Standards work on the Web: the ISO solutions

ISBN 978-92-67-10493-5

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Printed in Switzerland. 2009-01/1500

Foreword

I am very happy to contribute the Foreword to this latest important addition to the range of ISO guidance documents produced in particular for our members in developing countries. These guidance documents include *My ISO job, Joining in* and *Fast forward*.

This latest addition is intended to be of use to managers of national standards bodies (NSBs), whether they are responsible for the implementation of information and communication technology (ICT) strategies within their organizations, or for other aspects relating to the use of ICT tools. To that end, I strongly encourage the CEOs of all ISO members to ensure that the recommendations contained in this manual receive their personal attention.

I am well aware from my numerous visits during my tenure as Secretary-General that while ISO members are in a constant state of evolution, they are also at different stages of development when it comes to their ICT infrastructures. This manual is intended to be of use to all NSBs, whatever their current level of development.

In order to participate in international standardization and to provide effective services to stakeholders and experts at the national and regional levels, ISO members have been obliged to modernize their infrastructures at an ever-increasing rate – a rate explained by Moore's famous law which describes a long-term trend whereby the capabilities of digital electrical devices are rising exponentially, doubling every two years. They also need to provide as seamless as possible ICT solutions to support collective standards development work at the national, sometimes regional, and increasingly international levels.

The vast majority of ISO members are from developing countries and play a crucial role in ensuring the global relevance of International Standards. We have seen from our own surveys that ISO members have expended an enormous amount of energy in upgrading their infrastructures since the first version of this publication in 2001. Over the past seven years, many of us have become used to the ubiquity of computers, e-mail and the Internet in our professional and private lives.

At the same time, one of the key roles of the ISO Central Secretariat is the provision of new electronic tools and services which will facilitate communication between all parties involved in international standardization, and, in particular, those involved in the development of International Standards. These tools should be effective, easy-to-use and intuitive for those individuals throughout the ISO system with specific roles in the development of International Standards.

I am sure that this manual will provide invaluable guidance for ISO members in presenting them with the ISO solutions to developing standards and communicating within the ISO community in the Internet Age.

Alan Bryden
ISO Secretary-General
December 2008

Introduction

The importance, development and application of information and communication technologies (ICT) are increasingly reflected in day-to-day reality and in the management of activities in daily life, in and out of the office.

The revolution that has taken place and still is taking place in this field can be seen in the way people live, work, write, ask for and get information, or even think. Business, education, health, social and cultural activities are some of the fields most affected by the introduction and use of computers, e-mail and the Internet.

This revolution affects and conditions the world of standardization too. It has led ISO and all the national standards bodies (NSBs) that make up its membership not only to accept this challenge, but also to be properly equipped in order to face it and to keep abreast of the times.

The decision taken by ISO ten years ago to move rapidly to electronic operations – ISO Online, the ISO servers for accessing and exchanging information, the electronic balloting system and the Web store – may be placed in this context. It has now materialized in an array of diversified electronic and Web-based applications.

Such a decision, however, cannot be restricted to the ISO Central Secretariat, it must be extended to all ISO member bodies, the NSBs, including those in developing countries, if they intend to maintain an effective presence in this new context.

To work better and faster and to maintain contacts and relations between ISO and its members are two of the main reasons why this decision had imperatively to be taken, bearing in mind that

the paper-based system, involving fax or ordinary mail, is being definitively phased out and fully replaced by an electronic one.

This explains the purpose of this manual, which is to provide information, procedures and guidance on some practical instruments which may prove useful to the NSBs and which they need to ensure that they are properly equipped and trained to make the most of what ICT can provide to support standardization activities.

This means that functions other than standardization, e.g. systems for managing administration and sales, are not covered by this publication.

Target

This manual addresses the national standards bodies of developing countries.

Objective

The objective of this manual is:

- To create awareness of the strategic use of IT tools in the daily standardization activities of an NSB, including access to ISO work and publications
- To suggest the minimum set of IT tools and connectivity necessary for active participation in the ISO system
- To suggest the organization and working procedures needed to get the best out of the available set of IT tools and connectivity
- To identify tasks that can be carried out more efficiently and profitably with IT support
- To present the tools and opportunities offered by the ISO system to work and cooperate with the support of IT
- To show actual examples of how to benefit from information services and working procedures made available by the ISO system via the Internet.

Results

With the help of this manual, it will be possible to:

- Identify the minimum set of IT tools and connectivity necessary for active participation in the ISO system
- Set up the organization and working procedures needed to get the best out of the available set of IT tools and connectivity
- Use the tools and opportunities offered by the ISO system to work and cooperate with the support of IT.

Contents

1 Structure and organization of the national standards body

This section is structured as follows:

1.1 NSB's structure and working units

1.2 The department(s) involved in standardization: roles and responsibilities

1.3 Tasks

Objective

The objective of this section is:

- To illustrate the structure of a national standards body, focusing on the units directly involved in the standardization activity, including publications
- To illustrate the specific functions of each unit
- To illustrate the tasks to be carried out within each unit.

Results

After working through this section, it will be possible to:

- Rationalize the organizational structure and internal relations according to the model proposed
- Define the functions and responsibilities of each unit
- Define a job description for each person.

1.1 NSB's structure and working units

The successful operation of an NSB depends on its organization and management. It has to be organized with the aim of integrating its activities into those of its national industry and other stakeholders. It should identify national needs and organize its structure so as to ensure the greatest possible contribution towards the nation's economic and industrial development [1].

In general terms, the functions which may be covered by a NSB can be classified as follows:

STANDARDS RELATED ACTIVITIES

- Standards development
- International, regional and sub-regional liaison
- Standards distribution
- Information services
- Other services (e.g. training, consulting).

CONFORMITY ASSESSMENT ACTIVITIES

- Testing
- Calibration
- Inspection
- Product certification
- System certification
- Accreditation.

METROLOGY

- Maintenance and development of the national standards for physical units (dimensions, temperature, electrical properties, etc.) and their dissemination
- Metrology services to institutions and companies
- Other metrology-related activities.

CORPORATE SERVICES

- Finance and administration
- IT
- Human resources
- Other services.

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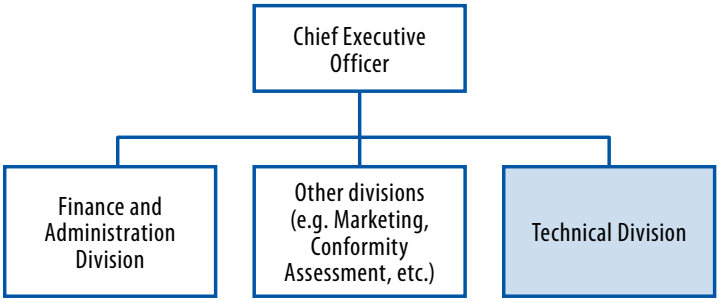
1 See also "*Fast Forward – National Standards Bodies in Developing Countries*", 2008, Chapter 5, available at: http://www.iso.org/ISO/fast_forward.pdf

Whilst some NSBs may undertake conformity assessment activities and metrology-related activities, all of them are invariably engaged in standards related activities. All NSBs require, to some extent, corporate services to ensure the functioning of the organization.

The NSB should be well organized to perform its functions effectively.

Normally, the organization will be broken down into divisions, dedicated to the different functions covered by the NSB. Among them, there will always be a technical division, taking care of the standardization activity.



Considering the objective of this manual, attention will be focused on the units of the technical division, and particularly on the standards development function. The technical department, with its supporting technical committees, is responsible for the standards development work of the NSB, both at national and at international levels. Standardization at the national level implies the publication and availability of national standards, while standardization as an international activity consists of participation in ISO's technical activities.

It is advisable to organize the standardization activity according to different branches, each corresponding to a specific macro-sector of standardization. Which branches or departments are to be established in the early years of the NSB will clearly depend on national priority needs. As national standardization needs increase, new departments may be created to cater for the consequential increases in the work load.

A useful reference may be represented by the macro-sectors identified by ISO itself for monitoring and coordinating its own activities:

- Generalities, infrastructures and sciences
- Health, safety and environment
- Engineering technologies
- Electronics, information technology and telecommunications
- Transport and distribution of goods
- Agriculture and food technology
- Materials technologies
- Construction
- Special technologies.

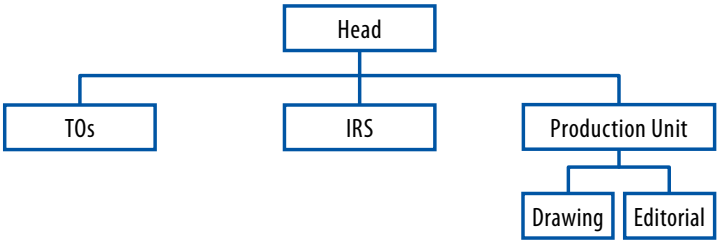
Each branch (person/office) will involve, and work in cooperation with, external sectoral experts who will lead the standardization activity according to the market needs.

The creation of "sectoral strategic groups" – open to external experts such as top management, public administrators – is essential for the effectiveness of the standardization activity: such groups help the NSB to take into consideration and reflect market needs and expectations. Each branch (person/office) within the NSB can resort to the strategic group competent for the sector in order to receive guidance and orientation.

Following the strategic group's suggestions, each branch will finalize its work programme or business plan, always bearing in mind the potential availability of International Standards on the subject.

1.2 The department(s) involved in standardization: roles and responsibilities

The technical department structure is obviously dependent upon the volume and complexity of the standardization activity carried out at national and international levels. In principle, it is possible to identify a "model" structure, bearing in mind, however, that each NSB will have to adapt it according to its range of activities, needs and priorities:



- The Head
- Technical Officers (TOs) grouped according to different sectoral branches
- International Relations Service (IRS)
- Production Unit, which can be structured into different sub-sections (e.g. Drawing (CAD) office and Editorial office), according to the volume and complexity of the activity carried out.

The Head

Regardless of the number of people involved in the technical department, this needs to be led by a Head, reporting directly to the Chief Executive Officer.

The Technical Officers

The key contribution to the standards development and/or standards writing work of the NSB is that of its technical committees.

> The membership of each committee should include representation of parties interested or involved in its field of operations, namely: producers, users and consumers, research organizations, government departments, educational authorities, individual experts.
>
> See also "*Joining in – Participating in International Standardization*", 2007, available at:
> http://www.iso.org/ISO/joining_in_2007.pdf

Technical committees are set up by a managing body on the advice of the Head of the technical department, supported by a panel of experts, their mode of operation being governed by rules fixed by the Council. The Head of the technical department supervises the work carried out by the technical committees.

In the past few years, the process of globalization has led to a considerable growth in the importance of international standards and their primacy over national and regional standards. Most industrialized countries and many developing countries are now aligning their standards with International Standards to achieve competitiveness in world markets. It is now generally accepted that establishing national standards that differ substantially from the corresponding International Standards is not a policy that can be sustained over the long term.

Most of those countries have restructured their national technical committees (TCs) in line with international TCs (of ISO, IEC, OIML, etc.). The relationship between ISO technical committees and the national "mirror" committees is described in detail in the panel below "Composition of ISO committees".

Composition of ISO committees

ISO committees are made up of ISO member bodies. These may choose to be participating (P) members or observer (O) members, the latter also being open to ISO correspondent members. In the case of participating members, the member body facilitates the process of negotiation and consensus-building across stakeholders in **national mirror committees**, and contributes to the international negotiation and consensus-building process.

At meetings of ISO committees, the members are represented by delegations drawn from the national mirror committees. National representatives are expected to represent their members' views in the overall work of a committee and participate in reviews of the committee's work. Where necessary and possible, this participation will take the form of attendance at committee meetings.

Source: "*Joining in – Participating in International Standardization*", 2007, available at http://www.iso.org/ISO/joining_in_2007.pdf

The national TCs have the key task of following up international standardization work in their field of activity, participating actively in that work by consulting national stakeholders (manufacturers, users, professionals and the government), formulating the national viewpoint and voting on draft International Standards, then promoting their national implementation. In this way, close cooperation and synergy are established between the international standardization work taking place in the international TCs and national standardization taking place in the national "mirror" committees.

In practice, this cooperation materializes through the involvement of the leadership of the national TCs (chairpersons, secretaries and leading members) which needs to be coordinated by, and channelled through, the International Relations Service (IRS) – **see next section**. These leaders are often the delegates of their countries to the international TC meetings.

The activity of each technical committee is led and coordinated by a Technical Officer, who is an employee of the NSB.

A Technical Officer can handle several different technical committees, possibly belonging to the same branch. Each Technical Officer reports to the Head of the technical department.

The Technical Officer's main responsibilities are as follows:

- To monitor the standardization process at national and international level and keep track of it
- To circulate documentation, while collecting and delivering national comments to the requisite site or individuals
- To offer technical assistance (information on standards and related subjects to enterprises via telephone, e-mail, etc.).

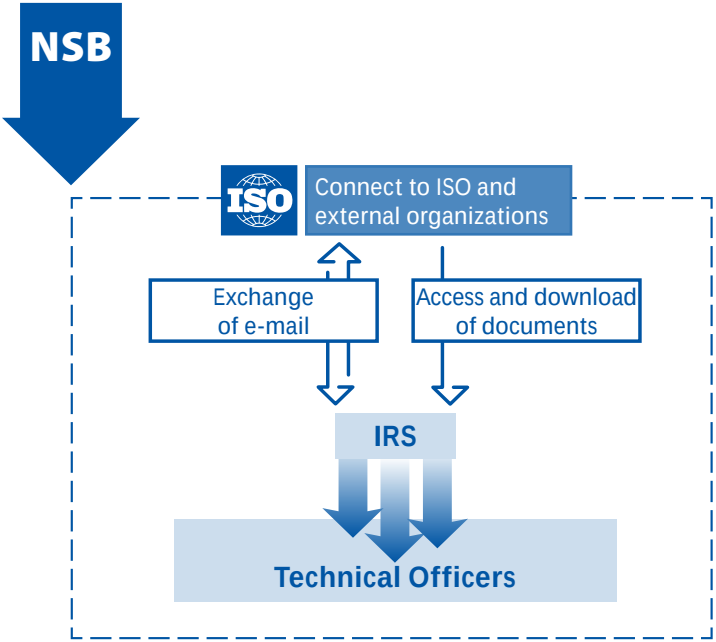
The Technical Officer may be supported by a secretary, whose functions are:

- To support the Technical Officer in the registration and monitoring of the important steps of the standardization process
- To support the Technical Officer in the circulation of documents and in all general secretarial activities.

The International Relations Service (IRS)

Within the technical department it is necessary to designate the staff members in charge of interfacing with ISO and its information system.

This function can be carried out by a single person or unit reporting directly to the Head, or, in more sophisticated structures, the function is decentralized. (i.e. each branch can interface autonomously with ISO and other non-national entities). Several ISO members, in particular from developing countries, may also have a single person or unit responsible for managing international relations at the corporate level. In this case, the concerned person or unit reports directly to the CEO of the organization, and is responsible for interfacing with ISO on all matters: institutional, administrative and technical. The technical division should therefore interact closely with this corporate entity, to ensure timely and orderly exchange of technical documents and information.



Irrespective of how it is organized and of its position in the NSB organigram, this function will be referred to hereinafter as the "International Relations Service" (IRS). Its role is to interface with ISO and other NSBs, taking care of any incoming and outgoing correspondence. This implies being responsible for the administration and for the distribution of documents within the organization itself.

The institutional task of the IRS is that of dealing with the distribution of Draft International Standards (ISO/DIS) and Final Draft International Standards (ISO/FDIS) and of voting (via the ISO eBallotting application – see section 4.7).

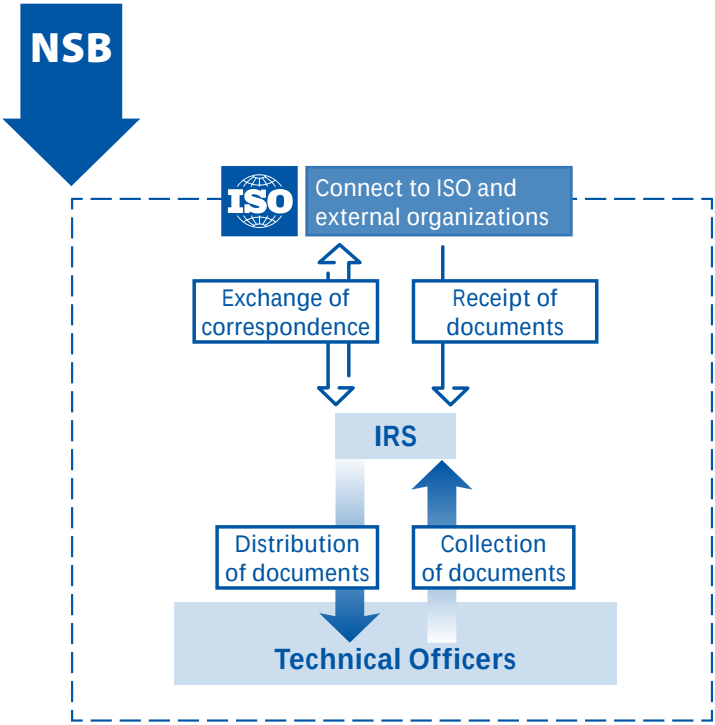
The IRS works in close cooperation with the Technical Officers. The IRS has to convey correspondence to the relevant Technical Officer, and the Technical Officer should circulate the documentation within his/her technical committee, collecting any feedback and then transmitting a national position in time to the IRS, for the latter to cast an official national vote.

The IRS is to do the same with general correspondence. One of the most important tasks of the IRS is to monitor and check any incoming correspondence from ISO, and other standardizing bodies.

The correspondence coming from ISO consists of the circular letters on general matters regarding, e.g. ISO governance, ISO publications, marketing, or overall communications about members (fee payment, suspension, admission).

Almost all communications with ISO through the Central Secretariat in Geneva are today operated by computerized services and in the following chapters these aspects will be considered in detail.

Meanwhile, it is sufficient to say that the IRS should download all correspondence, print and distribute or simply forward it (assuming all the interested parties are equipped with e-mail) to those concerned in order to disseminate the relevant information, and file it in different folders according to the subject-matter covered. A "default" structure is proposed in Annex III.



Moreover, there are other types of letters or communications from or concerning the ISO governance bodies (Council, TMB, DEVCO, etc.) for which an official staff appointment is required. This case needs to be handled differently and is explained in more detail in section 4.3.

Production Unit

The Drawing Office

The Drawing Office has the task of reproducing drawings of any international/foreign standard, whenever such a document is endorsed as a national standard and, if necessary, translated into the national language.

A repository of drawings in electronic form is available on the ISO servers and can be used to support this activity.

The Editorial Office

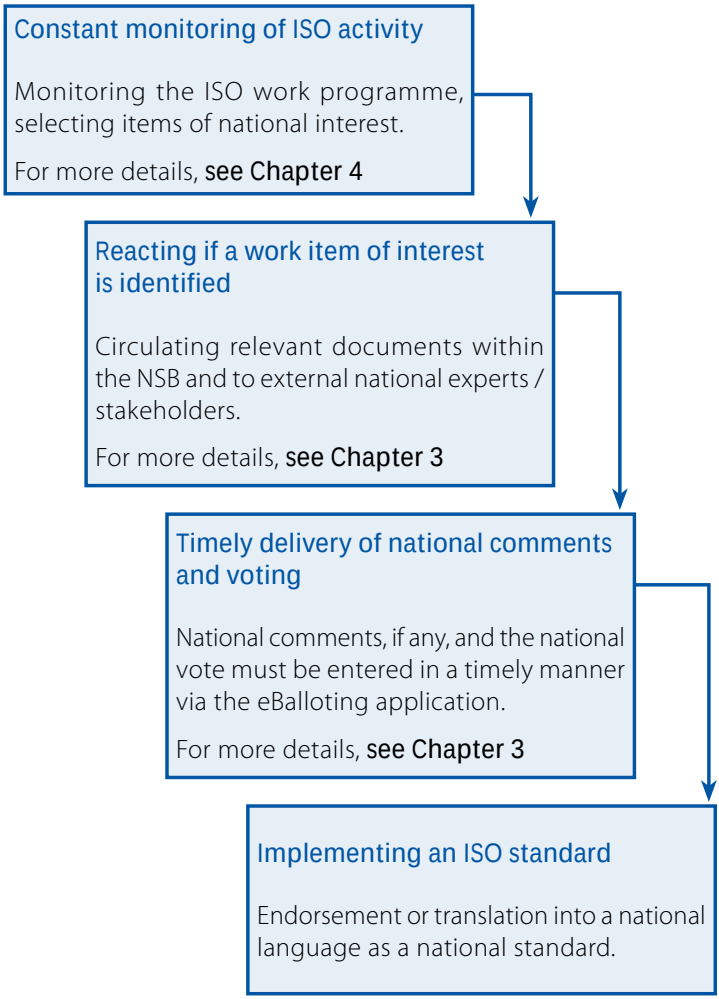
This unit has two main tasks: editing the text for the development of any national standards or for the adoption of an ISO standard, and editing draft standards in cases where an NSB is allocated the secretariat of an ISO TC or SC.

In the first case, when a national standard is taken from an ISO standard and translated into the national language, it may prove useful to download the original file of the standard from the ISOSTD server (see section 4.4). The file is normally available in revisable format (Microsoft Word) and can be used to produce the national standard.

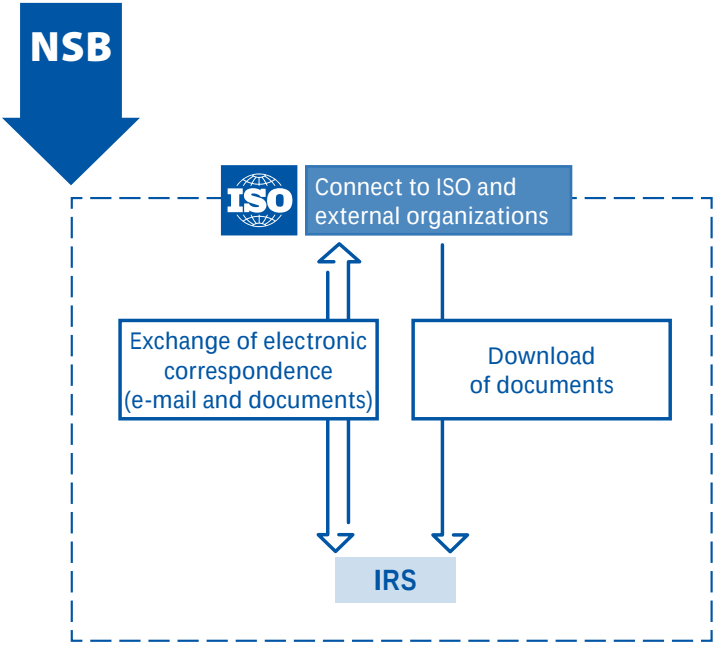
In the second case, ISO Online (see section 4.2) under Standards Development provides the user with information and instructions for drafting standards according to the ISO rules. The *ISO Directives, Part 2*, as well as the ISO template are the main tools to be used in this case.

1.3 Tasks

Participating in the standardization process at international level implies carrying out the following tasks:



Since 2002, ISO distributes correspondence and documents to its members only in electronic form. By Council decisions in 2000 and 2002 respectively, ISO has moved to electronic-only distribution of DIS and FDIS since January 2004.



While the collection of information from ISO will require the Internet, the following step – that is, the distribution at national level – can be carried out using electronic or traditional communication methods (mail, fax). It is advisable to use the Internet and e-mail whenever possible, resorting to traditional communication only when no other means is available.

There should be well-defined procedures covering all stages in the circulation of documents, including the registration of incoming and outgoing mail, as well as their dates and deadlines.

Should e-mail be used, it will be necessary to manage e-mail communication. If only one workstation is connected to the Internet, the operator (IRS) will be in charge of checking all incoming mail, printing it and distributing it to the competent person/office. Or, better, if other workstations are available in a local area network, the operator (IRS) will check the incoming mail and then forward it electronically to the competent person/office. Should more than one workstations be connected, it is advisable that every

sector/branch be equipped with its own workstation with access to the Internet.

If an ISO standard is relevant to the national economy, it can be considered for implementation as a national standard (this is optional, not mandatory) in accordance with ISO/IEC Guide 21-1:2005.

2 IT infrastructure

This section is structured as follows:

2.1 Overview of IT development in NSBs

2.2 Working procedures and IT

2.3 Improvements in procedures

Objective

- To classify and describe the different development levels of NSBs with respect to IT infrastructures
- To identify, for each development stage, functions and working procedures that can be supported by IT
- To suggest possible improvements in the organization and in the procedures on the basis of the given tools and connectivity.

Results

After working through this section, it will be possible to:

- Place the organization within a general framework according to the stage of development of its IT infrastructure
- Identify the functions and the procedures which can be supported by IT
- Identify areas for improvement, on the basis of the given tools and level of connectivity.

2.1 Overview of IT development in NSBs

In order to respond to the requirements of industry and the market, NSBs need to implement modern methods of work, which includes ICT. As a result, NSBs are moving towards electronic work methods, where the Internet plays a basic part, and are abandoning the use of paper.

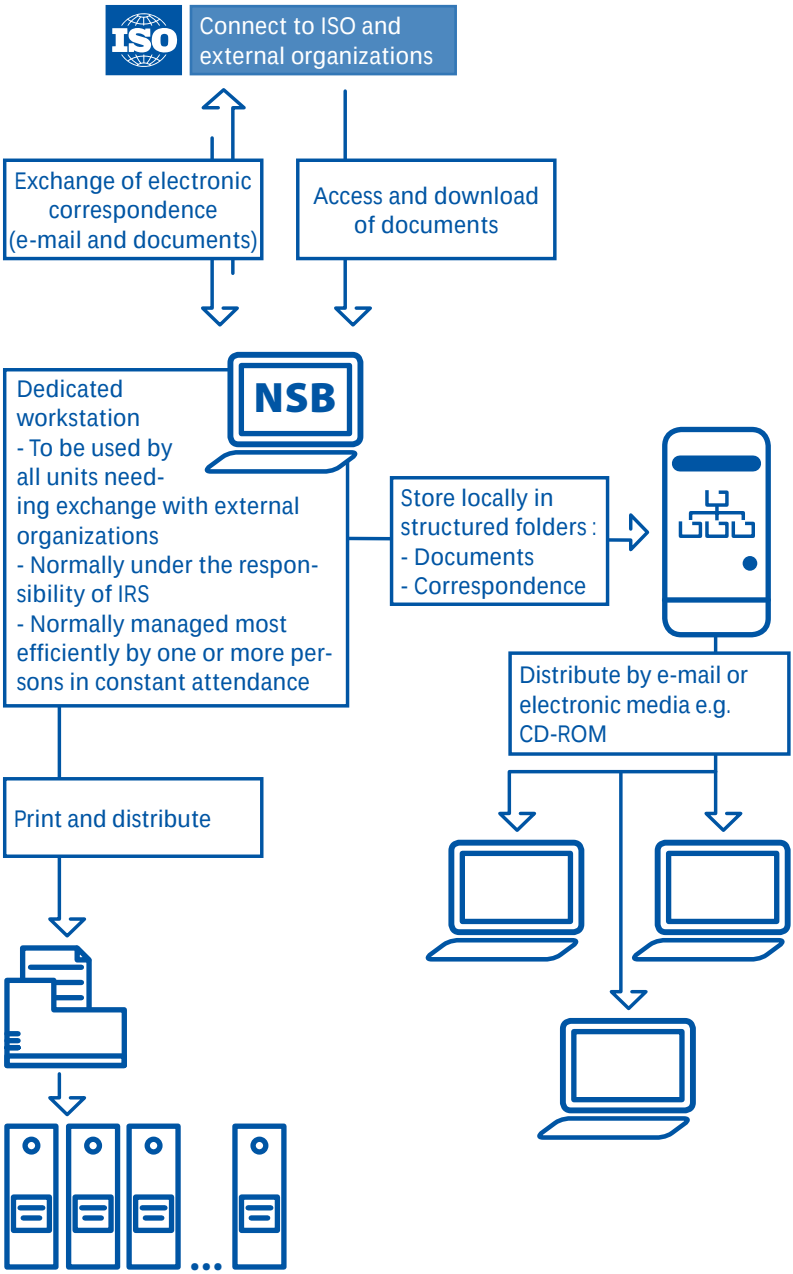
Access to the Internet is of paramount importance and although a single dial-up connection is the absolute minimum type of access, it is recommended that NSBs look for ways to obtain better access.

For the purposes of this manual, three levels of connectivity are considered:

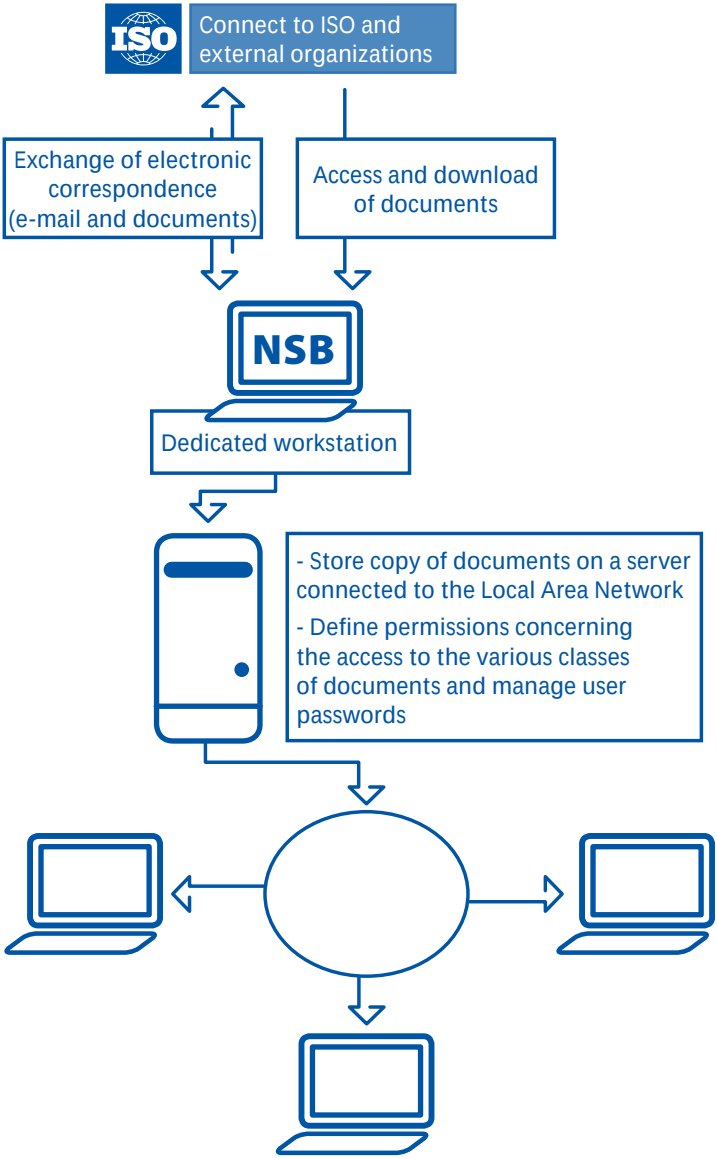
1) One PC connected to the Internet through a dial-up connection and stand-alone PCs used by staff members
2) A Local Area Network (LAN) integrating several PCs, but only one PC with access to the Internet through a dial-up connection
3) All workstations integrated into a Local Area Network (LAN) where each workstation has direct access to the Internet via router.

Irrespective of the level reached, the IT resources available can play an important role in supporting and facilitating daily activity, improving efficiency and effectiveness of work. Given a certain infrastructure, an organization can adopt specific procedures to optimize its activity.

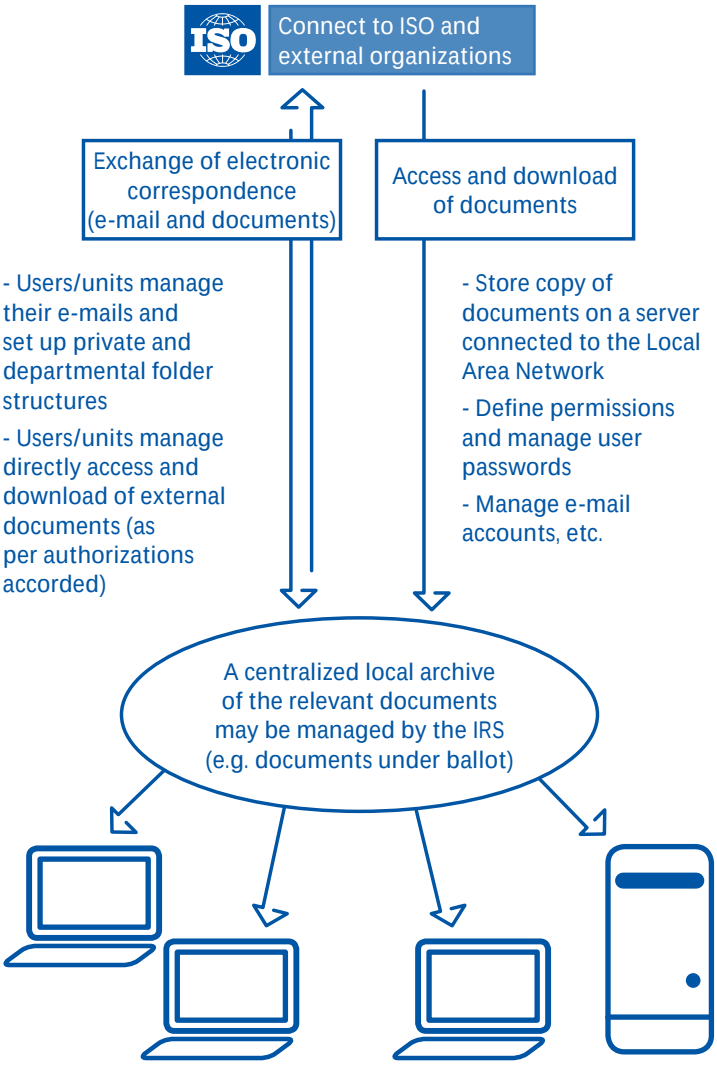
At level 1 (one workstation connected to the Internet through a dial-up connection and one or a few stand-alone PCs), the PC connected to the Internet is a sort of "advanced telefax": its role is limited to dialoguing with the rest of the world. Its output for the standardization community of the country may be distributed on paper, via e-mail or electronic media e.g. CD-ROM.


Connect to ISO and external organizations
Exchange of electronic correspondence (e-mail and documents)
Access and download of documents
Dedicated workstation
- To be used by all units needing exchange with external organizations
- Normally under the responsibility of IRS
- Normally managed most efficiently by one or more persons in constant attendance
NSB
Store locally in structured folders :
- Documents
- Correspondence
Distribute by e-mail or electronic media e.g. CD-ROM
Print and distribute

At level 2 (one PC connected to the Internet via dial-up integrated in a Local Area Network), the PC connected serves as a "bridge" to the rest of the world, channelling the outgoing and incoming flows of information. It is strongly recommended to maintain a server connected to the LAN as a document server for storing all the relevant files downloaded.



At level 3, each workstation has direct access to the Internet and all the concerned individuals with appropriate permissions can access the relevant external information. However, also in this case, it is recommended to maintain a centralized repository of documents downloaded from the Internet (in particular, important ISO documents such as standards under ballot, circular letters and others) on a local document server connected to the LAN.



2.2 Working procedures and IT

Standalone PCs

The implementation of IT in an NSB may consist of one, or more, stand-alone PCs, without connection to the Internet. Such stand-alone PCs can be used for the production of national standards and for office work support. An example of PC configuration for production could be: Windows, Microsoft Office (see Annex I), and virus protection software. One or more external CD-writers could be shared for the back-up of all PCs.

Connecting to the Web

To participate in international standardization (see section 3.4), at least one PC must be connected to the Internet. If there is only one PC connected to the Internet, such a precious resource must be shared by staff members needing it.

This PC connected to the Internet must fulfil two functions:

- Access and download of documents relevant to various kinds of activities
- Exchange of correspondence by e-mail.

In the case of several PCs connected to the Internet, it is advisable to devote each PC to a specific function, according to the needs and priority of use. For example: it is advisable to devote one PC to balloting procedures, while making the other PC available for general browsing, exchange of documents and e-mail communications.

Configuration requirements	Minimum configuration: Microsoft Windows, virus protection software, an Internet browser, and e-mail application (see Annex 1)
Use suggestions	Working shifts could be organized to allow each person enough time to carry out the required work on the Web. In order to monitor and manage the incoming and outgoing e-mail correspondence, a single person/office (normally the IRS – see section 1.2) should be in charge of registering and distributing all incoming e-mails and registering and sending all outgoing e-mails. If the workstations are not connected in a local area network, the IRS will have to print and physically distribute all correspondence. With a LAN, the IRS will be able to distribute all documents and correspondence electronically, at least within the organization.
Practical tips	If any storage device, such as memory stick, is used, this should be scanned with antivirus software. A CD-writer should be connected to the PC for back-up – see section 2.3

Suggested working procedure for document management

To support the creation and easy management of the electronic archiving of documents and correspondence, ISO has developed a model file structure. See Annex III for details of a recommended folder structure:

- For the e-mail environment (to facilitate the filing and archiving of messages, received and sent), and
- For documents, to facilitate the filing, archiving and retrieval of documents exchanged with ISO and other organizations.

These folders are organized reflecting, where relevant, the structures of the folders available on the ISO servers and should help to manage:

- The official communications to and from the ISO Central Secretariat (circular letters and documents issued by ISO governance bodies)
- Participation in the ISO balloting process.

The way these systems are used will vary according to the different levels of IT infrastructures available. The work of an organization applying IT should be organized in such a way that staff members have access to as much information as possible. This does not mean that staff members should be flooded with information but it does mean that staff members should have access to information at any time when the necessity arises without additional procedures requiring actions by other staff members.

A step-by-step approach in implementing IT solutions (hardware and software) must be followed also taking into account individual attitudes and involvement in IT tools and working procedures. Motivation and training are the two keywords.

Training

Before starting to use IT applications, the relevant staff members should undergo training. Training can be conducted by internal staff members or by external companies. Training by internal staff is preferable as it is less expensive, easier to organize, better adjusted to the organization's needs and business processes.

It is crucial that the CEO is well aware of the importance of the use of IT applications in supporting standardization activity at different levels. The CEO should have a clear understanding of IT possibilities for achieving greater efficiency and quality of work; belief in the necessity of IT implementation, and confidence in the fact that the application of IT is not as difficult as it may seem at first.

2.3 Improvements in procedures

The following suggestions for improving working procedures are applicable to all levels of IT infrastructure.

Save and download

For organizations with dial-up connections, it is recommended that the staff members save documents received – or download the appropriate documents from servers – onto the hard disk, and use the PC mainly for receiving and downloading new documents. Working in this way, reduces the need for repetitive consultation of the same document repository.

Circulate

All correspondence and documents relevant to the organization which have been received or downloaded during the day should be printed (or copied to CD-ROM or other media) by organizations at level 1, or copied to a server on the Local Area Network (LAN) by organizations at level 2 and, if needed, at level 3, and circulated to the appropriate staff member(s) for follow-up actions and information.

File

The documents, including e-mail, saved or downloaded onto the hard disk, should be properly filed in directories, folders and subfolders. All staff members should be aware of the filing system. When the need arises, the staff members concerned may consult the documents on the PC or print them. For the sake of consistency, it may be useful to refer to the recommended folder structure in Annex III.

Back up

Paper is a fairly secure medium for documents. Only fire or flooding present a threat for paper documents. Electronic media are more vulnerable; any of the following may lead to loss or corruption of date:

- The hard disk or other component may fail
- Bad manipulation of an application
- Use of an application with a bug
- Failure of the electrical supply
- Magnetic interference
- Attack by computer virus
- Upgrade or change in software.

It is very important, therefore, to establish an archiving policy in the organization (see also Annex III).

Virus protection

It is very important to use anti-virus software in order to protect data from damage by computer viruses. See Annex I.

3 IT-based activities

This section is structured as follows:

3.1 Introduction

3.2 Office work support

3.3 Management of national standards development activities

3.4 Participation in international standardization

3.5 Access to ISO information and participation in ISO activities via the Internet

3.6 Dissemination of information on standardization and related matters

Objective

The objective of this section is to illustrate:

- The main and most suitable IT-based applications supporting the standardization activity
- How daily activities can be improved with the support of IT
- How the exchange of information with ISO and the other NSBs can be improved with the support of IT.

Results

After working through this section, it will be possible to:

- Become familiar with the main and most suitable IT-based applications

- Identify ways for improving daily activity with the support of IT
- Activate effective channels of communication with ISO and other NSBs with the support of IT.

3.1 Introduction

In Chapter 1, we identified and illustrated the different functions and tasks of an NSB's technical department.

Before IT tools were broadly available, such activities were carried out using typewriters, telephones, and ordinary paper mail, to which faxes were added later.

The introduction of IT tools in daily activity has completely changed working procedures, and even the workload of each function: if sending 10 faxes of a few pages each could mean half an hour of work, nowadays sending the same documents via e-mail should not take more than five minutes.

3.2 Office work support

This section is intended to give an overview of the essential tools required to carry out work to support the various units and departments of an NSB. Detailed advice on how these tools should be used is not given. Further details of the tools are to be found in Annex I.

Support work generally involves horizontal activities relevant to each department and function, such as the preparation of working documents, correspondence (letters, faxes, e-mails), reports, statistics, etc.

The most widespread applications used for this purpose are text-processing applications, e.g. Microsoft Word, and spreadsheets, e.g. Microsoft Excel. Microsoft PowerPoint is also widely used for preparing and delivering presentations at seminars, conferences, workshops, meetings, etc.

E-mail applications, e.g. Microsoft Outlook, as well as Internet browsers, e.g. Microsoft Internet Explorer and Mozilla Firefox, are now necessary tools for participating in standardization activity.

Section 3.4 outlines the role that such tools play in fostering participation in international standardization activities.

Production of national standards and related publications involves the use of text-processing applications (e.g. Microsoft Word). It should be noted that the use of Microsoft Word for publishing standards requires deep knowledge of the tool and specific skills; however, a basic knowledge is sufficient for text editing and general office work support. Professional document production involves more sophisticated applications, e.g. Adobe FrameMaker. Technical drawings and other graphical elements included in standards are produced with the use of such applications as Adobe Illustrator or the more sophisticated AutoCAD.

3.3 Management of national standards development activities

The ability to archive, manage and retrieve data and information is essential for the management of national standards development activities. For example, project development stages, references of experts participating in national standardization work, references of published standards and other products for sale, need to be handled correctly.

The three main categories of IT systems used by NSBs to support standards development activities are:

- Document management systems
- Database systems
- Specific applications.

These three categories are discussed below.

The complexity of the solutions and tools implemented by NSBs varies with the size and the level of development and expertise of the organization. Before implementing any system, it is necessary to consider how it will work with other systems.

3.3.1 Document management systems

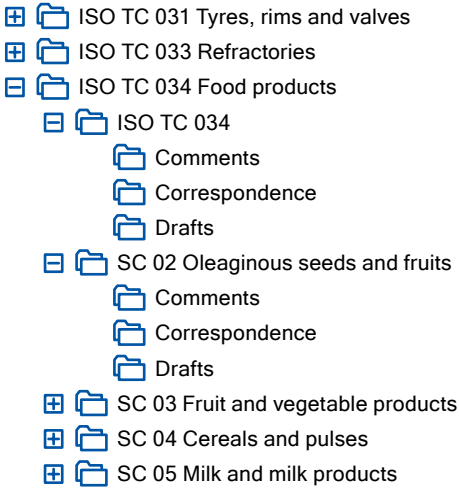
The traditional system of paper documents stored in folders on shelves can be replaced, or supplemented, by an electronic system – usually called a document management system (DMS). A sophisticated DMS based on software such as Opentext Livelink has advanced features for archiving and retrieving documents whereas a simple solution can be based on Windows folders.

Whichever document management system is used, an archiving policy must be put in place to ensure that the system is effective.

The archiving policy should clearly indicate:

- Which documents should be printed and kept in paper form and which documents should be safeguarded in electronic form (electronic archiving is strongly recommended for large volume documents which are regularly revised, since it saves resources)
- The retention period of different types of documents
- The formats and media which should be used for archiving purposes (the image-based PDF format is more reliable from the legacy point of view for archiving purposes, while it is not suitable for documents which are regularly revised – they should at least be kept in text processing format; the media could be CD-ROM / DVD)
- The frequency of back-ups
- Terms of access (passwords)
- Periodicity for selective examination of electronic files.

Livelink from Opentext has been used by ISO Central Secretariat to implement the ISODOC, ISOSTD and ISOTC servers (see Chapter 4). A simple folder-based DMS is shown below.



3.3.2 Database systems

NSBs typically use database systems for managing data related to:

- Projects (i.e. TC work items and related development stages)
- Experts (persons participating in projects, with description of their roles)
- Products (i.e. the publications delivered at the end of the development cycle, in particular national standards).

These database systems replace the traditional system of maintaining paper registries and demonstrate the effective use of IT in an NSB.

A project database is essential if many projects are to be managed by the NSB staff. Combined with a database for experts participating in the projects, the NSB staff will be equipped with the tools that enable efficient sharing of information.

These databases are most effective if they are made available via a Local Area Network (LAN) for consultation by any staff member.

The function of updating databases is usually assigned to specific staff members.

A product database is extremely useful for producing catalogues and lists of standards. The ability to produce lists of currently available standards, either by subject or by technical committee, is essential if the NSB is to efficiently supply this information to clients, experts, other organizations, etc. A product database is also essential if a catalogue of standards is to be available on the NSB's Web site.

Although the three categories of database system for projects, experts and products could be developed as individual databases, it is necessary to consider:

- How these systems will work together, and
- Whether any two, or all three, databases can be combined.

Some technical details about databases are given in Annex I.

3.3.3 Specific applications

This category includes applications developed by organizations for specific functions. The ISO eBalloting system is an example of process automation (see Chapter 4).

NSBs are strongly advised to develop document management systems (see 3.3.1) and database systems (see 3.3.2) before considering specific applications.

3.4 Participation in international standardization

Participation in international standardization with application of IT tools mainly implies the use of software for office work support (see section 3.2), an Internet connection, a browser (e.g. Mozilla Firefox or Microsoft Internet Explorer), an e-mail application (e.g. Microsoft Outlook) and Adobe Reader (see Annex I)

Such software is sufficient for members of national organizations to effectively support their participation in international activities. All ISO eServices are designed to be used via the Internet without any further software than that mentioned above – see section 3.5.

Electronic mail (e-mail) has revolutionized communication and offers advantages in terms of time, efficiency and costs compared to more traditional ways (e.g. fax). Compared to telephone calls, e-mail communication has another important advantage: the possibility of easily keeping in touch with another person in spite of time zone differences and the person's availability. Far less intrusive than a phone call, an e-mail message can be read and dealt with at the recipient's convenience, according to the message's level of urgency, thus optimizing his/her time schedule.

Documents can be sent by e-mail as "attachments". A message with attached documents should include a list of the attached documents, notably their filenames, their formats, the method of encoding used, and the order of the attachments. The total size of the attached documents should be kept to a minimum. The reason is that some e-mail servers reject large e-mails. However, the simplest solution when dealing with large documents is to avoid using attachments altogether and to put the documents on an FTP or Web server for retrieval by the recipient.

3.5 Access to ISO information and participation in ISO activities via the Internet

Nowadays, the prime sources of information for administrative and technical reference material are the Web sites of the international standardization organizations.

This information is available on the following Web sites:

ISO – International Organization for Standardization: www.iso.org

IEC – International Electrotechnical Commission: www.iec.ch

ITU – International Telecommunication Union: www.itu.int

WSSN – World Standards Services Network [2]: www.wssn.net

2 WSSN provides links to the Web sites of national members of ISO and IEC, ISO, international standardizing bodies and regional standardizing bodies.

This is why it is essential that every NSB has at least one PC connected to the Internet (see section 2.1). As mentioned in the previous section, all ISO eServices are designed to be used via the Internet with only a browser and Adobe Reader.

The current version of ISO Online was designed to provide access to all information on ISO for the general public, the ISO members, standards developers and technical experts.

Further details on how to access ISO eServices are given in Chapter 4.

3.6 Dissemination of information on standardization and related matters

A Web site is an excellent tool for communicating information about an NSB to a worldwide audience. More specifically, the Web site can serve as a communication tool for the national standardization community and provide information to the general public in local languages. Providing a list of frequently asked questions (FAQ) is a good way of optimizing the management of the enquiries an NSB receives.

Even in countries where the use and availability of the Internet is currently low, this situation is likely to change in the near future.

The users of an NSB Web site are likely to be interested in obtaining information on standards and how they may be obtained. It is therefore recommended that a catalogue of standards is provided. Although the simplest way to provide a catalogue may be in the form of a single PDF file, the amount of work involved in updating this file should be considered. If an NSB intends to develop a Web store, it is necessary to have a database containing all relevant data on the standards to be sold and to have procedures for maintaining the database (see section 3.3 and Annex I).

A template for creating an NSB Web site and a database providing information for the technical work programme and catalogue of national standards for the Web site have been designed by the ISO Central Secretariat. The template and the database will considerably facilitate the creation of a national standards organization's Web site.

Recommendations and guidelines for the development of NSB Web sites, including suggested contents, are presented in Annex II.

Hosting the NSB Web site

The computer used to host a Web site must be permanently connected to the Internet – a PC connected to the Internet via a dial-up connection is not sufficient. It is therefore recommended that NSBs without connection to a leased line find a sponsor organization that agrees to host the NSB Web site. In some cases, this could be a Ministry supervising the NSB, another governmental or private organization that deals with trade promotion or document dissemination.

There is also the option of renting space on a server on a commercial basis. There are a number of companies, usually known as Internet service providers (ISPs) that provide Web hosting services, for a moderate fee. Such a company may be found in the country of the standards organization concerned or even abroad.

Once the question of hosting has been resolved, the standards organization can develop its own Web pages on any PC installed with a Web authoring tool (see Annex II). Web pages ready for publishing can be transferred to the server hosting the Web site. Web hosting organizations normally provide a username and password to their clients so that they can transfer files onto their Web sites (in this respect, FTP is commonly used – see Annex I). In all cases, it is recommended to keep a backup copy of the complete Web site.

4 ISO eServices

This section is structured as follows:

Objective

The objective of this section is to illustrate:

- How to obtain access to information via ISO eServices and how to disseminate this information
- How to take part in international standardization activities electronically via the ISO eServices.

Results

After working through this section, it will be possible to:

- Access and use ISO eServices for the benefit of your organization
- Keep up-to-date with the latest information from ISO
- Understand how to take part in ISO standardization activity electronically.

4.1 Introduction

The use of ISO eServices by an NSB is of the utmost importance.

The principal reasons are:

a) Monitoring international developments in standardization fields[3]

b) Access to information on ISO including standards and other products

c) Receipt and exchange of formal communications (e.g. ISO circular letters)

d) Participation in ISO work by means of "electronic procedures" e.g. electronic balloting.

The current version of ISO Online is intended to be a gateway to all ISO eServices and to provide a convenient way of accessing information on ISO for users from the standardization community – such as standards developers and ISO members – in addition to professionals from industry and the general public.

The following sections give an overview of the various ISO eServices. Links to other online resources, such as detailed guidelines are provided.

The ISO Central Secretariat offers training for eServices and the ISO members are encouraged to ensure that their staff are adequately trained.

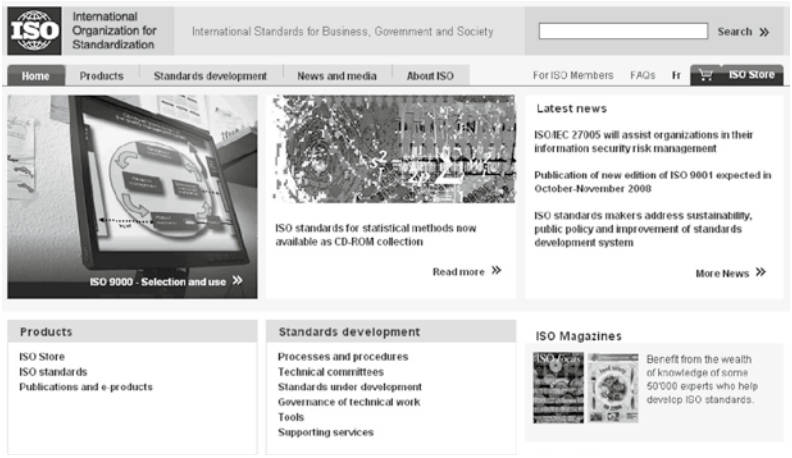
Direct URL: http://www.iso.org/training

3 See also "*Fast Forward – National Standards Bodies in Developing Countries*", 2008, Chapter 7, available at: http://www.iso.org/ISO/fast_forward.pdf

4.2 ISO Online

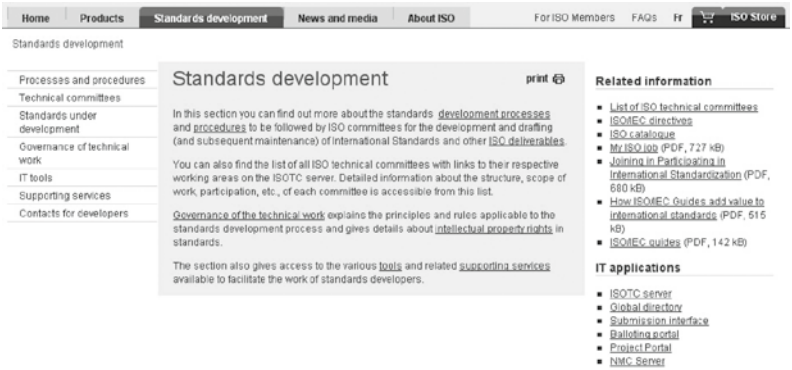
As mentioned above, ISO Online is intended to be a gateway to all ISO eServices and to provide a convenient way of accessing information on ISO for the standardization community. For the purposes of this manual, we will focus on items of particular interest to standards developers and ISO members.

The ISO Online home page, shown below, has been designed so that users can go directly to the sections they are most interested in.



4.2.1 Information for standards developers

The dedicated section "Standards development" provides comprehensive materials linked to the development of International Standards, and related publications. It is essentially a "one-stop" access point to information on the rules and procedures for standards development and for the drafting of standards, etc., and to the tools used for the preparation of standards, e.g. the ISO templates.



Direct URL: http://www.iso.org/tc

With few exceptions, access to the information presented is open (not password-protected) and easily located by using the left-hand navigation. All of the sub-sections are likely to be of the assistance to standards developers – as shown below.

Sub-section	Specific items of interest to standards developers
Processes and procedures	■ Project management and development procedures ■ *ISO/IEC Directives, Part 1* and the *ISO Supplement* ■ Specific procedures for cooperation with CEN ■ Drafting standards

Technical committees	■ List of ISO TCs, subcommittees, and information about them, with links to lists of standards published and under development ■ Business plans ■ Participation by ISO members in TCs ■ Maintenance agencies and registration authorities ■ Organizations in cooperation with ISO ■ Meeting calendar
Standards under development	■ The complete ISO work programme containing information on standards under development integrated with the catalogue of published standards
Governance of technical work	■ Tasks and strategic objectives of the Technical Management Board ■ Standards and regulations ■ Partnering and twinning in ISO ■ Standards and patents ■ Intellectual property rights (IPR)
IT tools	■ Links to IT tools and user guides ■ ISO templates ■ ISO forms, model agendas and standard letters
Supporting services	■ For TC secretaries, chairs and balloters ■ For ISO/IEC JTC 1 and ITTF
Contacts for developers	■ Specialized helpdesks and enquiry points e.g. Helpdesk for IT issues, electronic balloting at helpdesk@iso.org

To facilitate access to information or tools, certain items have their own direct URL:

Direct URL :

IT tools and applications	http://www.iso.org/e-services
IT user guides	http://www.iso.org/e-guides
Training courses	http://www.iso.org/training
ISO templates	http://www.iso.org/templates
ISO Forms (models)	http://www.iso.org/forms
ISO/IEC Directives and *ISO Supplement*	http://www.iso.org/directives

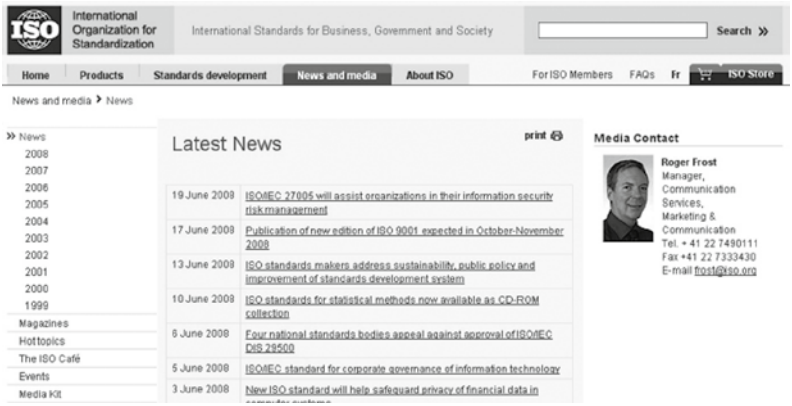
4.2.2 Information about standards and other products

The ISO Online home page contains a complete section called "Products" which provides information on all ISO standards, publications and e-products. The menu item "ISO Standards" is the most convenient way to access the complete ISO Catalogue – as shown below.

The user can browse the catalogue by ICS (International Classification for Standards) or by TC. Alternatively, the search mechanism can be used to retrieve any matches for numbers or words entered as search criteria.

The search mechanism is particularly useful in cases where the reference number of a standard is already known e.g. 9001, or if a specific topic such as "quality management" can be entered.

General information about new products, including important standards, is to be found in the "News and media" section – shown below.



ISO members receive e-mail notifications about the latest news items (Press releases) as they become available. The archive provided in this section will be useful to refer to. Latest news items are displayed on the home page so that regular users will immediately see these on a day-to-day basis.

4.2.3 Information for ISO members

Clicking on "For ISO Members" on the home page will take the user to the login screen for the ISO Members' Portal which is password protected. The materials here are only for ISO members – and discussed in the following section (**4.3**).

4.3 ISO Members' Portal (ISODOC)

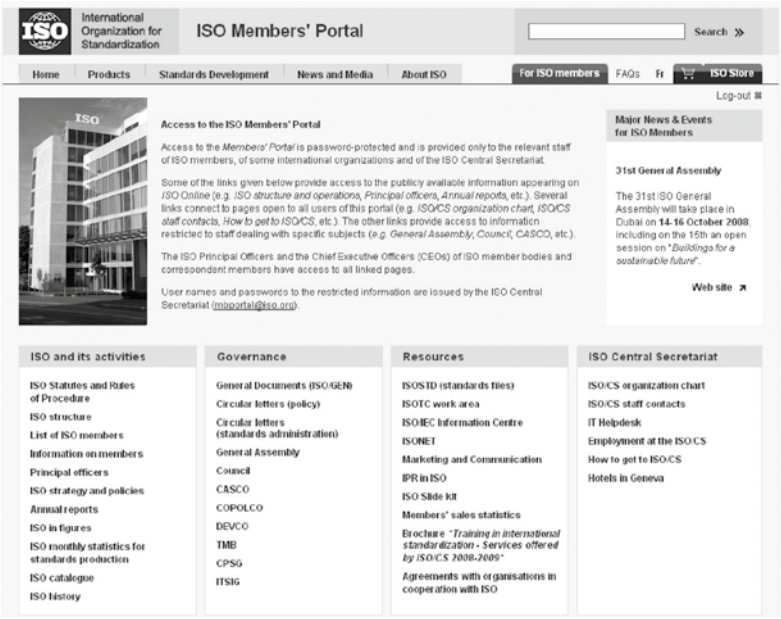
The ISO Members' Portal is an IT tool designated for ISO members in order to facilitate their participation in ISO activities. The portal contains links to information and documents stored on the ISODOC server related to:

- The activities of **ISO governing bodies** (the General Assembly, Council, TMB – