THE TELECOMMUNICATION TECHNOLOGY COMMITTEE

TTC Telecommunication Technology Committee

ANNUAL REPORT FOR FY 2001

July 2002

Hiroshi Araki

The development of information and communications technologies improves and enriches our lives by enabling us to send and receive a wide range of information, as well as making business more efficient, creating new industries, reforming economic structures, and making industries stronger in the face of global competition.

Last year, the Government started several national projects with the goal of making Japan the world's leading IT state - it's so-called "e-Japan" strategy. Information and communications networks will act as the infrastructure for these projects. Businesses are currently building these networks, both wired and wireless with broadband for high-speed, large-capacity transmission. In addition, research and development is under way to realize seamless networks, so that any service can be accessed from anywhere and at any time.

Currently, there is much global interest in next generation networks that are based on optical communications and IP technologies. Studies to standardize such next generation networks have already started. In Japan, the term "ubiquitous networks" is being heard more and more often. This expresses the concept of "networks over which anyone can access whatever information they need from anywhere, at any time, using a wide variety of terminals." It is one of the new keywords being used to express the future of information and communications networks.

Since 1985, when the TTC was established in response to the opening up of the domestic telecommunications market, we have been promoting standardization related to the interconnection of telecommunications networks with the support of our members and many others. As a result, the TTC has so far issued no fewer than 574 standards.

I think that as information and communications networks are increasingly advanced and globalized, the TTC, as one of major standard setting organizations in the world, will be playing an ever more important role in the future.

When the TTC was first established, our standardization activity focused on ISDN technologies. Recently, however, our activity has spread to more diverse fields, such as mobile communications, DSL, and IP communications. The TTC will contribute to many more areas, for example, information security, emergency communications, and next generation networks.

The standardization of information and communications networks requires that we liaise with the ITU and other major standard setting organizations in the world. The TTC is now participating, as one of the leading members, in the Global Standard Collaboration (GSC) and the 3GPP/3GPP2 international cooperative projects that have been established to set standards for IMT-2000, third-generation mobile communications systems. We will promote cooperation with both global and domestic standard setting organizations while maintaining our links with major forums in leading-edge fields, such as the Internet, with the goal of creating standards that are in harmony with global standards.

Standards can be developed only through cooperation between all concerned parties. I, at the TTC, could not be more pleased if more people were to participate in our activities.

In the future, as now, the TTC will try to develop useful standards that satisfy your expectations while taking careful note of domestic and overseas trends and market needs as they relate to standardization. To that end, I ask each and every member of the TTC for their continued understanding and support. Thank you.

July, 2002

(Glossary)
e-Japan strategy
A government strategy for "making Japan the world's leading IT state within five years." It was proposed by the government-private sector joint IT Strategy Headquarters in January, 2001.

Ubiquitous
A Latin word that means "(seemingly) present everywhere at the same time."

Global Standard Collaboration (GSC)
A cooperative organization established to improve the efficiency of global standardization activities. Its members include domestic and regional standard setting organizations. It consists of the Global Telecommunication Standard Collaboration (GTSC) that is responsible for fixed networks, and the Global Radio Standard Collaboration (GRSC) that is responsible for wireless networks. Among the current members of the GSC are the European Telecommunications Standards Institute (ETSI), Committee T1 of the USA, Telecommunications Industry Association (TIA) of the USA, TTC, ARIB, Telecommunications Technology Association (TTA) of Korea, Telecommunications Standards Advisory Council (TSACC) of Canada, Australian Communications Industry Forum (ACIF), and ITU.

3GPP (3rd Generation Partnership Project)
An international cooperative project whose six participants are the TTC and ARIB (Japan), CWTS (China), ETSI (Europe), Committee T1 (USA), and TTA (South Korea), and which was established to standardize the IMT-2000 third-generation mobile communications system. Aims at creating a common, global specification based on the European version of GSM.

3GPP2 (3rd Generation Partnership Project 2)
An international cooperative project whose five participants are the TTC and ARIB (Japan), CWTS (China), TIA (USA), and TTA (South Korea), and which was established to standardize the IMT-2000 third-generation mobile communications system. Aims at creating a common, global specification based on ANSI-41 (USA).

Purpose

 The purpose of this committee is to contribute to standardization in the field of telecommunications by establishing protocols and standards for telecommunications networks and terminal equipment, etc as well as to disseminate those standards.

Activities

the committee will:

(1) develop protocols and standards for telecommunications networks

(2) conduct studies and research on protocols and standards for telecommunications networks

(3) disseminate protocols and standards for telecommunications networks

(4) engage in activities accompanied by the above items, and

(5) engage in other business activities necessary to achieve the purpose of the committee

History at establishment

 The Telecommunication Technology Committee (TTC) was established as a non-profit private standardization organization in October 1985 to contribute to further activation of the field of telecommunications, in which the free competitive market principle was introduced based on the implementation of the Telecommunication Business Law in 1985.

TTC Membership: TTC's activities are supported by its member bodies in terms of both finance and human resourses.

As of March 2002, 138 member bodies were registered for full membership, and 15 for supporting membership.

Member bodies are categorized below.

TTC FULL MEMBERSHIP (As of March 2002)

CATEGORY	NUMBER	EXAMPLE OF SOME MEMBERS
TYPE1 TELECOMMUNICA-TIONS CARRIERS	22	NTT, KDDI, JAPAN TELECOM and other leading companies
TYPE2 TELECOMMUNICA-TIONS CARRIERS	5	NTT DATA, CSK NETWORK SYSTEMS, NI+C
MANUFACTURERS	86	NEC, FUJITSU, OKI, HITACH, SUMITOMO ELECTRIC INDUSTRIES IBM JAPAN, LUCENT TECHNOLOGIES, DEC JAPAN, NORTHERN TELECOM JAPAN, SIEMENS, and other leading companies
USERS & OTHERS	25	TOKYO ELECTRIC POWER, DAI-ICHI KANGYO BANK, NIPPON TELECOMMUNICATIONS CONSULTING, AMERICAN ELECTORNICS ASSOCIATION JAPAN, and other leading companies

Total 138

(including 20 companies with foreign capital exceeding 50% of the total capital)

Address: Hamamatsu-cho Suzuki Building

1-2-11, Hamamatsu-cho, Minato-ku, Tokyo (postal code 105-0013)

Phone: +81 3 3432 1551

Facsimile: +81 3 3432 1553
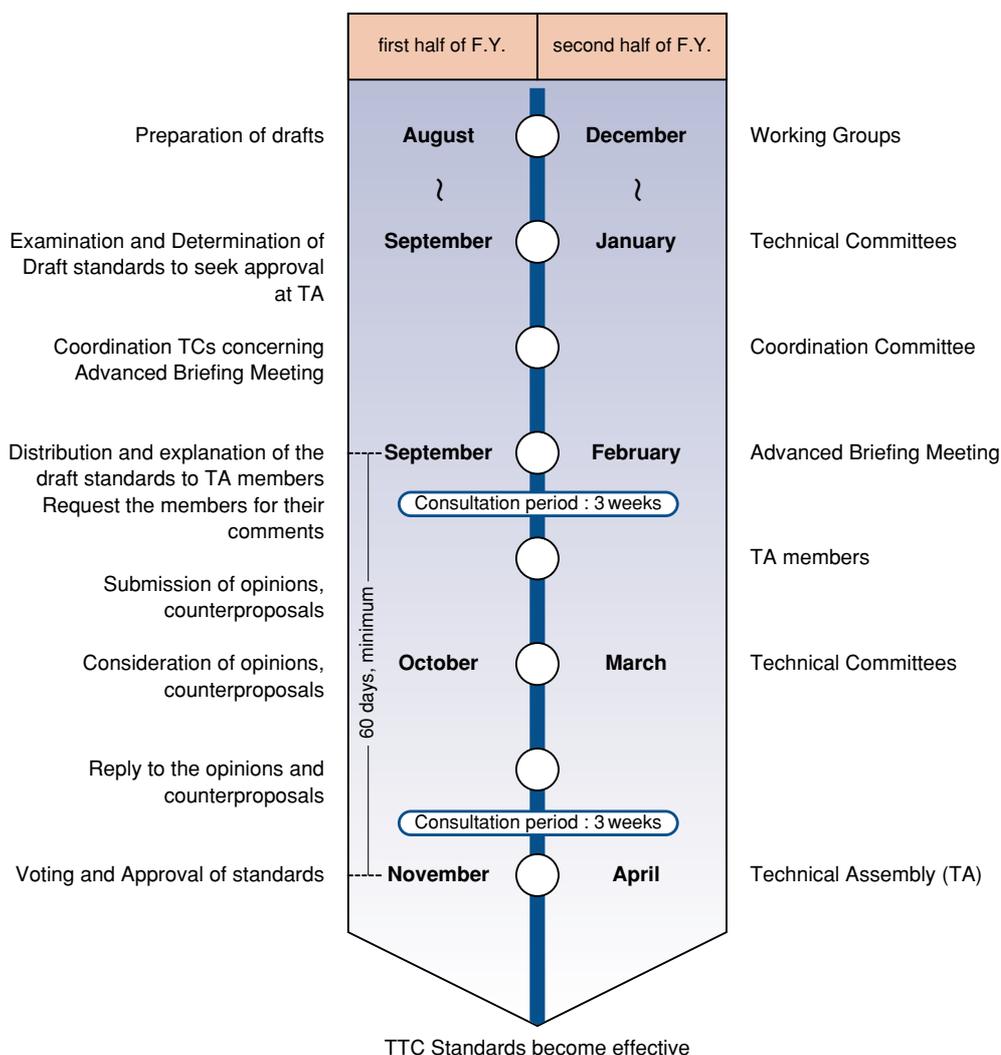
Established: October 25, 1985

Authority concerned: The Ministry of Public Management,Home Affairs, Posts and Telecommunications (MPHPT)

Development of Standards:

In the development of standards, TTC regards particular importance on securing fairness and transparency.

