ITU
International Telecommunication Union

ISO
International Organization for Standardization

IEC
International Electrotechnical Commission

GUIDE *for* ITU-T *and* ISO/IEC JTC 1 COOPERATION

ANNEX A
to ITU-T Recommandation A.23

ANNEX K
to ISO/IEC JTC 1 Directives

November 2001

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CONTENTS

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1 Introduction

1.1 Purpose

This document contains a set of procedures for cooperation between ITU-T and ISO/IEC JTC 1. It is written in an informal style, much like a tutorial, to be a practical, educational and insightful reference for both leaders and participants in cooperative work.

1.2 Background

The ITU-T and ISO and IEC have long established cooperative relationships. In recent years, the continued merging of technologies for which these individual organizations have been responsible has resulted in an increasing interdependency of a growing portion of the work programs. This has led, for example, to the creation by ISO and IEC of Joint Technical Committee 1 (JTC 1) on Information Technology. Cooperative arrangements between the ITU-T and ISO/IEC have been growing.

In June 1988, an ad hoc group of CCITT and ISO/IEC JTC 1 leaders met to review the then existing situation of cooperation. Recognizing that these cooperative efforts will continue to grow, the ad hoc group felt it would be beneficial to develop and document a set of procedures which builds upon past successes to facilitate future efforts. As a result, an *Informal Guide on CCITT and ISO/IEC JTC I Cooperation* was produced.

This Informal Guide recognized that the areas for cooperative work between CCITT and ISO/IEC JTC 1 are a small portion of the total work program of both organizations. Therefore, it was determined that the practical way to achieve successful cooperation is to work within the flexibility existing within the procedures of each organization rather than to define a fundamentally new framework.

Since that time considerable experience has been gained in the use of the procedures. Consequently, a second meeting of the ad hoc group was held in September 1991 to review and refine the procedures. A draft revised Guide was produced at that meeting and adopted by both CCITT and JTC 1 for interim use, pending formal approval.

The draft revised Guide recognized the value of collaboration between the two organizations in building consensus in areas of common interest and in extending this collaboration to the publication of common text Recommendations and International Standards to better serve the needs of industry and users. Considerable attention was given to defining efficient collaborative procedures that make the best use of resources to produce timely results.

Further revision was made as a result of the formal review and to reflect updated procedures of both organizations. The Guide was adopted by the WTSC and JTC 1 in March 1993.

By 1996, with the experience of developing more than 150 collaborative Recommendations | International Standards, the Guide was updated to reflect insights gained through this experience and to reflect revisions in the procedures of both organizations. The updated Guide was adopted by the WTSC in October 1996 and JTC 1 in December 1996.

In 2001, the Guide was again updated to reflect revisions in the procedures of both organizations. The updated Guide was adopted by the ITU-T in November 2001 and JTC 1 in November 2001.

1.3 Organization of the Guide

The remainder of clause 1 provides a listing of useful references, definitions and abbreviations pertinent to ITU-T and JTC 1 cooperation. Clauses 2 and 3 provide tutorial information on the structure and procedures of ITU-T and JTC 1.

The detailed procedures for ITU-T and JTC 1 cooperation are given in clauses 4 through 10 and Appendix I. They supplement, and sometimes repeat for clarity, the basic procedures of each organization (for example, those given in WTSA Resolution No. 1 and in the ISO/IEC Directives for JTC 1) which remain controlling.

Drafting rules for editors to use in the preparation of common text Recommendations | International Standards are specified in Appendix II.

1.4 References

1.4.1 ITU-T references

1.4.1.1 General

Most information about the ITU and the ITU-T can be found on the ITU web site at http://www.itu.int.

The fundamental documents of the ITU are its Constitution and its Convention, which can be found in "Collection of the basic texts of the International Telecommunication Union adopted by the Plenipotentiary Conference, Edition 1999".

The 2000 ITU-T Orange Book No. 1 contains the Resolutions and A-series Recommendations approved by the 2000 World Telecommunication Standardization Assembly and includes a listing of the Study Groups and a listing of the Questions allocated to each Study Group.

Contribution No. 1 of each Study Group contains the detailed text for each Question assigned to the Study Group by the World Telecommunication Standardization Assembly.

Catalogue of ITU-T Recommendations

1.4.1.2 WTSA Resolutions

WTSA Resolutions are adopted by the World Telecommunication Standardization Assembly. The latest set is published in the 2000 ITU-T Orange Book No. 1. Four Resolutions of particular relevance to ITU-T and ISO/IEC JTC 1 cooperation are listed below.

- Resolution No. 1, *Rules of procedure of the ITU Telecommunication Standardization Sector (ITU-T)*.
- Resolution No. 2, *Study Group responsibility and mandates*.
- Resolution No. 7, *Collaboration with the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC)*.
- Resolution No. 22, *Authorization for TSAG to act between WTSAs*.

1.4.1.3 A-series Recommendations

A-series Recommendations are adopted by the World Telecommunication Standardization Assembly (WTSA) or by the Telecommunications Standardization Advisory Group (TSAG) between WTSAs. The latest set is published in the 2000 ITU-T Orange Book No. 1. The ten A-series Recommendations of particular relevance to ITU-T and ISO/IEC JTC 1 cooperation are listed below.

- Recommendation A.1, *Work methods for Study Groups of ITU Telecommunication Standardization Sector (ITU-T)*.
- Recommendation A.2, *Presentation of contributions relative to the study of Questions assigned to the ITU-T*.
- Recommendation A.4, *Communication process between ITU-T and Forums and Consortia*.
- Recommendation A.5, *Generic procedures for including references to documents of other organizations in ITU-T Recommendations*.
- Recommendation A.6, *Cooperation and exchange of information between ITU-T and national and regional standards development organizations*.
- Recommendation A.8, *Alternative approval procedure for new and revised Recommendations*.
- Recommendation A.11, *Publication of ITU-T Recommendations and WTSA proceedings*.
- Recommendation A.12, *Identification and layout of ITU-T Recommendations*.
- Recommendation A.13, *Supplements to ITU-T Recommendations*.
- Recommendation A.23, *Collaboration with the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) on Information Technology*.

1.4.2 ISO/IEC references

1.4.2.1 General

Most information about the ISO can be found on its web site at http://www.iso.org. Similarly, most information about the IEC can be found on its web site at http://www.iec.ch.

Catalogue of IEC Publications [This online publication lists all IEC standards issued as of the first day of the year]

IEC Yearbook [This annual publication lists all the Technical Committees and Subcommittees of IEC and, for each, lists the subjects under consideration and the publications prepared]

ISO Catalogue [This online publication lists all published International Standards and Technical Reports of ISO]

ISO Memento [This annual publication lists all the Technical Committees of ISO and gives their scope and committee structure]

ISO Technical Programme [This semi-annual publication lists the status of all documents that have reached the balloting stage (e.g., CD, DAM, DIS, DTR)]

ISO/IEC Directives – Part 1:2001, Procedures for the technical work

ISO/IEC Directives – Part 2:2001, Rules for the structure and drafting of International Standards

ISO/IEC Directives – Procedures for the technical work of ISO/IEC JTC 1 on Information Technology

1.4.2.2 JTC 1

Most information about ISO/IEC JTC1 can be found on its site at http://www.jtc1.org. The key document setting forth the specific procedures for JTC 1 is: the ISO/IEC Directives – Procedures for the technical work of ISO/IEC JTC 1 on Information Technology.

1.4.2.3 Subcommittees of JTC 1

Subcommittees of JTC 1 maintain their respective web sites, linked from the JTC 1 site. Prior to each JTC 1 plenary, SC Chairmen prepare the Subcommittee Business Plans, including a management summary, a period review and the priorities for the next period. Business Plans may be prepared for a Subcommittee or consolidated within a Technical Direction[1)].

1.5 Definitions

1.5.1 ITU-T definitions

1.5.1.1 Additional Review: A 3-week period in the Alternative Approval Process where Administrations, Sector Members and Associates review the text of a Recommendation put for approval and can submit comments.

1.5.1.2 Alternative Approval Process (AAP): The procedure for approval of Recommendations that do not have regulatory or policy implications.

1.5.1.3 Consent: A step in the Alternative Approval Process where a Study Group or Working Party agrees that the text of a Recommendation is sufficiently mature.

1.5.1.4 Consultation: A step in the Traditional Approval Process where Administrations are asked to delegate authority for approval of a Recommendation to the next meeting of the Study Group.

1.5.1.5 Determination: A step in the Traditional Approval Process where a Study Group or Working Party agrees that the text of a Recommendation is sufficiently mature.

1.5.1.6 Last Call: A 4-week period in the Alternative Approval Process where Administrations, Sector Members and Associates review the text of a Recommendation put for approval and can submit comments.

1.5.1.7 Question: Description of an area of work to be studied, normally leading to the production of one or more new or revised Recommendations.

1.5.1.8 Traditional Approval Process (TAP): The procedure for approval of Recommendations that have regulatory or policy implications.

1.5.2 ISO/IEC JTC 1 definitions

1.5.2.1 Amendment (AMD): A published amendment to an International Standard.

1.5.2.2 Category A Liaison: An external liaison organization which participates actively in a broad spectrum of work in JTC 1 or in a JTC 1/SC.

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1) JTC 1 Technical Directions are logical groupings of Subcommittees, in areas where work is interrelated or complementary. The Technical Directions have no bearing on the operational procedures.

1.5.2.3 Committee Draft (CD): Text for a proposed International Standard which has been registered for ballot at the Subcommittee (SC) level.

1.5.2.4 Draft Amendment (DAM): Text for a proposed amendment to an International Standard which has been submitted using the Fast-Track process for balloting by National Bodies of JTC 1 and ISO/IEC.

1.5.2.5 Draft International Standard (DIS): Text for a proposed International Standard which has been submitted using the Fast-Track process for balloting by National Bodies of JTC 1 and ISO/IEC.

1.5.2.6 Draft Technical Report (DTR): Text for a proposed Technical Report which has been submitted for balloting by National Bodies of JTC 1.

1.5.2.7 Final Committee Draft (FCD): Text for a proposed International Standard which has been registered for ballot at the Subcommittee (SC) level and is intended by the Subcommittee to be the final ballot at the Subcommittee level.

1.5.2.8 Final Draft International Standard (FDIS): Text for a proposed International Standard which has been submitted for balloting by National Bodies of JTC 1 and ISO/IEC.

1.5.2.9 Final Draft International Standardized Profile (FDISP): Text for a proposed International Standardized Profile which has been submitted for balloting by National Bodies of JTC 1 and ISO/IEC.

1.5.2.10 Final Draft Amendment (FDAM): Text for a proposed amendment to an International Standard which has been submitted for balloting by National Bodies of JTC 1 and ISO/IEC.

1.5.2.11 Final Proposed Draft Amendment (FPDAM): Text for a proposed amendment to an International Standard which has been registered for ballot at the Subcommittee level and is intended by the Subcommittee to be the final ballot at the Subcommittee level.

1.5.2.12 Final Proposed Draft International Standardized Profile (FPDISP): Text for a proposed International Standardized Profile which has been registered for ballot at the Subcommittee level and is intended by the Subcommittee to be the final ballot at the Subcommittee level.

1.5.2.13 Information Technology Task Force (ITTF): A group of individuals from the staffs of the ISO Central Secretariat and the IEC Central Office that provide joint support for the activities of JTC 1.

1.5.2.14 International Standard: A published ISO/IEC standard.

1.5.2.15 International Standardized Profile (ISP): A published ISO/IEC standardized profile.

1.5.2.16 New work item Proposal (NP): Text for a proposed item to be added to the program of work which has been registered for ballot at the JTC 1 or Subcommittee (SC) level.

1.5.2.17 Proposed Draft Amendment (PDAM): Text for a proposed amendment to an International Standard which has been registered for ballot at the Subcommittee (SC) level.

1.5.2.18 Proposed Draft International Standardized Profile (PDISP): Text for a proposed International Standardized Profile which has been registered for ballot at the Subcommittee (SC) level.

1.5.2.19 Proposed Draft Technical Report (PDTR): Text for a proposed Technical Report which has been registered for ballot at the Subcommittee (SC) level.

1.5.2.20 Technical Report (TR): A document not ready or suitable for issue as an International Standard but valuable for publication in the interests of standardization.

1.5.2.21 Working Draft (WD): A document pertaining to a work item with a view to leading toward a Committee Draft.

1.5.3 ITU-T and JTC 1 cooperation definitions

1.5.3.1 Collaborative Interchange: A mode of ITU-T and JTC 1 collaboration aimed at producing one or more common text Recommendations | International Standards by means of close liaison and synchronized approval (see clause 7).

1.5.3.2 Collaborative Team (CT): (1) A mode of ITU-T and JTC 1 collaboration aimed at producing one or more common text Recommendations | International Standards by means of common meetings and synchronized approval (see clause 8); (2) A group composed of individuals from a JTC 1 SC and an ITU-T SG that collaboratively develops common text for one or more Recommendations | International Standards (see clause 8).

1.5.3.3 Working Level Group: A generic term to refer to a group of individuals in a JTC 1 SC responsible for progressing work on a specific project or a group of individuals in an ITU-T SG responsible for progressing work on a specific Question (see clause 7).

1.6 Abbreviations

For the purposes of this Guide, the following abbreviations apply.

1.6.1 ITU-T abbreviations

AAP	Alternative Approval Process
CCITT	International Telegraph and Telephone Consultative Committee (replaced by ITU-T in 1993)
ITU	International Telecommunication Union
ITU-T	International Telecommunication Union – Telecommunication Standardization Sector
SG	Study Group
SSG	Special Study Group
TAP	Traditional Approval Process
TSAG	Telecommunication Standardization Advisory Group
TSB	Telecommunication Standardization Bureau
WP	Working Party
WTSA	World Telecommunication Standardization Assembly
WTSC	World Telecommunication Standardization Conference (replaced by WTSA in 2000)

1.6.2 ISO/IEC abbreviations

AMD	Amendment
CD	Committee Draft
COR	Technical Corrigendum
DAM	Draft Amendment
DCOR	Draft Technical Corrigendum
DIS	Draft International Standard
DISP	Draft International Standardized Profile
DTR	Draft Technical Report
FCD	Final Committee Draft
FDAM	Final Draft Amendment
FDIS	Final Draft International Standard
FPDAM	Final Proposed Draft Amendment
FPDISP	Final Proposed Draft International Standardized Profile
IEC	International Electrotechnical Commission
IS	International Standard
ISO	International Organization for Standardization
ISP	International Standardized Profile
ITTF	Information Technology Task Force
JTC 1	Joint Technical Committee 1
NP	New Work Item Proposal

PDAM Proposed Draft Amendment

PDISP Proposed Draft International Standardized Profile

PDTR Proposed Draft Technical Report

SC Subcommittee

SWG Special Working Group

TR Technical Report

WD Working Draft

WG Working Group

1.6.3 ITU-T and JTC 1 cooperation abbreviations

CT Collaborative Team

2 Organizational structures

ITU-T and JTC 1 have similar organizational structures for carrying out technical work. The major ITU-T organizational unit is the Study Group (SG) which is comparable to a Subcommittee (SC) within JTC 1. Table 1 lists the thirteen ITU-T Study Groups as of November 2001. Table 2 lists the seventeen Subcommitees of JTC 1 as of November 2001.

Table 1 – List of ITU-T Study Groups

Designation	Title
SG 2	Operational aspects of service provision, networks and performance
SG 3	Tariff and accounting principles including related telecommunications economic and policy issues
SG 4	Telecommunication management, including TMN
SG 5	Protection against electromagnetic environment effects
SG 6	Outside plant
SG 9	Integrated broadband cable networks including television and sound transmission
SG 11	Signalling requirements and protocols
SG 12	End-to-end transmission performance of networks and terminals
SG 13	Multi-protocol and IP-based networks and their interworking
SG 15	Optical and other transport networks
SG 16	Multimedia services, systems and terminals
SG 17	Data networks and telecommunication software
SSG	IMT-2000 and beyond
NOTE 1 – A brief description of the general work areas of the Study Groups is contained in Resolution No. 2 of the ITU-T Orange Book No. 1. (Study Groups 7 and 10 were merged to form Study Group 17 in September 2001.) NOTE 2 – For simplicity, throughout this Guide, the term "Study Group" and the abbreviation "SG" is used to designate either a Study Group (SG) or the Special Study Group (SSG). NOTE 3 – In addition to the Study Groups, the Telecommunication Standardization Advisory Group (TSAG) is also part of the ITU-T.	

Table 2 – List of ISO/IEC JTC 1 Subcommittees

Designation	Title
SC 2	Coded Character Sets
SC 6	Telecommunications and Information Exchange Between Systems
SC 7	Software and System Engineering
SC 11	Flexible Magnetic Media for Digital Data Interchange
SC 17	Cards and Personal Identification
SC 22	Programming Languages, their Environments and System Software Interfaces
SC 23	Optical Disk Cartridges for Information Interchange
SC 24	Computer Graphics and Image Processing
SC 25	Interconnection of Information Technology Equipment
SC 27	IT Security Techniques
SC 28	Office Equipment
SC 29	Coding of Audio, Picture, Multimedia and Hypermedia Information
SC 31	Automatic Identification and Data Capture Techniques
SC 32	Data Management and Interchange
SC 34	Document Description and Processing Languages
SC 35	User Interfaces
SC 36	Learning Technology
NOTE – Also directly reporting to JTC 1 are: – Conformity Assessment and Interoperability Rapporteur Group; – Implementing Information Technology Rapporteur Group.	

