWB) in the course and scope of its activities. The technical material may be in the form of architectures, specifications, white papers, presentations, proposals, etc. This statement is a summary of the SNIA IP Policy.

The following are examples of SNIA Technical Work:

- 1) Technical material that is offered to and accepted for consideration by the SNIA as a basis for further SNIA work.
- 2) Technical material that is offered to and accepted for consideration by the SNIA for adoption as SNIA Architecture.
- 3) Technical material that is accepted, created, or modified by a TWB in the course of its work (a SNIA Technical Document).
- 4) Technical material that is the end product of a TWB and has not yet been approved as SNIA Architecture (a SNIA Technical Document).

6.2 Copyrights and Disclaimers

Technical Work created by TWBs shall grant copyright to the SNIA, and shall include the appropriate standard SNIA legal disclaimer for the classification as defined below. All SNIA Technical Documents shall be clearly labeled on every page as follows, where *Classification* is the SNIA Document Classification, and *Base TWB* is the TWB that authored the document:

“<*Classification*> document of the <*Base TWB*>”

6.3 SNIA Technical Document Classifications

Any Technical Work produced by a TWB that is a document shall be classified in one of the following ways. The document’s classification is what governs the approval procedure to have the document published and released to the public. The Charter and Work Items of the TWG that develops a document shall determine the classification to be used.

6.3.1 In-Development Document Classifications

The following classifications cover cases where a document is still under development in a TWB. Any documents covered by this classification are expected to incur significant change before the Work Item to which they refer is completed.

6.3.1.1 Internal Use Draft

All documents that have not completed the Release Process (section 6.4.1) shall be classified as an *Internal Use Draft*.

An *Internal Use Draft* is an internal document of the developing TWB and may not be released outside of the TWB except for the purpose of release approval. *Internal Use Draft* documents shall have the following statement, or equivalent, included on the front cover of the document:

“For SNIA <Base TWB> Internal Use Only. This *Internal Use Draft* is an internal document of the <Base TWB> that has not been approved for release outside of the membership of the <Base TWB>. This draft may not represent the position of the <Base TWB>. Suggestions for revision should be directed to <Base TWB> at <Base TWB email address>.”

Documents classified as *Internal Use Draft* shall be marked (including on the front page) as follows:

“For SNIA <Base TWB> Internal Use Only”.

6.3.1.2 Working Draft

All documents that have not completed an Approval Process (section 6.4) shall be classified as a *Working Draft*, unless specified otherwise below. Some SNIA Technical Documents may not progress beyond the Working Draft classification. A document shall be approved by an Official Vote of the TWB in order to progress beyond this classification (section 6.4.1).

Publication of a *Working Draft* is not an assertion of consensus, endorsement, or technical quality. *Working Draft* documents shall have the following statement, or equivalent, included on the front cover of the document:

“Publication of this *Working Draft* for review and comment has been approved by the <Base TWB>. This draft represents a “best effort” attempt by the <Base TWB> to reach preliminary consensus, and it may be updated, replaced, or made obsolete at any time. This document should not be used as reference material or cited as other than a “work in progress.” Suggestions for revision should be directed to <http://www.snia.org/feedback/>.”

6.3.1.3 Trial-Use Draft

The purpose of this classification is to provide a stable draft of the proposed specification to encourage prototype implementations. It shall be used when it is believed that implementation experience is needed before the content of the proposed specification is able to be finalized and submitted for SNIA Approval. *Trial-use-Draft* documents shall have the following statement, or equivalent, included on the front cover of the document:

“Publication of this *Trial-Use Draft* Specification for trial use and comment has been approved by the SNIA Technical Council and the <Base TWB>. Distribution of this draft specification for comment shall not continue beyond () months from the date of publication. It is expected, but not certain that following this () month period, this draft specification, revised as necessary will be submitted to <the SNIA Membership and/or Technical Council> for final approval. Suggestions for revision should be directed to <http://www.snia.org/feedback/>.”

In the case where the developing TWB is the TC, the following statement shall be used:

“Publication of this *Trial-Use Draft* Specification for trial use and comment has been approved by the SNIA Technical Council. Distribution of this draft specification for comment shall not continue beyond () months from the date of publication. It is expected, but not certain that following this () month period, this draft specification, revised as necessary will be submitted to <the SNIA Membership and/or Technical Council> for final approval. Suggestions for revision should be directed to <http://www.snia.org/feedback/>.”

6.3.2 Completed Document Classifications

The following classifications cover cases where a document has completed development in a TWB. Any documents covered by these classifications are expected to only change in response to problems identified during the Technical or Architecture approval processes (sections 0 and 6.4.4). A TWB may view a Work Item as being completed when the document to which it refers reaches one of these classifications.

Drafts of completed documents that are in the form of a completed document but have not been fully approved shall be clearly marked as being in this state. The preferred method for this marking is to watermark each page in a large font size with the text “Pending Approval by XXX” where XXX is the body whose approval is required to advance the document. Alternatively, the draft may be labeled as a Working Draft (6.3.1.2) until approved and then formatted as a completed document.

6.3.2.1 <Base TWB> Proposal

This document classification is reserved for documents that provide TWB input into other standards bodies and organizations, where additional development may take place.

A <Base TWB> *Proposal* shall have the following statement, or equivalent, included on the front cover of the document:

“Publication of this <Base TWB> *Proposal* has been approved by the SNIA. This document represents a stable proposal for use as agreed upon by the <Base TWB>. The SNIA does not endorse this recommendation for any other purpose than the use described. This Proposal may not represent the preferred mode, and the SNIA may update, replace, or release competing Proposals at any time. The intended audience for this Proposal is another standards body, therefore future support and revision of this Proposal may be outside the control of the SNIA or originating <Base TWB>. Suggestions for revision should be directed to <http://www.snia.org/feedback/>.”

6.3.2.2 SNIA Technical Proposal

The SNIA Technical Proposal classification covers documents that have a specific identified use, a specific identified target audience or organization, and are deemed by the developing TWB to be suitable for publication to a wider audience. SNIA Technical Proposals may be incomplete; however they should represent the closure of a well defined, chartered Work Item.

A SNIA Technical Proposal document shall have the following statement, or equivalent, included on the front cover of the document:

“Publication of this SNIA Technical Proposal has been approved by the SNIA. This document represents a stable proposal for use as agreed upon by the <Base TWB>. The SNIA does not endorse this proposal for any other purpose than the use described. This proposal may not represent the preferred mode, and the SNIA may update, replace, or release competing proposals at any time. If the intended audience for this release is another standards body, the future support and revision of this proposal may be outside the control of the SNIA or originating <Base TWB>. Suggestions for revision should be directed to <http://www.snia.org/feedback/>.”

6.3.2.3 SNIA Standard

The SNIA Standard classification (formerly “SNIA Technical Position” classification) covers documents that have completed all SNIA approval processes and represent a clear consensus position of the organization.

SNIA Standard documents shall have the following statement, or equivalent, included on the front cover of the document:

“This document has been released and approved by the SNIA. The SNIA believes that the ideas, methodologies and technologies described in this document accurately represent the SNIA goals and are appropriate for widespread distribution. Suggestions for revision should be directed to <http://www.snia.org/feedback/>.”

A document that has been approved as SNIA Architecture is a SNIA Standard.

6.4 SNIA Technical Document Approval Processes

Six different approval processes are documented, as follows:

- 1) Release Process
- 2) IP Review Process
- 3) Technical Approval Process
- 4) Architecture Approval Process
- 5) International Standardization Process
- 6) Errata Review Process

The Release and IP Review processes operate on Technical Work Items that are still in development. The other processes cover the approval of a completed TWB Work Item by the entire SNIA organization, and the subsequent publication of work to the public or to ISO/IEC for international standardization.

In the cases where the developing TWB is the TC, redundant steps should be combined.

6.4.1 Release Process

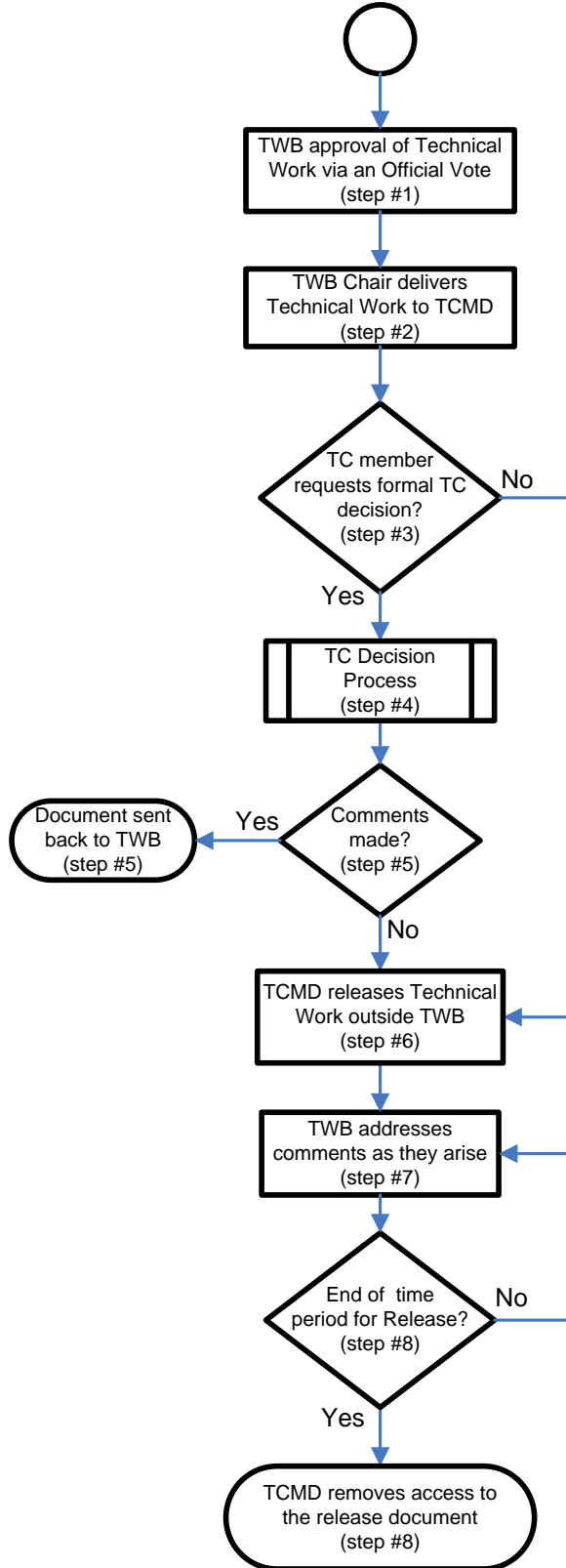
The Release Process is followed when a TWB that is developing SNIA Technical Work wishes to make Work that is still under development available to a wider audience than the TWB's own membership. That audience may be defined as specific other TWBs; MEMBERS; specific consultants, partners, and other interested parties outside of the SNIA; or the public.

The principal goal of releasing In-Development Technical Work is to gain additional review and feedback from a larger audience, to encourage developers to implement the Technical Work to help identify potential issues during the development process, to gather more experimental data, and to speed up the final development of the document.

The steps in the release process are:

- 1) The developing TWB shall approve publication of the Technical Work in one of the In-Development Document Classifications (section 6.3.1) by an Official Vote (section 11.1). The motion shall include identification of the intended audience.
- 2) The Chair of the developing TWB shall inform the TCMD of the results of the vote, and shall supply a copy of the Technical Work to the TCMD. The TCMD will then notify the TC of the availability of the Technical Work.
- 3) If no TC member calls for a formal TC Decision Process on the Technical Work within 7 days, processing will continue with step 6).
- 4) The TC Decision Process
- 5) If comments are made during the TC Decision Process above, the document shall be returned to the developing TWB for additional work. After addressing the comments the developing TWB may resubmit the document starting with step 1) above.
- 6) The TCMD will release the Technical Work to the intended audience by posting the document to the web site or other means and making an announcement to the intended audience. Where the release is limited to a specific time period, that time period shall be identified in the announcement.
- 7) During the release period the developing TWB shall address comments as they arise. Comments received from non-SNIA member organizations, and from MEMBERS that are not opted out from the developing TWBs, shall always be reviewed, and the commenting party shall be informed of the disposition of those comments. Comments from MEMBERS that are opted out from the developing TWB may or may not be reviewed, and disposition returned to the commenter, at the discretion of the developing TWB.
- 8) If the release is limited to a specific time period, at the completion of that time period the TCMD will ensure that the Technical Work ceases to be available outside of the developing TWB.

Release Process



6.4.2 IP Review Process

The purpose of the IP Review Process is to implement the SNIA IP Policy, i.e. to seek to identify at an early stage situations where use of SNIA Architecture or SNIA Software may require a license of patents (section 10).