● Standardization items are selected at Technical Assembly based on consensus of the members.
● Based on the opinions and requests from members, the pertinent technical committee establishes a Medium-term Standardization Project to determine the items to be studied and the work schedule.
● Draft texts of standards are submitted to the Technical Assembly by technical committees. They are then approved to be standards.
● Entities possensing directry and materially affected interests have right to appeal regarding the standardization procedure to chairman of Board of Directors.

Procedure for Standards Development

	first half of F.Y.	second half of F.Y.	
Preparation of drafts	**August**	**December**	Working Groups
Examination and Determination of Draft standards to seek approval at TA	**September**	**January**	Technical Committees
Coordination TCs concerning Advanced Briefing Meeting			Coordination Committee
Distribution and explanation of the draft standards to TA members Request the members for their comments	**September**	**February**	Advanced Briefing Meeting
	Consultation period : 3 weeks		
Submission of opinions, counterproposals			TA members
Consideration of opinions, counterproposals	**October**	**March**	Technical Committees
Reply to the opinions and counterproposals			
	Consultation period : 3 weeks		
Voting and Approval of standards	**November**	**April**	Technical Assembly (TA)

60 days, minimum

TTC Standards become effective

Number of TTC Standards in Force

(April 2001 through March 2002)

adopted at two regular and two extra Technical Assemblies

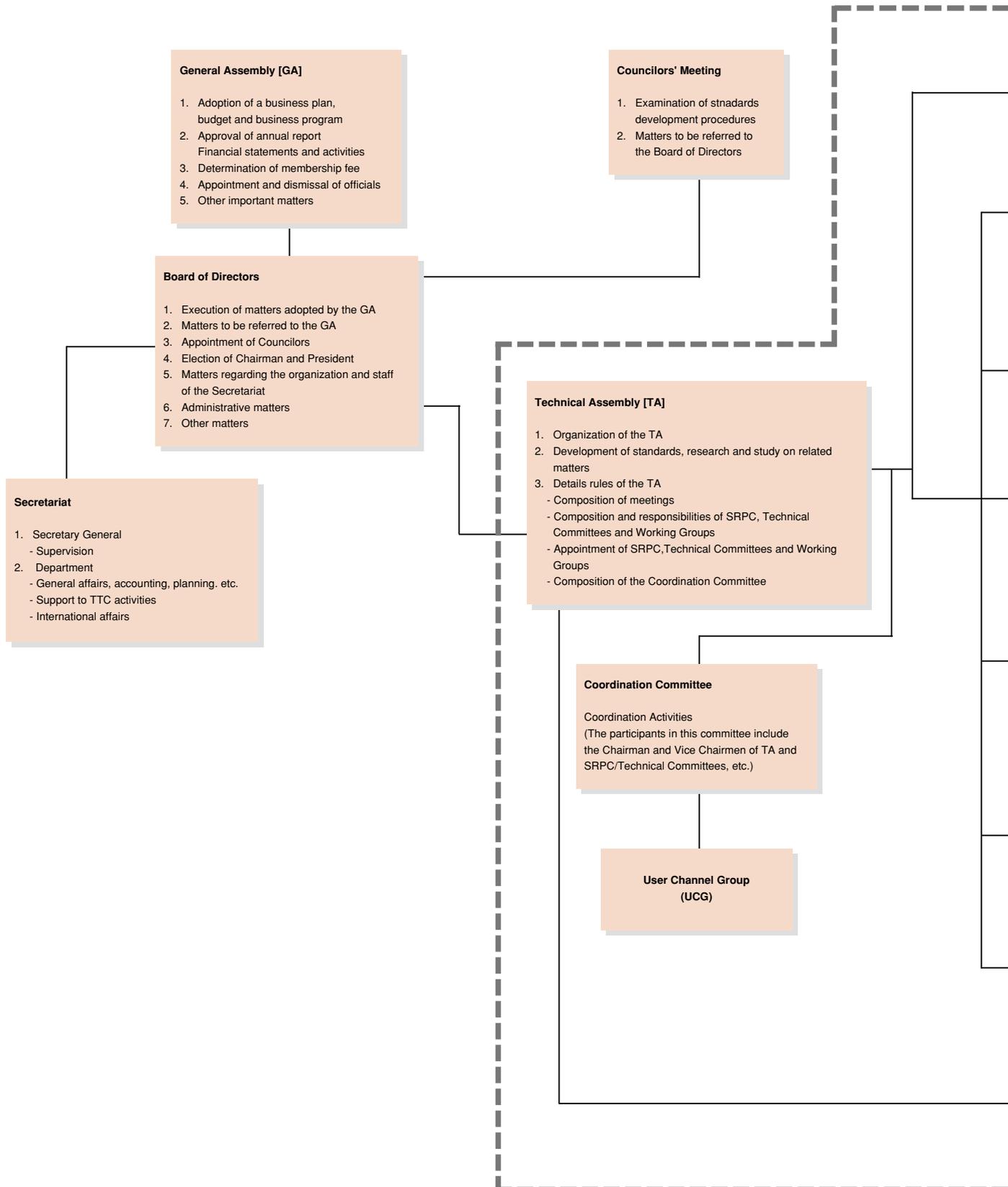|	New	Revisions	Withdrawn	Total in force
JT standards	17	41	2	318
JS standards	3	0	0	32
JJ standards	1	3	0	30
JF standards	1	0	0	15
JP standards	14	85	10	179
(Total all categories)				574

JT: based on an ITU-T Recommendation
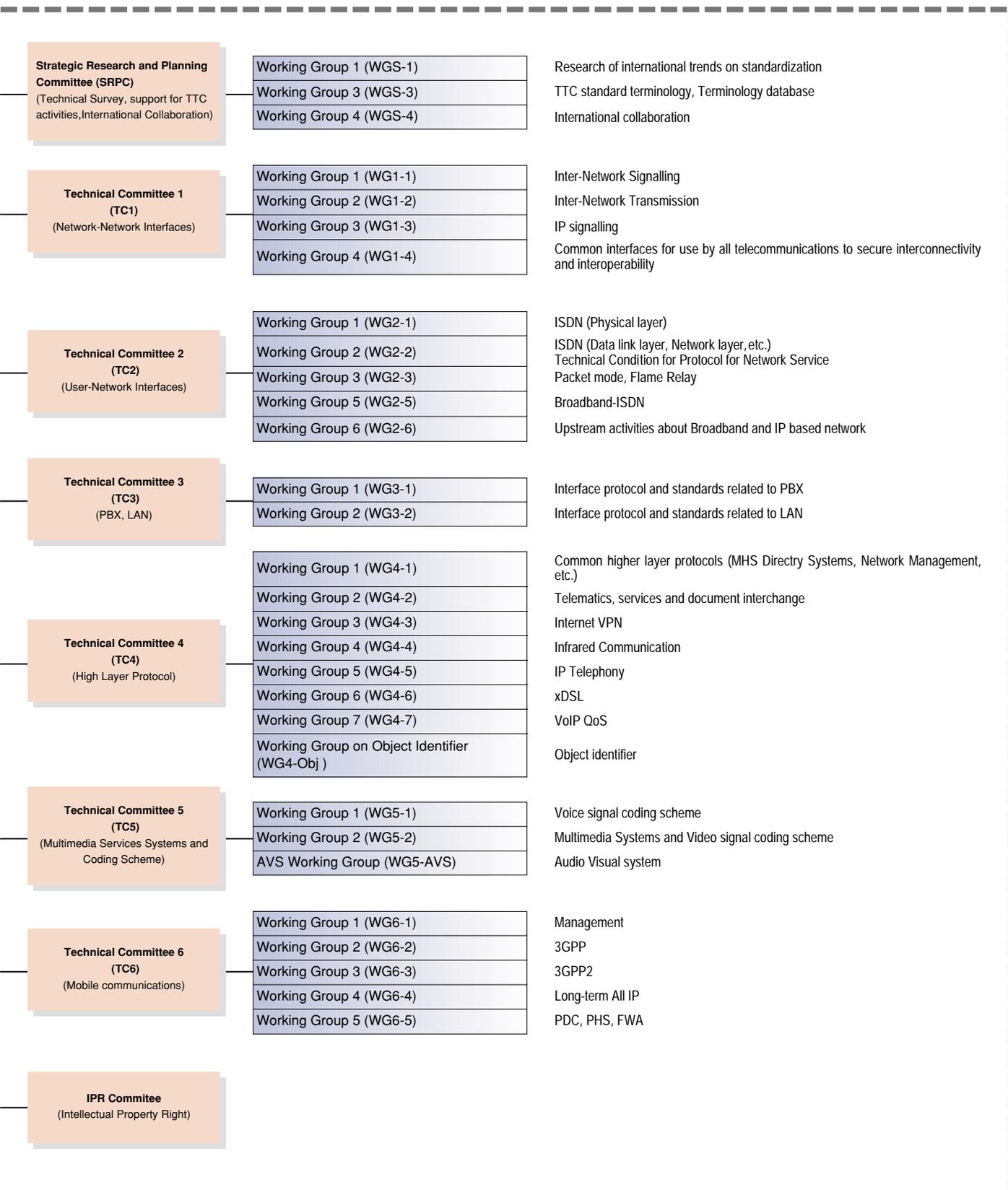
JS: based on an ISO Standard