At the next lower level, ITU-T Study Groups typically divide their work into a number of Working Parties (WPs), and JTC 1 Subcommittees divide their work into Working Groups (WGs). Both organizations appoint Rapporteurs and Editors to facilitate the carrying out of detailed technical work.

Figure 1 illustrates the ITU-T structure as of November 2001 and Figure 2 illustrates the JTC 1 structure as of November 2001.

3 Organization procedures

The procedures for ITU-T and ISO/IEC JTC 1 cooperation make use of the regular procedures of each organization with the addition of some special procedures that achieve needed synchronization. Therefore, the following background material on the procedures of the two organizations forms the basis upon which the cooperative procedures are built. Of particular importance are the approval processes used by the ITU-T and JTC 1.

3.1 ITU-T procedures

The procedures for the ITU-T are specified in the WTSA Resolutions and in the A-series Recommendations. Highlights of this information are summarized below.

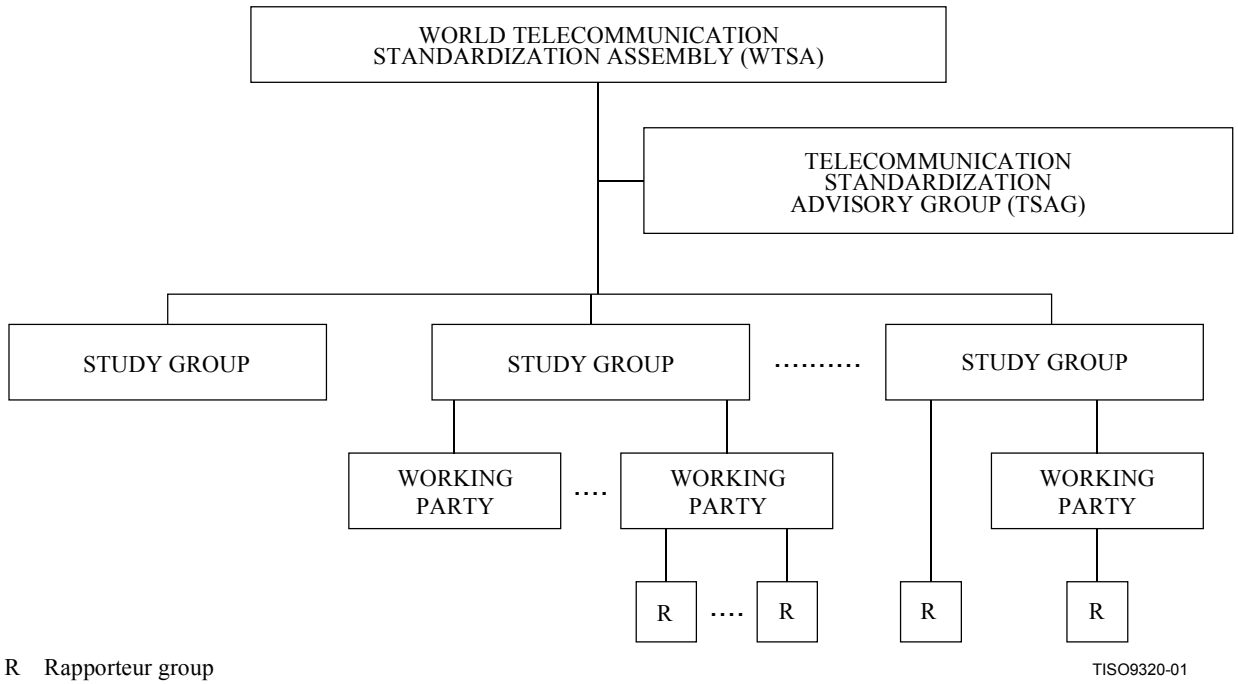


Figure 1 – Organizational structure of ITU-T

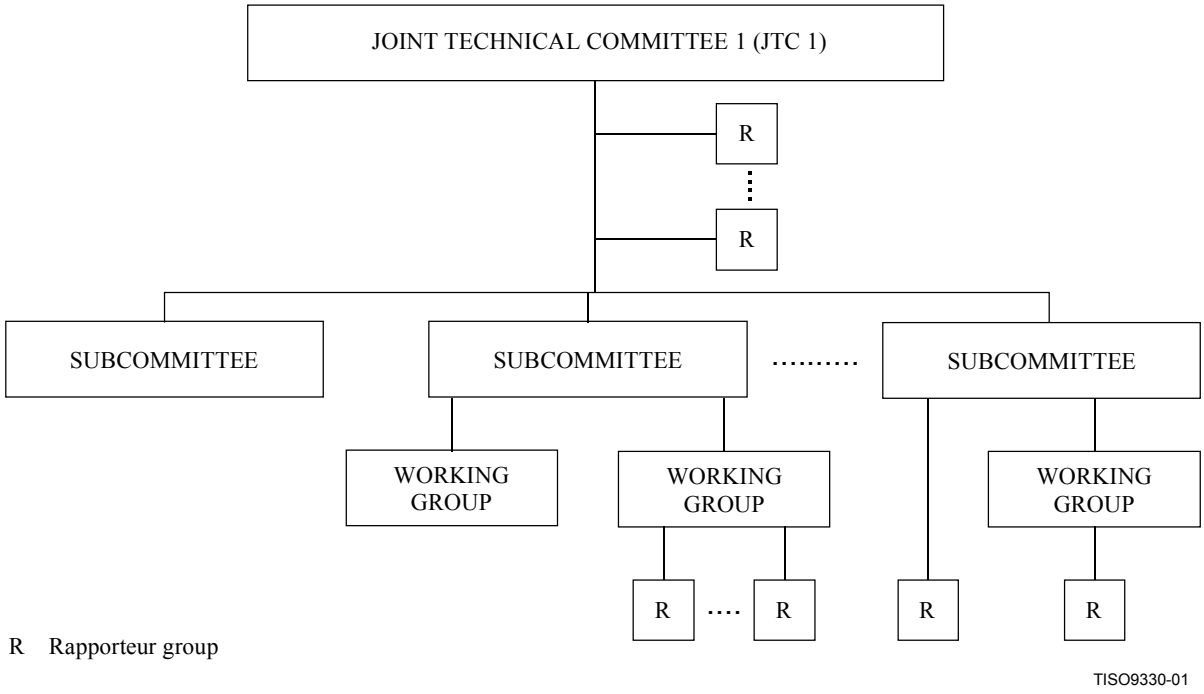


Figure 2 – Organizational structure of JTC 1

The World Telecommunication Standardization Assembly meets once every four years. The period between two consecutive Assemblies is called a Study Period (e.g., 2001-2004). Among the principal actions taken by the World Telecommunication Standardization Assembly are:

a) Approval of any Recommendations submitted by the Study Groups;

b) Organization of the Study Groups for the next Study Period;

c) Allocation of Questions (work program) to Study Groups;

d) Appointment of the chairman and vice-chairmen of each Study Group; and

e) Revision of the working methods of the ITU-T.

Between Assemblies, TSAG has been delegated authority to make any necessary changes in Study Groups, work programs and work methods.

The Study Groups are responsible for their own internal organization, for example:

a) Establishment of Working Parties and the appointment of their chairmen;

b) Appointment of Rapporteurs which report directly to the Study Group; and

c) Allocation of Questions to each Working Party (and to Rapporteurs that report directly to the Study Group).

The Working Parties are responsible for the Questions assigned to them. They may appoint Rapporteurs to facilitate carrying out the technical work. When texts are being developed for a Recommendation, it is frequently helpful to appoint an Editor.

At the start of a new Study Period, the Questions are the ones allocated to the Study Group by the World Telecommunication Standardization Assembly. During the Study Period, new proposed Questions can be drafted and approved.

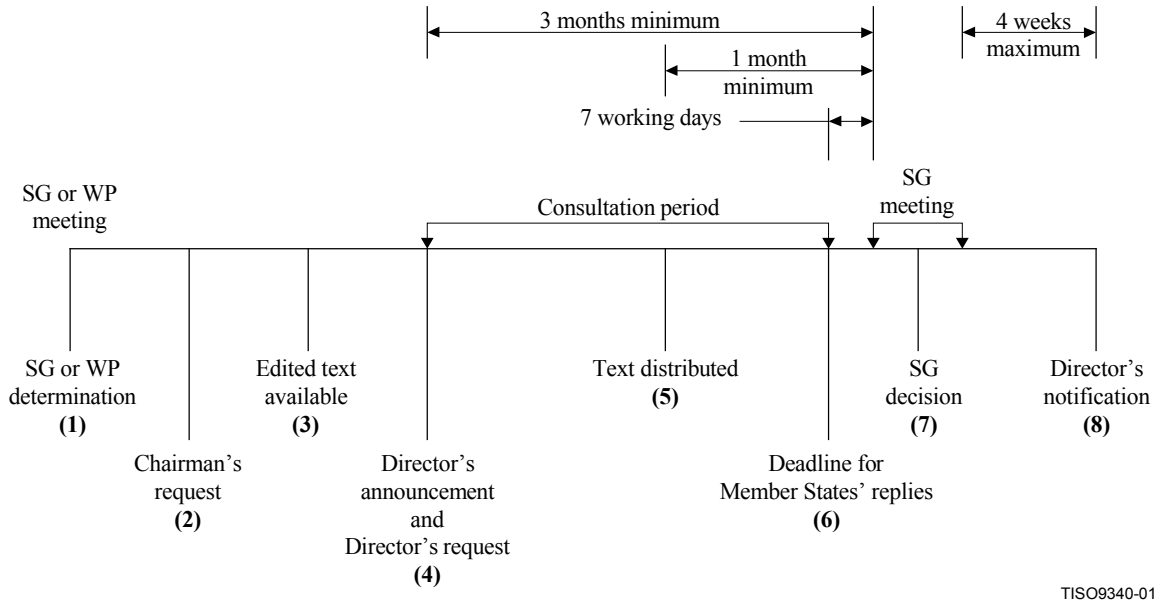
At the end of the Study Period, each Study Group prepares a set of new or revised Questions for the work they believe should be continued or undertaken during the next four year Study Period. These draft Questions are submitted to the World Telecommunication Standardization Assembly for approval.

Procedures are in place which permit important work to continue during the period between the final meeting of a Study Group in one Study Period and the first meeting of the Study Group in the next Study Period.

3.1.1 Traditional Approval Process (TAP)

The Traditional Approval Process is used for Recommendations that may have regulatory or policy implications. Details of this procedure are contained in Resolution No. 1 and summarized in Figure 3a. It is not likely that many Recommendations developed in cooperation with JTC 1 will fall under this procedure.

During the Study Period, work on a draft of a new Recommendation or on a revision of an existing Recommendation may become mature and stable. The Study Group or Working Party may determine that the text is sufficiently mature and that the approval process should be initiated. Any final editing is completed and the Study Group Chairman requests the Director of the TSB to initiate a three-month consultation period. The results of the consultation of Administrations are conveyed to the next meeting of the Study Group. At the Study Group meeting, all comments are considered and the final text of the Recommendation is produced. At the designated time during the Study Group meeting, the Chairman will seek approval of the Recommendation. The decision at the Study Group meeting must be unopposed. If one Administration says "NO", the approval process is suspended. One or more Administrations at the Study Group meeting may request more time to consider their position. If this is the case, these Administrations have four weeks from the end of the meeting to make their position known. Texts which are mature at the end of the Study Period may be approved using this procedure or may be sent to the World Telecommunication Standardization Assembly for approval.



NOTES

(1) SG or WP DETERMINATION: The Study Group or Working Party determines that work on a draft Recommendation is sufficiently mature to begin the traditional approval process.

(2) CHAIRMANS REQUEST: The Study Group Chairman requests that the Director announce the intention to seek approval.

(3) EDITED TEXT AVAILABLE: Text of the draft Recommendation is provided to the TSB in final edited form.

(4) DIRECTORS ANNOUNCEMENT and DIRECTORS REQUEST: The Director announces to all Member States, Sector Members and Associates the intention to seek approval of the draft Recommendation at the next Study Group meeting. The Director requests Member States to inform the Director whether they approve or do not approve the proposal to assign authority to the Study Group to consider approval.

(5) TEXT DISTRIBUTED: Text of the draft Recommendation is distributed at least one month before the announced meeting.

(6) DEADLINE FOR MEMBER STATES REPLIES: If 70% of replies received during the consultation period indicate approval, the Study Group can proceed to consider approval.

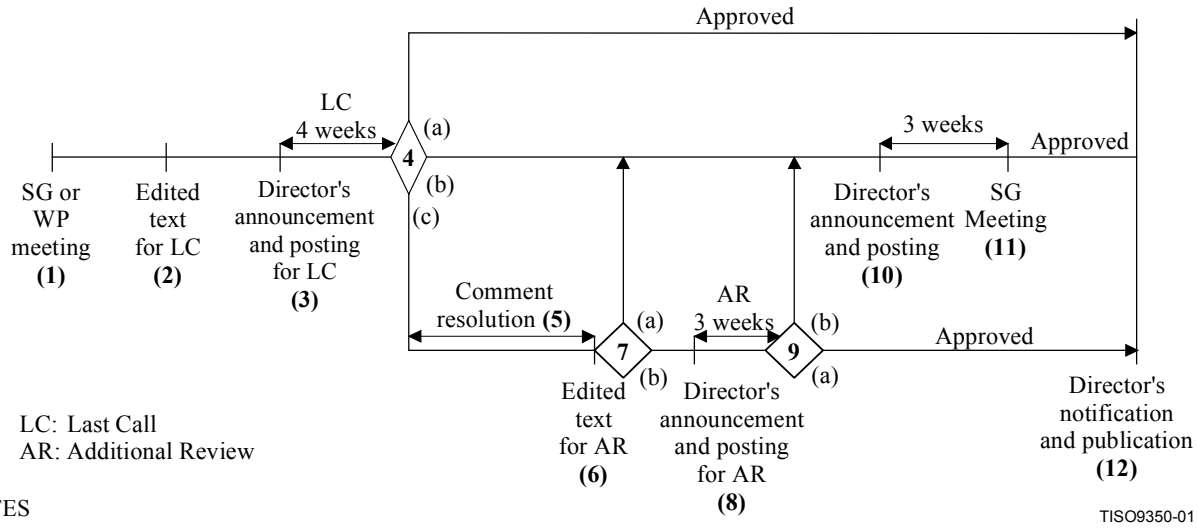
(7) STUDY GROUP DECISION: After debate and agreement on any final modification to the text, the Study Group reaches unopposed agreement to approve the draft Recommendation. A delegation can register a degree of reservation, can request more time to consider its position (4 weeks maximum) or can abstain from the decision. Otherwise the draft Recommendation is not approved; additional work can be done and the process returns to step 2.

(8) DIRECTORS NOTIFICATION: The Director notifies whether the draft Recommendation is approved or not.

Figure 3a – ITU-T Traditional Approval Process (TAP)

3.1.2 Alternative Approval Process (AAP)

The Alternative Approval Process is used for Recommendations that do not have regulatory or policy implications. Details of this procedure are contained in Recommendation A.8 and summarized in Figure 3b. A major characteristic of the AAP is that approval can be obtained without having to wait until the next Study Group meeting. It is expected that essentially all of the Recommendations developed in cooperation with JTC 1 will fall under this procedure.



NOTES

(1) SG or WP CONSENT: The Study Group or Working Party concludes that the work on a draft Recommendation is sufficiently mature to begin the alternative approval process.

(2) EDITED TEXT AVAILABLE: Text of the draft Recommendation is provided to the TSB in final edited form and the Study Group Chairman requests the Director to initiate the Last Call.

(3) DIRECTOR'S LAST CALL ANNOUNCEMENT AND POSTING: The Director announces the beginning of the Last Call to all Member States, Sector Members and Associates with reference to the text.

(4) LAST CALL JUDGEMENT: The Study Group Chairman, in consultation with TSB, makes the judgement whether:

a) no comments other than those indicating typographical errors have been received. In this case the draft Recommendation is approved;

b) a planned Study Group meeting is sufficiently close to consider the comments received; or

c) to save time and/or because of the nature and maturity of the work, comment resolution should be initiated.

(5) COMMENT RESOLUTION: The Study Group Chairman, with assistance from TSB and experts, including electronic correspondence and Rapporteur and Working Party meetings, where appropriate, addresses the comments and prepares a new edited text.

(6) EDITED TEXT AVAILABLE: The revised edited text is provided to TSB.

(7) NEXT STEP JUDGEMENT: The Study Group Chairman, in consultation with TSB, makes the judgement whether:

a) a planned Study Group meeting is sufficiently close to consider the draft Recommendation for approval; or

b) to save time and/or because of the nature and maturity of the work an Additional Review should be initiated.

(8) DIRECTOR'S ADDITIONAL REVIEW ANNOUNCEMENT AND POSTING: The Director announces the beginning of the Additional Review to all Member States, Sector Members and Associates with reference to the text.

(9) ADDITIONAL REVIEW JUDGEMENT: The Study Group Chairman, in consultation with TSB, makes the judgement whether:

a) no comments other than those indicating typographical errors have been received. In this case the draft Recommendation is approved; or

b) comments other than those indicating typographical errors have been received. In this case the process proceeds to the Study Group meeting.

(10) DIRECTOR'S STUDY GROUP ANNOUNCEMENT AND POSTING: The Director announces that the next Study Group meeting will consider the draft Recommendation for approval.