Execution of an IP Review requires a draft document (not necessarily complete or self-consistent) which is able to be reviewed by MEMBERS.

6.4.2.1 Periodic IP Review Process

Technical Work that has been designated SNIA Work-in-Progress and has progressed to the point of having a draft deliverable (possibly incomplete or inconsistent) shall, at least every six months, execute the Periodic IP Review Process.

- 1) The developing TWB shall approve by an Official Vote (section 11.1.1) the release of a Working Draft document to the MEMBERS for the purpose of an iteration of the Periodic IP Review Process.
- 2) The Chair of the developing TWB shall inform the TCMD of the results of the TWB vote, and shall supply a copy of the Technical Work to the TCMD. The TCMD will then notify the TC of the availability of the Technical Work.
- 3) The TC will determine whether the document is ready for IP Review and make its recommendation to the SNIA Board. If the TC determines the document is not ready, the document shall be returned to the developing TWB with comments from the TC.
- 4) The SNIA Board issues a Call for IP Disclosure to the MEMBERS.
- 5) Within 7 days of the end of the 60-day Call for IP Disclosure period, the SNIA Board sends results of the IP Review to the TC and to the Chair of the developing TWB.

The Periodic IP Review Process shall not be interpreted or used as an interruption of TWB progress on a Work Item. Rather, it is an asynchronous process that should be planned and executed as routine.

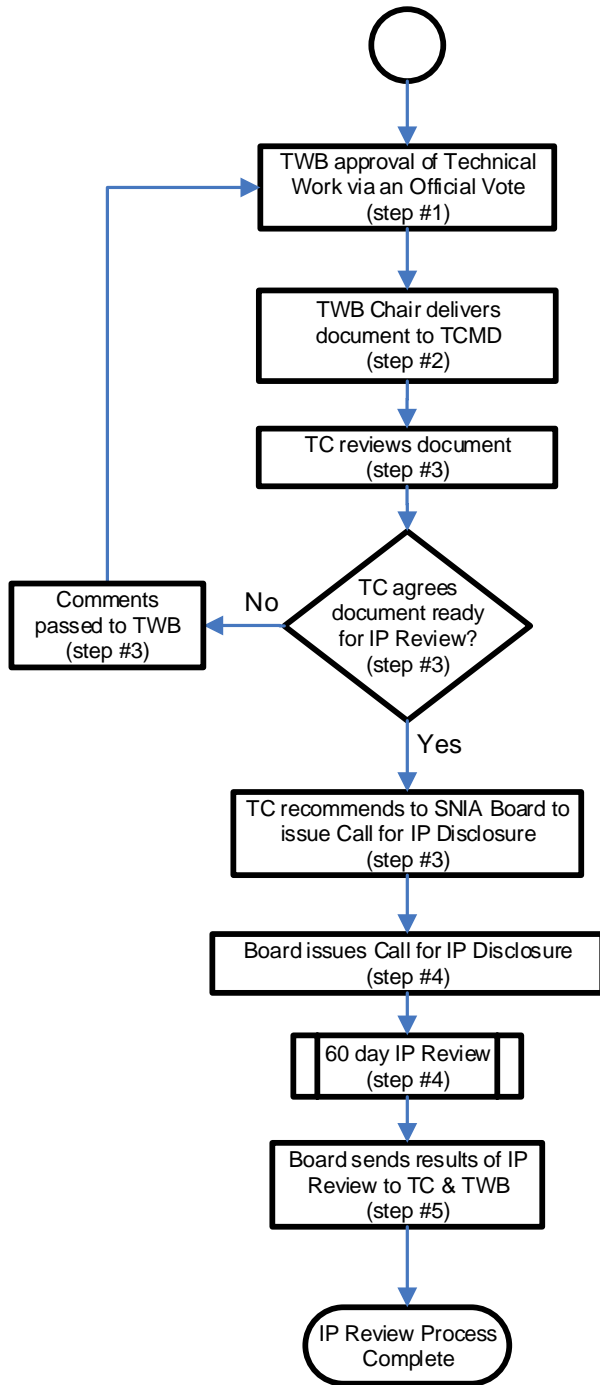
6.4.2.2 Final Document IP Review Process

Every document produced by a TWB that seeks to be approved as SNIA Architecture (a case which includes all documents to be driven by the SNIA as de-jure standards) shall be subject to the Final Document IP Review Process.

The Final Document IP Review Process should normally be executed concurrently with the SNIA Membership Vote to adopt the document as SNIA Architecture, and be done on the same document that is being submitted for SNIA Membership Vote. Any exceptions to this situation shall be proposed for approval by the TC with as much advance notice as possible. The process steps below assume the normal case, where the Final Document IP Review Process piggy-backs on the Architecture Approval Process, and addresses only the incremental additions of the Final Document IP Review Process.

- 1) Any results of the Call for IP Disclosure (MEMBER statements regarding possible Essential Claims) should be forwarded to the Chair of the TWB no later than seven (7) days after the Call for IP Disclosure period ends. These results are also to be made available on the SNIA web site.
- 2) The TWB, in consultation with the TCMD, the TC, and at the TC's discretion SNIA Legal Counsel, shall determine what, if any actions should be taken based upon the results of the IP Review.

IP Review Process



6.4.3 Technical Approval Process

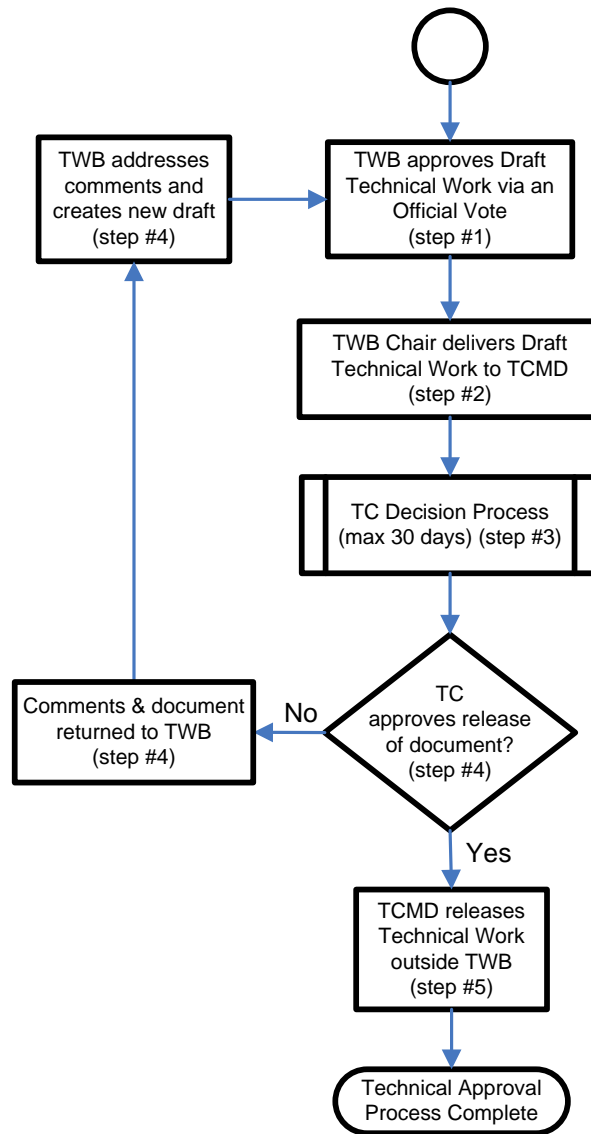
The Technical Approval Process is followed when a TWB developing a SNIA Technical Work has completed development of that Work, believes that the Work is of sufficient maturity to be used or implemented, and wishes to make that completed work available to a wider audience than its own TWB membership. That audience may be defined as a specific organization, other MEMBERS, or the public.

The principal goals for the technical approval of SNIA Technical Work are to encourage developers to begin implementation to help identify potential issues during the development process, to gather more experimental data, and to speed up the development of future SNIA Technical Work. MEMBERS are encouraged to evaluate implementations of the Technical Work, document the results/feasibility, and discuss the work's potential with SNIA Members and Participants and customers. Companies may also publish technical articles or make presentations to industry conferences in which they discuss the Work.

The steps in the Technical Approval process are:

- 1) The developing TWB shall approve publication of the Technical Work as a Trial-Use Draft or as one of the Completed Document Classifications by an Official Vote (section 11.1). The motion shall include definition of the intended audience, unless the Technical Work is a SNIA Standard, in which case the audience is by definition unrestricted.
- 2) The Chair of the developing TWB shall inform the TCMD of the results of the vote, and supply a copy of the Technical Work.
- 3) The TCMD will then notify the TC of the availability of the Technical Work and schedule a vote of the TC to approve the release of the Technical Work. The TC will render a decision within 30 days.
- 4) If the TC did not approve the release of the Technical Work, then the Technical Work and TC comments shall be returned to the developing TWB, otherwise the process continues with the next step.
- 5) The TCMD will release the Technical Work to the intended audience.

Technical Approval Process



6.4.4 Architecture Approval Process

Completion of the Architecture Approval Process is required when the SNIA Technical Work has been designated as SNIA Work-in-Progress by the TC. Specifically, completion of this process is necessary when SNIA political, promotional, or educational support of SNIA Technical Work is desired.

Because of the lengthy and formal nature of the Architecture Approval Process, it should normally be the case that a draft of the material being moved by the TWB into the Architecture Approval Process has been previously exposed to the MEMBERS for technical review via the Release Process (section 6.4.1) and that the results of this review have been incorporated into the document being moved into the Architecture Approval Process.

The steps in the Architecture Approval process are:

- 1) The developing TWB shall approve publication of the draft Technical Work by an Official Vote (section 11.1.1). This vote shall also indicate whether the developing TWB expects the draft Technical Work to enter the SNIA Standardization Process (section 6.4.5) after approval as SNIA Architecture in Step 7 below.
- 2) The Chair of the developing TWB shall inform the TCMD of the results of the vote, and supply a copy of the Technical Work. Once the document is delivered to the TCMD, the developing TWB starts the process of creating an Errata Document for the Technical Work submitted, if necessary. The version of the document submitted for approval shall not be changed during the approval process (work on subsequent versions may proceed in parallel with Architecture Approval).
- 3) The TCMD will schedule a vote of the TC to approve the release of the Technical Work.
- 4) If the TC did not approve the release of the Technical Work, then the Technical Work and TC comments shall be returned to the developing TWB, otherwise the process continues with the next step.
- 5) The TC shall request the SNIA Board to present the draft Technical Work to the MEMBERS for concurrent
 - Approval as an SNIA Architecture and
 - Final Document IP Review (section 6.4.2.2).
- 6) If the SNIA Board approves the release of the Technical Work, then the process continues with the next step. Otherwise, the SNIA Board vote failed and the TC will determine the next steps.
- 7) Upon SNIA Board approval, the draft Technical Work will be made available to the MEMBERS for approval as SNIA Architecture and for a concurrent Final Document IP Review Process (section 6.4.2.2), which is a 60-day process. The SNIA Standardization Process (section 6.4.5) may be started at this time.
- 8) Upon completion of the above step, the TCMD shall work with the SNIA Secretary to ensure that the SNIA Board announces the results of the SNIA Membership Vote to the SNIA Membership. The TCMD should also work with the SNIA Secretary to post the results of the Final Document IP Review on the public-facing Standards web pages and on the internal-facing Standards web pages.
- 9) If the SNIA Membership Vote passed, then the process continues with the next step. Otherwise the SNIA Membership Vote failed, the SNIA Board and TC shall determine the next steps.
- 10) The SNIA Staff shall format the Technical Work as a SNIA Standard and create a PDF and publish it on the public side of the SNIA web site.

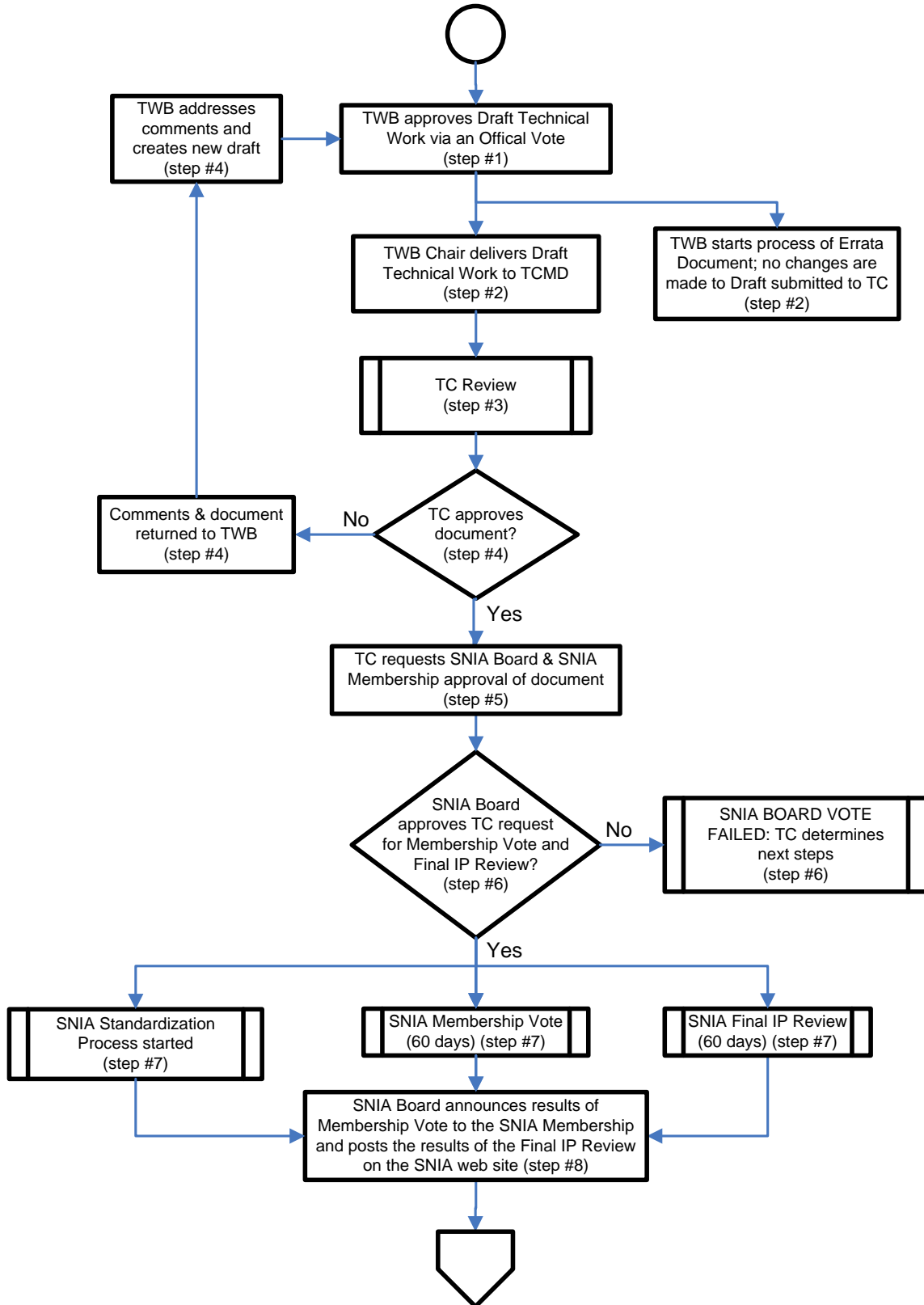
- 11) If the developing TWB has not created an Errata Document, then the Architecture Approval Process is complete, otherwise the Errata Review Process (section 6.4.6) is performed and processing is continued with the next step.
- 12) If a SNIA Membership Vote or Call for IP Disclosure was started as a result of the Errata Review Process (section 6.4.6), then the TC will determine the next steps. Otherwise processing is continued with the next step.
- 13) The SNIA Staff shall publish the corrected SNIA Standard.

In addition to the above process, MEMBERS may submit a Technical Work for approval by the SNIA as SNIA Architecture in a format similar to prior SNIA published works.

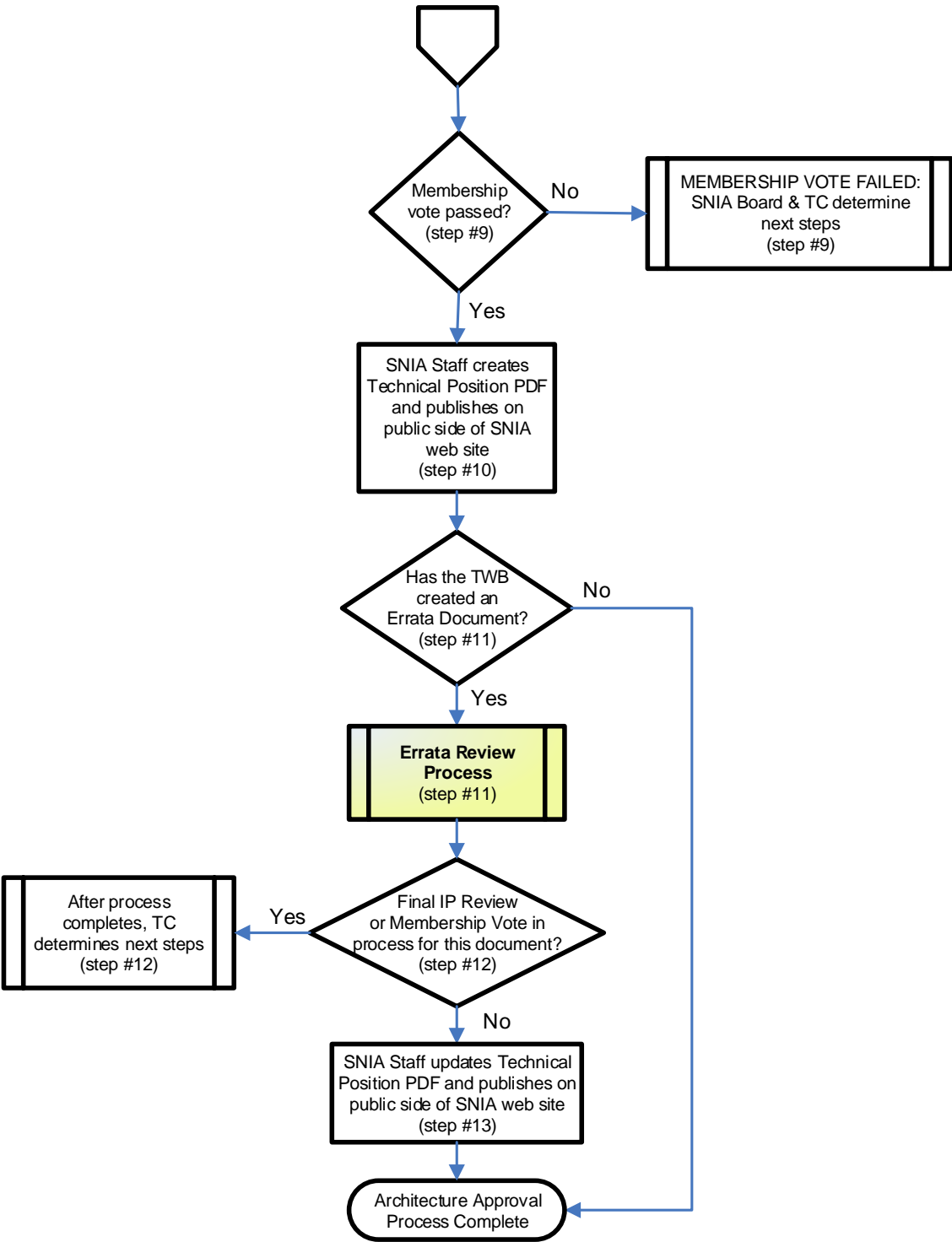
In this case, steps 1 – 3 of the above process are replaced by the following steps:

- 1) The Technical Work is submitted to the TC. The TC will review the contents, applicability and potential of the proposal and present a recommendation back to the submitter identifying a proposed course of action.
- 2) The Chair of the TC shall then request that the SNIA Board or Executive Committee formally accept the proposal for future work within the SNIA. The SNIA Board or Executive Committee may also vote for the submitted work to immediately enter the SNIA Fast Track approval process.
- 3) Draft Architectures approved by the SNIA Board for SNIA Fast Track Approval will be immediately submitted to the MEMBERS for formal approval per the corporation's bylaws as in step 7 above.

Architecture Approval Process



Architecture Approval Process (continued)



6.4.5 SNIA Standardization Process

Completion of the SNIA Standardization Process is required when SNIA Technical Work has been designated as SNIA Work-In-Progress and has been determined to be appropriate for de-jure standardization by the TC and the SNIA Standards Committee, and step 7 of the Architecture Approval Process (section 6.4.4) has been reached. Only the parts of this process that are relevant to TWBs are described here.

SNIA is an accredited ISO PAS (Publicly Available Specification) Submitter. This enables SNIA to send SNIA Standards directly to ISO for country voting, to become ISO/IEC standards.

Prior to starting the PAS Explanatory Process (below), a TWB shall seek approval of the TC to submit a specific version of a specification to ISO. This is typically done when the finished specification is brought to the TC requesting Membership vote.

6.4.5.1 PAS Explanatory Process

- 1) Using the PAS Explanatory Report Template and, as examples, past PAS Explanatory Reports and with the help of the TCMD, the TWG shall develop a draft PAS Explanatory Report for the specification that it desires to submit to ISO.
- 2) When the draft PAS Explanatory Report is ready for review, the TWB submits the report to the TC, via the TCMD, for review and approval.

NOTE: To expedite the process, it is recommended that the TWB submit via email at least one draft of the report to the Technical Council for review and feedback via email before bringing the final draft to the Technical Council for approval.

- 3) Once the Technical Council has approved the PAS Explanatory Report, the TCMD will take the report to the Standards Committee for approval.
- 4) Once the PAS Explanatory Report is approved by the Standards Committee for submission to ISO, the TWB shall provide the TCMD with the following:
 - Source material for the SNIA Standard (specification), including source files for any images in the document, all in a single ZIP file (ISO requirement).
 - A PDF of the specification formatted in A4 format (ISO requirement).

NOTE: This may affect page numbers and document layout/appearance, resulting in the need to refresh the table of contents, tables of figures, etc.

- 5) With the approved PAS Explanatory Report and the ZIP file containing the specification, the TCMD will work with the SNIA Technical Council Chair(s) to make the submission to ISO.
- 6) After ISO receives the submission, ISO starts its PAS approval process, which includes a ballot for approval which is submitted to all ISO Members (countries). During the ISO PAS vote, questions may come in from ISO Members through

ISO which will require a response by the TWB (see section 6.4.5.2). This may be an iterative process. If the ballot passes, ISO will proceed with publication.

NOTE: ISO will assign a number and title (under ISO title structure rules) to the standard. After publication by ISO, the ISO/IEC standard is available world-wide for purchase from ISO. SNIA has no other access to the published ISO/IEC standard.

6.4.5.2 Comment Resolution Process

The Comment Resolution Process is the part of the SNIA Standardization Process that handles the review and resolution of ISO PAS ballot comments.

- 1) Comments received during ISO PAS ballot are sent to the developing TWB and the TC, as they are received.
- 2) The developing TWB and the comment submitter work together to resolve comments from the ISO PAS ballot.
- 3) The developing TWB creates a *Comment Resolution* document for ISO and adopts it via an official vote.
- 4) As necessary, the TWB develops an updated draft specification and adopts it via an official vote.
- 5) The TC reviews and approves the updated draft specification (if an updated specification was necessary) and the *Comment Resolution* document.
- 6) SNIA Standards Committee submits the *Comment Resolution* document and updated draft specification (if an updated specification was necessary) to ISO.
- 7) Comment Resolution Process complete.

6.4.6 Errata Review Process

From the time a specification is submitted to the TC for approval to the time it has been approved by the SNIA Membership, problems in the specification may be discovered. These issues and their resolution are tracked by the developing TWB in an *Errata Document*. No changes are made to the specification currently in an approval process.

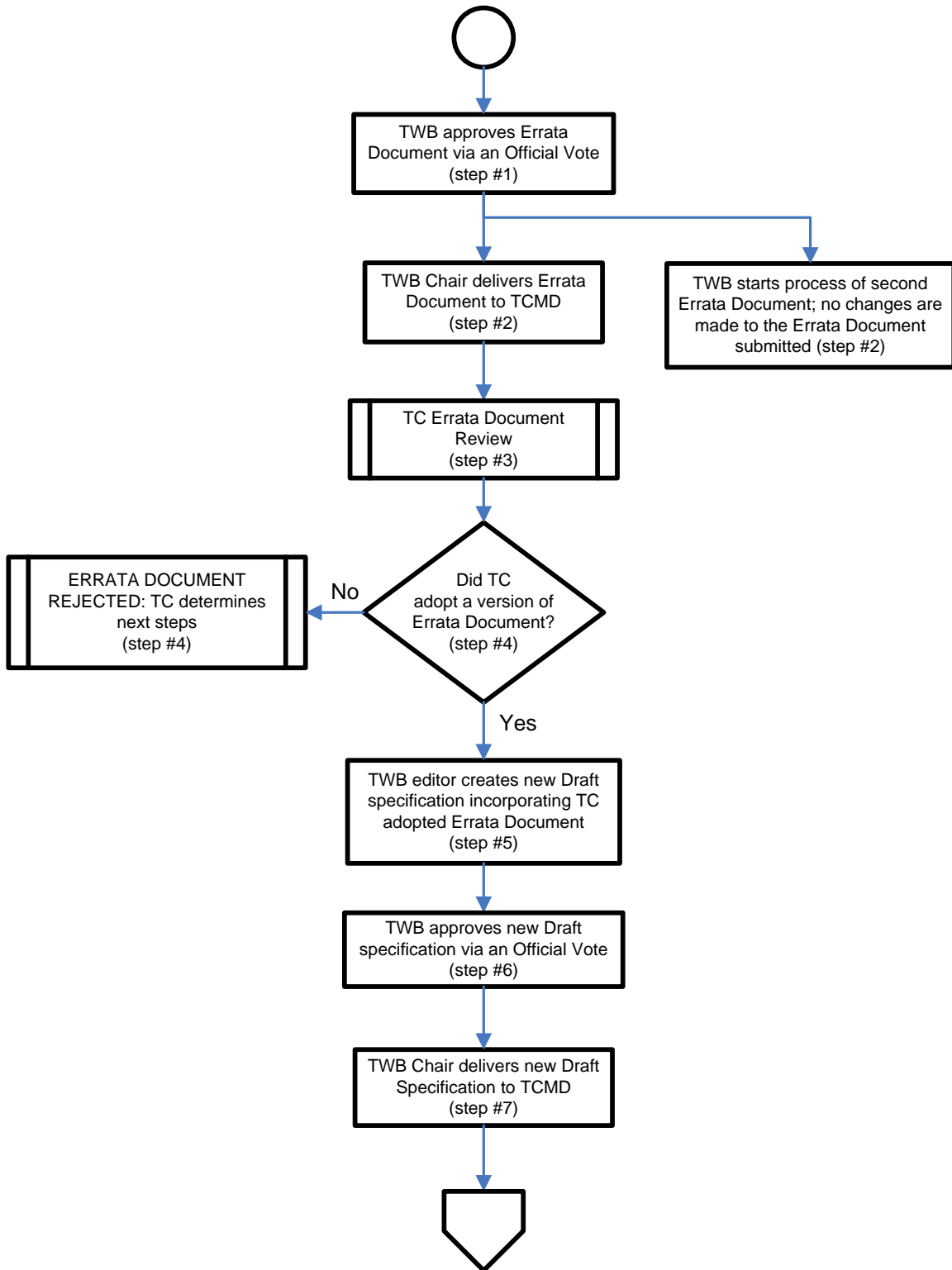
The Errata Review Process below defines how the Errata Document is reviewed, approved, and integrated into a draft specification. This process takes place in the Architecture Approval Process (section 6.4.4).

The steps in the Errata Review Process are:

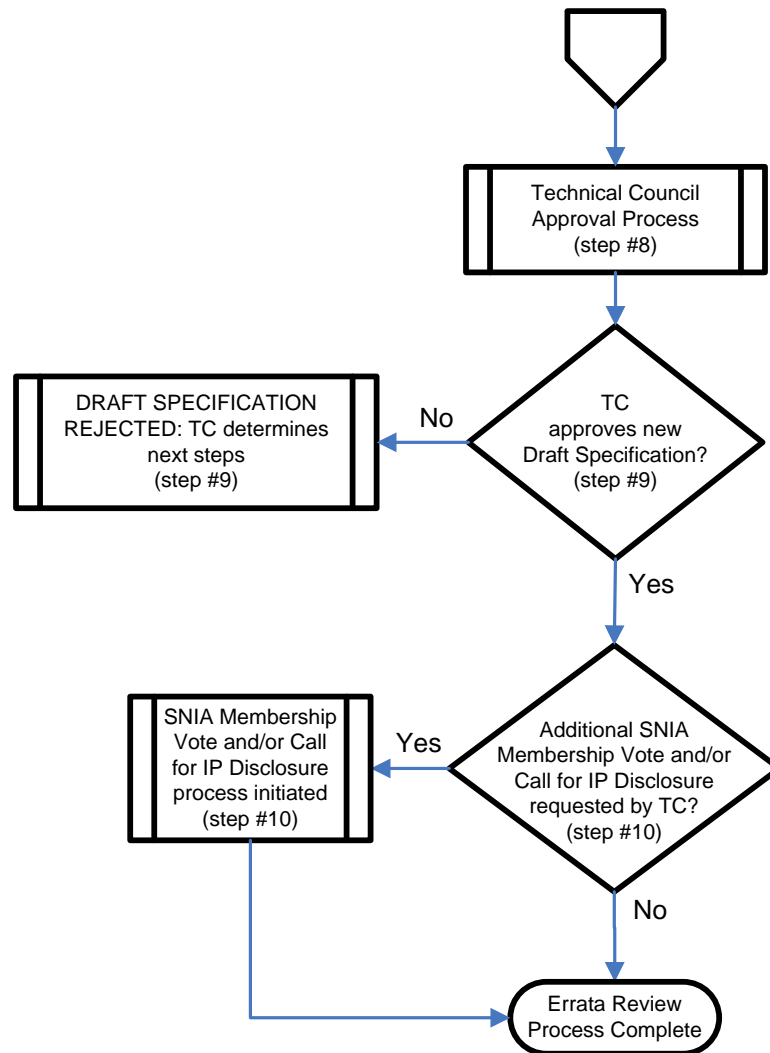
- 1) The developing TWB shall approve the Errata Document by an Official Vote (section 11.1.1).
- 2) The Chair of the developing TWB shall inform the TCMD of the results of the vote, and supply a copy of the Errata Document. Once the document is delivered to the TCMD, the developing TWB starts the process of creating a second Errata document for the original Technical Work submitted. No further changes shall be made to the original Errata Document submitted.

- 3) The TC reviews the Errata Document. For each change in the Errata Document the TC considers the potential that the Errata item would change a SNIA Member's support as well as the possibility that Essential Claims may be created.
- 4) If the TC adopts a version of the Errata Document the processing continues with the next step and the SNIA Board is notified. Otherwise the Errata document has been rejected and the TC determines the next step.
- 5) The document editor for the developing TWB shall create a new draft specification incorporating the TC adopted Errata Document.
- 6) The developing TWB shall approve the new draft specification by an Official Vote (section 11.1.1).
- 7) The Chair of the developing TWB shall inform the TCMD of the results of the vote, and supply a copy of the new draft specification.
- 8) The TC reviews the draft specification and conducts a TC approval vote.
- 9) If the TC approves the new draft specification, then processing continues with the next step and the SNIA Board is notified. Otherwise, the draft specification was rejected and the TC determines the next steps.
- 10) During the TC Approval Process in step 8 above, the TC may determine that an additional SNIA Membership Vote and/or Call for IP Disclosure is needed. If so, the SNIA Membership Vote and/or Call for IP Disclosure process is initiated.

Errata Review Process



Errata Review Process (continued)



6.5 Test Specifications

When a TWB creates SNIA Technical Document with portions that is able to be tested for compliance, for example an API specification, then the TWB should create a Compliance Test Specification that defines how testing for compliance to the SNIA Technical Document should or shall be performed.

Since the experts who create a SNIA Technical Document are best qualified to define how compliance testing should be done, it is strongly recommended that the TWB work with the TCMD to assure that a Compliance Test Specification is produced.

7 Development and Release of SNIA Software Technical Work

The development and release of SNIA Software Technical Work is governed by the policies and procedures defined in this section.

Software by itself shall not establish a standard or specification to which compliance or conformance may be claimed.

7.1 Definitions

The term Technical Work used in this section relates to SNIA Software Technical Work. The term Technical Work as it relates to other categories such as SNIA Architecture and Document Technical Work is described elsewhere in this document (section 6.1).

Technical Work is technical material that is developed, created, modified, or accepted by a Technical Working Body (TWB) in the course and scope of its activities. The technical material may be in the form of architectures, specifications, white papers, presentations, proposals, software, etc. This statement is a summary of the SNIA IP Policy.

The following are examples of Technical Work:

- 1) Technical material that is offered to and accepted for consideration by the SNIA as a basis for further SNIA work.
- 2) Technical material that is offered to and accepted by the SNIA for adoption as SNIA Software.
- 3) Technical material that is created, developed, modified, or accepted by a TWB in the course of its work.
- 4) Technical material that is the end product of a TWB and has not yet been approved as SNIA Software.

A Software Module is an individual item of software code, binary, executable, etc., typically organized as a single file. A Software Module in the context of TWB activity is Technical Work.

A Software Package is a collection of Software Modules and associated documentation. A Software Package is the unit of approval and release for SNIA Software. A Software Package is the typical scope of a SNIA Software Work Item. A Software Package in the context of TWB activity is Technical Work.

7.2 Licenses, Copyrights and Disclaimers

Each Software Module developed by a TWB shall include, at the beginning of the module:

- 1) A copyright notice as follows:
“Copyright (c) <current and previous years>, Storage Networking Industry Association”
- 2) The complete text of an approved outbound software license(s).

- 3) The complete text of the approved inbound software license(s).
- 4) Other licenses and copyrights as applicable.

Each Software Package shall include a text file describing all of the copyright holders and software licenses that apply to the package.

Each Software Package shall include a ReadMe.txt file which defines the applicable SNIA Software Package classification for the software package.

7.3 Software Package Classifications

Any Technical Work produced by a TWB that is a software package shall be classified in one of the following ways. The software package's classification is what governs the approval procedure to have the document published and released to the public. The Charter and Work Items of the TWG that develops a software package shall determine the classification to be used.

7.3.1 In-Development Software Package Classifications

The following classifications cover cases where a software package is still under development in a TWB. Any software packages covered by this classification are expected to incur significant change before the Work Item to which they refer is completed.

7.3.1.1 Internal Use Draft

All software packages that have not completed the Software Release Process (section 7.4.1) shall be classified as an *Internal Use Draft*.

An *Internal Use Draft* is an internal software and documentation of the developing TWB and may not be released outside of the TWB except for the purpose of release approval. *Internal Use Draft* Software Packages shall have the following statement, or equivalent, included in the Software Package:

“For SNIA <Base TWB> Internal Use Only. This *Internal Use Draft* is a Software Package of the <Base TWB> that has not been approved for release outside of the membership of the <Base TWB>. This draft may not represent the position of the <Base TWB>. Suggestions for revision should be sent to <Base TWB> at <Base TWB email address>.”

7.3.1.2 Working Draft

All software packages that have not completed an Approval Process shall be classified as a *Working Draft*, unless specified otherwise below. Some SNIA Technical Work may not progress beyond the Working Draft classification. A software package shall be approved by an Official Vote of the TWB in order to progress beyond this classification (section 7.4.1).

Publication of a *Working Draft* is not an assertion of consensus, endorsement, or technical quality. *Working Draft* software packages shall have the following statement, or equivalent, included in the software package:

“Release of this *Working Draft software and associated documentation* for review and comment has been approved by the <Base TWB>. This draft represents a “best effort” attempt by the <Base TWB> to reach preliminary consensus, and it may be updated, replaced, or made obsolete at any time. This software and associated documentation should not be used as reference material or cited as other than a “work in progress.” Suggestions for revision should be directed to ...”

Working Draft software and associated documentation for review may be released as source code, in binary executables, or both.

7.3.1.3 Trial-Use Draft (analogous to beta test)

The purpose of this classification is to provide a stable draft of the proposed SNIA Software to encourage prototype implementations. It should be used when it is believed that implementation experience is needed before the content of the proposed software is finalized and submitted for SNIA Approval. *Trial-use-Draft* software packages shall have the following statement, or equivalent, included in the software package:

“Publication of this *Trial-Use Draft* software and associated documentation for trial use and comment has been approved by the SNIA Technical Council and the <Base TWB>. Distribution of this draft material for comment shall not continue beyond () months from the date of publication. It is expected, but not certain that following this () month period, this draft material, revised as necessary will be submitted to <the SNIA Membership and/or Technical Council> for final approval. Suggestions for revision should be directed to ...”

In the case where the developing TWB is the TC, the following statement shall be used:

“Publication of this *Trial-Use Draft* software and associated documentation for trial use and comment has been approved by the SNIA Technical Council. Distribution of this draft specification for comment shall not continue beyond () months from the date of publication. It is expected, but not certain that following this () month period, this draft material, revised as necessary will be submitted to <the SNIA Membership and/or Technical Council> for final approval. Suggestions for revision should be directed to ...”

7.3.2 Completed Software Package Classifications

The following classifications cover cases where a software package has completed development in a TWB. Any software covered by these classifications is expected to change only in response to problems identified during the Technical or Software Approval processes. A TWB may view a Work Item as being completed when the Technical Work to which it refers reaches one of these classifications.

7.3.2.1 SNIA Software

Software that has been approved by the TWB, TC, SNIA Board and MEMBERs is SNIA Software. The SNIA Software classification covers software packages that have completed all SNIA approval processes for SNIA Software and therefore represent a clear consensus position of the organization.

A SNIA Software software package shall include the following statement, or equivalent:

“This software and associated documentation has been released and approved by the SNIA. The SNIA believes that the ideas, methodologies and technologies described in

this material accurately represent the SNIA goals and are appropriate for widespread distribution. Suggestions for revision should be directed to ...”

7.4 Software Package Approval Processes

The unit of approval is an entire software package.

Four different approval processes are documented, as follows:

- 1) Software Release Process
- 2) IP Review Process
- 3) SNIA Software Approval Process
- 4) SNIA Software Errata Review Process

The Software Release and IP Review processes operate on Technical Work that is still in development. The other processes cover the approval of completed Technical Work by the entire SNIA organization.

In the cases where the developing TWB is the TC, redundant steps should be combined.

7.4.1 Open Repositories

Open Repositories are publicly available code repositories encompassing a source code control functionality. These repositories may be used by the developing TWB to make intermediate changes available to a wider audience than the TWB's own membership. An Open Repository does not take the place of Software Releases, but does make visible the process of creating the software for a release. For an external developer that is using the Technical Work, this allows access to bug fixes (such as security related ones) without waiting for the next software release from the TWB. The TWB shall utilize an approval process for updates to the repository which ensure that governance of the Technical Work remains with the members of the TWB. The approval process for updates may include designation of one or more TWB members as maintainers, full TWB votes and/or ticketing steps.

7.4.2 Software Release Process

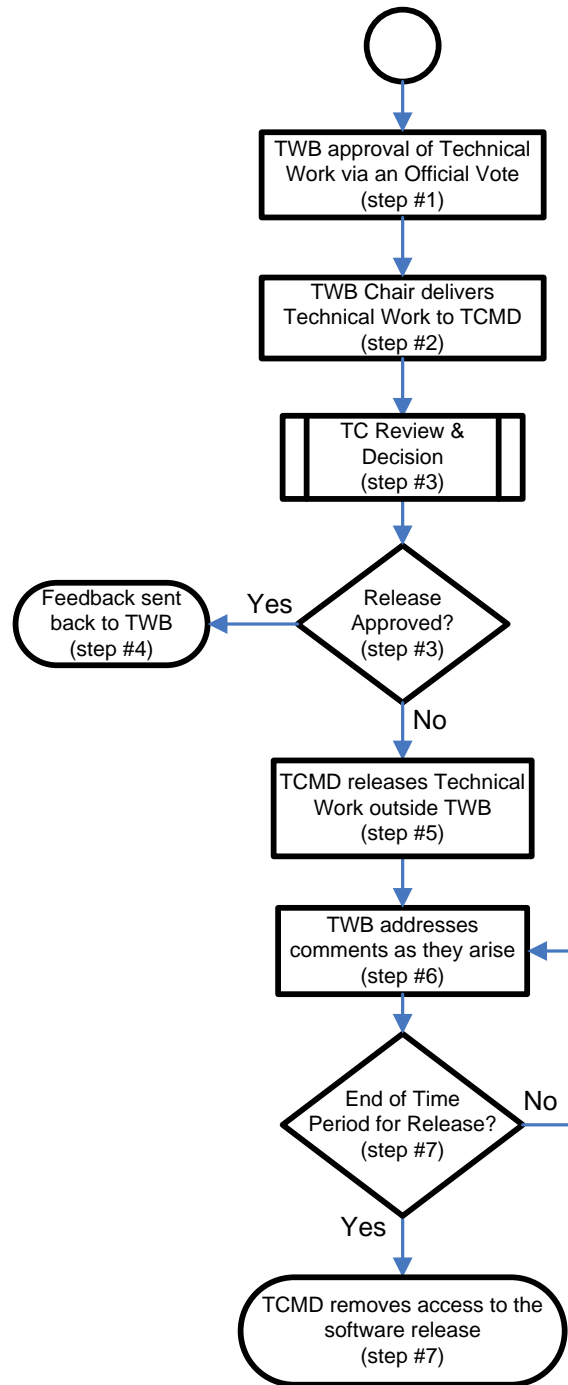
The Release Process is followed when a TWB that is developing SNIA Software wishes to make Work that is still under development available to a wider audience than the TWB's own membership as a complete package which is able to be downloaded and installed. That audience may be defined as specific other TWBs; MEMBERS; specific consultants, partners, and other interested parties outside of the SNIA; or the public.

The principal goal of releasing In-Development SNIA Technical Work (either through a Software Release or an Open Repository) is to gain additional review and feedback from a larger audience and to help accelerate its development, to encourage developers to implement the Work to help identify potential issues during the development process, to gather more experimental data, and to speed up the final development of the software,

The steps in the release process are:

- 1) The developing TWB shall approve publication of the Technical Work in one of the In-Development Work Classifications by an Official Vote (section 11.1.1). The motion shall include identification of the intended audience.
- 2) The Chair of the developing TWB shall inform the TCMD of the results of the vote, and shall supply a copy of the “ready to release” software package to the TCMD. The TCMD will then notify the TC of the availability of the Technical Work.
- 3) A formal TC Decision on the Technical Work is required. At this time, a SNIA Board decision is also required. A TC meeting shall be planned to include members of the developing TWB. The agenda of that meeting will include a presentation by the developing TWG that addresses the following points:
 - a. Purpose for releasing the software
 - b. Release notes that will accompany the software release.
 - c. Why the software is ready for release
 - d. Who the software is being released to
 - e. When the software will be released
 - f. The time period the software will be released for
 - g. Plan for updating and/or fixing problems
 - h. Any plans for supporting the release
 - i. Anything else that the developing TWB wishes to bring to the attention of the TC
- 4) If the TC does not approve the requested release, the TC shall provide written feedback to the developing TWB stating why release approval was not granted and what additional work or changes are necessary before initiating a new release approval request starting at step 1.
- 5) The TCMD will release the Technical Work to the intended audience by posting the software package to the web site or other means and making an announcement to the intended audience. Where the release is limited to a specific time period, that period shall be identified in the announcement.
- 6) During the release period the developing TWB shall address comments (bug reports, suggestions, etc.) as they arise. Comments received from non-SNIA member organizations, and from MEMBERS that are not opted out from the developing TWBs, shall always be reviewed, and the commenting party shall be informed of the disposition of those comments. Comments from MEMBERS that are opted out from the developing TWB may or may not be reviewed, and disposition returned to the commenter, at the discretion of the developing TWB.
- 7) Where the release is limited to a specific time period, at the completion of that period the TCMD will ensure that the Technical Work ceases to be available outside of the developing TWB.

Software Release Process



7.4.3 IP Review Process

The purpose of the IP Review Process is to implement the SNIA IP Policy, i.e. to seek to identify at an early stage, situations where use of SNIA Software may require a license of patents (section 10).

Execution of an IP Review requires a draft software package (not necessarily complete or self-consistent) which is able to be reviewed by MEMBERS. This software package must include the full source (as it exists) and any build documentation.

7.4.3.1 Periodic IP Review

Technical Work that has been designated SNIA Work-in-Progress and has progressed to the point of having a draft deliverable (possibly incomplete or inconsistent) shall, at least every six months, execute the Periodic IP Review Process.

- 1) The developing TWB shall approve by an Official Vote (section 11.1) the release of a Working Draft software package to the MEMBERS for the purpose of an iteration of the periodic IP Review.
- 2) The Chair of the developing TWB shall inform the TCMD of the results of the TWB vote, and shall supply a copy of the software package to the TCMD. The TCMD will then notify the TC of the availability of the software package.
- 3) The TC will determine whether the software package is ready for IP Review and make its recommendation to the SNIA Board. If the TC determines the software package is not ready, the software package shall be returned to the developing TWB with comments from the TC.
- 4) The SNIA Board issues a Call for IP Disclosure to the MEMBERS.
- 5) Within 7 days of the end of the 60 day Call for IP Disclosure period, the SNIA Board sends the results of the IP Review to the TC and the Chair of the developing TWB.
- 6) If during the Call for IP Disclosure period statements regarding possible Essential Claims were disclosed by the MEMEBRS, then the TC shall determine the next steps.

The Periodic IP Review Process shall not be understood or used as an interruption of TWB progress on a Work Item. Rather, it is an asynchronous process that should be planned and executed as routine. The only situation where progress on the Work Item may be interrupted is in the event of results of the IP Review that require step 6, in which case the TC determines the necessary next steps.

A flowchart describing this process (Periodic IP Review Process) is in section 6.4.2.1 (the process is the same as for SNIA Technical Documents).

7.4.3.2 Final SNIA Software IP Review Process

Every software package produced by a TWB that seeks to be approved as SNIA Software shall be subject to the Final SNIA Software IP Review Process.

The Final SNIA Software IP Review Process should normally be executed concurrently with the SNIA Membership Vote to adopt the software package as SNIA Software and on the same software package that is being submitted for SNIA Membership Vote. Any exceptions to this situation shall be proposed to the TC with as much advance notice as possible and approved by the TC. The process steps below assume the normal case where the Final SNIA Software IP Review Process piggy-backs on the SNIA Software

Approval Process and addresses only the incremental additions of the Final SNIA Software IP Review Process.

- 1) Any results of the Call for IP Disclosure (MEMBER statements regarding possible Essential Claims) should be forwarded to the Chair of the TWB no later than seven (7) days after the Call for IP Disclosure period ends. These results are also to be made available on the SNIA web site.
- 2) The TWB, in consultation with the TCMD, the TC, and at the TC's discretion SNIA Legal Counsel, shall determine what, if any, actions should be taken based upon the results of the IP Review.

7.4.4 SNIA Software Approval Process

Completion of the SNIA Software Approval Process is required in order to adopt and release completed SNIA Software. Specifically, completion of this process is necessary when SNIA political, promotional, or educational support is desired.

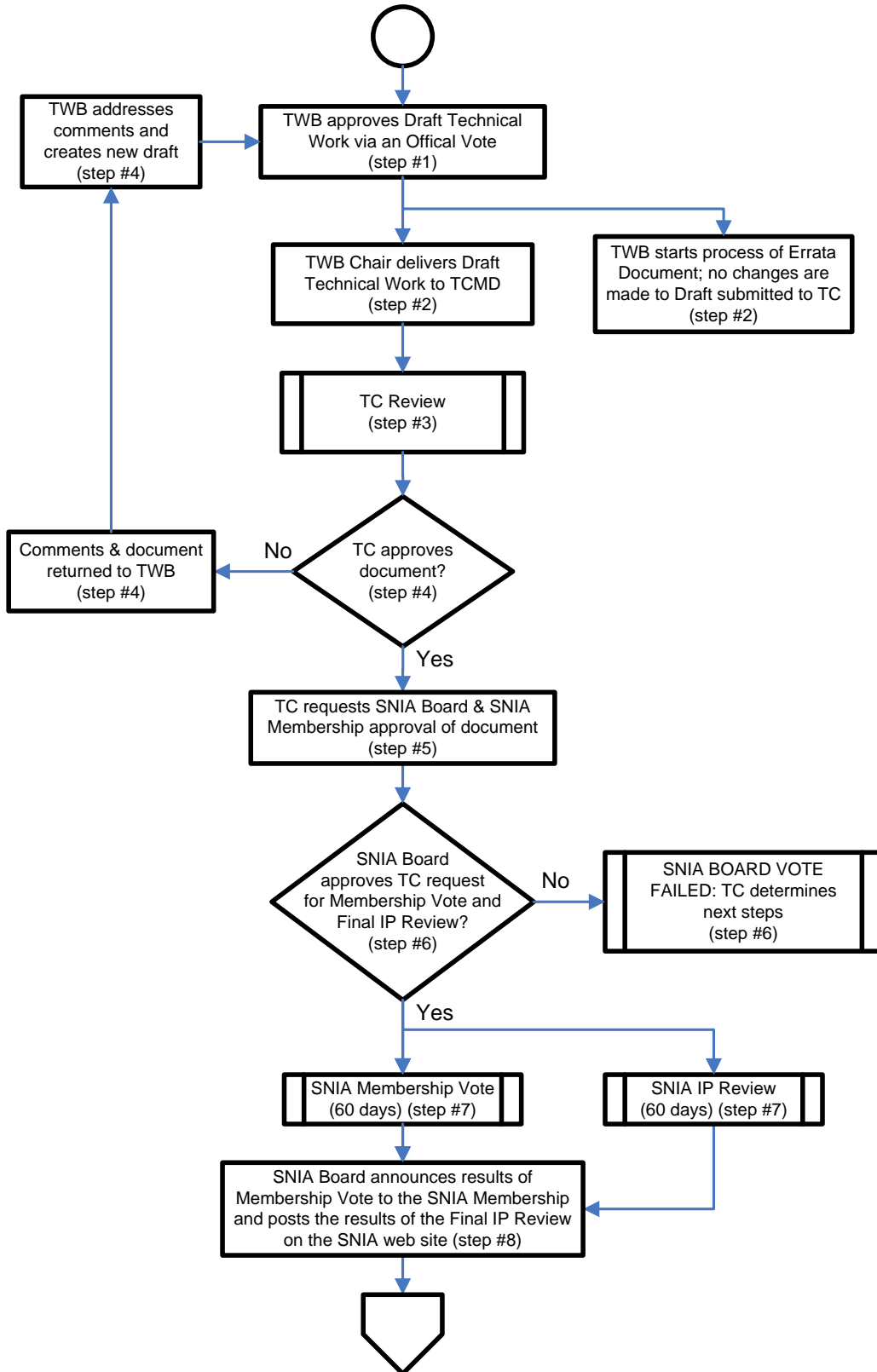
Because of the lengthy and formal nature of the SNIA Software Approval Process, it should normally be the case that a draft of the material being moved by the TWB into the SNIA Software Approval Process has been previously exposed to the MEMBERS for technical review via the Software Release Process (section 7.4.1) and that the results of this review have been incorporated into the document being moved into the SNIA Software Approval Process.

The steps in the SNIA Software Approval process are:

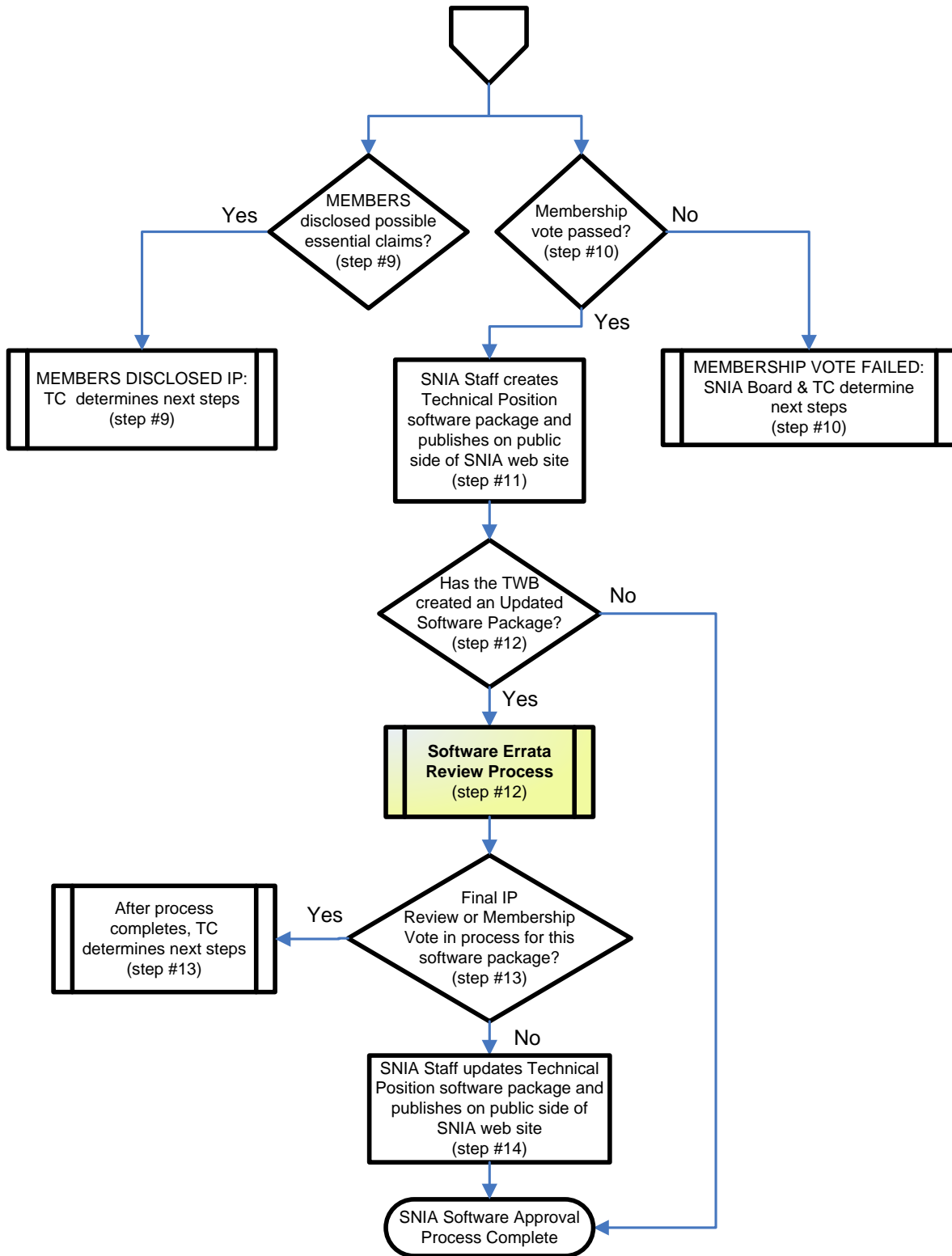
- 1) The developing TWB shall approve publication of the draft Technical Work (software package) by an Official Vote (section 11.1). The developing TWB then starts the process of creating an updated Software Package for the Technical Work submitted.
- 2) The Chair of the developing TWB shall inform the TCMD of the results of the vote, and supply a copy of the Technical Work.
- 3) The TCMD will schedule a vote of the TC to approve the release of the Technical Work.
- 4) If the TC did not approve the release of the Technical Work, then the Technical Work and TC comments shall be returned to the developing TWB, otherwise the process continues with the next step.
- 5) The TC shall request a SNIA Board motion to approve the draft Technical Work for presentation to the MEMBERS for approval as SNIA Software and for a concurrent Final SNIA Software IP Review Process (section 7.4.3.2).
- 6) If the SNIA Board approves the release of the Technical Work, then the process continues with the next step. Otherwise, the SNIA Board vote failed and the TC will determine the next steps.
- 7) Upon SNIA Board approval, the draft Technical Work will be made available to the MEMBERS for approval as SNIA Software and for a concurrent Final SNIA Software IP Review Process (section 7.4.3.2), which is a 60-day process.

- 8) Upon completion of the above step, the TCMD shall work with the SNIA Secretary to ensure that the SNIA Board announces the results of the SNIA Membership Vote to the SNIA Membership. The TCMD should also work with the SNIA Secretary to post the results of the Final SNIA Software IP Review on the public-facing Standards web pages and on the internal-facing Standards web pages.
- 9) If MEMBERS disclosed possible essential claims, then the TC will determine the next steps. Processing still continues with the following step.
- 10) If the SNIA Membership Vote passed, then the process continues with the next step. Otherwise the SNIA Membership Vote failed, and the SNIA Board and the TC shall determine the next steps.
- 11) The SNIA Staff shall publish the Technical Work (software package) as SNIA Software on the public side of the SNIA web site.
- 12) If the developing TWB has not identified Software Errata and developed an updated Software Package, then the SNIA Software Approval Process is complete, otherwise the Software Errata Review Process (section 7.4.5) is performed and processing is continued with the next step.
- 13) If a SNIA Membership Vote or Call for IP Disclosure was started as a result of the Software Errata Review Process (section 7.4.5), then the TC will determine the next steps. Otherwise processing is continued with the next step.
- 14) The SNIA Staff shall publish the corrected SNIA Software (software package).

SNIA Software Approval Process



SNIA Software Approval Process (continued)



7.4.5 Software Errata Review Process

The Software Errata Review Process specifies the approval process for addressing problems in the software package (bugs) found while the Software Package is undergoing final approval or after final approval as SNIA Software.

7.4.5.1 Software Errata Rationale

Final approval of a Software Package as SNIA Software takes a significant amount of time during which problems (bugs) in the content of the Software Package may be discovered. It is also necessary that the material undergoing approval be stable.

Therefore, the developing TWB shall establish a copy (or copies) of the software package in which problems are corrected. When problems are discovered, the TWB should analyze, prioritize, and categorize the necessary changes for inclusion either in an updated Software Package or in a future version of the Software Package. The former case is for Software Errata, and is addressed in this section; the latter case is addressed as a distinct, new version of the Software Package that must undergo the full approval and release processes for SNIA Software.

In general, it is desired that the Software Package, as submitted, complete the approval process and that changes to correct problems be limited in scope and impact, with more substantial changes being deferred to a future version of the Software Package and undergo full approval as part of that package. In unusual circumstances, the Software Package may be withdrawn from approval consideration and resubmitted at a later date.

Similarly, after a Software Package has been approved as SNIA Software, problems (bugs) may be found. The same process and considerations apply as in the case of Software Errata found during final approval, and the same process for addressing these problems shall be followed. When changes are made to SNIA Software as Software Errata, the result is SNIA Software.

Software Errata are not intended to be used (and must not be used) to circumvent either the rights of SNIA Members in the approval process or the intent of the SNIA IP Policy regarding disclosure of Essential Claims. To ensure this, decisions as to which changes may be made as Software Errata versus which changes should undergo a full release and approval process must be made with care and, when in doubt, biased toward sending changes through the full release and approval processes. These judgments are made by the TC, informed by the developing TWB.

The SNIA does not and cannot provide corrections to SNIA Software in a sufficiently real-time manner to enable vendors to address critical customer problems through corrections provided in SNIA Software. Instead, this is a vendor responsibility. The typical path for the situation of a critical customer problem is that the vendor (or vendors) work with the customer to address the immediate customer situation (including correcting problems in a SNIA Software Package) and then, as members of the developing TWB, provide the problem report and correction to the TWB for consideration as Software Errata or in a future version of the Software Package.

7.4.5.2 Software Errata Review

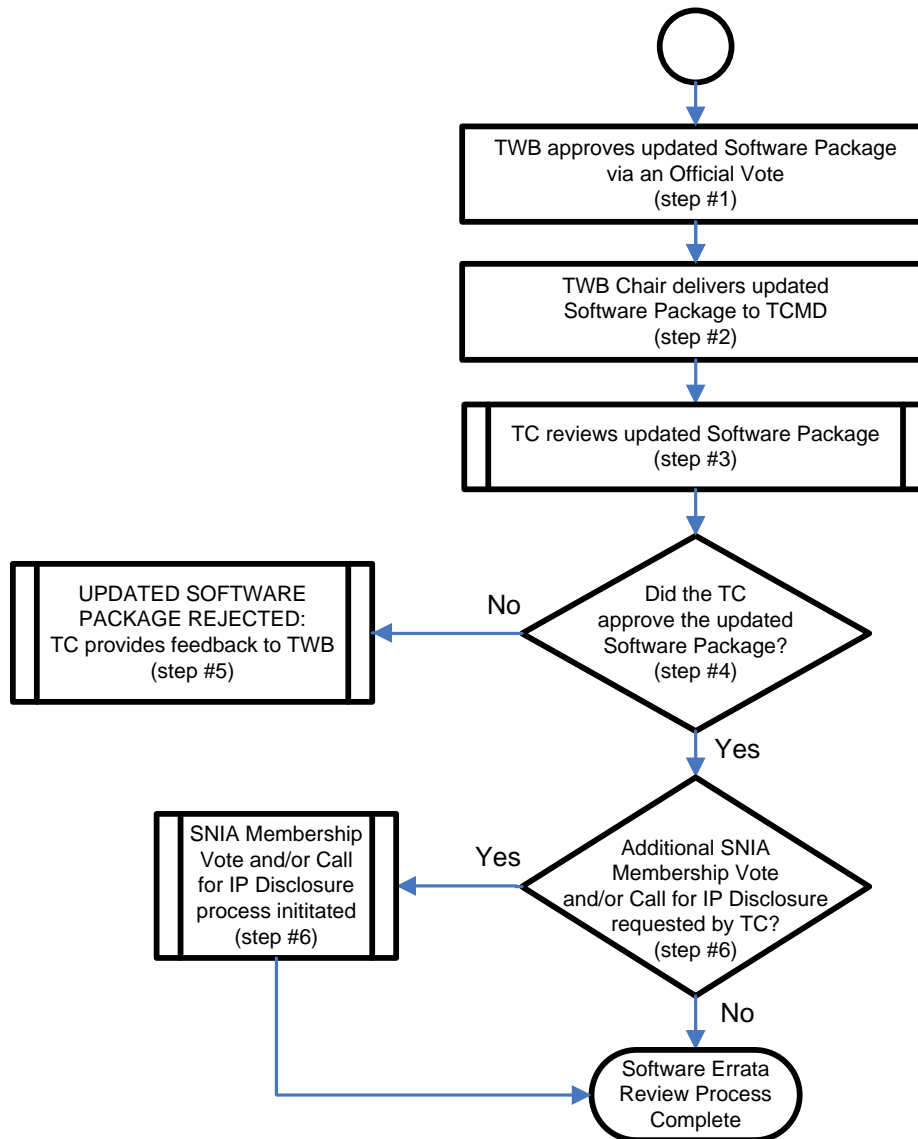
The Software Errata Review Process below defines how Software Errata are reviewed, approved, and released as an updated Software Package. This process takes place during and/or subsequent to the SNIA Software Approval Process defined previously.

For SNIA Software, the developing TWB is responsible for analyzing, categorizing, and prioritizing problem reports and the corrections required. The result of these activities is a sequence of Software Package updates, each of which must be approved through the Software Errata Review Process.

The steps in the Software Errata Review Process are:

- 1) The developing TWB shall approve, by an Official Vote (section 11.1), the updated Software Package for submission to the TC as Software Errata. The developing TWB may then immediately begin work on the next updated Software Package.
- 2) The Chair of the developing TWB shall inform the TCMD of the results of the vote, and supply a copy of the updated Software Package, including a description of each problem corrected and the nature of each correction. Means that allow the easy identification of the specific changes made to the contents of the package should be provided.
- 3) The TC reviews the updated Software Package. For each change, the TC considers the potential that the Errata item would change a SNIA Member's support as well as the possibility that Essential Claims may be created. The TC also considers whether the changes require a SNIA Membership Vote and/or Call for IP Disclosure.
- 4) The TC shall complete its review of the updated Software Package and provide its conclusions to the TWB within 3 weeks of receiving the updated Software Package. The TC should strive to expedite these reviews whenever possible.
- 5) If the TC does not approve the updated Software Package, the TC communicates its decisions and recommendations to the developing TWB and determines the next steps.
- 6) If the TC determined that an additional SNIA Membership Vote and/or Call for IP Disclosure is needed, then the SNIA Membership Vote and/or Call for IP Disclosure process is initiated. In any event, the SNIA Board is notified of the outcome of the Software Errata Review Process.

Software Errata Review Process



7.5 Tests and Test Specifications

When a TWB creates SNIA Software, the TWB is encouraged to include a test suite for the software in the software package.

When a TWB creates SNIA Software, the TWB is encouraged to include a test specification for the software in the software package.

8 Development and Release of Other Software Technical Work

Policies and procedures for Other Software Technical Work are not yet defined, and Other Software Work Items are not allowed at this time.

9 Development and Release of Other SNIA-Branded Work

9.1 Scope

This section addresses SNIA branded work developed by a TWB within the scope of its charter for release outside of the SNIA and which is NOT addressed elsewhere in this document. Examples include:

- Podcasts
- Slide presentations
- Webcasts
- Education and/or Training presentations
- User Guides
- Conference papers
- FAQs
- Example code
- Scripts

9.2 General Guidelines

These guidelines, while not complete or comprehensive, provide the direction that SNIA branded work shall take.

- Material shall be vendor neutral.
- Material shall represent a consensus of the storage industry as represented by the SNIA.
- Material shall be written as the voice of the SNIA and the TWB.
- Material shall be technology agnostic, i.e., explain the benefits of the subject technology and position the subject technology relative to alternative technologies, all while fairly comparing technology and not deprecating any technology.
- Material shall be technically accurate.

9.3 Approval and Release Process

A TWB develops this class of work through its normal procedures.

Prior to release outside of the SNIA, the work is required to be reviewed (section 9.4) and approved (section 9.5) by the TWB.

9.4 Review Process

Each work shall undergo review independent of other work. For scheduling purpose, at least 2 review cycles should be planned in order to accommodate the opportunity for changes. The number of review cycles that may be required is not fixed.

A review cycle shall take one of the following forms.

9.4.1 In-Meeting Review

The TWB conducts a review of the material during any regular or special meeting and either approves the material as presented or requests changes. Comments are expected to be discussed and a resolution plan developed.

9.4.2 Electronic Review

An electronic ballot for approval is issued to all Representatives in the TWB for a period of at least 72 hours requesting either approval of the material as presented or a set of requested changes.

If there are substantive comments, they shall be addressed by the author(s) of the work and another review cycle (Electronic or In-Meeting) shall be conducted.

9.5 **Decision Process**

If, after an Electronic Review, there are no substantive comments and a simple majority of responding TWG Members vote for approval of the work as presented, the work is approved for release outside of the SNIA and no further review is necessary.

During an In-Meeting Review, a simple majority of the TWG Members present may approve the material as presented or with specified changes for release outside of the SNIA.

10 SNIA Architecture and SNIA Software Intellectual Property Process

10.1 Designation as SNIA Architecture or SNIA Software

SNIA Architecture and SNIA Software are defined by the SNIA Bylaws and the SNIA IP Policy (section 1.1). To ensure the SNIA IP Policy and its requirements are applied to the Technical Work being done in the TWGs, each Work Item shall be declared, if applicable, as delivering a possible candidate for SNIA Architecture or SNIA Software status.

As part of the TWG Work Item approval process (section 2.3.4), the TC shall determine if a Work Item will be considered as potentially on a SNIA Architecture or SNIA Software path, and if so, the TC shall inform the SNIA Board and, through the SNIA Board, the MEMBERS.

10.2 IP Review

10.2.1 Periodic IP Review

In accordance with the SNIA IP Policy, the SNIA shall have periodic Intellectual Property reviews of technical material designated as being *SNIA Work-in-Progress*. It is the objective of the SNIA IP Policy to have such technical material reviewed in order to have any potential intellectual property (Essential Claims) identified at the earliest possible time. The SNIA IP Policy states that these periodic Intellectual Property reviews should take place at least once every 6 months.

Periodic IP Reviews shall be conducted in accordance with the SNIA IP Policy and its requirements. During a Periodic IP Review, the technical material designated as currently being on a SNIA Architecture or SNIA software path (SNIA Work-in-Progress) shall be made available for IP Review to the MEMBERS. The SNIA Board shall issue a Call for IP Disclosure to start each Periodic IP Review.

The process for handling Periodic IP Reviews for SNIA Architecture and Document Technical Work is addressed in section 6.4.2.1, and the process for handling Periodic IP Reviews for SNIA Software Technical Work is addressed in section 7.4.3.1.

10.2.2 Final IP Review

In accordance to the SNIA IP Policy, technical material that is undergoing final approval as SNIA Architecture or SNIA Software shall also be provided to the MEMBERS for IP Review.

10.2.3 IP Review follow-up

In those cases where IP Reviews yield Essential Claims with which the SNIA technical material may conflict, the developing TWB shall work with the TCMD and the TC on ways to address the situation.

11 TWG Voting

When a vote is required, the Chair determines the appropriate voting procedure from Official Vote (section 11.1.1) or Rough Consensus (section 11.2), unless an Official Vote is specifically required by this document.

11.1 Official Vote

11.1.1 Quorum

Quorum for an Official Vote of a TWG is three *TWG Voting Members*.

11.1.2 Official Voting Process

The following rules apply to the Official Voting process:

- Official votes for the release of a Final Document must be announced a minimum of 7 calendar days in advance on the TWG's email reflector, unless covered by granting of authority (section 11.1.4).
- Official Votes may not take place at an *Informal Meeting* (section 4.6).
- A quorum (section 11.1.1) of a TWG is required for an Official Vote.
- Participation in an Official Vote is restricted to *TWG Voting Members*.
- There shall be at most one vote per *TWG Voting Member*.
- A vote shall be *Yes*, *No* or *Abstain*.
- An Official Vote shall be considered approved if the majority of the votes cast were *Yes*. Votes of *Abstain* shall not be considered in the count of votes cast when determining the majority vote.
- An Official Vote may be taken by the Chair asking for any objections to the motion being voted. If there are no objections then the Official Vote shall be considered passed unanimously. If there are any objections, a counted vote shall be conducted.
- Anyone voting against approval of the release of a work product must, upon request, provide verbal or written justification based on technical and/or other considerations.

Results of an Official Vote shall be recorded in the minutes of the meeting in which it takes place, including whether the vote passed or failed. A roll call vote is required if requested by 2 or more TWG Voting Members. The voting results recorded for a roll call vote shall include the name of each Voting Member's Representative and how each Representative voted.

Note: The "Role" and "Voting" columns in the Roster section of the TWG's web site typically do not, and in general cannot, by themselves accurately show who is or is not permitted to vote in an Official Vote.

11.1.3 Official Vote Required

An Official Vote is required for all *Matters of Substance*. The following items are considered *Matters of Substance* and require an Official Vote of the TWG:

- Release of any Technical Material (Documents, Source code, draft PAS Explanatory Report, etc.) outside the TWG (this does not include SNIA branded material covered by section 9)
- Formation (section 5.1) and Disbanding (section 5.2) of Sub Groups
- Appointment of a Chair or Co-Chair of a Sub Group (section 5.1)
- Creation, Modification, or Removal of Work Items (sections 2.3.1 and 2.3.4)
- Granting/Revoking of Authority of an Official Vote (section 11.1.4)
- Election of Chairs (section 2.4.3)
- Acceptance of a contribution (as defined by the CLA Agreement) by a CLA Participant
- Resolving a dispute between Co-Chairs (section 2.4.2)
- Request for Individual Membership for Industry Expert (section 3.3)

At any time, a Chair may determine an item is a matter of substance and call for an Official Vote. An Official Vote is also required if requested by 2 or more TWG Voting Members.

11.1.4 Grant Authority of an Official Vote

A TWG may take an Official Vote to grant authority to a designated TWG member or members (or a Sub Group) for handling a specific technical issue on the behalf of the TWG that would normally require an Official Vote of the TWG. When such a granting of authority takes place, it shall be recorded in the TWG meeting minutes, clearly defining the specific issue that will be handled, by whom it shall be handled, and the specific time period for which the authority is granted.

Those who have been granted authority shall abide by the policies and procedures defined in this document and restrict their work to the specific issue that they have been granted authority to handle. Any action taken in exercise of the granted authority shall be promptly reported in writing to the TWG and recorded in the minutes of a subsequent meeting.

During the development process that takes place in a TWG, sometimes a fast communication process between a TWG and an outside standards body is required. During this communication process, documents may need to pass between the two organizations frequently and during a short time period. Requiring an Official Vote of the TWG every time would hinder the development process and slow down the work. The ability for a TWG to Grant Authority via an Official Vote solves this issue and assures that the intentions of the majority of the TWG are met.

A TWG may revoke the Grant of Authority at any time by an Official Vote of the TWG.

11.1.5 Electronic Votes

A TWG may conduct an electronic vote based upon the following requirement:

The electronic vote shall be distributed to all the TWG members at least seven (7) days before the votes must be cast. However the vote is conducted, all votes for which a majority of the ballots cast are in the affirmative shall be deemed to have passed.

Abstentions shall not be counted as votes cast in determining whether or not a vote has passed. A record of all electronic votes shall be kept and included as part of the next set of TWG meeting minutes. The voting results recorded shall include the name of each Voting Member's Representative and how each Representative voted. If a TWG Voting Member casts multiple votes, the vote of the principal representative shall be the vote that is counted. If the principal representative does not vote, then the last vote cast shall be the vote that is counted. If any TWG Voting Member requests the use of an electronic vote, then an electronic vote shall be used.

11.2 **Rough Consensus**

Not every decision made in a TWG or its Sub Groups requires an Official Vote. Most decisions may be made by the Chair determining rough consensus of the TWG members.

All Representatives may participate in a Rough Consensus.

Rough Consensus may be declared via any method that the Chair believes gives appropriate guidance to the general will of the group. It is usually a technique that is capable of generally determining the will of the group. One method is to call for detractors to make their opinions clear, and the shortage of these opinions may be used to infer that the non-detractors have achieved what may be considered Rough Consensus.

An Official Vote (section 11.1) is required if requested by 2 or more TWG Voting Members.

11.3 **Appeal Process**

Anytime any MEMBER has a problem with the way a decision has been made, either by Official Vote or rough consensus, they have the right to appeal the decision based upon the following process.

- The appeal must be made within 30 days of the contested decision.
- The initial appeal shall be made to the TCMD, in writing. The TCMD shall make a written decision on the appeal within 14 days based upon an investigation of the facts.
- If the MEMBER does not agree with the decision of the TCMD, they may submit a formal appeal in writing to the TC. The formal appeal must be made within 14 days of the decision by the TCMD.
- The TC shall then have 60 days to make a final written decision on the appeal.

12 SNIA Web Site

12.1 Automatic Opt-IN

When a person joins a TWG (via the Members-Only section of the SNIA web site), the person is added to the TWG membership roster and to the TWG email reflector. This process of joining is an automatic *Opt-IN* for the person's organization/company for the specified TWG. The rights and obligations of the person's organization/company are described in the SNIA IP Policy.

12.2 TWG Online Status

Part of a TWG Chair's responsibility shall be to ensure that the SNIA web site contains current information about their TWG. The TWG Chair, with the assistance of the TWG Secretary (if one exists), shall be responsible for making sure that the following are up to date and available on their TWG's section of the SNIA web site:

- TWG's Mission and Charter
- Program of Work and its current status
- Contact information for Chair(s), Secretary and all Chairs of Sub Groups
- Minutes
- Conference Call and Face to Face Meeting Schedule
- Completed Work Items

Contact the TCMD about how to update the SNIA web site.

12.3 Document Sharing

The Causeway web site allows documents and portions of each TWG's document folder structure to be shared with other SNIA groups. TWGs are hereby reminded that material not released outside of the TWG must not be shared with other groups. A general guideline is to share documents and folders only by exception, and with attention to the specific material being shared.

13 Technical Council Managing Director Communication

The TCMD represents all of the TWGs to the TC. Therefore, it is extremely important that the Chairs of all TWGs maintain an open communication channel with the TCMD, keeping the TCMD informed of progress, important issues and any roadblocks.

13.1 Required Notification

The TCMD shall be notified within 7 days in regards to the following items:

- New Sub Group Formation
- Creation/deletion/addition of TWG Work Items (section 2.3)
- Change in status of Chair or Co-Chairs in a TWG or any of its Sub Groups

14 Technical Work Group Reviews

TWGs are required to show evidence of ongoing merit and relevancy. The TCMD monitors TWGs and arranges for them to be reviewed by the TC when necessary. The TC will regularly review each TWG, typically at least once every 18 months, and may review any TWG at any time. TWG reviews are a normal part of TWG management. The TC may also review any TWG Sub Group.

The purpose of a TWG review is to:

- Verify that the TWG has been following the guidelines of its Charter.
- Verify that the TWG has been making progress on its Program of Work.
- Verify that everything in the TWG's Program of Work still has technical merit based upon the current status of the storage industry.
- Verify that the TWG is proceeding in accordance with all applicable policies and procedures.
- Look for ways that the TC may assist the TWG in its efforts.
- Update TC members as to the status and progress of the TWG.

Issues that may motivate a TWG review or be addressed during a regular TWG review include:

- Absence of approved Work Items. Without any approved Work Items, a TWG may be requested to define Work items or face possible dissolution.
- Failure to meet regularly.
- Lack of participation. A TWG should have Representatives who regularly participate from at least three MEMBERS. Failure to meet this minimum level of participation should be reported to the TCMD by the TWG Chair or Co-Chair.

15 Policies and Guidelines for software development

The following are provided to establish direction and guidance for all software development within the SNIA.

15.1 General Policies and Guidelines for all software development

The following guidelines apply to all software development within the SNIA.

1. Existing, widely-accepted software licenses should be used; the SNIA should avoid creating new software licenses.

15.2 Policies and Guidelines for all software development within TWGs

The following policies and guidelines apply to all software development within TWGs.

1. Adding software to an existing TWG: It should be understood that adding a SNIA Software Work Item to the Program of Work for an existing TWG may have implications for TWG membership, as this action requires that each TWG member either agree to be bound by the SNIA IP Policy V3.0 or later or discontinue membership in the TWG immediately upon TC approval of the Work Item.
2. Source Code Control: The source code repository and source code control system for software development shall be provided by the SNIA Technology Department. Specific requirements must be identified as part of the Work Item proposal, negotiated with the SNIA Technology Director, and then approved by the TC as part of the Work Item approval. Any exceptions must be approved by the TC.
3. Proposed new Work Items for software development shall address all necessary personnel resources other than those provided by Representatives, all support needed from the SNIA Technology Department, where and how Builds and Testing will be performed, etc.
4. Proposed new Work Items for software development shall address the criteria and processes for assessing readiness for release of the proposed work.
5. Before a SNIA Software Work Item is approved for release, a post-release maintenance plan shall be approved by the TC.
6. In general, commercially friendly software licenses, such as BSD, are preferred as inbound and outbound licenses.

15.3 Policies and Guidelines for SNIA Software development

The following policies and guidelines apply to the development of SNIA Software.

1. SNIA Software may not be developed except within TWGs.
2. The Charter of a TWG with a SNIA Software Work Item must specify the software license(s) that the TWG is authorized to use as inbound licenses for Contributed Work (as defined in the SNIA IP Policy). This provision in the TWG's Charter must

be approved by both the TC and the SNIA Board. Software contributions by CLA Participants must include one of the software licenses specified in the Charter.

3. The Charter of a TWG with a SNIA Software Work Item must specify the software license(s) permitted for use as outbound licenses.
4. SNIA Software should not implement a non-SNIA Architecture based interface in preference to one based on SNIA Architecture. (This is from the SNIA P&P.)
5. No SNIA entity is allowed to provide or imply that the SNIA will provide End User Support for SNIA Software. (This is from the SNIA P&P.) The TC interprets this to mean that the SNIA shall not provide to IT users any problem diagnosis, timely correction of problems, training or education related to SNIA developed software. The SNIA may accept problem reports from anyone to whom SNIA materials have been released. The SNIA may provide assistance to software developers using SNIA developed software.
6. The SNIA may entertain offers of software from SNIA members outside of the context of those MEMBERS working in a TWG chartered to create SNIA Software. This software may only be accepted by the SNIA as a Contribution (as defined by the SNIA IP Policy) accompanied by a SNIA Software Contribution agreement.

In the following, the “associated Software TWG” is a TWG that will develop the offered software.

Specifically, a SNIA Software Contribution agreement is needed when:

- a) A SNIA member (who could also be a member of the associated Software TWG) contributes software that was completely developed independently of the TWG. This software is considered Contributed Work, so the member must sign the agreement.
 - b) Two or more members of the associated Software TWG contribute co-authored software that was completely developed independently of the TWG. This is considered Contributed Work, so all contributing members should sign the agreement.
 - c) Two or more SNIA members contribute co-authored software, but at least one of the members is not a member of the associated Software TWG. This is considered Contributed Work, so all contributing members should sign the agreement.
7. MEMBERS developing and offering software within the context of a TWG chartered to create SNIA Software are offering Single Work and Joint Work (as defined by the SNIA IP Policy). In this case, the legal necessities and constraints have already been addressed through those MEMBERS joining the TWG and having met all of the pre-requisite obligations.

In the following, the “associated Software TWG” is a TWG that will develop the offered software.

Specifically, this case applies and NO SNIA Software Contribution Agreement is needed when:

- a) A member of the associated Software TWG contributes software that was completely or partially developed to meet the requirements of the TWG. This software is considered Single Work, so the member does not need to sign the agreement.
- b) A member of the associated Software TWG contributes software that was completely developed independently of the TWG, but modified for the TWG. This software is considered Single Work, so the member does not need to sign the agreement.
- c) A member of the associated Software TWG contributes software that was partially developed independently of the TWG and partially developed to match the requirements of the TWG. This software is considered Single Work so the member does not need to sign the agreement.
- d) Two or more members of the associated Software TWG contribute co-authored software that was completely or partially developed to meet the requirements of the TWG. This software is considered Joint Work, so the members do not need to sign the agreement.
- e) Two or more members of the associated Software TWG contribute co-authored software that was completely developed independently of the TWG, but modified for the TWG. This software is considered Joint Work, so the members do not need to sign the agreement.

15.4 Policies and Guidelines for Other Software development

Policies and procedures for Other Software Technical Work are not yet defined, and Other Software Work Items are not allowed at this time.

16 SNIA Resources for TWGs

The SNIA makes certain resources available to TWGs.

16.1 Email Reflectors

Each TWG is provided with an email reflector to conduct TWG business. Each TWG's email reflector is available only to its members.

All TWG email reflectors shall be hosted by the SNIA so that they are able to be properly archived and linked to the SNIA web site.

16.2 Web Site Area

Each TWG is provided with its own area in the Members Only section of the SNIA web site. All TWG Chairs are responsible for reviewing their TWG's web site area on a periodic basis for correctness, and for reporting all necessary updates to the TCMD.

16.3 Conference Call Resources

Each TWG is provided with a SNIA Zoom account for its use.

16.4 SNIA Staff Support

Any TWG request for assistance from SNIA Staff should start with the TCMD, tcmd@snia.org.

16.5 Technical Council

The TC maintains an open door policy. TWG Chairs are encouraged to seek advice and guidance from the TC whenever they feel the need. This may include early reviews of Working Drafts and other Technical Work.

16.6 Feedback Portal

The TC has developed a web-based SNIA Feedback Portal for the purpose of receiving feedback on SNIA specifications and software. The portal includes the necessary intellectual property protections that make it possible for non-SNIA and non-TWG members to provide feedback while protecting the SNIA, the MEMBERS, and the SNIA standardization activities.

16.7 CLA Project Repository

The TCMD will provide a CLA Project Repository for each CLA Project Work Item. A CLA Project Repository is readable by the world. A CLA Project Repository is writable by the Chair(s) of the TWG responsible for the associated CLA Project Work Item.

17 Index

- Architecture Approval Process 26, 29, 33, 35, 39
- Chair 8, 9, 10, 11, 15, 19, 20, 21, 27, 29, 30, 32, 34, 35, 39, 40, 47, 49, 50, 55, 62, 63, 64, 65, 66, 67, 71
- Charter. 1, 2, 5, 6, 7, 8, 9, 23, 26, 44, 65, 67, 68, 69
- Errata.....26, 34, 35, 39, 40, 46, 54, 55
- Errata Review Process..... 26, 35, 39, 46
- Final Document IP Review Process ... 29, 34
- Informal Meeting 18, 62
- Internal Use Draft.....24, 44
- IP Policy..... 1, 2, 3, 5, 15, 16, 18, 19, 20, 22, 23, 29, 43, 48, 54, 61, 65, 68, 69
- IP Review.26, 29, 30, 34, 46, 48, 49, 50, 51, 61
- IP Review Process..... 26, 29, 46, 48, 49, 50
- MEMBER.....2, 9, 14, 16, 21, 27, 29, 30, 32, 33, 34, 35, 45, 46, 47, 49, 50, 51, 61, 69, 71
- Minutes 11, 19, 20, 62, 63, 64, 65
- Official Vote2, 10, 18, 19, 21, 24, 27, 29, 32, 34, 39, 40, 44, 47, 49, 50, 55, 62, 63, 64
- Periodic IP Review Process29, 49
- Program of Work... 2, 3, 5, 6, 7, 8, 9, 17, 21, 65, 67, 68
- Quorum.....62
- Release Process..... 24, 26, 27, 33, 46
- Representative..... 2, 14, 62, 64, 68
- Secretary 10, 11, 19, 21, 34, 51, 65
- SNIA Architecture 2, 7, 8, 23, 26, 29, 34, 35, 43, 61, 69
- SNIA Board2, 7, 8, 9, 29, 34, 35, 40, 45, 49, 50, 51, 55, 61, 69
- SNIA Software2, 3, 5, 7, 8, 9, 23, 29, 43, 44, 45, 46, 48, 49, 50, 51, 54, 55, 57, 61, 68, 69
- SNIA Software Approval Process 46, 50, 51, 55
- SNIA Standardization Process26, 34, 38
- SNIA Technical Document 2, 23, 24, 26, 42, 49
- SNIA Technical Position.. 26, 32, 35, 45, 50, 51
- SNIA Technical Proposal.....26
- SNIA Work-in-Progress ... 2, 3, 8, 29, 33, 49, 61
- Software Errata51, 54, 55
- Software Errata Review Process..51, 54, 55
- Software Module2, 43
- Software Package . 2, 43, 44, 45, 46, 50, 51, 54, 55
- Software Release Process44, 46, 50
- Sub Groups..... 17, 21, 63, 64, 65, 66
- Symposia 17, 21
- TC 3, 5, 6, 7, 8, 9, 10, 15, 21, 25, 27, 29, 30, 32, 33, 34, 35, 39, 40, 45, 46, 47, 49, 50, 51, 54, 55, 61, 64, 66, 67, 68, 69, 71
- TCMD.3, 8, 9, 15, 18, 21, 27, 29, 30, 32, 34, 39, 40, 42, 47, 49, 50, 51, 55, 61, 64, 65, 66, 67, 71
- Technical Approval Process26, 32
- Technical Work 1, 2, 3, 5, 17, 20, 23, 26, 27, 29, 32, 33, 34, 35, 39, 43, 44, 45, 46, 47, 49, 50, 51, 58, 61, 67, 71
- Trial-Use Draft.....24, 25, 32, 45
- TWB.....3, 17, 23, 24, 25, 26, 27, 29, 30, 32, 33, 34, 35, 39, 40, 42, 43, 44, 45, 46, 47, 49, 50, 51, 54, 55, 57, 61
- TWG2, 3, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 44, 47, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71
- Work Item.. 2, 3, 5, 6, 7, 8, 9, 18, 20, 21, 22, 23, 24, 25, 26, 29, 43, 44, 45, 49, 61, 62, 63, 65, 66, 67, 68, 69
- Working Draft 24, 29, 44, 45, 49, 71