JJ: TTC Original

JF: based on specifications globally recognized by international forums

JP: developed in cooperation with or by other regional standard organization

Number of TTC Technical Specifications (3GPP, 3GPP2) 524

as of March, 2002

General Assembly [GA]

1. Adoption of a business plan,
   budget and business program
2. Approval of annual report
   Financial statements and activities
3. Determination of membership fee
4. Appointment and dismissal of officials
5. Other important matters

Councilors' Meeting

1. Examination of stnadards
   development procedures
2. Matters to be referred to
   the Board of Directors

Board of Directors

1. Execution of matters adopted by the GA
2. Matters to be referred to the GA
3. Appointment of Councilors
4. Election of Chairman and President
5. Matters regarding the organization and staff
   of the Secretariat
6. Administrative matters
7. Other matters

Secretariat

1. Secretary General
   - Supervision
2. Department
   - General affairs, accounting, planning. etc.
   - Support to TTC activities
   - International affairs

Technical Assembly [TA]

1. Organization of the TA
2. Development of standards, research and study on related
   matters
3. Details rules of the TA
   - Composition of meetings
   - Composition and responsibilities of SRPC, Technical
     Committees and Working Groups
   - Appointment of SRPC,Technical Committees and Working
     Groups
   - Composition of the Coordination Committee

Coordination Committee

Coordination Activities
(The participants in this committee include
the Chairman and Vice Chairmen of TA and
SRPC/Technical Committees, etc.)

**User Channel Group
(UCG)**

Committee	Working Group	Description
Strategic Research and Planning Committee (SRPC) (Technical Survey, support for TTC activities, International Collaboration)	Working Group 1 (WGS-1)	Research of international trends on standardization
	Working Group 3 (WGS-3)	TTC standard terminology, Terminology database
	Working Group 4 (WGS-4)	International collaboration
Technical Committee 1 (TC1) (Network-Network Interfaces)	Working Group 1 (WG1-1)	Inter-Network Signalling
	Working Group 2 (WG1-2)	Inter-Network Transmission
	Working Group 3 (WG1-3)	IP signalling
	Working Group 4 (WG1-4)	Common interfaces for use by all telecommunications to secure interconnectivity and interoperability
Technical Committee 2 (TC2) (User-Network Interfaces)	Working Group 1 (WG2-1)	ISDN (Physical layer)
	Working Group 2 (WG2-2)	ISDN (Data link layer, Network layer, etc.) Technical Condition for Protocol for Network Service
	Working Group 3 (WG2-3)	Packet mode, Flame Relay
	Working Group 5 (WG2-5)	Broadband-ISDN
	Working Group 6 (WG2-6)	Upstream activities about Broadband and IP based network
Technical Committee 3 (TC3) (PBX, LAN)	Working Group 1 (WG3-1)	Interface protocol and standards related to PBX
	Working Group 2 (WG3-2)	Interface protocol and standards related to LAN
Technical Committee 4 (TC4) (High Layer Protocol)	Working Group 1 (WG4-1)	Common higher layer protocols (MHS Directry Systems, Network Management, etc.)
	Working Group 2 (WG4-2)	Telematics, services and document interchange
	Working Group 3 (WG4-3)	Internet VPN
	Working Group 4 (WG4-4)	Infrared Communication
	Working Group 5 (WG4-5)	IP Telephony
	Working Group 6 (WG4-6)	xDSL
	Working Group 7 (WG4-7)	VoIP QoS
	Working Group on Object Identifier (WG4-Obj)	Object identifier
Technical Committee 5 (TC5) (Multimedia Services Systems and Coding Scheme)	Working Group 1 (WG5-1)	Voice signal coding scheme
	Working Group 2 (WG5-2)	Multimedia Systems and Video signal coding scheme
	AVS Working Group (WG5-AVS)	Audio Visual system
Technical Committee 6 (TC6) (Mobile communications)	Working Group 1 (WG6-1)	Management
	Working Group 2 (WG6-2)	3GPP
	Working Group 3 (WG6-3)	3GPP2
	Working Group 4 (WG6-4)	Long-term All IP
	Working Group 5 (WG6-5)	PDC, PHS, FWA
IPR Commitee (Intellectual Property Right)		

BUSINESS REPORT FOR FISCAL YEAR 2001 (April 2001-March 2002)

I Introduction

In the first fiscal year of the 21st century, the Telecommunication Technology Committee (TTC) stepped up its efforts in its standardization work in a prompt and efficient way with a view to satisfying ongoing demands for standardizing telecommunications networks, especially given that revolutionary changes in the field of telecommunications are permeating every socioeconomic sphere. During FY 2001 too, these activities were conducted as part of our mid-term standardization program that was originally established with a long-term perspective, with the goal of responding to a national vision and market needs, as well as to trends in telecommunications both at home and abroad.

In FY 2001, 36 new and 130 revised TTC standards were formulated, while 10 TTC standards were withdrawn. As a result, the total number of TTC standards now stands at 574.

There is a considerable amount of activity relating to new developments beyond mobile communications. For example, ETSI and other organizations have started to study the standardization of the next generation networks, which will be based on optical communications and IP technologies.

Because the telecommunications market had begun to change at a rapid rate and the TTC was requested to promote speedy standardization activities, the TTC introduced new document types named TTC Specifications and Technical Reports that could be established by its Technical Committees, as well as a system for immediately informing the Technical Assembly members of the issue of such documents through the use of Internet technologies such as the Web.

In addition, to promote prompt and efficient activities, the TTC undertook a review of its rules and procedures. Also, to satisfy the requirements of the WTO (TBT Agreement), the TTC endeavored to secure fairness and transparency in the standards development process.

II Standardization Activities

2.1 Establishment of Mid-term Standardization Project

The "mid-term standardization project" is a 3-year standardization project that aims to enable the systematic development of standards, taking account of trends in international standardization and the requests of members and users, as well as other aspects. It will be revised annually.

In FY 2001, each Technical Committee reported on its projects to the 34th Technical Assembly (April 19, 2001), and also published their progress on the TTC home page, such that it could be available to both members and non-members, together with details on each standardization item.

In FY 2001, the method of disclosure was changed to enable quicker responses to changes in the standardization environments; for example, any changes in projects made during the fiscal year are now made known to the Technical Assembly members immediately, by using the Web and other means. To allow non-TTC members to access the results of the mid-term standardization project, the latest progress is posted on the TTC home page in both Japanese and English.

2.2   Strategic Research and Planning Committee

The Strategic Research and Planning Committee (SRPC), through Working Groups 1, 3, and 4, conducted the following: survey of technologies, elaboration of TTC standards terminology, and review of matters relating to international standardization collaboration.

To introduce electronic voting to the Technical Assembly in FY 2001, the Strategic Research and Planning Committee changed the rules of procedures for Technical Assembly while simultaneously creating an electronic voting system. As a result, electronic voting was used at the 36th Technical Assembly, held in November 2001. The SRPC reviewed the provisions and the like, and first proposed the abolition of the terms of the Working Groups members to the Technical Assembly.

Under its task of performing a technical survey, Working Group 1, continuing from the previous fiscal years, looked into the present state and activities of the forums working in the area of telecommunications, and compiled the 8th edition of its report (March 2002). In addition, the Working Group added a forum survey page to the TTC home page so that the results of the survey were widely available to all members.

In addition, as a new project, Working Group 1 surveyed the standardization procedures of Committee T1 in the United States, ETSI in Europe, IETF, and W3C, and compiled the results into a report together with the procedures used by the TTC itself. To highlight those items that the TTC wishes to see improved in the future, the report addresses the format that advanced briefing meetings should take, the frequency and timing of standardization, and how standard publications should be distributed. The report goes on to propose possible future improvements.

Working Group 3 reviewed the introduction of an electronic means of distributing the TTC standards terminology, and constructed a terminology database on the TTC server. The database was operated on a trial basis starting in February 2001, and full-fledged operation began in June. In addition, it decided on new/revised terms, meeting twice during the fiscal year.

Working Group 4 decided on a course of action for participating in GSC7/RAST10, held in Sydney in November 2001, and prepared contributions. In addition, given its focus on the Next Generation Network (NGN) as a new international cooperative standardization theme, it attended the NGN Starter Group meetings of the ETSI to collect information.

2.3   Technical Committee 1

Technical Committee 1 (TC1) performed standardization activities through its four Working Groups, entrusting the study of inter-network signaling to Working Group 1, inter-network transmission to Working Group 2, signaling for Internet networks (IP signalling) to Working Group 3, and common interface for use by all telecommunications to secure interconnectivity and interoperability to Working Group 4. Within TC1 up-stream activities were performed by the IN Special Working Group.

In FY 2001, TC1 approached its standardization activities by considering international standardization trends and the requests of its members, ultimately developing 17 revised standards. It also prepared 3 technical reports and 2 survey reports. The main activities of each Working Group are described below.

For inter-network signaling, Working Group 1 deleted pivot routing as a domestic number portability procedure because of its current status of use and its future prospects, and also revised the related standards to clearly define the remaining redirection procedure provisions. Accordingly, it reviewed the configuration of the standard documents, and created the attached materials describing a redirection procedure that is for Japan (redirection procedure for PHS roaming and freephone number portability). To enable the provision of caller ID and location information to a fire and police station when a call is made from a mobile terminal, the Working Group added parameters for emergency calls which was available to use general-purpose objectives. It also added measurement origin speed information parameters for use in mobile networks, as well as related information.

For inter-network transmission, Working Group 2 simplified and clarified the downstream activities and standards received from the ITU-T, by revising the terminology for synchronization frame configurations in primary and secondary digital hierarchy interfaces, 6312-kbps PCM multiplexers, and synchronous digital hierarchies. It also prepared 2 technical reports, a survey of the NNI and the high-speed, long-span optical interface for the optical transport network (OTN), and a survey of the management of the optical transport network.

For signaling for Internet networks (IP signalling), Working Group 3 prepared a technical report in which technical document revisions were made in SIGTRAN, such as the addition of a user adaptation/protocol, and performed upstream activities for the IETF regarding the accommodation of the PRI field of the domestic standard MTP. For H.248 (MEGACO), the Working Group decided not to attempt

standardization during this term because no urgent requests had been received from members and given the delay in the standardization by the ITU-T. Standardization will be attempted in the next term, however. For SIP, the Working Group prepared a Japanese version of the actual SIP provisions, as well as 2 survey reports on the interconnection between SIP and domestic ISUP signalling. In the future, the Working Group will continue with its technical survey and standardization activities while considering members' requests and the time required to create RFC from the IETF.

For common interface for use by all telecommunications to secure interconnectivity and operability, Working Group 4 added transfer condition provisions such as the generation and discarding of ISUP signalling on calling carrier network between interconnected carriers, in accordance with the offering of inter-network call transfer services such as international roaming. It decided to translate the standards into English, reconfirm members' requests regarding expansion to the IN and other functions, and formulate a basic policy about interconnection between the PSTN and IP networks in the future.

Regarding upstream activities, the IN Special Working Group continued its discussions within Japan, mainly covering information models and protocols in the advanced intelligent network (IN) field. Given that the establishment of the IN-related recommendations was almost completed by the ITU-T, the IN Special Working Group terminated its activities in May. This means, therefore, that all the Special Working Group activities of Technical Committee 1 were terminated.

As described above, Technical Committee 1 maintains and manages a large number of standards. With each revision, it simplifies standards for use as domestic ones, and clearly defines provisions. Regarding technological trends in IP networks, the activities of the related international standardization organizations are as active as ever, and Technical Committee 1 was expected to perform timely standardization, focusing on these trends and conducting a technical survey as needed. The standardization of a smooth interconnection between the IP and telephone networks, as well as between IP networks, has become an issue of increasing importance, and there have been requests for the spread of domestic standards by application of appropriate measures including increases in the number of member companies

2.4 Technical Committee 2

Technical Committee 2 (TC2), which is composed of five Working Groups, is responsible for standardization relating to the user-network interface. Working Group 1 is in charge of the issues relating to N-ISDN layer 1, the optical subscriber access system, and EMC of telecommunication network equipments; Working Group 2 is in charge of N-ISDN and B-ISDN layers 2 and 3 and network service conditions; Working Group 3 deals with packets and frame relays; Working Group 5 deals with B-ISDN;

and Working Group 6 is responsible for upstream activities for the ITU-T SG13.

TC2 has been pursuing standardization with due regard to trends in international standardization at the ITU-T, as well as to the requests of members. The Committee, in the first half of FY 2001, produced one revised and two new standards. In the second half of FY 2001, it prepared one revised and three new standard drafts, as well as one new technical specification draft. It conducted a periodic review of eight existing standards, and decided to retain them all. The major outcomes of each Working Group are described below.

Working Group 1 started a new study of the standardization of the Ethernet-based FTTH access method. In FY 2001, it prepared a technical specification draft (TS-1000) in which the characteristics of the optical transmission interface between the center media converter (OLT) and the terminal media converter (ONT) were originally specified by TTC (ex. portions such as the 100-Mbps single optical fiber and maintenance test functions for which standards had not been prepared). In FY 2002, the Working Group is planning to extend the specification and perform upstream activities for international standardization organizations. With regard to EMC, it prepared standard draft (JT-K48) for both the emission and immunity of each telecommunication equipment, such as switching equipment or transmission equipment for preventing mutual interference if the telecommunication equipments of different carriers are installed on the same floor.

Working Group 2 restarted as a joint group of former Working Groups 2 and 4. In FY 2001, it did not prepare any standards, and worked mainly on maintenance.

Working Group 3 worked on revision of standards that will enable the real-time transmission of data such as voice over a frame-relay-based public data network. In FY 2001, it added frame transfer/discard priority services, fragmentation functions, and so on to a terminal-network interface standard (JT-X36). It is undertaking similar revisions to an inter-network interface standard (JT-X76) by the end of the first half of FY 2002.

Working Group 5 prepared standard drafts (JT-I366.1, I.366.2) to which it added protocol specifications for extending the use of the AAL type 2 (ex. applying to the third-generation mobile communications network). As a standard for extending ATM transfer capability, it also prepared a standard (JT-I371.1) for assuring the minimum amount of frame transfer at the IP level on ATM. In addition, it prepared standards (JT-Y1540, Y1541) governing the measurement of packet quality over an IP network and its target value, which could use as a standard for the quality of future IP services.

The former B-ISDN Special Working Group restarted under the name of Working Group 6. Of all the issues with the ITU-T SG13, it focused on those relating to the network technology in broadband and on the IP basis, and performed upstream activities. An SG13 meeting was held in May 2001, at which it proposed 15 contribution papers, and another in January 2002, at which it proposed 14 contribution

papers. With the start of the NGN2004 project to study the next generation network and the start of a study into new technical issues with Ethernet-based networks, layer 1-VPN, etc., the Working Group will continue to be active in FY 2002.

2.5   Technical Committee 3

Technical Committee 3 (TC3) is promoting standardization activities with Working Group 1, which is in charge of PBX-related issues, and Working Group 2, which is in charge of LAN-related issues.

The standardization activities by TC3 in FY 2001 produced the following results:

- Four new draft standards
- Three draft annexes
- Three supplements
- One technical document
- One guideline
- Two survey reports

The following describes the activities conducted by each of its Working Groups.

Working Group 1 undertook the following activities related to international standardization, the inter-PBX digital interface, and the PBX-computer interface.

- In connection with international standardization, it continued to liaise with the SC6/WG6 Committee of ITSCJ(Information Technology Standards Commission of Japan) of IPSJ(Information Processing Society of Japan) to grasp ISO/IEC standardization trends, and extended the related standards to SWGs (subworking groups). In addition, it grasped the status of CSTA(Computer Supported Telecommunications Applications) that is currently being studied at ECMA(European Computer Manufacturers Association), and extended it to the SWG.
  Furthermore, to have the VoIP-related standard (IP-QSIG) adopted as an ISO/IEC standard via the ECMA, the Working Group continued to cooperate with the SC6/WG6 Committee of the ITSCJ to strongly promote upstream activities.
- Regarding the inter-PBX digital interface, it reviewed, with respect to the means of implementing VoIP in private networks (IP-QSIG), the protocol specification based on the papers contributed to ECMA, and compiled the specification as a technical document (TD-20.24) in June 2001. It added more functions to this technical document to establish the TTC draft standard (JJ-20.24).
- For the PBX-computer interface, it prepared a survey report on extensions of CSTA that are still being studied at the ECMA.

Working Group 2 undertook the following activities related to the issues concerning H323 networking

and home LAN: addressing.

- Regarding the issues related to H323 networking, it prepared three standards, namely, JT-H450.9, JT-H450.10, and JT-H450.11. It compiled H.323 Annex K/L/M.1 as an attached material for JT-H323 and, in cooperation with Technical Committee 5, established revised version of JT-H323. It also established the JT-H323 annex L supplement and the JT-H323 annex M.1 supplement.
- Regarding the issues related to home LAN: addressing, it compiled, as a survey report, a study of addressing/naming in home networking using IP communications. It performed these activities in cooperation with the Digital Home-network Forum.

2.6 Technical Committee 4

Technical Committee 4 (TC4) is composed of seven Working Groups. Working Group 1 is in charge of the standardization of terminal- and computer-related protocols centering on higher layers and the standardization of network management. Working Group 2 is in charge of the standardization of Telematic service and document exchange. Working Group 3 is working on the standardization of QoS and security for IP-VPNs. Working Group 4 is responsible for the standardization of infrared communication interfaces. Working Group 5 is working on the standardization of IP telephony. Working Group 6 is working on standardization relating to DSL. Finally, a Special Working Group is responsible for the technical examination of object identifier-related issues that are incidental to standardization.

To perform standardization activities and studies based on the trends in international standardization at the ITU-T, ISO, and related forums as well as in response to the requests of members, while taking full account of the needs of non-members, the Committee cooperated with other standardization organizations in performing its surveys. With the abrupt spread of broadband access services such as DSL and with the increasing recognition of IP as an infrastructure element within modern society, the Committee is working on QoS, mainly that of IP, security, access systems, network management, etc.

In FY 2001, the Committee created eight new and eight revised standards, and prepared one technical document, nine technical reports, five survey reports, and one Internet facsimile test guideline. In the first half of FY 2001, it produced one revised and six new standards.

By focusing on the Telecommunication Management Network (TMN) on an information communications network, Working Group 1 performed standardization based on the Principles for TMN <JT-M3010> and Service Functions <JT-M3200> of the ITU-T Recommendations. In connection with IP network management, it conducted a TMF trend survey and prepared a report.

With the revision of the ITU-T Recommendations, Working Group 2 revised the G3/G4 and color facsimile standards <JT-T4 and JT-T30> and Internet facsimile standards <JT-T37 and JT-T38>. It also

conducted a survey of trends in document exchange.

Working Group 3 is conducting a survey of IP-VPN and is preparing a technical report.

Working Group 4 performed standardization of the Infrared Wrist Watch specification <JF-IR008.10(E)> that conform to the IrDA standard. It conducted a survey of issues relating to application protocols for infrared communications.

Working Group 5, which is focusing its efforts on its collaboration with the ETSI Telecommunications and Internet Protocol Harmonization Over Networks (TIPHON), attended a TIPHON meeting, presented contribution papers, conducted a survey of trends in VoIP, and prepared eight technical reports.

Working Group 6 performed timely standardization related to the Asymmetric DSL <JT-G992.1 and G992.2>, the Handshake Procedures <JT-G994.1>, the Overview <JT-G995.1>, and Test Procedures <JT-G996.1> of the ITU-T Recommendations concerning DSL. For the provisions for clearly defining the allowable range of crosstalk that can occur between subscriber lines and for allowing the effective use of telephone cables, it established a standard of Spectrum Management for Metallic Transmission Systems <JJ-100.01> and promoted its spread.

The Special Working Group is working on technology (object identifier) for identifying communication procedures, information formats, etc.

2.7   Technical Committee 5

In FY 2002, Technical Committee 5 (TC5) changed the emphasis of its standardization issues from the conventional "coding" issues to "multimedia service system and coding" issues. It is working on standardization related not only to voice and visual coding but also to multimedia services. It is pursuing the development of relevant Japanese standards at an early stage, as well as contributing to international standardization activities with the ITU-T, ISO, and other organizations.

While Working Group 1 remains in charge of standardization relating to "voice coding" as before, Working Group 2 changed the emphasis of its standardization issues from the conventional "visual coding" issues to "multimedia communications method and visual coding" issues. The AVS Special Working Group is performing (upstream) activities to contribute to the international standardization of audio-visual services, and is pursuing standardization activities that take account of the requests of members. The above changes were made in response to the fact that, in FY 2000, the ITU-T conducted a reform of its SG structure and that, given that TC5 is following up the activities of SG16, it was decided to further promote the standardization of multimedia services and systems by commissioning the SG to study crosscutting issues, in addition to the existing vertical issues of individual themes.

In particular, in view of the start of new activities in response to the increased demand for standards

relating to the Internet, as exemplified by JT-H323, TC5 itself addressed issues such as security, QoS, and mobility, which lie at the heart of its new fields of activities.

Working Group 1 corrected JT-G729 in respect to voice coding and revised it with the goal of performance improvement.

Working Group 2 revised JT-H262 and JT-263, both of which relate to video coding, to expand their scope of application and improve performance. It also revised JT-H221, JT-H230, and JT-H242, which relate to circuit switching type network multimedia systems, JT-H222.0 which relates to ATM network multimedia systems, JT-H323 and JT-H225.0 which relate to packet switching network multimedia systems, and JT-H223, JT-H245, and JT-H324 all of which cover the common protocol for multimedia systems, with the goal of expanding their scope of application and clearly defining handling instructions.

The AVS Special Working Group performed various activities while offering a forum for opinion exchange before decision making at the Multimedia Committee of the Ministry of Public Management, Home Affairs, Posts and Telecommunications, working towards the international standardization of audio-visual services at an ITU-T SG16 meeting. Regarding JVT, a joint project of the ISO/IEC SC29 WG11 Video Group and the ITU-T/SG16 Video Coding Expert Group (VCEG), it started an exchange of opinions with the ITSCJ SC29/WG11/MPEG-4.

In FY 2001, TC5 developed 15 revised standards.

2.8   Technical Committee 6

Technical Committee 6 (TC6) was previously composed of seven Working Groups and the IMT-2000 Special Working Group. In May 2001, it was streamlined to consist of Working Groups 1 to 5 in accordance with the status of its activities and in an attempt to improve efficiency. Working Groups 1 through 3 are responsible for the development of IMT-2000 standards, Working Group 4 is studying the 4th generation system to be introduced after IMT-2000, and Working Group 5 is responsible for developing standards relating to PHS, PDC, etc., which are already in service. While IMT-2000 is an issue of worldwide importance, the world's first IMT-2000 system started operating in Japan in 2001. IMT-2000 will become more and more important in the future. The initial version has already been standardized, and prompt standardization will be required as revisions are made. In the future, standardization related to IP networks will be an issue of importance, such that standardization will have to be accelerated. Mobile communications services that are already operating, such as PHS, PDC, and CDMA, have seen a rapid increase in the number of subscribers, such that standardization has become very important.

The major progress and outcomes accomplished by the Committee during FY 2001 are as follows:

- Participated in 3GPP activities, developed a technical specification for IMT-2000 (GSM evolved system), and prepared a technical report;

- Participated in 3GPP2 activities, developed a technical specification for IMT-2000 (ANSI-41 evolved system), and prepared a technical report;

- Established TTC standards for IMT-2000 (2 items);

- Established TTC specifications for IMT-2000 (524 items);

- Prepared TTC technical reports for IMT-2000 (56 items);

- Established TTC standards for JT-Q957.1-a (PHS-related) (1 item);

- Cooperated with the ITU-T in developing IMT-2000 Core Network Recommendations;

- Cooperated with the ITU-R in developing Recommendations on IMT-2000 wireless interface

The following reports on the activities of each of the Committee's Working Groups.

Working Group 1 is responsible for the overall management of IMT-2000 standardization. Overall management includes 1) coordination with outside organizations such as the 3GPP, 3GPP2, ITU-T, ITU-R, and regional standardization organizations, 2) coordination with ARIB, and 3) coordination of each Working Group. For the IMT-2000 family specification preparation the work, the 3GPP prepared R99 in December 1999, followed by Rel-4 as a functionally enhanced version of R99 in March 2001, and by Rel-5 in March 2002. The 3GPP2, on the other hand, prepared Rel-0 in October 1999 and Rel-A in July 2000, followed by Rel-B and Rel-C for further function expansion and performance improvement. At the ITU-T, an SSG (IMT-2000 Special Study Group) was formed in October 2000 to perform ITU activities for determining the status of the application of the 3GPP/3GPP2 specifications to national standardization organizations and to study the short-, mid-, and long-term evolutions. It has been asked to prepare an IP Core Network specification that is common to the 3GPP and 3GPP2 but which is independent of radio technologies and specifications.

Working Group 2 started working on the 3GPP, which is a joint project being conducted by the standardization organizations of Japan, Europe, Korea, the United States, and China. Since its start in December 1998, the 3GPP project has seen many of its members energetically contribute to the project, with the result that R99, Rel-4, and Rel-5 have already been released. Due to the introduction of IP-based architecture protocols, in particular, new services and capabilities will be added in the future. Its activities will be expanded to take in a wider area in the world of mobile communications and will come to be of increasing importance. Working Group 2 is responsible for preparing TTC standards based on the specifications studied and prepared by the 3GPP in accordance with the mid-term standardization program. In FY 2001, it prepared two TTC standard drafts, 504 TTC specifications, and 54 technical reports.

Working Group 3 was started to work with the 3GPP2, which is a joint project of the standardization

organizations of Japan, Korea, the United States, and China. The 3GPP2 project was started in January 1999, and one year later, released its first IMT-2000 specification. Since then, it has developed the specifications for 1X EV-DO and EV-DV as extensions of the cdma2000 air interface and, in connection with core networks, it is studying the development of a specification for the All IP core network architecture. While its commercialization has been started in each country, the IMT-2000 specification will be required to offer a higher degree of perfection. Given these circumstances, the members of Working Group 3 are together inputting contribution papers to the 3GPP2, as well as undertaking activities for preparing TTC standards based on the specifications prepared by the 3GPP2 in accordance with the mid-term standardization program. In FY 2001, it prepared 20 TTC specifications and two technical reports.

Working Group 4 is responsible for the standardization related to the long-term All IP Network. Recently, there has been a trend toward IP in the world of telecommunications for both mobile and fixed networks, and Working Group 4 was established to reflect this trend. To realize this long-term All IP network, merely introducing an IP transmission network into CN alone is insufficient, but a study must be made so that the mobile network itself, which ranges from mobile terminals to CN gateways, including the wireless portions, can be part of the Internet, remembering to accommodate the future fourth generation wireless access network. To this end, a joint TTC/ARIB conference (Long-term All IP Conference) was established to undertake a study, and a work group (IP2 Ad Hoc: IP-based IMT Platform) was formed to pursue related activities. In FY 2001, member companies gave tutorial lectures on the IP-related technologies for the 3GPP and IETF, and discussed IP2 service and platform capability requirements. In the future, a study will be conducted at the architecture level.

Working Group 5 is studying the signaling for mobile communications networks for second generation cellular and car phone inter-network signaling (MAP), PHS base station-digital exchange interfaces, PHS inter-carrier roaming interfaces, and so on. Its activities support the network-side activities of the Fixed Wireless Access (FWA) Working Group of the Asia-Pacific Telecommunity (APT) Standardization Program (ASTAP). Current mobile communications are mainly second generation, and can be said to be in a stable state in terms of standardization. Communications networks themselves, however, are ever-changing, and the Working Group is performing its standardization work while carefully monitoring the changes that will be necessary and when they will have to be made, depending on the changes in the environment. In FY 2001, it revised TTC standard JT-Q957.1-a concerning PHS public base station-digital network interfaces, prepared survey materials concerning the QoS of IP services as part of the proposal activities for the ASTAP, and studied expansion according to the received standardization requests as needed.

2.9　Technical Assembly

During FY 2001, the Technical Assembly (TA) convened three meetings. It was able to develop 36 new and 130 revised TTC standards, while abolishing another 12.

The 34th Technical Assembly (April 19, 2001) deliberated the establishment of 12 new(including that for enabling connections between PBXs and computers of different manufacturers, through full CTI functions) and 25 revised TTC standards, as well as the abolition of two TTC standards, as proposed by the Technical Committees. All of the proposals were unanimously approved. In addition, each Technical Committee reported, to the TA, the decisions made regarding its own mid-term standardization project for FY 2001. These new and revised standards, after being reported to the 82nd Board of Directors (May 18, 2001) and then referred to the 33rd Councilors Meeting held on the same day, took effect upon the completion of the procedural examination.

The 35th Technical Assembly (May 14, 2001) deliberated, using the electronic procedure, on the establishment of 15 new and 85 revised TTC standards(standards related to the third-generation mobile communications system (IMT-2000)) and the abolition of two TTC standards, as proposed by Technical Committee 6. All of the proposals were unanimously approved. These new and revised TTC standards, after being reported to the 83rd Board of Directors (May 18, 2001) and then referred to the 33rd Councilors Meeting held on the same day, took effect upon the completion of the procedural examination.

The 36th Technical Assembly (November 29, 2001) deliberated the establishment of nine new(including that for spectrum management for the smooth use of DSL services) and 20 revised TTC standards, and the abolition of eight TTC standards, as proposed by the Technical Committees. All of the proposals were unanimously approved. This Technical Assembly used an electronic voting system that uses Internet technologies.

2.10　IPR Committee

During FY 2001, the IPR Committee, which inherited the activities of Advisory Committee of IPR, held five meetings to mainly review the "Guidelines of the TTC in regard to Industrial Property Right, etc." and the "Rules concerning implementation of Guidelines in regard to Industrial Property Right, etc." The main purpose of the review was to adjust the existing guidelines and operational rules established 13 years ago to better reflect current realities.

The IPR Committee followed up the movements for establishing Software Copyright Guidelines at the TSB Director's Adhoc on IPR meeting of the ITU and discussed the contribution from Japan.

2.11 Standardization Strategy Conference

To study future TTC standardization strategies, a Standardization Strategy Conference was established under the Coordination Committee in FY 2000, and discussions have been underway to set new standardization targets, and TTC policies for dealing with NGN issues. In addition, discussions are being held to determine the reorganization of TTC Technical Committees as part of future TTC standardization policy making.

Moreover, to study the new standardization targets, the Standardization Strategy Conference Ad hoc (IETF Survey) Committee was established. It focused on the sub-IP area which was newly established by the IETF in March 2001, surveyed the study status, and made a basic study as to whether the issues with the area should be handled by the TTC in the future. At least four WGs (ccamp-WG, te-WG, mpls-WG, ppvpn-WG) were taken up as candidates to be handled by the TTC, and it was decided that an expert organization would be established in FY 2002 to perform a survey for finding the targets for the upstream and downstream activities.

2.12 User Channel Group

It was decided that the group in charge of the specification using the ISDN user-user information (UUI) (UCG2) should adjourn in FY 2001, after confirming the specification for "Internet mail using UUI," because there were no requests to study new application specifications.

III Survey and Study Activities

3.1   Surveys and Studies by Committees

To provide information to TTC members and make it available as basic material for the committee activities, the TTC, in addition to its standard-making, is performing the following: (1) basic research into those matters that have yet to mature technically but which are likely to lead to requests for standardization, and (2) surveys of environmental requirements that are likely to have an influence on TTC activities. The following table summarizes the survey reports that TTC compiled during FY 2001 with respect to the latest relevant technology and trends in environmental conditions:

Number	Title	Source
SR-SRPC-0100	Survey report on standard preparation procedures (intermediate report)	Strategic Research and Planning Committee
SR-SRPC-0101	Survey report on telecommunication-related forums' activities (8th edition)	Strategic Research and Planning Committee
SR-TC1-0101	Survey report on Session Initiation Protocol (SIP) RFC 2543bis-04	Technical Committee 1
SR-TC1-0102	Survey report on SIP-TTC ISUP signaling interconnection	Technical Committee 1
SR-TC3-0101	Survey report on addressing and naming on home LANs	Technical Committee 3
SR-TC3-0102	Survey report on Computer Supported Telecommunications Applications (CSTA) Phase (Part 2)	Technical Committee 3
SR-TC4-0101	Survey report on test procedures for DSL	Technical Committee 4
SR-TC4-0102	Survey report on handshake procedures for DSL	Technical Committee 4
SR-TC4-0103	Survey report on overview of DSL Recommendations	Technical Committee 4
SR-TC4-0104	Survey report on ADSL	Technical Committee 4
SR-TC4-0105	Survey report on TMF IP Network Management TeamEML-NML Interface Requirement Based on Policy Model	Technical Committee 4

3.2   Commissioned Surveys and Studies

3.2.1 Survey and Study of Telecommunications Standardization in the Asia-Pacific Region

In FY 2001, the TTC conducted a survey and study of standardization in the Asia-Pacific region after being commissioned by the Ministry of Public Management, Home Affairs, Posts and Telecommunications. In FY 2001, the TTC examined how the CITEL, a North and South American region standardization organization, and the ETSI, a European region standardization organization, were

established and the status of their activities, together with interviews, in addition to new developments in Asia -Pacific countries, and made a comparison with the ASTAP, which operates in the Asian -Pacific region. Based on the results of the comparison, the TTC considered measures for activating standardization activities in the Asia-Pacific region.

3.2.2 Survey and Study of International Technological Trends Concerning the Next Generation

Because ETSI and other organizations have already started to actively study so-called "next generation network using optical transmission and Internet technologies," the TTC surveyed the research and development being conducted by governments, private companies, and universities in other countries, as well as trends in the standardization activities for these technologies in standardization organizations.

3.2.3 Survey and Study of Governments' Ideal Support Measures for Standardization Activities

Recently, competition has become fierce and the market has diversified and internationalized through the development of information communications, so that standardization requires that strategic policies be promoted to accurately satisfy the needs of the market. The TTC surveyed the status of governments' support measures for standardization overseas (both direct financial support and indirect support measures), as well as the status of the activities of private standardization organizations.

IV Cooperative Activities with Standardization Bodies or Organizations at Home and Abroad

4.1 ITU

The TTC participated in the meeting of the Telecommunication Standardization Advisory Group (TSAG) and the meeting of the IPR Ad Hoc Group to discuss the strengthening of cooperation between the ITU-T and regional/national standardization organizations. The TTC also participated in the meetings of the relevant ITU-T Study Groups (SGs) to keep abreast of the trends in international standardization activities and to reflect them on those TTC standards that are currently being developed.

As the TTC passed the qualification examination under ITU-T Recommendations A.5 and A.6 in November 1999, the TTC standards can be referred to in the ITU-T Recommendations as a normative reference, and this helps maintain a closer relationship between the ITU-T and the TTC.

In addition, the TTC attended the SG16 meeting to monitor the trends in the standardization of

multimedia services systems and coding, and it is working towards establishing Japanese standards as soon as possible. It also attended the SG13 meeting held in January 2002 to monitor the trends in new standardization issues such as NGN, IP network quality, and Ethernet-based public networks, and to reflect them on the preparation of future TTC standards.

4.2 ISO, JTC1 (ISO/IEC)

In Japan, JISC(Japanese Industrial Standards Committee) is the only member of ISO/IEC, so that the TTC cannot attend ISO/IEC meetings directly. For this reason, the TTC has established a liaison with the SC6/WG6 Committee of ITSCJ(Information Technology Standards Commission of Japan) of IPSJ(Information Processing Society of Japan), which is performing international standardization activities under commission from the JISC, to attend the meetings of the Committee and collect information. For the upstream activities for ISO/IEC, the TTC is planning to contribute papers using the Fast Track Procedure system which involves ECMA(European Computer Manufacturers Association) in cooperation with the SC6/WG6 Committee of ITSCJ for speedup. In June 2002, an ECMA standard (IP-QSIG) whose proposal originated in Japan will be established.

4.3 ASTAP

At the 4th ASTAP Forum held in Bangkok in April 2001, the TTC presented its activities as a national standardization organization that is already performing activities in the Asia-Pacific region. At the 5th ASTAP Forum, held in Sydney at the end of October, the TTC, as requested by the Ministry of Public Management, Home Affairs, Posts and Telecommunications, reported on the trends in establishing national standardization organizations in the Asia-Pacific region, based on the results of the survey and the study of standardization in the Asia-Pacific region in FY 2000.

4.4 GSC

The GSC is a collaboration group established by three organizations, namely the European Telecommunications Standard Institute (ETSI), Committee T1 of the U.S., and the TTC, with the objective of promoting efficiency in international standard setting activities. Besides these founding members, the Telecommunications Standards Advisory Council of Canada (TSACC), the Telecommunications Industry Association (TIA) of the U.S., the Telecommunications Technology

Association (TTA) of Korea, the Australian Communications Industry Forum (ACIF), and the ITU are all participating in the GSC.

The TTC attended as an active participant in the GSC7/RAST10 meeting held in November 2001 in Sydney and presented nine contribution papers.

4.5　Committee T1

The TTC Secretariat staff attended as observers at the 33rd Committee T1 meeting (June 2001) and the 35th Committee T1 meeting (March 2002) to collect information on new developments in Committee T1 and its standardization procedures.

With Committee T1 of the U.S., the TTC concluded a cooperative MoU during the GSC7/RAST10 meeting held in November 2001 to lay the foundation for future cooperative standardization activities.

4.6　ETSI

The TTC Secretariat staff attended as observers the ETSI General Assembly GA36 (April 2001) and GA37 (November 2001) to collect a variety of information on matters such as the ETSI's standardization strategies, standardization procedures, budgets, and settlement of accounts.

4.7　ETSI TIPHON Project

The TTC attended the 23rd Ordinary Meeting of ETSI TIPHON (July 2001), and submitted contribution papers at the 23rd, 24th (October 2001), and 26th (March 2002) Ordinary Meetings, and performed other activities.

Recently, the QoS of VoIP has become a hot topic in Japan. The TTC will therefore tackle this matter by attending ordinary meetings, using the technical survey results obtained thus far.

4.8　ETSI NGN-SG

Because the policy for studying and promoting the next generation network, NGN, was approved at the ETSI General Assembly GA36, NGN-SG(starter group) was established. NGN is a future network on which telephone traffic, which currently flows over PSTN, and data traffic that flows over an IP network are integrated into one, based on optical transmission and IP technologies. Assuming that this will become an issue of future importance to the TTC, the TTC attended three NGN-SG meetings of the

ETSI. The information thus collected was reported to each Technical Committee of the TTC. In discussions related to the reorganization of the Technical Committees, which is currently underway at the TTC, the technical studies regarding to NGN were also considered.

4.9 TTA

In September 2001, TTA Secretary General, Dr. Yim, and his staff visited the TTC to discuss an exchange of information. Considering the benefits obtained through information exchange and also existence of cooperative MoU, which was concluded in 1989, the TTA and TTC agreed to hold periodic meetings for information exchange every year in the future, taking turns to provide the meeting place.

4.10 Interoperability Test Events (Cosponsored with IMTC and ETSI)

The IMTC, ETSI, and TTC jointly sponsored and cooperated in the IP-related interoperability test event held on December 3 to 7 in Kobe. Eight domestic companies (TTC members) and seven overseas companies, 15 in total, participated in the event, using 27 products to confirm the interoperability of multi-vendor products. For this event, the Interoperability Test Special Working Group played the part of secretariat to hold the event in Japan and mainly performed test environment setting.

4.11 3GPP/3GPP2

With the aim of developing global common technical specifications for IMT-2000, the TTC has been participating in the Third Generation Partnership Project (3GPP) in cooperation with the ETSI of Europe, Committee T1 of the U.S., TTA of Korea, CWTS of China, and ARIB of Japan for the GSM evolved system, and the 3GPP2 with TIA of the U.S., TTA of Korea, CWTS of China, and ARIB of Japan for the ANSI-41 evolved system.

(1) 3GPP

At the 3GPP (GSM evolved system), a partnership project between regional standardization bodies established to develop a global common technical specification for the third generation mobile communications system (IMT-2000), the TTC collaborated in formulating a series of technical specifications and technical reports called Release 1999 and Release 4, and based on them, formulated 504 TTC specifications and 54 TTC technical reports relating to IMT-2000.

(2) 3GPP2

At the 3GPP2 (ANSI-41 evolved system), a partnership project between regional standardization bodies established to develop global common technical specifications for the third generation mobile communications system (IMT-2000), the TTC collaborated in formulating a series of technical specifications and technical reports, and based on them, established 20 specifications and two TTC technical reports relating to IMT-2000.

4.12 ATMF

Under the contract concluded with the ATM Forum (headquarters: California, U.S.A), the TTC continued to conduct commissioned business relating to the ATM Forum's Asia/Pacific region office.

4.13 IETF

The TTC attended the 53rd IETF meeting to monitor the trends in standardization related to IP signaling protocols, and is working toward the establishment of Japanese standards.

4.14 Association of Radio Industries and Businesses (ARIB)

With the aim of developing global common standards for the third generation mobile communication systems, the TTC and ARIB together performed coordination work with overseas countries, and had the results reflected in upstream activities for IMT-2000. For domestic standardization, the TTC coordinated views with the ARIB to assume with the ARIB the divided roles for drafting IMT-2000 standards. In addition, as part of the above activities, the TTC sponsored 3GPP meetings in Japan together with the ARIB, i.e., the 3GPP Tokyo Meeting in October 2001, the 3GPP Osaka Meeting in December 2001, and the 3GPP2 Kobe Meeting in March 2002. For a long-term All IP network study, the TTC organized a joint TTC/ARIB study group, and has continued to participate since January 2001.

4.15 Cooperation with APT

The JICA's "Telecommunications Standardization Course" was offered in February 2002, as it was last fiscal year, with trainees from eight Asia -Pacific countries. The TTC Secretariat cooperated by sending an instructor to give lectures that outlined standardization organizations for telecommunications in Japan, the latest changes in standardization activities, and the TTC's response to these changes.

In addition, the TTC Secretariat also sent an instructor to the APT-sponsored "Workshop for Standardization" held in Katmandu, Nepal, in March 2002 to give similar lectures.

V Publication, Dissemination, and Public Relations Activities

5.1   Standard Publication

Twelve new and 25 revised TTC standards that took effect in April 2001, and nine new and 20 revised TTC standards that took effect in November 2001, were published as a CD-ROM in August 2001 and February 2002, respectively, and they were widely distributed, for a fee, to members and non-members.

The CD-ROM published in February 2002 contains 426 specifications, 14 technical papers, and 19 technical reports established by the Technical Committees up to November 2001 .

In addition, to ensure that our message is heard by foreign countries, English versions of the TTC JJ standards were distributed, for a fee, in the same way as last fiscal year.

5.2   Bulletin "TTC Report"

To keep members informed of the status of the activities of the TTC, the TTC issued its bulletin "TTC Report" twice, in July (Summer issue) and February (Winter issue), and distributed them widely to members.

5.3   Home Page

The TTC home page provides the following contents in both Japanese and English, and is updated as necessary. The TTC established its home page in deference to the intent of the WTO and with the primary objective of disseminating information on the TTC's mid-term standardization project to the general public.

- Guide to the TTC
- Guide to publications
- Publication purchase form
- Guide to TTC seminars
- Global Standards Collaboration (GSC)

- Topics
- Guide to membership
- Rules and procedures
- TTC organization
- Committees of TTC

- TTC standards
- Mid-term standardization project
- Meeting calendar
- Business report
- IPR policy

- Standardization activities
  with increasing cooperation
- TTC standard summary
- Forum survey

In FY 2001, the TTC home page was used to post the forms for registering for international events, as well to post draft standards for extraordinary IMT-2000 standardizations. The TTC also intends, in the future, to augment the contents of the home page to publicize its activities.

In addition, the TTC also used its home page to hold a Technical Assembly using electronic voting and to review the mid-term standardization projects.

5.4   CEATEC JAPAN 2001

The TTC, in giving its support to the demonstration of the Harmonization of Advanced Telecommunication System (HATS) at Ceatec Japan 2001 (October 2 to 6) held at the Makuhari Messe in Chiba Prefecture, exhibited under the name "TTC," and worked to publicize the TTC.

5.5   Seminars

With a view to promoting a better understanding of the TTC standards and having them reflected in operational practice, the TTC has been holding seminars, with instructors provided by the relevant Technical Committees. In FY 2001, the TTC reviewed the theme of past seminars, and held a seminar on IMT-2000.

	Seminar Title	Month	Period	Attendance
51st	TTC standard in third generation mobile communications systems (3GPP2)	March	1 day	17

5.6   TTC Awards

In FY 2001, Mr. Araki, Chairman of the TTC, presented, at the closing of the 28th Regular General Assembly, letters of appreciation to 41 persons who had actively participated in the activities of the TTC and made outstanding contributions to the expansion of its operation.

VI Financial Review

In the settlement for FY 2001, the TTC incurred a deficit of 9,890,000 yen in terms of the single term revenue and expenditure including the amount transferred from the fund.
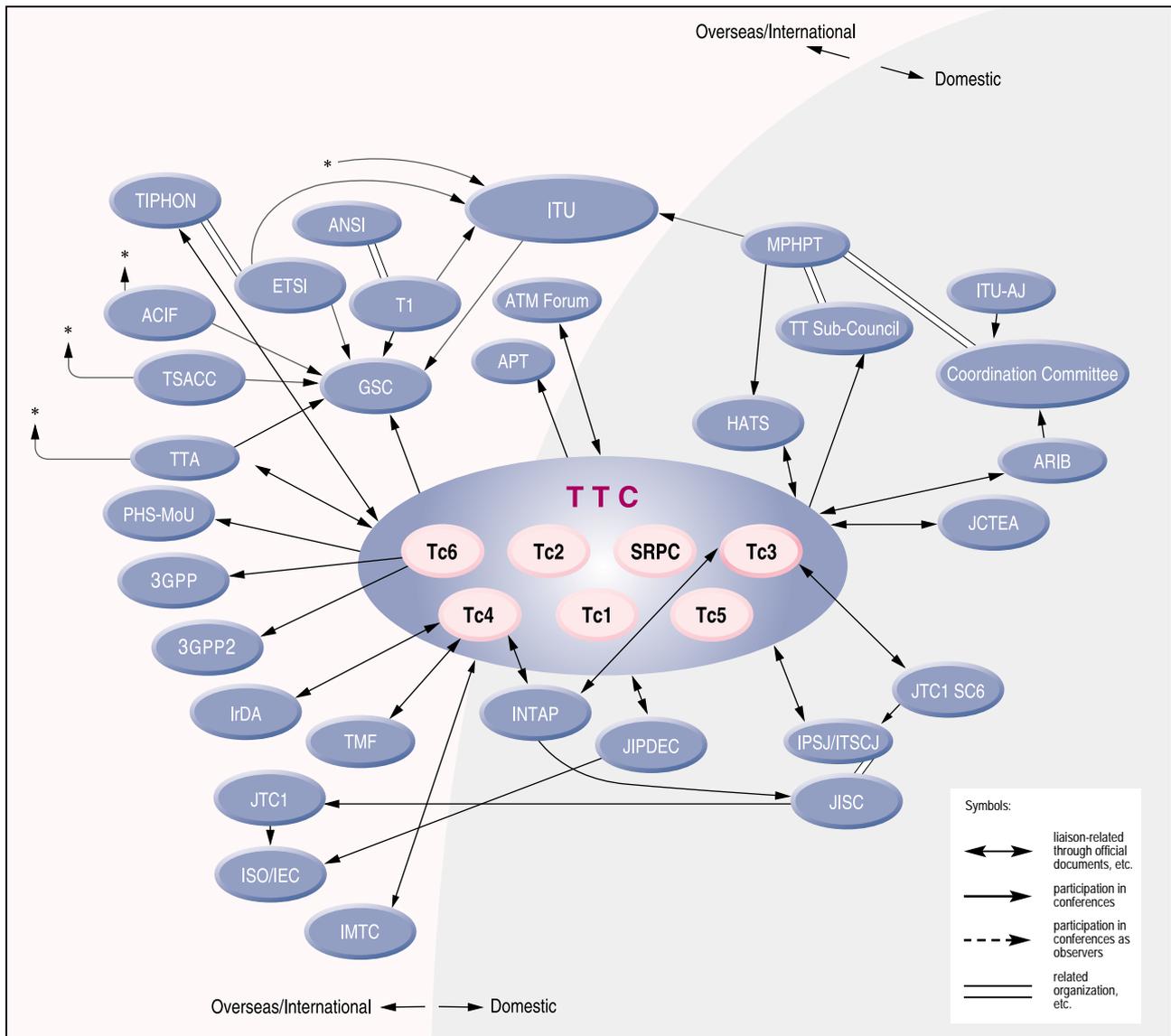
On the revenue side, as compared with the budget, while the actual revenue fell short by 15,590,000 yen due to a reduction in the number of regular membership units and 17,443,000 yen in sales of the publications containing standards and seminar participation fees, revenue from the commissioned research reached 13,848,000 yen as the number of commissioned researches increased by 1 from 2 to 3 projects. Thus, total revenue fell by 15,714,000 yen.

On the expenditure side, as compared with the budget, the TTC incurred a deficit of 9,439,000 yen on account of the extra expenditure due to the additional commissioned research. As a result of striving to reduce expenses, however, the total expenditure fell by 89,214,000 yen compared to the previous fiscal year.

An outline of the settlement for FY 2001 is as follows:

Total revenue for the term:	343,098,000 yen
Total expenditure for the term:	352,988,000 yen
Balance for the term:	-9,890,000 yen
Balance brought forward:	132,812,000 yen
Balance carried forward:	122,922,000 yen

Standardization activities promoting cooperation

3GPP	Third Generation patnership Project	IrDA	Infrared Data Association
3GPP2	Third Generation Patnership Project2	ISO	International Organization for Standardization
ACIF	Australian Communications Industry Forum	ITU	International Telecommunication Union
		JCTEA	Japan Cable TV Engineering Association
ANSI	American National Standards Institute	JISC	Japan Industrial Standards Committee
APT	Asia-Pacific Telecommunity	JIPDEC	Japan Information Processing Development Center
ARIB	Association of Radio Industries and Businesses		
		JTC1	Joint Technical Committee 1
ETSI	European Telecommunications Standard Institute	JTC1 SC6	JTC1 Subcommittee 6
		MPHPT	Ministry of Public Management,Home Affairs, Posts and Telecommunications
FRF	Frame Relay Forum		
GSC	Global Standards Collaboration	PHS-MoU	Personal Handy-phone System-MoU
HATS	Harmonization of Advanced Telecommunication System	ITU-AJ	New ITU Association of Japan
		TSACC	Telecommunications Standards Advisory Council of Canada
IEC	International Electrotechnical Commission		
IMTC	International Multimedia Teleconferencing Consortium	TIPHON	Telecommunications and Internet Protocol Harmonization Over Networks
INTAP	Interoperability Technology Association for information Processing Japan	TTA	Telecommunications Technology Association
		T1	Committee T1
IPSJ/ITSCJ	Information Processing Society of Japan/ Information Technology Standards Commission of Japan	TMF	Tele Management Forum

Statement of Income and Expenditure	FY(April 2001–March 2002)
Expenditures	¥
Administrative Expenditures	
・Personnel Expenses	92,355,439
・Facilities Expenses	56,668,929
・Office Expenses	9,124,252
Operations	
・Research Study expenses	14,909,856
・Expenses for consigned research study	19,439,091
・Expenses for Holding Meetings	3,246,366
・3GPPs Contribution	79,296,439
・Expense for Printing & Publishing	49,662,736
・Events (Interoperability Test, TTC Awards, Seminar, etc.)	9,739,996
・Others	18,545,383
Balance Carried Forward to the Next Year	122,922,377
Total	475,910,864
Revenues	
Membership Fee Revenues	266,040,000
Operating Revenues	58,977,170
Miscellaneous Revenues	18,081,200
Balance Brought Forward from the Previous Year	132,812,494
Total	475,910,864

Officials

Chairman
Hiroshi Araki — Vice Chairman, Japan Business Federation

President
Yasuhiko Yasuda — Emeritus Professer, University of Tokyo   Professor, Waseda University

Executive Managing Director
Nobuhiro Horisaki — Executive Managing Director of TTC
Eiki Yamaguchi — Executive Managing Director of TTC

Directors
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Hideaki Teranishi — Associate Senior Vice President, NEC Corp.
Koichi Ohta — Senior Vice President, Fujitsu Ltd.
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Keisuke Ogawa — Corporate Officer, Information Business Group, Hitachi, Ltd.
Tetsuya Yuge — Executive Vice President, Chief Technology Officer, Japan Telecom Co., Ltd.
Hideyuki Takashima — Senior Managing Director, Sumitomo Electric Industries Ltd.
Kazunori Hata — Senior Vice President, President of Network Systems Company, Oki Electric Industry Co., Ltd.

Auditor
Hideaki Miyahara — Managing Director, Telecommunications Carriers Association.

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Shigeo Tsujii — Professor, Dept. of Information Sys. Eng., Chuo University

Vice Chairman
Hiroshi Harashima — Dean, Interfaculty Initiative in Information Studies, The University of Tokyo

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Hiroshi Okazaki — Senior Vice President, CIAJ
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Kenji Tanaka — Managing Director, Communication Line Products Association of Japan
Yoshio Honda — Chairman of Telecommunication Information Processing-Equipment Community, European Business Community
Masayoshi Wakao — Senior Managing Director, ARIB

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Kenichi Kitami — Executive Advisor, Nippon Telegraph and Telephone Corp.

Vice Chairman
Jun Matsumoto — General Manager, Engineering Planning Department, NW Engineering Division, KDDI Co., Ltd.

Vice Chairman
Shinobu Gohara — General Manager, IP Network Research Center, Hitachi, Ltd., Research & Development Group

Kenichi Kitami

Jun Matsumoto

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Strategic Research and Planning Committee (SRPC)

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Chairman Yasuo Furukawa KDDI Co., Ltd.

Technical Committee 2 (TC2)

Chairman Tomoki Omiya Nippon Telegraph and Telephone Corp.

Technical Committee 3 (TC3)

Chairman Hiroyuki Moride NEC Corp.

Technical Committee 4 (TC4)

Chairman Hiroshi Koyano Nippon Telegraph and Telephone Corp.

Technical Committee 5 (TC5)

Chairman Hitoshi Sato Fujitsu Ltd.

Technical Committee 6 (TC6)

Chairman Koji Yamamoto NTT DoCoMo, Inc.

Secretariat

Eiki Yamaguchi	Secretary General
Kenzo Yamaguchi	Director, General Affairs Department
Shigeo Fukase	Director, Planning Department
Kazuo Sasaki	Director, International Affairs Department
Keiji Sato	Director, Technical Department No.1
Nobuya Arakawa	Director, Technical Department No.2
Hideo Kobayashi	Director, Technical Department No.3
Chiaki Ichikawa	Director, Technical Department No.4
Hisashi Sakaguchi	Director, Technical Department No.5
Keiji Yoshino	Director, Technical Department No.6

Shigeo FUKASE

Chiaki ICHIKAWA

Standing (left to right)
Keiji SATO,
Nobuya ARAKAWA,
Kazuo SASAKI,
Hisashi SAKAGUCHI,
Keiji YOSHINO,
Kenzo YAMAGUCHI

Seated (left to right)
Satomi IGARASHI,
Hideo KOBAYASHI,
Nobuhiro HORISAKI,
Eiki YAMAGUCHI,
Terumi HASHIMOTO,
Yukiko CHIBA

Not pictured:
Miwa IKUZAWA,
Michiko HASHIMOTO

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