(11) STUDY GROUP DECISION: After debate and agreement on any final modification to the text, the Study Group reaches unopposed agreement to approve the draft Recommendation. A delegation can register a degree of reservation, can request more time to consider its position (4 weeks maximum) or can abstain from the decision. Otherwise the draft Recommendation is not approved; additional work can be done and the process returns to step 2.

(12) DIRECTOR'S NOTIFICATION: The Director notifies that the draft Recommendation has been approved.

Figure 3b – ITU-T Alternative Approval Process (AAP)

During the Study Period, work on a draft of a new Recommendation or on a revision of an existing Recommendation may become mature and stable. The Study Group or Working Party may consent that the text is sufficiently mature and that the approval process should be initiated. Any final editing of the text is completed and the Study Group Chairman requests the Director of the TSB to initiate a four-week Last Call period. Administrations, Sector Members and Associates review the text and may submit comments. If there are no comments (other than simple editorial corrections), the Recommendation is approved. If there are comments of substance, they are addressed and depending on time schedules the revised text will be posted for a three-week Additional Review or sent to the next meeting of the Study Group. If the Additional Review is held, the Recommendation is approved if there are no comments (other than simple editorial corrections). Otherwise, the text is sent to the next Study Group meeting. At the Study Group meeting, all comments are considered and the final text of the Recommendation is produced. At the designated time during the Study Group meeting, the Chairman will seek approval of the Recommendation. The decision at the Study Group meeting must be unopposed. If one Administration says "NO", the approval process is suspended. One or more Administrations at the Study Group meeting may request more time to consider their position. If this is the case, these Administrations have four weeks from the end of the meeting to make their position known. Texts which are mature at the end of the Study Period may be approved using the above procedure or may be sent to the World Telecommunication Standardization Assembly for approval.

3.2 JTC 1 procedures

The procedures for the technical work of ISO/IEC JTC 1 are specified in the ISO/IEC Directives for JTC 1. These procedures employ a number of discrete stages, most involving a ballot process of formal voting by National Bodies. The JTC 1 standards development stages 0 through 5 are given in Table 3 for each of the JTC 1 outputs. Highlights are summarized below and the final stages are illustrated in Figure 3c.

A proposal for a new work item can be initiated by either a JTC 1 National Body, an SC, or a Category A Liaison. A standard format exists for a new work item proposal (NP). An NP is circulated for a three month letter ballot at the JTC 1 level or, if initiated by a Subcommittee, a letter ballot at the Subcommittee level and a simultaneous comment period at the JTC 1 level. If approved, the NP is added to the JTC 1 program of work and assigned to an SC for development.

Working Drafts are texts being developed for an International Standard, an amendment to an International Standard, or a Technical Report[2)]. When the work reaches a state of maturity as determined by the SC[3)], it is registered as a Committee Draft (CD), a Proposed Draft Amendment (PDAM), or a Proposed Draft Technical Report (PDTR). It is circulated for letter ballot at the SC level. The ballot period is normally three months but can be extended up to six months.

The results of the ballot, including all comments, are distributed by the SC secretariat in a Summary of Voting document. All comments must be addressed. If the comments are straightforward, they may be addressed by the editor. In more complex situations, an editing meeting is held to resolve the comments. The editor then prepares the text and a Disposition of Comments report and forwards these to the SC secretariat. If the changes are substantive, a second CD, PDAM, or PDTR ballot is required. The same procedure described above is used for the ballot and to handle the ballot results.

When the Subcommittee considers the text to be stable and declares that the next ballot is intended to be the final CD, final PDAM or DTR ballot, the text is registered as a Final Committee Draft (FCD), Final Proposed Draft Amendment (FPDAM), or Draft Technical Report (DTR). FCDs and FPDAMs are circulated for a four-month (can be extended to 6 months) letter ballot at the SC level and are circulated by ITTF for information and comment to National Bodies of JTC 1 and ISO/IEC. DTRs are circulated for a three-month (can be extended to 6 months) letter ballot at the JTC 1 level. The same procedure described above is used to handle the ballot results. If the changes are substantive, a second FCD, FPDAM, or DTR ballot is required.

When the text has been finalized, the editor sends it, along with the Disposition of Comments report, to the SC secretariat. The SC secretariat sends the text of the Final Draft International Standard (FDIS) or Final Draft Amendment (FDAM) to the ITTF. The ITTF circulates the final text for a two-month letter ballot to National Bodies of JTC 1 and ISO/IEC. This is a "Yes/No" ballot. If the ballot is successful, the text will be promptly published (only obvious editorial corrections will be made in the publication). If unsuccessful, the text reverts to the status of Working Draft. For Technical Reports, no additional balloting is required and the SC secretariat sends the text to the ITTF for publication.

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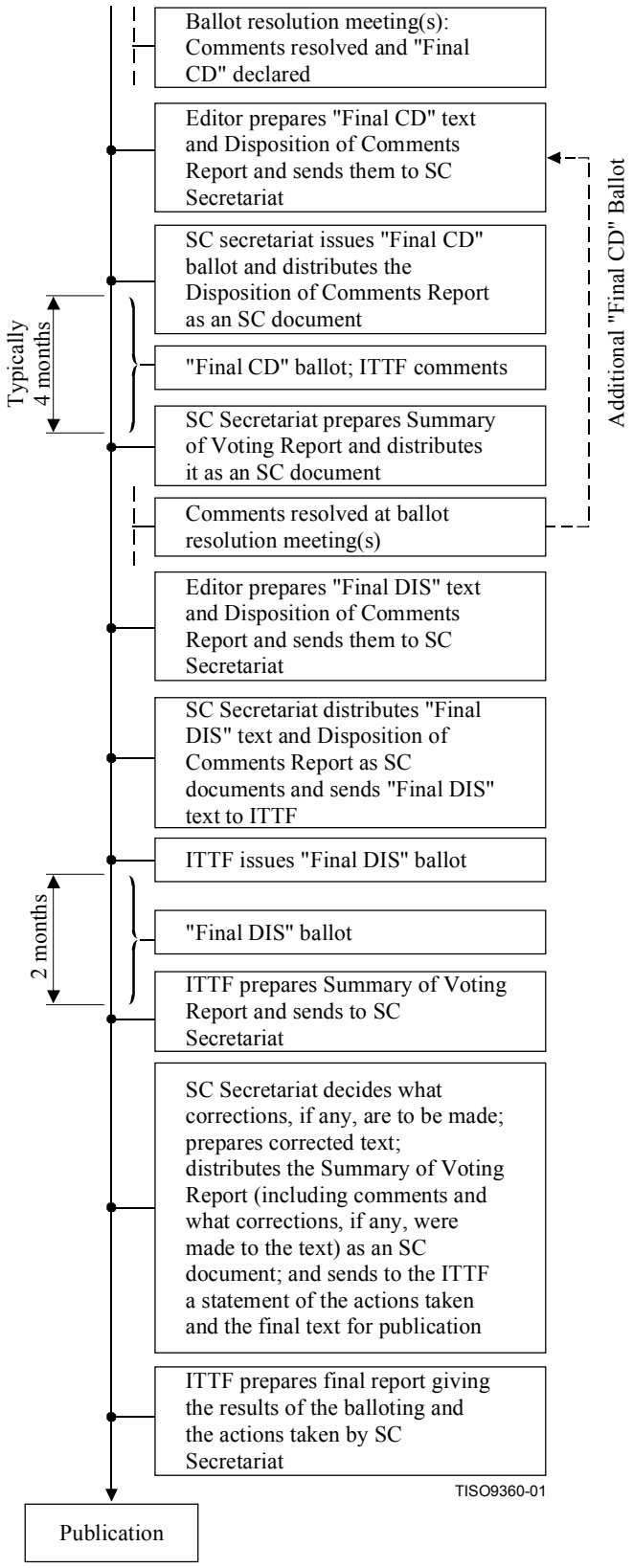
2) International Standardized Profiles (ISPs) follow the same procedure as that for International Standards. For simplicity, they are not explicitly mentioned in the rest of this Guide.

3) This determination is done either by adoption of a Resolution at an SC meeting or by a three-month registration ballot at the SC level.



NOTE – The stage illustrated as FCD equally applies to FPDAM or PDTR; similarly, the stage illustrated as FDIS equally applies to FDAM or DTR

Figure 3c – Final stages of the JTC 1 approval process

Table 3 – JTC 1 Standards Development Stages

Stage	Standard	Amendment	Fast Track	Technical Report	ISP	Technical Corrigendum
Stage 0 – optional Preliminary Stage						
Stage 1 – Proposal stage	NP	NP		NP	NP	
Stage 2 – Preparatory stage	WD	WD		WD	WD	Defect Report
Stage 3 – Committee Stage	CD FCD	PDAM FPDAM		PDTR	PDISP FPDISP	DCOR
Stage 4 – Approval stage	FDIS	FDAM	DIS, DAM	DTR	FDISP	
Stage 5 – Publication stage	IS	AMD	IS, AMD	TR	ISP	COR

NOTE 1 – New work is introduced into the program of work via either a New Work Proposal (NP) for JTC 1 or Subcommittee letter ballot or a program subdivision document for JTC 1 endorsement.

NOTE 2 – CDs, FCDs, PDAMs, FPDAMs, PDTRs, PDISPs, FPDISPs and DCORs are balloted at the Subcommittee level.

NOTE 3 – DTRs are balloted at the JTC 1 level.

NOTE 4 – FDISs, FDAMs, DISs, DAMs and FDISPs are balloted at the ISO/IEC National Body level.

NOTE 5 – Subsequent to the publication of an IS, AMD or ISP, Technical Corrigenda may be published to correct technical defects which may adversely affect implementation.

NOTE 6 – The text of each abbreviation is given in subclause 1.6.2 of this Guide.

Defects discovered after publication are handled by a formal defect report process. A special group of nominated experts reviews the material along with any proposed solution. The result of this process is a three month DCOR letter ballot at the SC level. Such defects are normally corrected by the publication of a Technical Corrigendum.

All along the way, the WG and SC oversee the process. In many cases authorization to pass to the next step are contained in Resolutions formally approved at SC meetings.

4 Modes of cooperation

4.1 Introduction

Cooperation between the ITU-T and ISO/IEC JTC 1 spans many levels. The most basic, of course, is the recognition of the areas of work of the respective organizations.

The ITU-T, as one of the three sectors of the International Telecommunication Union (ITU), has responsibilities for "studying technical, operating and tariff questions and adopting recommendations on them with a view to standardizing telecommunications on a world wide basis."[4] JTC 1, as a joint technical committee of ISO and IEC, has a scope of "standardization in the field of information technology."[5]

By far, the vast majority of the work program of the ITU-T and the work program of JTC 1 is carried out separately with little, if any, need for cooperation between the organizations.

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4) Constitution of the International Telecommunication Union, 1998.

5) ISO/IEC Directives – Procedures for the technical work of ISO/IEC JTC 1 on Information Technology, 1995.

For work programs where cooperation is desirable, appropriate arrangements exist between ISO, IEC and ITU-T to facilitate this cooperation. ISO and IEC each have a membership in the ITU-T as International Organizations. The ITU-T participates in the work of JTC 1 as a Category A Liaison organization. Several modes of cooperation have been defined as described below.

4.2 Liaison mode

Where there is interest in both organizations in an area of work but the prime responsibility falls to one of the two organizations, the liaison approach to cooperation is well suited. In this situation, the work is carried out in one organization and the other organization participates, as appropriate, using its liaison status. The result is published by one organization and is referenced, as needed, by the other organization.

In some situations of common interest, it may be appropriate to reach an agreement that would allocate the standardization of a particular area of work to one organization. One example where this has been done successfully is the interface between a data terminal and a modem. The agreement reached is that the ITU-T will standardize the electrical characteristics and functions of the interchange circuits and JTC 1 will standardize the interface connector and pin assignments. The necessary cooperation is achieved through liaison.

Clause 6 details the liaison procedures.

4.3 Collaboration mode

Where, for a given area of work, each organization plans to develop a Recommendation or International Standard, it may be best to mutually build consensus through collaboration. In this situation, meetings are held at the working level to develop common text, which is then approved using the normal approval process of each organization. The result is published as a Recommendation and as an International Standard (or Technical Report).

Collaboration can be carried out in one of two ways: by means of Collaborative Interchange or by means of a Collaborative Team.

Collaboration by means of Collaborative Interchange is suited for situations where the work to be carried out is straightforward and relatively non-controversial, and where there is sufficient common participation in the meetings of the two organizations to make the interchange highly effective. The work on resolving issues and developing common text is continually progressed in the successive meetings of the two groups. Synchronization of the normal approval processes of both the ITU-T and JTC 1 is used leading to publication.

Clause 7 details the collaboration procedures when Collaborative Interchange is used.

Collaboration by means of a Collaborative Team is well suited for situations where extended dialog is necessary to develop solutions and reach consensus. In this situation, all interested parties participate together in a Collaborative Team to mutually progress the work, resolve issues, and develop common text. Synchronization of the normal approval processes of both the ITU-T and JTC 1 is used leading to publication.

Clause 8 details the collaboration procedures when a Collaborative Team is established.

Collaboration at the international level will be greatly facilitated by effective coordination between ITU-T and JTC 1 delegates at the national level. The true basis of cooperation is dependent upon open sharing of information and the good will of all parties involved.

4.4 Determining the mode of cooperation

Figure 4 summarizes for a specific item of work the various relationships that could exist between the ITU-T and JTC 1.

The vast majority of the work programs of the ITU-T and JTC 1 are significantly separate so that they can be successfully carried out with little, if any, intercommunication.

Agreement for cooperation must be mutually recognized to be successful. Therefore, operation in the liaison mode or in one of the two collaboration modes for a given area of work must be an agreed decision of both organizations. This agreement is to be confirmed at the SG/SC level.

To maximize the effectiveness of resources and minimize rework, SGs and SCs should identify areas for collaborative work as early as possible in the development process. Normally as part of the development of a new work item proposal in JTC 1 and the development of a new or revised Question in the ITU-T, consideration is given to the need for interactions with other standards groups. If enough information is available at this stage, then, if appropriate, either the liaison mode or one of the collaboration modes can be proposed and agreement of the other organization sought.

It is possible for the mode of cooperation to change as the work progresses. For example, work could be initiated in one organization and, as a result of liaison, it could become recognized as integrally important to the other organization. At this point, agreement could be reached to advance all future work in a collaborative mode.

To facilitate overall cooperation, each Study Group should maintain a listing that identifies the Questions that are being studied in cooperation with JTC 1 and, for each Question, denotes both the mode of cooperation and the relevant JTC 1 project(s). Similarly, each JTC 1 SC should maintain a listing that identifies the projects that are being studied in cooperation with the ITU-T and, for each project, denotes both the mode of cooperation and the relevant ITU-T Question(s).

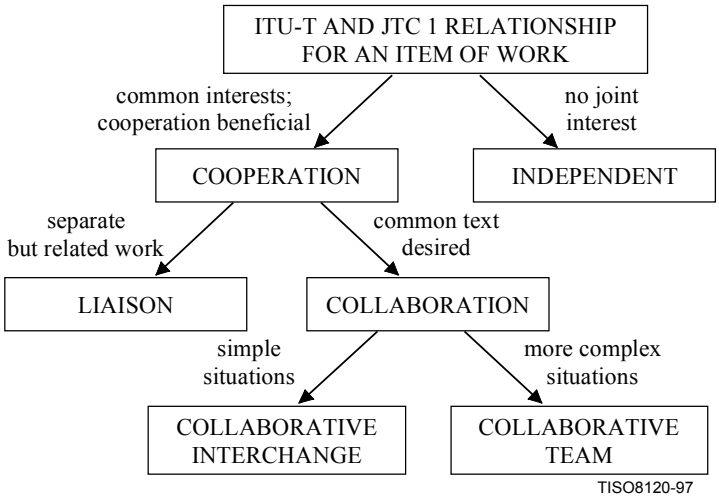

Figure 4 – ITU-T and JTC 1

4.5 Termination of collaboration and/or common text publication

As stated in 4.4, a collaborative relationship for a given area of work requires the agreement of both the SC and the SG to be initiated. It continues as long as both organizations feel collaboration is beneficial. In the unusual event that either organization feels that collaboration for a given area of work should be terminated, this situation shall be immediately discussed with the other organization. If satisfactory resolution cannot be obtained, then collaboration for the given area of work can be terminated at any time by either the SC or the SG. If termination should occur, both organizations can make use of the prior collaborative work.

Similarly, if an unusual circumstance should arise to indicate that publication of a collaborative Recommendation | International Standard in common text format is no longer desirable (e.g., because of substantial differences in content), this situation should be immediately discussed with the other organization. If after the consultation either organization determines that common text publication is not appropriate, then each organization can publish separately using their own publication format.

5 Planning and scheduling

Both the ITU-T and JTC 1 have their own multi-year planning activities. Interactions between these planning activities will facilitate effective ITU-T/JTC 1 cooperation.

5.1 Scheduling of SG/WP and SC/WG meetings

Schedules for ITU-T Study Group and Working Party meetings for the four year Study Period are established at the beginning of the Study Period and are quite difficult to change. Meetings of JTC 1 Subcommittees and Working Groups are typically scheduled five years in advance and are also quite difficult to change.

Where collaborative arrangements have been established, the ITU-T SG secretariats and the JTC 1 SC secretariats are responsible for keeping each other informed of meeting schedules. In particular, the SG and SC secretariats should consult each other before firming up their respective SG/WP and SC/WG meeting dates to avoid conflicts that would adversely affect cooperation.

5.2 Work program coordination

The ITU-T and JTC 1 both have requirements for formulating a work plan, including milestones, for each specific area of work. In JTC 1, the key milestones are dates for Working Draft, CD (or PDAM) ballot, FCD (or FPDAM or PDTR) ballot, FDIS (or FDAM or DTR) ballot, and publication. In the ITU-T, the milestones include dates for SG or WP initiation of the approval process, availability of text for the consultation period (TAP) or Last Call (AAP), and Study Group approval of the Recommendation.

The efficiency of the collaborative process depends in large measure on the synchronization of the approval processes of both organizations. Early planning and establishment of milestones, taking into account key dates in each organization, is essential to achieving synchronization and avoiding added delay. For example, the dates for the FCD (or FPDAM or PDTR) and FDIS (or FDAM or DTR) ballots need to take into account SC/WG meeting dates (for any necessary enabling Resolutions) and the schedule of the ITU-T SG/WP meeting where determination (TAP) or consent (AAP) is contemplated.

Figures 5a and 5b show the final phases of the overall synchronization plan leading to common text publication. In these figures, the stage illustrated as FCD equally applies to FDAM or PDTR; similarly, the stage illustrated as FDIS equally applies to FDAM or DTR.

The Fast Track process may also be used for JTC 1 approval where the fundamental work is done in the ITU-T (e.g., subjects for which JTC 1 has assigned maintenance responsibility to the ITU-T).

5.3 Synchronized maintenance of cooperative work

Approved collaborative Recommendations | International Standards need to be reviewed and maintained over time. This will require continuing collaborative effort.

With the strong interdependence among the large number of information technology Recommendations and International Standards, it is recommended that maintenance updates be done in the same time frame. This will significantly help to ensure that the work on information technology evolves as a cohesive whole. The review and any necessary updates should be done every four to five years.

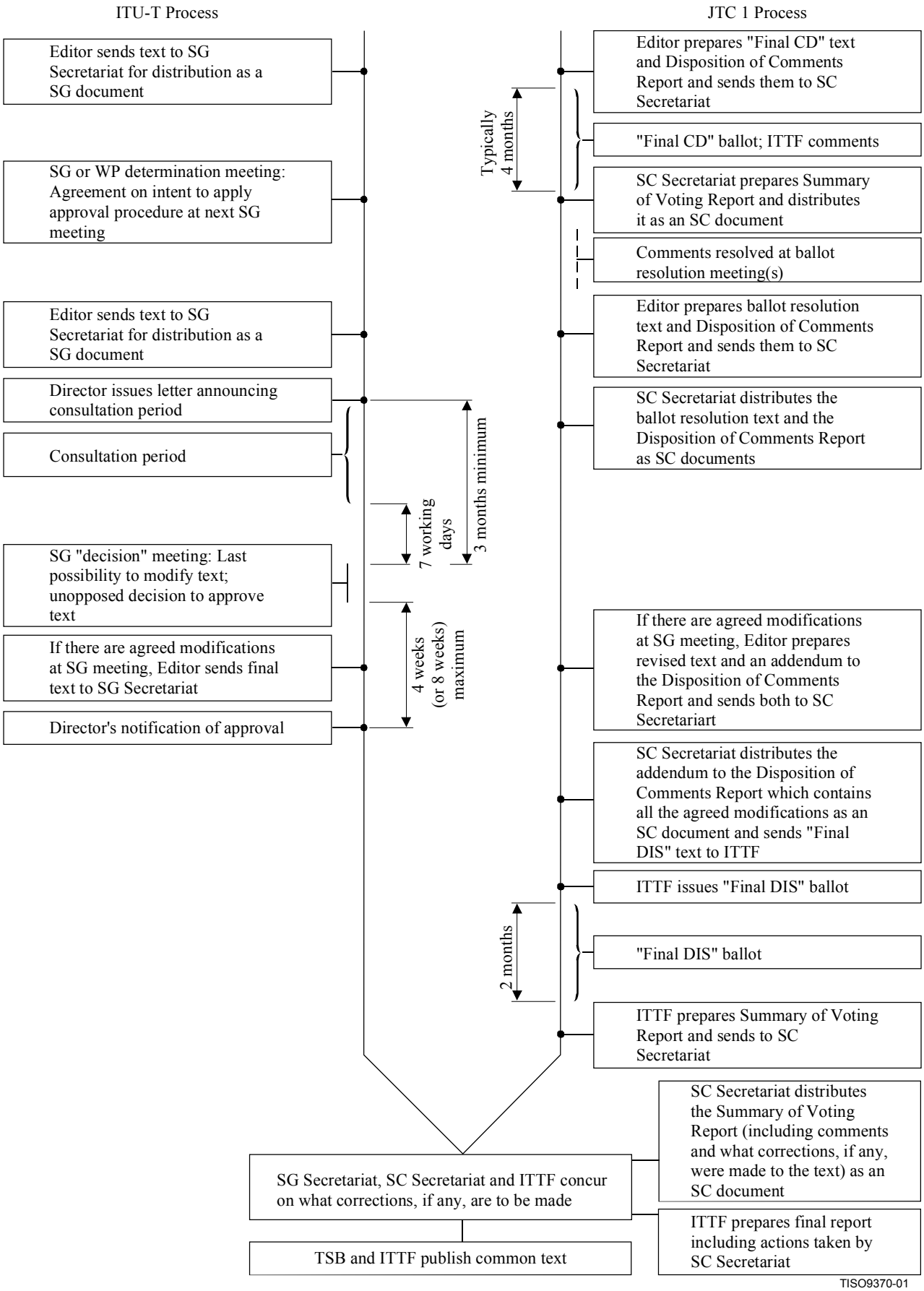

Figure 5a – Final stages of collaborative approval process when TAP is used

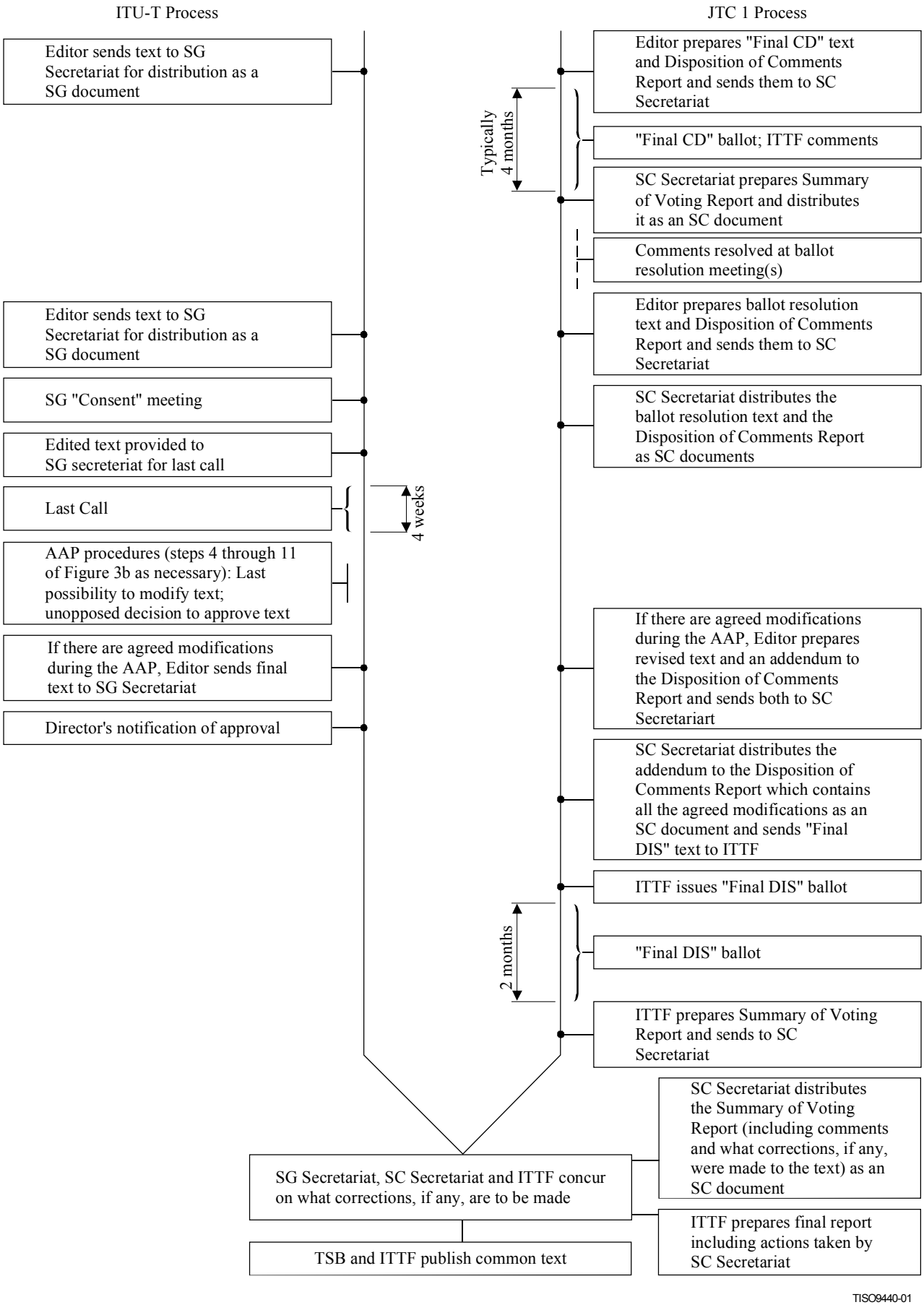

Figure 5b – Final stages of collaborative approval process when AAP is used

6 Liaison procedures

6.1 General

Liaison between organizations is an important means of communication that typically involves one or more of the following:

a) Interchange of general information of mutual interest;

b) Coordination of related work that is partitioned between the two groups; and

c) Comments on work that is the responsibility of the other group.

6.2 Liaison representation

Regardless of the mode of cooperation for a particular subject, all interactions at the Study Group/Subcommittee (SG/SC) level and at the Working Party/Working Group (WP/WG) level are conducted using the liaison procedures. In particular, this applies to participation in each other's meetings and submission of contributions. For example, for an individual to represent JTC 1, a SC or a WG at an ITU-T Study Group or Working Party meeting, a letter from the JTC 1, SC, or WG secretariat is necessary authorizing such representation. Likewise, for an individual to represent an ITU-T Study Group or Working Party at a JTC 1, SC or WG meeting, a letter from the ITU-T SG secretariat is necessary authorizing such representation.

Communication between Rapporteur Groups, between Collaborative Teams, and between a Rapporteur Group and a Collaborative Team is also done by liaison. Individuals attending a Rapporteur meeting in the ITU-T as an ISO/IEC liaison delegate and individuals attending a Rapporteur meeting in JTC 1 as an ITU-T liaison delegate should be officially approved by the respective SG/WP or SC/WG and confirmed with a letter of authorization from the secretariat.

Liaisons are most effective when they are prepared in written form (see 6.3 below) and when a knowledgeable liaison representative attends the meeting to present it and participate in any ensuing dialog. Individuals performing liaison responsibilities should have first hand knowledge of the work being represented and should be familiar with the procedures of both organizations.

In most cases, liaison between two groups should be both ways. The same or different individuals can be used for the two directions of liaison.

6.3 Liaison contributions

Liaison contributions at the SG/SC level or at the WP/WG level are transmitted by the originating secretariat to the destination secretariat upon appropriate authorization. In exceptional circumstances due to close timing between meetings, liaison contributions may be hand carried by an authorized representative but must be followed by an official transmittal by the originating secretariat.

Liaison contributions at the Rapporteur level (i.e., those without a higher level of approval) are handled between the respective Rapporteurs. Each Rapporteur is responsible for ensuring appropriate distribution within their community of experts.

Liaison contributions must list as their source, the highest entity that approved the liaison. For example, if a liaison statement was developed by a Rapporteur group and subsequently approved by a WP and then the SG, the source would be the SG, indicating the highest stage of approval. It would be most helpful if, within the liaison contribution, the particular group that developed the liaison was indicated. The title of the liaison contribution should be descriptive of the subject matter. The liaison contribution should explicitly state its nature; e.g., whether it is for information, for comment, etc.

Liaison contributions to the ITU-T should contain the Question number. Contribution number 1 in each Study Group contains the Questions assigned to the Study Group by the World Telecommunication Standardization Assembly. Liaison contributions to ISO/IEC JTC 1 should contain the project number.

7 Collaboration using Collaborative Interchange

The basic concept of collaboration using Collaborative Interchange is to closely couple the development, consensus building, and ballot/comment resolution efforts of the two working level groups in an efficient and effective manner to produce mutually agreed common text for one or more Recommendations | International Standards.

7.1 Collaborative relationship

Upon agreement by the ISO/IEC JTC 1 Subcommittee and the ITU-T Study Group that a specific area of work is to be developed collaboratively using Collaborative Interchange, a collaborative relationship is established between the respective working level groups of the two organizations.

The mutually agreed terms of reference for each Collaborative Interchange relationship should include:

- The scope of the effort as it relates to each organization's program of work (ITU-T Question and JTC 1 project). Where possible, it should include identification of the Recommendation(s) and International Standard(s) that are to be developed collaboratively.
- Any start-up provisions to accommodate work in progress.

The working level groups of the two organizations function using the procedures of their respective organizations, but with certain additional procedures, as described below, to facilitate closer collaboration in building consensus and synchronization of approvals leading to publication of common text.

Figure 6 provides a work flow diagram that identifies the various stages of the collaborative process from concept to final publication. Collaboration should also continue for the ongoing maintenance phase (see 7.11 and 7.12).

The terms of reference or mode of collaboration can be changed at any time by mutual agreement of the SG and SC. Procedures for terminating a collaborative relationship are covered in 4.5.

7.2 Participation in working level meetings

Collaboration is facilitated if there is some significant degree of common participation by individuals in the working level meetings of both organizations.

Representation of one organization in a working level meeting of the other organization is achieved by means of liaison. For example, for an individual to represent a JTC 1 working level group in an ITU-T working level group, a letter from the JTC 1 SC or WG secretariat is necessary to authorize such representation. Likewise, for an individual to represent an ITU-T working level group in a JTC 1 working level group, a letter from the ITU-T SG secretariat is necessary to authorize such representation. Individuals attending meetings in a liaison capacity should be familiar with the procedures of the organization holding the meeting.

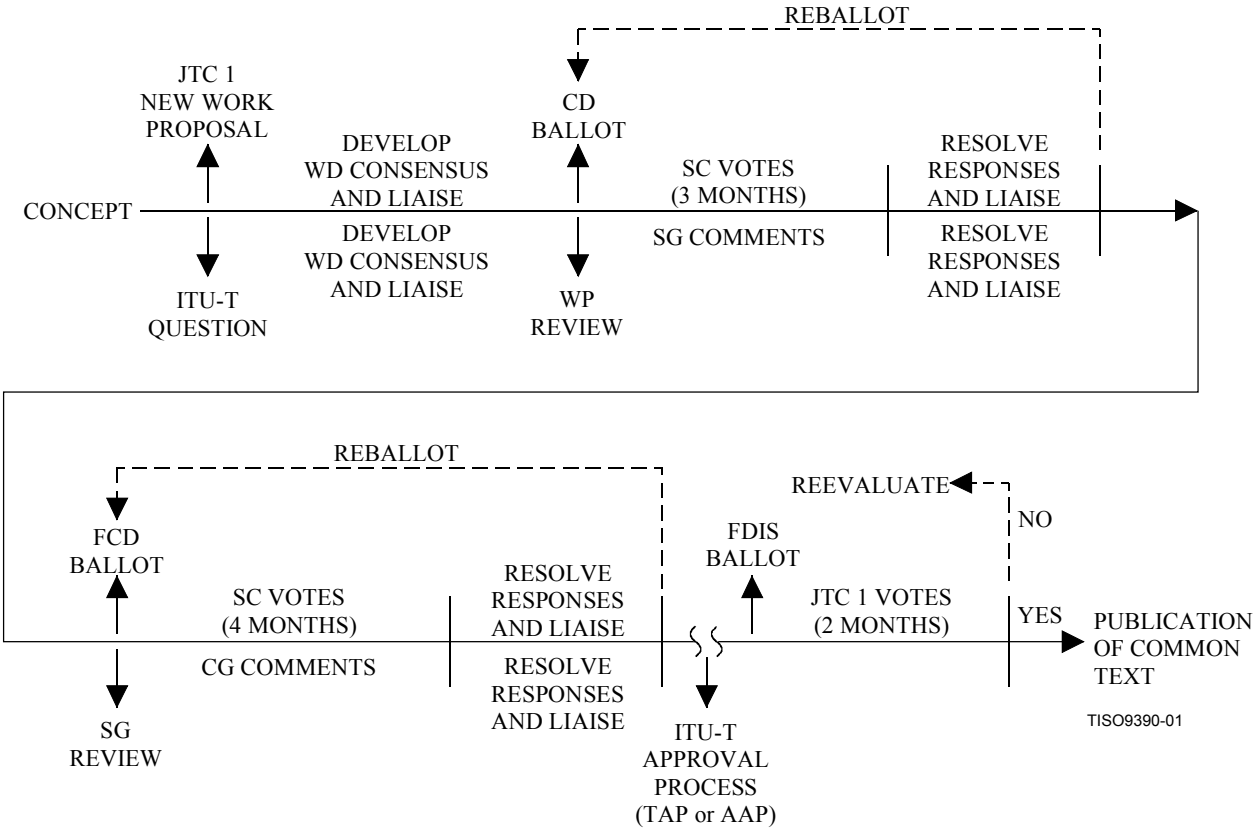

Figure 6 – Work flow diagram when Collaborative Interchange is used

7.3 Scheduling

As the work matures, it is important that careful consideration be given to the scheduling of ballots to take into account the meeting schedule of the JTC 1 SC and WG (e.g., for any necessary resolution authorizing progression to ballot) and the ITU-T SG (e.g., for determination (TAP) or consent (AAP) step of the approval process) so that the necessary synchronization can take place in a timely manner.

7.4 Contributions

Contributions are handled by each working level group according to the normal procedures of their organization. In addition, it is important that contributions or the results of analysis of contributions be passed promptly to the other working level group.

7.5 Editor for common text

It is strongly recommended that the two working level groups agree on a single Editor or set of Editors that will maintain the single master collaborative text. The draft text shall be prepared and maintained by the appointed Editor(s) according to the common format criteria agreed by the ISO/IEC and ITU-T secretariats (see Appendix II). The draft master collaborative text will be updated only when agreement to the specific text has been made by both groups.

Each iteration of the draft collaborative text shall be dated. Changes from the previous draft should be highlighted by change marks.

Appointed Editors will be responsible for the text through draft iterations and final submission to the secretariats for publication. The individuals selected for this task should make a commitment to continue the work to completion so that continuity can be maintained throughout the effort.

7.6 Achieving consensus

Close liaison is maintained during the development of draft documents, editing the draft texts, and resolution of ballots and comments to ensure that the views of all concerned are taken into account in building consensus. A synergy should emerge from the interaction of the two working level groups. The conduct of the meetings should foster this spirit of cooperation.

Achieving consensus at each step of the process will be facilitated through cooperation of JTC 1 and ITU-T experts at their national level to provide consistent viewpoints.

In general, the intent is that the degree of consensus and the stability of the agreements will increase at each step of the collaborative process.

In rare cases, it may become apparent during the development of common text that one or more specific technical differences are necessary taking into account the needs of JTC 1 and ITU-T. All proposed differences should be carefully examined to ensure there is a legitimate need. When this is the case, the common text is to include the full technical material needed by each organization with wording that specifically identifies any text that is applicable only to one organization.

7.7 Progress reporting

Each working level group is responsible for providing written reports of its meetings to its parent SG/WP or SC/WG following normal procedures. These reports should summarize the results of the meeting including agreements reached, areas identified for further study, the status of collaborative progress, and projected upcoming milestones (see 5.2).

These reports, or appropriate extracts, should be conveyed to the other working level group using the normal liaison procedure. Meeting reports should contain sufficient information to enable the collaborative work to mutually progress in both organizations as effectively as possible.

7.8 Liaisons

It is important to ensure continuing coherence of work in the Information Technology area. Therefore, maintaining established liaisons with other activities and organizations that have been identified to have an appropriate relationship is essential to the success of the work. Meeting reports and drafts should be distributed and comments invited. Liaison organizations are also encouraged to provide contributions to the work. Liaison contributions and comments are considered additional views to facilitate the work and to identify other considerations.

Liaisons are handled in the normal manner by each organization. However, liaisons of common interest should be shared with the other working level group.

7.9 Synchronized approval process

Each organization retains its individual procedures for approving the result of the collaboration work as International Standards and ITU-T Recommendations. Clause 3 presents the individual organization procedures and policies that are to be followed. The paragraphs below describe how these procedures are synchronized for the different stages of approval.

As outlined in 7.7 above, each working level group keeps its parent informed of the progress of the collaborative work. When the work has progressed to a point where a schedule for synchronized approval can be established with a degree of confidence, it is important for the two working level groups to jointly plan the specific steps, taking into account scheduled dates of the ITU-T SG and JTC 1 SC meetings. Figure 5 shows the necessary alignment that needs to be achieved between the two approval processes.

When the two working level groups decide that the draft has reached a point of maturity and that the synchronized approval process should commence, each parent is advised of the decision.

For the first level of balloting on the JTC 1 side, the SC secretariat registers the Working Draft as a Committee Draft (CD), Proposed Draft Amendment (PDAM), or Proposed Draft Technical Report (PDTR) and distributes it for letter ballot to the National Bodies of the SC. The ballot period is normally three months but can be extended up to six months. At the same time, the draft text is distributed to the ITU-T SG members for review and comment. ITU-T member comments should be provided within the same time period.

Responses from National Bodies to the CD, PDAM, or PDTR ballot are collected by the SC secretariat and distributed in a Summary of Voting Report. ITU-T members will comment by means of contributions to the SG. Both sets of responses are to be made available to each of the two working level groups.

The two working level groups should coordinate their efforts in resolving all received comments and drafting the revised text. If the changes are substantive, a second CD, PDAM, or PDTR ballot and comment period for ITU-T members will be necessary.

When the issues have been resolved to the satisfaction of both working level groups, the draft will be elevated to the next level of approval. The document will be registered as a Final Committee Draft (FCD) or Final Proposed Draft Amendment (FPDAM) and circulated for a four-month[6)] ballot at the SC level and circulated by ITTF for information and comment to the National Bodies of JTC 1 and the ISO/IEC. A Draft Technical Report (DTR) is circulated for a three month letter ballot at the JTC 1 level. At the same time the document will be submitted to the SG secretariat. The text will be circulated as a SG document for review and comment. ITU-T member comments should be provided within the same time period so that all responses can be considered together. Also during this time period, the ITTF and the TSB will review the text and submit their comments.

It is at this point where synchronization is critical. The first controlling factor is the date of the ITU-T SG or WP meeting where determination (TAP) or consent (AAP) is to be obtained. At this meeting, the text must be at the FCD, FPDAM or DTR level in ISO/IEC. The second controlling factor is that FCD, FPDAM, or DTR ballot resolution meeting must have produced the final text for ITU-T approval:

a) for TAP, by 4 months before the SG meeting where approval is to be obtained so that the TSB Director can issue a letter announcing the intent to approve the Recommendation at the upcoming SG meeting;

b) for AAP, by 2 months after the SG meeting where consent was obtained so that the TSB Director can announce the Last Call for approval of the Recommendation.

Responses from the FCD, FPDAM, or DTR ballot are distributed in a Summary of Voting Report by the SC secretariat. ITU-T members will comment by means of contributions to the SG. Both sets of responses are to be made available to each of the two working level groups.

NOTE – If an ITU-T Administration indicates a problem which would prevent approval or if a problem is indicated on the JTC 1 side which would delay approval (e.g., an unplanned second FCD ballot), this should be immediately conveyed to all concerned so that appropriate action can be taken and, if necessary, a new synchronized plan established.

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6) May be extended up to six months.

The FCD, FPDAM, or DTR ballot responses and the comments from ITU-T members will be considered at a ballot resolution meeting. With ITU-T participation, the group reviews and resolves the comments and negative ballots. If revisions are substantive, a second FCD, FPDAM, or DTR ballot and comment period for ITU-T members will be required to affirm that all are in accord with the results.[7] This ballot and comment period is normally four months but can be extended up to six months for FCDs and FPDAMs and is three months for DTRs.

The FCD, FPDAM, or DTR ballot resolution meeting is extended to include the ITU-T approval process so that any needed changes/corrections resulting from review of the text can be mutually agreed[8]. With the text available, the appropriate ITU-T approval process (TAP or AAP) will be conducted. This approval must be unopposed[9]. Immediately following ITU-T approval, the editor provides the final text along with the Disposition of Comments document to the SC secretariat. This initiates the two-month ballot of the Final Draft International Standard (FDIS) or Final Draft Amendment (FDAM) to National Bodies of JTC 1 and ISO/IEC (there is no additional ballot for DTRs). This two-month letter ballot has only one of two possible outcomes: approval or rejection. If approval is not obtained from the ITU-T approval process or in response to the ISO/IEC letter ballot, the next action will be based on consultation between ISO/IEC JTC 1 and ITU-T, taking into account the specifics of the situation.

While the ISO/IEC letter ballot is being conducted, the ITTF and the TSB will work together to facilitate prompt publication.

7.10 Publication

The collaborative Recommendation | International Standard should be published as soon as practical after an affirmative response to the ISO/IEC ballot has been achieved.

Care should be taken to ensure that there is a single master of the common text for each language that is used for publication.

7.11 Defects

The work is not necessarily completed at the stage of publication. While every effort has been taken to produce a quality document, experience has shown that defects may be found as the document is being applied to implementations. Therefore, there is need for an ongoing responsibility for dealing with Defect Reports.

It is critical that rapid correction of possible errors, omissions, inconsistencies, or ambiguities be performed collaboratively. The procedures for this important effort are outlined below.

7.11.1 Defect Review Groups

The JTC 1 SC and ITU-T SG should each appoint a Defect Review Group that will mutually collaborate in resolving defects. Each Defect Review Group should have a chairperson and be composed of nominated experts.

7.11.2 Submission of Defect Reports

Defect Reports may be submitted by ISO/IEC National Bodies, ITU-T members, liaison organizations, the responsible SG or any of its WPs, the responsible SC or any of its WGs, or by a member of either Defect Review Group. Appendix I provides the Defect Report form to be used. It is a modified version of the JTC 1 Defect Report form to encompass both JTC 1 and ITU-T information.

Defect Reports submitted to one organization should be immediately copied to the other organization. The JTC 1 WG secretariat will handle the administrative aspects.

The Defect Review Groups are responsible for maintaining an up-to-date list of all submitted Defect Reports and the status of each.

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7) A restart of the ITU-T approval process will normally be necessary if the SG meeting where approval is planned to take place (TAP) or Last Call announcement deadline date (AAP) occurs before the second ballot process will have been successfully completed.

8) In the unlikely event that substantive changes are deemed necessary at this late stage, another JTC 1 ballot (and comment period for ITU-T members) will be required to affirm that all are in accord with the results. This ballot (and comment) period is normally four months but can be extended up to six months (three months for DTRs). Approval on the ITU-T side would normally be delayed until after completion of the JTC 1 ballot.

9) If one or more Administrations present at the SG meeting say "NO", the ITU-T approval process is suspended.

7.11.3 Procedures for resolving defects

The JTC 1 procedures for handling Defect Reports (see ISO/IEC Directives for JTC 1) are followed with modifications to encompass collaborative ITU-T and JTC 1 participation in the resolution of the defect.

When mutual agreement of the two Defect Review Groups has been obtained for a resolution of a defect, the appropriate approval procedures are initiated in the ITU-T and JTC 1.

If the resolution of a Defect Report results in a need to correct the text of a collaborative Recommendation | International Standard, then the Editor prepares a draft Technical Corrigendum and sends it to the SC secretariat and the SG secretariat. JTC 1 approval is obtained by means of a three-month SC ballot/JTC 1 comment period. ITU-T approval under TAP is obtained by the SG Chairman submission of the text to the TSB, announcement in the Director's letter followed by a three-month consultation period and approval at a SG meeting. ITU-T approval under AAP is obtained by consent at a SG or WP meeting followed by approval through the Last Call. The approved corrections are published in common text format as a Technical Corrigendum to the Recommendation | International Standard.

Alternatively, if the resolution of the Defect Report involves substantial change, then it is processed as an amendment using the procedures in 7.12.

The Editor for the Recommendation | International Standard will maintain an up-to-date copy of the complete integrated text, including all changes approved through the defect process.

7.12 Amendments

Further work is often identified as a result of the development process and as a result of changing technology and new operational requirements. Accordingly, there is an important need for amendments that provide expansions, enhancements, and updates to the basic provisions of the published Recommendation | International Standard.

The processing of amendments follow the same procedures as the original development beginning with the approval, if necessary, of an NP by JTC 1 and a new or revised Question by the ITU-T.

The Editor for the Recommendation | International Standard will maintain an up-to-date copy of the complete integrated text, including all changes approved through the amendment process.

8 Collaboration using a Collaborative Team

The basic concept of collaboration using a collaborative team is to perform all development, consensus building, and ballot/comment resolution in common meetings to produce mutually agreed common text for one or more Recommendations | International Standards.

8.1 Collaborative Team

Upon agreement by the ISO/IEC JTC 1 Subcommittee and the ITU-T Study Group that a specific area of work is to be developed collaboratively in common meetings, a Collaborative Team (CT) is established with participants from both organizations.

The mutually agreed terms of reference for each Collaborative Team should include:

- The scope of the effort as it relates to each organization's program of work (ITU-T Question and JTC 1 project). Where possible, it should include identification of Recommendation(s) and International Standard(s) that are to be developed collaboratively.
- The parent body in each organization to which the CT is to directly report (i.e., SG or WP and SC or WG).
- Any reporting or tracking provisions beyond those specified in 8.7.
- Any start-up provisions to accommodate work in progress.

The CT uses the procedures detailed below to build consensus and to achieve synchronization of approvals leading to publication of common text.

Figure 7 provides a work flow diagram that identifies the various stages of the collaborative process from concept to final publication. Collaboration can also continue for the ongoing maintenance phase (see 8.11 and 8.12).

The terms of reference or mode of collaboration can be changed at any time by mutual agreement of the SG and SC. Procedures for terminating a collaborative relationship are covered in 4.5.

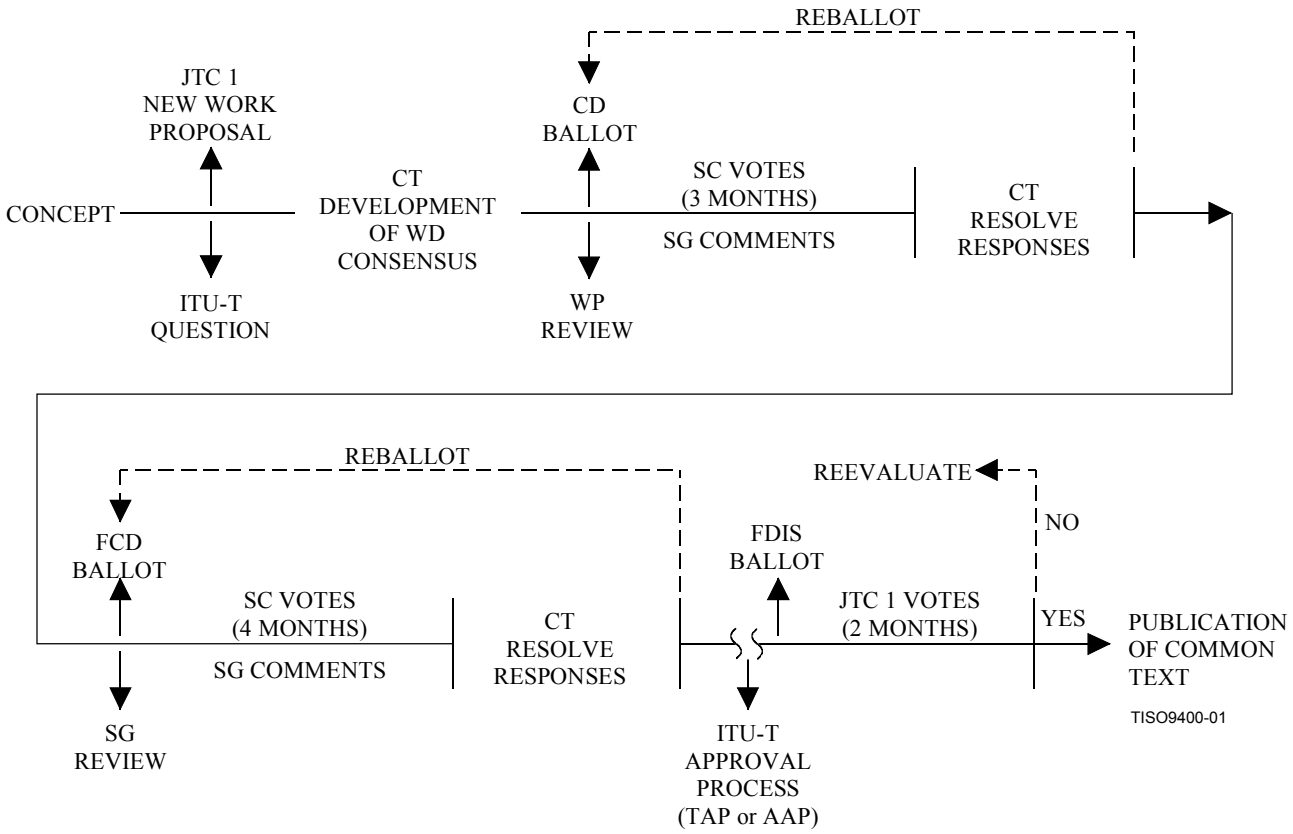

Figure 7 – Work flow diagram when Collaborative Team is used

8.2 Convenor(s) and Editor(s)

The CT will have either a single Convenor agreed upon by the JTC 1 SC and the ITU-T SG, or co-Convenors, one appointed by each organization. In the case of co-Convenors, the chairing of meetings can be on a rotational basis or as otherwise agreed by the CT.

Administrative support is the responsibility of the CT Convenor(s) and participating members.

A single Editor or set of Editors shall be appointed to produce and maintain the single master collaborative text during the development and approval process. The draft text shall be prepared and maintained by the appointed Editor(s) according to the common format criteria agreed by the ISO/IEC and ITU-T secretariats (see Appendix II). Each iteration of the draft collaborative text shall be dated. Changes from the previous draft should be highlighted by change marks.

Appointed Editors will be responsible for the text through draft iterations and final submission to the secretariats for publication. The individuals selected for this task should make a commitment to continue the work to completion so that continuity can be maintained throughout the effort.

8.3 Participants

Eligibility for attendance at a CT meeting is determined by the requirements of the two organizations. Thus, participants in the work of the CT must be representatives from JTC 1/SC National Bodies, ITU-T members, or recognized liaison organizations (including associated JTC 1 SCs/WGs and ITU-T SGs/WPs).

During the development of working drafts, participants should have the freedom and flexibility to participate as individual experts in reaching sound, objective solutions to the issues at hand. It is not required that there be equal, balanced representation from each organization, nor are the number of representatives to be restricted as a normal procedure, except as specifically agreed for editing (see 8.6.2) or ballot resolution (see 8.6.3).

8.4 Meetings

Each CT meeting must be properly scheduled in advance. The CT is responsible for making its own meeting arrangements and schedule, subject to agreement by the SG and SC. Generally, hosts for CT meetings should alternate between JTC 1 and ITU-T organizations, but they may also be cooperatively hosted with appropriate agreement. CT meetings should be scheduled at the same location and time as the respective JTC 1 SC/WG or ITU-T SG/WP meetings although meetings may also be scheduled at other times and locations. The CT is permitted to meet during a CD/PDAM, or FCD/FPDAM ballot/comment period to pursue its work program but the CT shall not discuss during these periods the material under ballot (see 8.9).

The Convenor(s) of the CT shall maintain a mailing list of all individuals desiring to be informed about meetings of the CT. Meeting notices and agenda must be distributed at least one month before the meeting starting date. The meeting notice and agenda must be sent to the JTC 1 SC secretariat (for distribution to National Bodies of the SC) and to the ITU-T SG secretariat (for posting). Each agenda must provide a list of documents to be considered, which will include previous meeting reports and input contributions (see 8.5).

8.5 Contributions

Contributions to the work of the CT provide proposed concepts and text, comments on working drafts, and editorial and technical revisions to the work. Contributions may be provided by JTC 1/SC National Bodies, ITU-T members, recognized liaison organizations, and individual experts who are accredited participants in the CT. Each contribution shall indicate its source and status (e.g., national position, working proposal, comments). Expert papers are to be given consideration as additional views during the development of working drafts, but contributions from JTC 1/SC National Bodies and ITU-T members will take precedence.

Documents to be considered at the meeting should be in the hands of the CT Convenor(s), or the SC or WG secretariat at least seven working days in advance. Late contributions will only be considered upon agreement by the meeting participants. Contributors of late contributions should bring to the meeting sufficient copies for all participants.

All contributions to the CT, regardless of their means of submittal, will be identified and maintained by the CT in a document register. The Convenor(s) of the CT shall maintain a mailing list of the CT participants and ensure timely distribution of contributions and meeting output documents to the experts. Meeting output documents are also sent to the JTC 1 SC or WG secretariat (for distribution to National Bodies of the SC) and to the SG secretariat (for distribution as SG documents). Meeting participants are encouraged to exchange documents directly to facilitate preparation for the meetings.

8.6 Achieving consensus

The functions of the CT meetings are three-fold: the development of draft texts, editing of draft texts, and resolution of ballots and comments. The CT meetings are only authorized to deal with the specific collaborative project/Question identified in the terms of reference of the CT.

Achieving consensus at each step of the process will be facilitated through cooperation of JTC 1 and ITU-T experts at their national level to provide consistent viewpoints.

In general, the intent is that the degree of consensus and the stability of the agreements will increase at each step of the collaborative process.

8.6.1 Development of draft text

In responding to the requirements of the designated JTC 1 project and ITU-T Question, the development of draft text should be a consensus building process. Typically, there are a diversity of contributions introduced during the development process. These should all be objectively considered in seeking a sound solution. A synergy should emerge from the interaction of the participating experts with their different perspectives. The conduct of meetings should foster this spirit of cooperation.

Balloting, or voting, by the CT during the development of working drafts is considered inappropriate in reaching a consensus and could be counter-productive. The CT consensus should be built through discussion, acceptance, compromise, and, if necessary, informal polling of delegates to sample the state of agreement. It would also be appropriate to record in meeting reports points of consensus as well as any specific reservations that meeting delegates have on particular issues.

Topics of concern to only the ITU-T or to only JTC 1 may be addressed by sub-group meetings held within the framework of the CT meeting.

In rare cases, it may become apparent during the development of common text that one or more specific technical differences are necessary taking into account the needs of JTC 1 and the ITU-T. All proposed differences should be carefully examined to ensure there is a legitimate need. When this is the case, the common text is to include the full technical material needed by each organization with wording that specifically identifies any text that is applicable only to one organization.

8.6.2 Editing drafts

Meeting time is often consumed with resolution of issues and development of agreements-in-principle, but there is insufficient time to develop complete text. The editing task can often be done more efficiently by an authorized smaller-sized meeting with a well-defined scope of work. The meeting will be chaired by an individual appointed by the CT.

The meeting will only be authorized to produce text for specifically identified issues and agreements. Any other technical issues that arise during the meeting must be referred back to the CT for resolution. The draft text that is produced by the meeting must be circulated to CT participants within four weeks of completion of the meeting.

8.6.3 Resolution of ballots and comments

The approval processes will be conducted according to the established procedures of each organization with the adaptation and synchronization described in Section 8.9. A Ballot/Comment Resolution Group should be convened as soon as practical (e.g., within ten weeks) after the close of the ballot/comment period to review and resolve the results. The group should be chaired by the CT Convenor or Editor.

The Ballot/Comment Resolution Group may be the CT. Alternatively, where the CT may be too large for effectiveness, the Ballot/Comment Resolution Group may be composed of the document editor(s), one primary representative for each National Body, and one primary representative for each country participating in the ITU-T SG. Primary representatives from the same country should, whenever possible, coordinate their positions for consistency. Additional representatives from JTC 1 and ITU-T may also be invited to attend as deemed necessary by the CT. Each primary representative should be authorized by its sponsoring organization to approve the handling of its comments by the group.

The purpose of a ballot/comment resolution meeting is to resolve as many of the negative ballots/comments as possible without invalidating any affirmative ballots/positions. The goal is to achieve agreements resulting in the greatest possible consensus. This can be done provided that all affected representatives are satisfied with the handling of the comments. If the ballot/comment resolution spans multiple meetings, it is important that continuity of representation be maintained through the complete process.

In the course of its work, the Ballot/Comment Resolution Group may uncover major technical issues. The resolution of such matters is beyond the scope of the group and must be referred back to the CT (or parent bodies) along with appropriate recommendations for resolution.

8.7 Progress reporting

The CT is responsible for providing written reports of each meeting to the sponsoring JTC 1 SC/WG and ITU-T SG/WP. These reports should summarize the results of the meeting including agreements reached, areas identified for further study, the status of collaborative progress, and projected upcoming milestones (see 5.2). Comments and/or instructions may be provided back to the CT from SG/WP and SC/WG meetings.

8.8 Liaisons

It is important to ensure continuing coherence of work in the Information Technology area. Therefore, maintaining established liaisons with other activities and organizations that have been identified to have an appropriate relationship is essential to the success of the work. Meeting reports and mature drafts should be distributed and comments invited. Liaison organizations are also encouraged to provide contributions to the work. Liaison contributions and comments are considered additional views to facilitate the work and to identify other considerations.

Liaison documents generated by the CT are conveyed to the SC secretariat and the SG secretariat for appropriate distribution.

8.9 Synchronized approval process

While the work of the CT accomplishes the joint work for the JTC 1 project and ITU-T Question to produce a single common text for both organizations to publish, each organization retains its individual procedures for approving the results of the collaborative work as International Standards and ITU-T Recommendations. Clause 3 presents the individual organization procedures and policies that are to be followed. The paragraphs below describe how these procedures specifically apply to the CT work and are synchronized for the different stages of approval.

As outlined in 8.7 above, the CT keeps each organization informed of the progress of its work. When the work has progressed to a point where a schedule for synchronized approval can be established with a degree of confidence, it is important for the CT to plan the specific steps, taking into account scheduled dates of the ITU-T SG and the JTC 1 SC meetings. Figure 5 shows the necessary alignment that needs to be achieved between the two approval processes.

When the CT decides that the draft has reached a point of maturity and that the synchronized approval process should commence, each parent is advised of the decision.

For the first level of balloting on the JTC 1 side, the SC secretariat registers the working draft as a Committee Draft (CD), Proposed Draft Amendment (PDAM), or Proposed Draft Technical Report (PDTR) and distributes it for a letter ballot to the National Bodies of the SC. The ballot period is normally three months but can be extended up to six months. At the same time, the working draft is distributed to the ITU-T SG members for review and comment. ITU-T member comments should be provided within the same time period so that all responses can be considered together.

Responses from National Bodies to the CD, PDAM or PDTR ballot are collected by the SC secretariat and distributed in a Summary of Voting Report. ITU-T members will comment by means of contributions to the SG. Both sets of responses are given to the CT.

The SC ballot responses and the comments from ITU-T members are handled by the Ballot/Comment Resolution Group (see 8.6.3). Every effort should be made to resolve all issues. If the changes are substantive, a second CD, PDAM, or PDTR ballot and comment period for ITU-T members will be necessary. As with the first ballot/comment, the results will be referred to the Ballot/Comment Resolution Group for action.

When the issues have been satisfactorily resolved, the draft will be elevated to the next level of approval. The document will be registered as a Final Committee Draft (FCD) or Final Proposed Draft Amendment (FPDAM) and circulated for a four month[10)] ballot at the SC level and circulated by ITTF for information and comment to the National Bodies of JTC 1 and the ISO/IEC. A Draft Technical Report (DTR) is circulated for a three month letter ballot at the JTC 1 level . At the same time, the document will be submitted to the SG secretariat. The text will be circulated as a SG document for review and comment. ITU-T members should also provide their comments within the same time period so that all responses can be considered together. Also during this time period, the ITTF and the TSB will review the text and submit their comments.

It is at this point where synchronization is critical. The first controlling factor is the date of the ITU-T SG or WP meeting where determination (TAP) or consent (AAP) is to be obtained. At this meeting, the text must be at the FCD, FPDAM or DTR level in ISO/IEC. The second controlling factor is that FCD, FPDAM, or DTR ballot resolution meeting must have produced the final text for ITU-T approval:

a) for TAP, by 4 months before the SG meeting where approval is to be obtained so that the TSB Director can issue a letter announcing the intent to approve the Recommendation at the upcoming SG meeting;

b) AAP, by 2 months after the SG meeting where consent was obtained so that the TSB Director can announce the Last Call for approval of the Recommendation.

Responses to the FCD, FPDAM, or DTR ballot are distributed in a Summary of Voting Report by the SC secretariat. ITU-T members will comment by means of contributions to the SG. Both sets of responses are given to the CT.

NOTE – If an ITU-T Administration indicates a problem which would prevent approval or if a problem is indicated on the JTC 1 side which would delay approval (e.g., an unplanned second FCD ballot), this should be immediately conveyed to all concerned so that appropriate action can be taken and, if necessary, a new synchronized plan established.

The FCD, FPDAM, or DTR ballot responses and the comments from ITU-T members are handled by the Ballot/Comment Resolution Group. The group reviews and resolves the comments and negative ballots. If revisions are substantive, a second FCD, FPDAM, or DTR ballot and comment period for ITU-T members will be required to affirm that all are in accord with the results[11)]. This ballot and comment period is normally four months but can be extended up to six months (three months for DTR).

The Ballot/Comment Resolution meeting is extended to include the ITU-T approval process so that any needed changes/corrections resulting from review of the text can be mutually agreed[12)]. With the text available, the appropriate

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10) May be extended up to six months.

11) A restart of the ITU-T approval process will normally be necessary if the SG meeting where approval is planned to take place (TAP) or Last Call announcement deadline date (AAP) occurs before the second ballot process will have been successfully completed.

12) In the unlikely event that substantive changes are deemed necessary at this late stage, another JTC 1 ballot (and comment period for ITU-T members) will be required to affirm that all are in accord with the results. This ballot (and comment) period is normally four months but can be extended up to six months (three months for DTR). Approval on the ITU-T side would normally be delayed until completion of the JTC 1 ballot.

ITU-T approval process (TAP or AAP) will be conducted. This approval must be unopposed[13]. Immediately following ITU-T approval, the editor provides the final text along with the Disposition of Comments report to the SC secretariat. This initiates the two-month ballot of the Final Draft International Standard (FDIS) or Final Draft Amendment (FDAM) to National Bodies of JTC 1 and ISO/IEC (there is no additional ballot for Technical Reports). This two-month ballot has only one of two possible outcomes: approval or rejection. If approval is not obtained from the ITU-T approval process or in response to the ISO/IEC letter ballot, the next action will be based on consultation between ISO/IEC JTC 1 and the ITU-T, taking into account the specifics of the situation.

While the ISO/IEC letter ballot is being conducted, the ITTF and the TSB will work together to facilitate prompt publication.

8.10 Publication

The collaborative Recommendation | International Standard should be published as soon as practical after an affirmative response to the ISO/IEC ballot has been achieved.

Care should be taken to ensure that there is a single master of the common text for each language that is used for publication.

8.11 Defects

The work is not necessarily completed at the stage of publication. While every effort has been taken to produce a quality document, experience has shown that defects may be found as the document is being applied to implementations. Therefore, there is a need for an ongoing responsibility for dealing with Defect Reports.

It is critical that rapid correction of possible errors, omissions, inconsistencies, or ambiguities be performed collaboratively. The procedures for this important effort are outlined below.

8.11.1 Defect Review Group

The CT may request the JTC 1 SC and the ITU-T SG to establish a collaborative Defect Review Group to be chaired by an appointed Editor. The group should consist of the experts nominated by the JTC 1 SC and the ITU-T SG.

8.11.2 Submission of Defect Reports

Defect Reports may be submitted by ISO/IEC National Bodies, ITU-T members, liaison organizations, the responsible SG or any of its WPs, the responsible SC or any of its WGs, or by a member of the Defect Review Group. Appendix I provides the Defect Report form to be used. It is a modified version of the JTC 1 Defect Report form to encompass both JTC 1 and ITU-T information.

Defect Reports submitted to one organization should be immediately copied to the other organization. The JTC 1 WG secretariat will handle the administrative aspects.

The Defect Review Group is responsible for maintaining an up-to-date list of all submitted Defect Reports and the status of each.

8.11.3 Procedures for resolving defects

The JTC 1 procedures for handling Defect Reports (see ISO/IEC Directives for JTC 1) are followed with modifications to encompass collaborative ITU-T and JTC 1 participation in the resolution of the defect.

When agreement is reached in the Defect Review Group for resolution of a defect, the appropriate approval procedures are initiated in the ITU-T and JTC 1.

If the resolution of a Defect Report results in a need to correct the text of a collaborative Recommendation | International Standard, then the Editor prepares a draft Technical Corrigendum and sends it to the SC secretariat and the SG secretariat. JTC 1 approval is obtained by means of a three-month SC ballot/JTC 1 comment period. ITU-T approval under TAP is obtained by the SG Chairman submission of the text to the TSB, announcement in a Director's letter followed by a three-month consultation period and approval at a SG meeting. ITU-T approval under AAP is obtained by consent at a SG or WP meeting followed by approval through the Last Call. The approved corrections are published in common text format as a Technical Corrigendum to the Recommendation | International Standard.

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[13] If one or more Administrations present at the SG meeting say "NO", the ITU-T approval process is suspended.

Alternatively, if the resolution of the Defect Report involves substantial change, then it is processed as an amendment using the procedures in 8.12.

The Editor for the Recommendation | International Standard will maintain an up-to-date copy of the complete integrated text, including all changes approved through the defect process.

8.12 Amendments

Further work is often identified as a result of the development process and as a result of changing technology and new operational requirements. Accordingly, there is an important need for amendments that provide expansions, enhancements, and updates to the basic provisions of the published Recommendation | International Standard.

The processing of amendments follow the same procedures as the original development beginning with the approval, if necessary, of a NP by JTC 1 and a new or revised Question by the ITU-T. These may be considered as extensions to the original work by the same CT or may be considered as separate new work that requires the formation of a new CT.

The Editor for the Recommendation | International Standard will maintain an up-to-date copy of the complete integrated text, including all changes approved through the amendment process.

9 Recognition of cooperation

The cooperation between the ITU-T and ISO/IEC JTC 1 has resulted in the development of a large and growing set of related Recommendations and International Standards. It is valuable that users perceive these results as a cohesive whole. The common text format set forth in Appendix II facilitates this view. Another important area where cohesiveness can be shown is with respect to previously completed collaborative work that resulted in technically aligned text published separately with "house-style" differences. When these so-called "twins" are to be updated and/or republished, it is recommended that they be converted to the common text format.

If, during a transition period, any of these "twin" Recommendations or International Standards will be updated but not in the common text format, attention should be given to the following means to reinforce the cooperation and cohesiveness of the development effort:

a) Include a footnote from the title of the ITU-T Recommendation that notes the collaborative nature of the work, gives the title of the "twin" ISO/IEC International Standard, and states the degree of technical alignment (for examples, see the X.200-series of Recommendations in the Blue Book);

b) Include text in the Foreword of the International Standard that notes the collaborative nature of the work, gives the title of the "twin" ITU-T Recommendation, and states the degree of technical alignment;

c) If in the Reference section of a Recommendation there is a reference to an ITU-T Recommendation that has a "twin" International Standard, then include in parentheses a reference to the twin (or use the format given in Appendix II);

d) If in the Normative References clause of an International Standard there is a reference to an International Standard that has a "twin" Recommendation, then include in parentheses a reference to the twin (or use the format given in Appendix II); and

e) If there are technical differences between a Recommendation and an International Standard, then include an Appendix/Annex in both documents that summarizes the differences.

A third important area involves the large number of Recommendations and International Standards that exist only in one organization, but make use of and reference Recommendations and International Standards that were developed collaboratively. In this situation, the spirit of cooperation can be communicated by ensuring that references are given to documents of both organizations [see items c) and d) above]. To facilitate this referencing, the TSB and the ITTF will maintain a listing of all collaborative Recommendations and International Standards.

10 Applying the Patent Policy of ITU-T and ISO/IEC

Information pertaining to the ITU-T patent policy is available at http://www.itu.int/ITU-T/patent/index.html.

Information pertaining to the ISO/IEC patent policy is available in the ISO/IEC Directives, Part 1:2001, and Part 2:2001, Annex H.

For a common text or twin text Recommendation | International Standard, entities are to follow the patent polices of both the ITU-T and ISO/IEC and submit patent statements, as appropriate, to both organizations.

Appendix I

Defect report form

Defect report

The submitter of a defect report shall complete items 2 to 4 and 7 to 10 and, optionally, item 11 and shall send the form to the convener or secretariat of the WG with which the relevant editor's group is associated. The WG convener or secretariat shall complete items 1, 5 and 6.

1 Defect Report Number:
2 Submitter: **3 Addressed to**: JTC 1/SC____/WG____ ITU-T/SG____/WP____ **4 WG secretariat**:
5 Date circulated by WG secretariat: **6 Deadline on response from editor**:
7 Defect Report concerning (number and title of ITU-T Recommendation | International Standard): **8 Qualifier** (e.g., error, omission, clarification required): **9 References in document** (e.g., page, clause, figure and/or table numbers): **10 Nature of defect** (complete, concise explanation of the perceived problem):
11 Solution proposed by the submitter (optional):
12 Editor's response:

Appendix II

Rules for presentation of ITU-T | ISO/IEC common text

This appendix provides rules for use by editors in preparing common text ITU-T Recommendations | ISO/IEC International Standards (or Technical Reports). The presentation rules were developed jointly by the secretariats of the ITU-T and ISO/IEC. Administration and further evolution of these presentation rules are the joint responsibilities of the secretariats.

This appendix is presented in the format of a common text ITU-T Recommendation | International Standard to illustrate use of the presentation rules described herein.

CONTENTS

Foreword

This Recommendation | International Standard establishes presentation rules for documents that are intended to be both ITU-T Recommendations and ISO/IEC International Standards.

The rules proposed in this Recommendation | International Standard are based on the "Author's guide for drafting ITU-T Recommendations" and on ISO/IEC Directives, Part 2. Deviations from these documents are proposed only in order to arrive at a common set of presentation rules.

In order to facilitate comparison with other presentation styles, this document has been prepared in accordance with the presentation rules that it mandates. The examples used within the text, such as for references, are for illustrative purposes only. Thus, this document constitutes an example of the proposed presentation style. It is noted that neither an ITU-T Recommendation A.1000 nor an ISO/IEC International Standard 0001 exist.

Introduction

Common text starts on page 1 and preliminary material on pages preceding page 1 will be numbered using lowercase roman numerals.

Preliminary material consists of:

a) title page;

b) table of contents (optional);

c) foreword;

d) introduction (optional).

Preliminary material on the roman numbered pages may be different between the organizations.

A model is provided for the optional element "table of contents". The depth of headings in the table of contents is left to the discretion of the author. However, the rule should be: as short as possible.

A template is available from both the TSB and ITTF to aid authors in drafting their texts. This template covers all aspects of the typographical requirements for publishing the common text Recommendations | International Standards. The template can be found at the ITU World Wide Web site at the address:

http://www.itu.int/itudoc/itu-t/itu_iso/index.html

INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

Information technology – Rules for presentation of ITU-T | ISO/IEC common text

1 Scope

Notwithstanding the provisions of ISO/IEC Directives, Part 2, or the provisions of the "Author's guide for drafting ITU-T Recommendations", joint ITU-T and ISO/IEC documents should conform to the provisions contained in these Presentation Rules[1)].

Where these Presentation Rules do not specify a particular item, flexibility is given to editors to use the rules given in either the "Author's guide for drafting ITU-T Recommendations" or ISO/IEC Directives, Part 2.

NOTE 1 – For ITU-T | ISO/IEC common texts, in the clause "Scope" and in the boiler plate texts of the normative reference clause and the definition clause, the term "this Recommendation | International Standard" shall be used when the common text refers to itself.

Elsewhere in a common text, a term which is descriptive of the nature of the common text should be used when the document refers to itself. It replaces the ITU-T use of the word Recommendation and the ISO/IEC use of the words International Standard. The first letter of the word(s) of such a descriptive term shall be capitalized to indicate that it refers to the whole of the common text. For this present common text, the term "Presentation Rules" is used when the common text refers to itself. Examples for other common texts could be:

- "this Specification" or "this Protocol Specification";
- "this Model" or "this Reference Model";
- "this Definition" or "this Service Definition";
- "this Framework" or "this Security Framework".

NOTE 2 – The vertical bar used in the expression "Recommendation | International Standard" is meant to denote either identical Recommendations | International Standards or paired Recommendations | International Standards which are equivalent in technical content.

2 Normative references[2)]

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

2.1 Identical Recommendations | International Standards

- CCITT Recommendation X.613 (1992) | ISO/IEC 10588:1993, *Information technology – Use of the X.25 packet layer protocol in conjunction with X.21/X.21 bis to provide the OSI connection-mode network service*.
- CCITT Recommendation X.614 (1992) | ISO/IEC 10732:1993, *Information technology – Use of X.25 packet layer protocol to provide the OSI connection-mode network service over the telephone network.*
- CCITT Recommendation X.721 (1992) | ISO/IEC 10165-2:1992, *Information technology – Open Systems Interconnection – Structure of management information: Definition of management information*.

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1) The term "Presentation Rules" is used to denote the entirety of the present Recommendation | International Standard when common text herein makes reference to itself. For further explanation, see Note 1.

2) See Annex B for information on how to reference Recommendations now that the CCITT has been replaced by the Telecommunication Standardization Sector within the International Telecommunication Union.

- ITU-T Recommendation X.741 (1995) | ISO/IEC 10164-9:1995, *Information technology – Open Systems Interconnection – Objects and attributes for access control.*
- ITU-T Recommendation X.882 (1994)/Amd.1 (1995) | ISO/IEC 13712-3:1995/Amd.1:1996, *Information technology – Remote Operations: OSI realizations – Remote Operations Service Element (ROSE) protocol specification – Amendment 1: Mapping to A-UNIT-DATA and built-in operations.*

2.2 Paired Recommendations | International Standards equivalent in technical content

- ITU-T Recommendation X.218 (1993), *Reliable transfer: Model and service definition.*

  ISO/IEC 9066-1:1989, *Information processing systems – Text communication – Reliable Transfer – Part 1: Model and service definition.*
- CCITT Recommendation X.219 (1988), *Remote operations: Model, notation and service definition.*

  ISO/IEC 9072-1:1989, *Information processing systems – Text communication – Remote Operations – Part 1: Model, notation and service definition.*
- ITU-T Recommendation X.222 (1995), *Use of the X.25 LAP B-compatible Data Link procedures to provide the OSI connection-mode Data Link service.*

  ISO/IEC 11575:1995, *Information technology – Telecommunications and information exchange between systems – Protocol mappings for the OSI Data Link service.*

2.3 Additional references

- ITU-T Recommendation X.6 (1993), *Multicast service definition*.
- ITU-T "*Author's guide for drafting ITU-T Recommendations*".
- ISO/IEC Directives, Part 2:2001, *Rules for the structure and drafting of International Standards*.

3 Definitions

For the purposes of this Recommendation | International Standard, the following definitions apply.

3.1 Common Text: The text contained in either the ITU-T Recommendation or the International Standard specified by this document.

3.2 Identical Recommendations | International Standards: These are Recommendations and International Standards which were developed jointly by ITU-T and ISO/IEC and have identical (i.e. common) text.

3.3 Paired Recommendations | International Standards: These are Recommendations and International Standards which were developed in close collaboration between ITU-T and ISO/IEC and whose texts are technically aligned but not identical. The text differences might be noted in an Annex.

4 Abbreviations

For the purposes of this Recommendation | International Standard, the following abbreviations apply.

CCITT	International Telegraph and Telephone Consultative Committee (organ of the ITU up to 28 February 1993)
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
ITTF	Information Technology Task Force
ITU	International Telecommunication Union
ITU-T	International Telecommunication Union – Telecommunication Standardization Sector (formerly the CCITT)
TSB	Telecommunication Standardization Bureau (formerly the Secretariat of the CCITT)
WTSA	World Telecommunication Standardization Assembly

5 Conventions

5.1 Text differences between ITU-T and ISO/IEC

It is recognized that there may be some instances where there needs to be some differences in the content of a common text (e.g. because of differences in scope of ITU-T and ISO/IEC). Justifiable differences can be contained in the common text with either explicit text or a notation convention designating its singular applicability. Unnecessary differences are strongly discouraged.

5.2 Other references

A Recommendation | International Standard may refer to other publications. When reference is made to a publication that is a joint ITU-T Recommendation | ISO/IEC International Standard, both the ITU-T Recommendation and ISO/IEC International Standard shall be referenced.

5.3 Dual notation

When reference is made within a text to a Recommendation | International Standard outside the text, a dual notation system shall be used whereby the ITU-T Recommendation will be given first, e.g.:

"see ITU-T Rec. X.882 | ISO/IEC 13712-3 and Amd. 1."

The full title, and date of publication, shall be given in clause 2 for normative references and in a bibliographic annex for informative references.

5.4 Internal references

In a common text, the terms Recommendation or International Standard shall not be used to refer to itself. For further information, see clause 1, Note 1.

5.5 References to divisions and subdivisions

The terms which shall be used to designate the divisions and subdivisions that a Recommendation | International Standard may have are as follows:

Term	Example of numbering
clause	1
subclause	1.2
subclause	1.2.1
paragraph	no number

Use, for example, the following forms:

- "in accordance with clause 3";
- "according to 3.1";
- "details as given in 3.1.1";
- "in accordance with the following subclauses";
- "see Annex B".

In general, it is unnecessary to use the term "subclause".

6 General arrangement

The use of "Parts" for a series of documents published separately under the same International Standard number shall be indicated in the number assigned to that International Standard. See also 6.4 below.

Table 1 shows the general arrangement of the elements that may comprise a Recommendation | International Standard.

Table 1 – Arrangement of elements

Element	Number
Title page[a)]	None
Contents[a)] (optional)	None
Foreword[a)]	None
Introduction[a)] (optional)	None
Title	None
Scope	1
Normative references	2
Definitions	3
Abbreviations	4
Conventions	5
Text of Recommendation | International Standard	6 onwards
Annexes that form an integral part of the Recommendation | International Standard	A onwards
Annexes that do not form an integral part of the Recommendation | International Standard	A onwards (see 6.12)
Index (optional)	None
a) These elements are considered as preliminary material and therefore may be treated differently by each organization.	

6.1 Contents (optional)

The contents element may list all the subdivisions of the main text and annexes, or only the first one or two levels of the subdivisions and annexes. However, the rule should be: as short as possible. All the elements listed shall be cited with their full titles. Page numbers may be present. Figures and tables should normally not be included in the contents list. If a list of figures and/or tables is required, it should be added separately with an appropriate reference to it in the contents list.

6.2 Foreword

The Foreword shall be present. The content of this element is provided by the individual organization and may contain a general statement concerning patent statements.

6.3 Introduction (optional)

The Introduction, if present, gives information or commentary about the technical content of the Recommendation | International Standard and about the reasons prompting its preparation. It shall not contain requirements.

The ISO/IEC Introduction may also contain information about specific patents associated with the Recommendation | International Standard. Such patent information will not be printed in the ITU-T Introduction. Information on patent statements submitted to ITU-T can be found in its database accessible from the Internet at the following World Wide Web address: *http://www.itu.int/ITU-T/patent*

6.4 Title

The title shall appear on page 1 just preceding clause 1, Scope. It shall comprise separate elements, each as short as possible, proceeding from the general to the particular. In general not more than three elements shall be used; the introductory element shall be "Information technology".

The first letter of each element of the title shall be capitalized. All other words shall not be capitalized unless they are special terms that are capitalized throughout the Recommendation | International Standard.

In common text multi-part International Standards, the term "Part *n*" shall not appear in the title. See for example the reference to CCITT Rec. X.721 | ISO/IEC 10165-2 in 2.1.

6.5 Scope

This element shall appear at the beginning of every Recommendation | International Standard, to define without ambiguity the subject of the Recommendation | International Standard and the aspects covered, thereby indicating the limits of applicability of the Recommendation | International Standard. It shall not contain requirements.

The scope shall start immediately after the title on page 1. All other pages in the Recommendation | International Standard shall be numbered sequentially.

6.6 Normative references

This element shall give a list of all normative documents referenced in the Recommendation | International Standard.

The list shall be introduced by the following wording:

"The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations."

NOTE – Publications that are not publicly available, publications to which only informative reference is made or publications which merely served as references in the preparation of the Recommendation | International Standard can be listed in a non-integral annex entitled "Bibliography" and placed as the last non-integral annex.

6.7 Definitions

This is an optional element giving definitions necessary for the understanding of certain terms used in the Recommendation | International Standard.

Clause 3 shall start with the following text: "For the purposes of this Recommendation | International Standard, the following definitions apply".

The definitions element (clause 3 of a Recommendation | International Standard) may contain subdivisions. Those subdivisions may contain a list of terms defined in other Recommendations or International Standards. For example, 3.1 could contain the following text: "The following terms are defined in ITU-T Rec... **|** ISO/IEC...", followed by a list of terms used.

6.8 Abbreviations

If abbreviations are used in the text of the Recommendation | International Standard, this element shall be present, and shall contain a list of all the abbreviations, together with their non-abbreviated forms. The list shall take the form shown in clause 4 of these Presentation Rules and may contain subdivisions.

6.9 Conventions

This element may be present. If present it shall describe any particular notation used in the Recommendation | International Standard.

6.10 Text of the Recommendation | International Standard

Paragraphs of the normal text shall start at the left margin.

6.10.1 Subdivision numbers

Subdivisions shall be numbered with the digits separated by periods. A period shall not be present after a single number (unless required for technical word-processing reasons).

The subdivision number shall appear on a separate line, together with the subdivision title.

NOTE – Numbering should not be used to create a subclause unless there is at least one further subclause at the same level. For example, a piece of text in clause 1 should not be designated subclause 1.1 unless there is also subclause 1.2.

6.10.2 Subdivision titles

The subdivision title shall appear to the right of the subdivision number.

The first letter of the title shall be capitalized. All other words shall not be capitalized unless they are special terms that are capitalized throughout the Recommendation | International Standard in accordance with the conventions given in the Recommendation | International Standard.

6.10.3 Lists

Lists may take one of two forms. The first form is shown below:

– first item;
– second item;
– etc.

The second form is shown below:

a) first item;
b) second item;
c) etc.

Sublists may appear within a list. In this case the list shall take the following form:

a) first item:
    1) first sub-item;
    2) second sub-item.
b) second item:
    1) first sub-item;
    2) second sub-item.

6.10.4 Figures

Each figure shall be referred to explicitly in the text of the Recommendation | International Standard. Figures shall be numbered with Arabic numerals, beginning with 1 (except within annexes; see 6.11 and 6.12). This numbering shall normally be independent of the numbering of the clause and of any tables. For large and complex publications the author may exceptionally number sequentially with respect to the single digit clause number e.g. "Figure 4-3" which denotes the third figure in clause 4. A single figure shall be designated "Figure 1".

The title shall be placed below the figure, centered and preceded by the text "Figure x – ", where x is the number of the figure. References in the text to specific figures should use the word "Figure" with an uppercase "F", e.g. "see Figure 1".

The first letter of the title shall be capitalized. All other words shall not be capitalized unless they are special terms that are capitalized throughout the Recommendation | International Standard in accordance with the conventions given in the Recommendation | International Standard. As an example, see Figure 1 below.

6.10.5 Tables

Each table shall be referred to explicitly in the text of the Recommendation | International Standard. Tables shall be numbered with Arabic numerals, beginning with 1 (except within annexes; see 6.11 and 6.12). This numbering shall normally be independent of the numbering of the clause and of any figures. For large and complex publications the author may exceptionally number sequentially with respect to the single digit clause number e.g. "Table 4-3" which denotes the third table in clause 4. A single table shall be designated "Table 1".

The title shall be placed above the table, centered and preceded by the text "Table x – ", where x is the number of the table. References in the text to specific tables should use the word "Table" with an uppercase "T", e.g. "see Table 1".

The first letter of the title shall be capitalized. All other words shall not be capitalized unless they are special terms that are capitalized throughout the Recommendation | International Standard in accordance with the conventions given in the Recommendation | International Standard.

The first letter in the heading of each column shall be capitalized. Columns shall, if possible, be separated by vertical lines. The heading shall, if possible, be separated from the contents by a horizontal line. The elements of a table shall be framed.

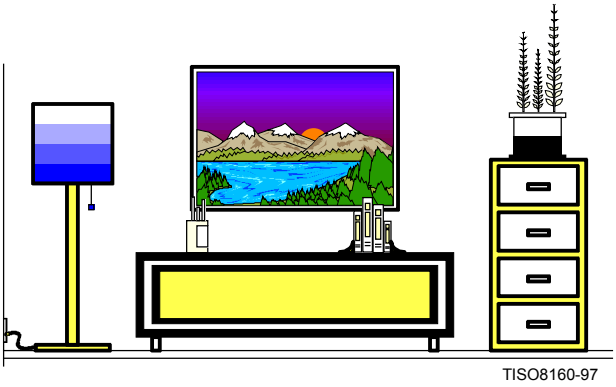

Figure 1 – Example of a figure

6.10.5.1 Tables longer than a page length

When a table is longer than a page length and therefore must be continued over two or more pages, the following text shall appear at the bottom of the table on its first page: "(continued)". At the top of the continued table on intermediate pages, the following text shall appear "Table x (continued)". At the top of the continued table on the last page, the following text shall appear: "Table x (concluded)".

Column headings shall be repeated on each page.

6.10.5.2 Tables wider than a page width

When a table is wider than a page width and therefore must be continued over two or more sub-tables, the following text shall appear above intermediate sub-tables: "Table x (continued)" and the following text shall appear above the last sub-table : "Table x (concluded)".

Each row in the complete table shall be assigned an index number. For the first block of columns, which appears in the first sub-table, the first column will contain the index number with a lowercase "a" appended. For the second block of columns, which appears in the second sub-table, the first column will contain the index number with a lowercase "b" appended. Succeeding sub-tables will have index numbers appended with a lowercase letter in like manner.

An example of a wide table extending over two sub-tables is given in Table 2.

Table 2 – Example of a wide table extending over two sub-tables

Index	Column 1	Column 2	Column 3	Column 4	Column 5
1a	Data 1	Data 2	Data 3	Data 4	Data 5
2a	Data 11	Data 12	Data 13	Data 14	Data 15

Table 2 *(concluded)*

Index	Column 6	Column 7	Column 8	Column 9	Column 10
1b	Data 6	Data 7	Data 8	Data 9	Data 10
2b	Data 16	Data 17	Data 18	Data 19	Data 20

When this table is reconstructed from its constituent parts it shall have the following layout:

Index	Columns associated with "a"	Columns associated with "b"

6.10.6 Equations and formulas

Equations and formulas are written using the style "Equation" in the template. They shall be numbered consecutively with arabic numerals, beginning with 1 (except within annexes, see 6.11 and 6.12). This numbering shall normally be independent of the numbering of the clause and of any figures or tables. For large and complex publications, the author may exceptionally number sequentially with respect to the single digit clause number, e.g. "(6-1)" which denotes the first equation or formula in clause 6. An example is given below:

$$P_s = 2\omega\left[\sum_{j=1}^{n}\sum_{k=1}^{n}\int_v\left(\frac{\mu\vec{H}_i\cdot\vec{H}_k^*}{2}-\frac{\varepsilon\vec{E}_i\cdot\vec{E}_k^*}{2}\right)\mathrm{d}v\right] \quad (1)$$

6.10.7 Notes

Notes integrated in the text of a Recommendation | International Standard may be used only for giving information which is helpful to the understanding of the document. They shall not contain requirements.

Notes should normally be placed after the clause, subclause or paragraph to which they refer.

A single note within a subdivision shall start with the text "NOTE – ", placed at the beginning of the first line of the text of the note.

If two or more notes occur within the same numbered sub-division of text, they shall be designated "NOTE 1 – ", "NOTE 2 – ", "NOTE 3 – ", etc.

Alternatively, all notes integrated in the text may be numbered in a continuous sequence throughout the publication.

The note shall be indented from the margin of the main text, so that the extent of the note can be correctly understood for printing purposes.

Notes to tables and to figures shall be treated independently from footnotes and notes integrated in the text. They shall be located within the frame of the relevant table or immediately above the title of the relevant figure. A sequence of notes for any table or figure shall always start with a "NOTE 1 – ". Such notes may contain requirements.

Some examples of note numbering and layout are given in Annex A.

6.10.8 Use of words

The word "shall" shall be used to express mandatory requirements. The word "may" shall be used to express optional requirements. Although the negative form of "shall" is "shall not", the negative form of "may" is *not* "may not", but is "need not". The use of "may not" shall be avoided.

6.11 Integral annexes

Annexes that form an integral part of the Recommendation | International Standard shall appear immediately after the text of the Recommendation | International Standard. The annexes shall be designated A, B, C etc. A single annex shall be designated "Annex A".

The title of the annex shall be immediately followed by the following text, centered: "(This annex forms an integral part of this Recommendation | International Standard.)".

Numbers given to the text elements, tables, figures and equations of an annex shall be preceded by the letter assigned to that annex, e.g. subclause A.2, Figure B.5, equation C.1. The numbering shall start afresh with each annex.

6.12 Non-integral annexes

Annexes that do not form an integral part of the Recommendation | International Standard shall appear immediately after the last annex that forms an integral part of the Recommendation | International Standard, or after the text, if there are no annexes that form an integral part of the Recommendation | International Standard. The annexes shall be designated with letters, as specified in 6.11, and follow-on sequentially after the integral annexes.

The title of the annex shall be immediately followed by the following text, centered: "(This annex does not form an integral part of this Recommendation | International Standard.)".

Numbers given to the text elements, tables, figures and equations of an annex shall be preceded by the letter assigned to that annex, e.g. subclause A.2, Figure B.5, equation C.1 The numbering shall start afresh with each annex.

6.13 Index

This element is optional, but if included is the last element of the Recommendation | International Standard. The index entries may be referenced to page numbers. However, it is preferable to reference the index entry to the clause or subclause number where the indexed term is located. An example of an index is provided as the last element of these Presentation Rules. It is not exhaustive.

Annex A

Example of note numbering and layout

(This annex forms an integral part of this Recommendation | International Standard)

A.1 Example of single note embedded in main text

A paragraph in the main text may look like this. It begins at the margin, with spacing between a title or paragraph which precedes and spacing between a title or paragraph which follows.

NOTE – There could be a single note following a paragraph of main text and that note might look like this. The note is slightly offset to the right of the main paragraph's left margin and second and subsequent lines of the note are aligned with the first line of the note. This ensures that when notes have multiple paragraphs, those paragraphs after the first will not be mistaken for main text. "NOTE" is in small caps and is separated by a space, a dash, and a space from the text of the note.

The left margin of the second paragraph of a single note is aligned with the first paragraph of the note.

Following the note, the main text may continue and once again the main text paragraph begins at the margin. The single note which is embedded in the text here does not have a number attached to it because it is the only note in this numbered subdivision

A.2 Example of consecutive notes embedded in main text

A paragraph in the main text may look like this. It begins at the margin, with spacing between a title or paragraph which precedes and with spacing between a title or paragraph which follows.

NOTE 1 – This is an example of a note which is part of a list of notes. Each note in the list has a number attached to it separated by a space, a dash, and a space from the text of the note. Every element of the note list is slightly offset to the right of the main paragraph's left margin.

NOTE 2 – This is an example of the second note in a list of notes. It also has a number associated with it and is aligned to the first note. This note also contains a second paragraph.

The left margin of the second paragraph of a note is aligned with the first paragraph of the note.

Following the notes, the main text may continue and once again the main text paragraph begins at the margin.

A.3 Example of several notes embedded in a subdivision

A paragraph in the main text may look like this. It begins at the margin, with spacing between a title or paragraph which precedes and with spacing between a title or paragraph which follows.

NOTE 1 – This is the first note in A.3. It is numbered to allow unambiguous reference to each note within the numbered subdivision.

Sometimes there are cases where the main text continues after a note, but in the same subdivision there might be additional notes.

NOTE 2 – This is the second note in A.3 and it does not follow directly after NOTE 1.

There could even be a second paragraph to this note.

NOTE 3 – This is the third note in A.3.

Following the notes, the main text may continue and once again the main text paragraph begins at the margin.

A.4 Example of several notes at different levels

A paragraph in the main text may look like this. It begins at the margin, with spacing between a title or paragraph which precedes and with spacing between a title or paragraph which follows.

NOTE 1 – This is the first note in A.4. It is numbered to allow unambiguous reference to each note within the numbered subdivision.

a) There may be a list within the main text. This is the first element of the list.

NOTE 2 – There could be a single note pertaining to the first item in the list. It is numbered NOTE 2 since it is the second note in A.4.

The second paragraph of this note would appear as shown here.

b) This may be the second item of the list. If the text for this item extends to more than one line, it would look like this.

NOTE 3 – There could be two notes pertaining to the second item in the list. The first is numbered 3 since it is the third note in A.4.

NOTE 4 – This is the second note pertaining to the second item in the list.

NOTE 5 – There could be a note applying to the whole list following the end of a list. The note would be slightly indented from the numbering of the list. To ensure clarity, the text of the note should explicitly indicate that it applies to the whole list.

There could also be a second paragraph to this note.

NOTE 6 – There could be a note applying to the entire subdivision including the list. The note would be slightly indented from the margin of the main paragraph and looks like this.

There could also be a second paragraph to this note.

If the main text begins again, it begins at the left margin as shown here.

Annex B

Referencing Recommendations

(This annex forms an integral part of this Recommendation | International Standard)

As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as an organization on 28 February 1993 and in its place the Telecommunication Standardization Sector within the ITU has been created. The following rules are given to help editors of common text in making correct references to Recommendations.

B.1 References in normative reference list

a) previously existing CCITT Recommendations not modified on or after 1 March 1993 will continue to have the prefix "CCITT", e.g.:

   – "CCITT Recommendation X.92 (1988), *Hypothetical reference connections for public synchronous data networks*".

   – "CCITT Recommendation X.614 (1992) | ISO/IEC 10732:1993, *Information technology – Use of X.25 Packet Layer Protocol to provide the OSI connection-mode Network Service over the telephone network*".

b) previously existing CCITT Recommendations, modified and approved on or after 1 March 1993 will have the prefix "ITU-T", e.g.:

   – "ITU-T Recommendation X.96 (1993), *Call progress signals in public data networks*".

   – "ITU-T Recommendation X.200 (1994) | ISO/IEC 7498-1:1994, *Information technology – Open Systems Interconnection – Basic Reference Model: The Basic Model*".

c) new Recommendations approved on or after 1 March 1993 will have the prefix "ITU-T", e.g.:

   – "ITU-T Recommendation X.6 (1993), *Multicast service definition*".

   – "ITU-T Recommendation X.802 (1995) | ISO/IEC TR 13594:1995, *Information technology – Lower layers security model*".

B.2 References within the text

a) When using the expression "Recommendation | International Standard", do not use a prefix before the word "Recommendation".

b) When referencing a specific Recommendation or Recommendation | International Standard, a prefix is used following the rules in B.1 above, e.g.:

   – "CCITT Rec. X.92"

   – "CCITT Rec. X.614 | ISO/IEC 10732"

   – "ITU-T Rec. X.96"

   – "ITU-T Rec. X.200 | ISO/IEC 7498-1"

   – "ITU-T Rec. X.6"

   – "ITU-T Rec. X.802 | ISO/IEC TR 13594"

Annex C

Rules for presentation of common text amendments and technical corrigenda

(This annex forms an integral part of this Recommendation | International Standard)

C.1 General

This annex gives the presentation rules for amendments and technical corrigenda to common texts. All of the ITU-T Rec. A.1000 | ISO/IEC 0001 presentation rules apply to these two types of publications, except as noted in the following.

C.2 Titles, headers and footers

C.2.1 Titles

On page 1 of the amendment, the title area consists of the title of the base Recommendation | International Standard, the word "Amendment" plus the number of the amendment, and the amendment title.

On page 1 of the technical corrigendum, the title area consists of the title of the base Recommendation | International Standard, the words "Technical Corrigendum" plus the number of the technical corrigendum, and no corrigendum title.

C.2.2 Headers and footers

In the headers and footers on all the pages of the amendment starting with page 1, the abbreviation "Amd." is used.

In the headers and footers on all the pages of the technical corrigendum starting with page 1, the abbreviation "Cor." is used.

C.3 Organization of text

It should be noted in the examples below that the numbered headings in boldface give the location where the text changes are to be made. Instructions to the reader as to how to modify the base text are given in italics. The new text to be inserted in the base text is given in the same style as it would have been had it been in the base text originally, i.e. the presentation rules of ITU-T Rec. A.1000 | ISO/IEC 0001 are used.

For the location of where the text changes are to be made, reference should be made to the numbered clause or subclause; the page number should not be used.

C.4 Examples of an amendment and a technical corrigendum

An example of an amendment and an example of a technical corrigendum are found on the following two pages. For illustration purposes in this annex, the examples are put within a frame so as not to confuse the headers and footers of the example with those of these Presentation Rules. The frame is not part of the presentation standard for amendments and technical corrigenda.

INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

Information technology – Remote operations: OSI realizations – Remote Operations Service Element (ROSE) service definition

Amendment 1
Mapping to A-UNIT-DATA and built-in operations

1) Clause 1

Rewrite the third sentence of the second paragraph as follows (with the changes underlined):

The ROSE services are provided by the use of the ROSE protocol (specified in a companion Recommendation | International Standard, ITU-T Rec. X.882 | ISO/IEC 13712-3), in conjunction with the Association Control Service Element (ACSE) services (ITU-T Rec. X.217 | ISO/IEC 8649) and the ACSE protocol (ITU-T Rec. X.227 | ISO/IEC 8650-1 and ITU-T Rec. X.237 | ISO/IEC 10035-1), and, optionally, the Reliable Transfer Service Element (RTSE) services (ITU-T Rec. X.218 | ISO/IEC 9066-1) and the RTSE protocol (ITU-T Rec. X.228 | ISO/IEC 9066-2), and the Presentation service (ITU-T Rec. X.216 | ISO/IEC 8822).

2) Subclause 2.1

Add the following references:

- ITU-T Recommendation X.237 (1995) | ISO/IEC 10035-1:1995, *Information technology – Open Systems Interconnection – Connectionless protocol for the Association Control Service Element: Protocol specification*.
- ITU-T Recommendation X.880 (1994)/Amd.1 (1995) | ISO/IEC 13712-1:1995/Amd.1:1996, *Information technology – Remote Operations: Concepts, model and notation – Amendment 1: Built-in operations*.
- ITU-T Recommendation X.882 (1994)/Amd.1 (1995) | ISO/IEC 13712-3:1995/Amd.1:1996, *Information technology – Remote Operations: OSI realizations – Remote Operations Service Element (ROSE) protocol specification – Amendment 1: Mapping to A-UNIT-DATA and built-in operations*.

3) Clause 6

Add the following figure and text at the end:

The internal structure of ROSE is depicted in Figure 3.

Basic ROSE provides for the ability to send and receive invocations and returns of operations. The basic ROSE services are defined in clause 8. In addition, ROSE may contain a number of built-in operations which provide extended ROSE services, as defined in clause 10. Built-in operations are included if they are required by the association contract being supported.

INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

Information technology – Open Systems Interconnection – Structure of management information: Guidelines for the definition of managed objects

Technical Corrigendum 1

1) Subclause 6.4.5

Add the following at the end of the current paragraph:

A managed object identifies its actual class (see 7.4.3) by the value of its managed object class attribute.

2) Subclause 7.4

Add the following immediately after 7.4.2 as a new subclause:

7.4.3 Actual class

A managed object class definition consists of the MANAGED OBJECT CLASS template (see 8.3) registered with the object identifier value for that class together with the set of templates referenced by that template and all templates referenced by templates in the set.

A managed object identifies its actual class by the value of its managed object class attribute which is the object identifier value used to register its MANAGED OBJECT CLASS template. Each managed object:

- supports all of the characteristics defined in its actual class definition in accord with the packages that are present;
- supports only operations that are defined in its actual class definition for packages that are present; and
- emits only notifications when a behaviour defined to trigger that notification in the actual class definition applies for packages that are present.

The absence of a GDMO construct for a characteristic in a managed object class definition specifically excludes that characteristic from that class definition. A subclass may add an excluded construct by explicit definition. Each subclass has its own registered object identifier value. For example, if REPLACE is not specified for a single-valued attribute, that attribute in instances of that class shall be regarded as read only; a subclass definition may extend this by adding the REPLACE construct to specify that the attribute can be replaced for instances of the subclass and instances that are compatible with the subclass.

Annex D

Deviations with respect to ISO/IEC Directives, Part 2

(This annex does not form an integral part of this Recommendation | International Standard)

D.1 Differences

These Presentation Rules differ from ISO/IEC Directives, Part 2 in the following points:

- notes follow a mixture of ITU-T and ISO/IEC conventions, in order to facilitate work for editors and allow notes to stand out from the main text;
- boiler plate text has been modified in the Normative reference clause;
- single column text will be used in joint ITU-T | ISO/IEC documents.

D.2 Supplementary information

This list is not exhaustive and is given as an example.

Annex E

Deviations with respect to the "Author's guide for drafting ITU-T Recommendations"

(This annex does not form an integral part of this Recommendation | International Standard)

E.1 Differences

These Presentation Rules differ from the "Author's guide for drafting ITU-T Recommendations" in the following points:

- table and figure numbers do not contain the Recommendation number;
- appendices are replaced by annexes which are designated as not forming an integral part of the text.

E.2 Supplementary information

This list is not exhaustive and is given as an example.

Index

The number associated with the index entry indicates the clause or subclause where the index entry can be found.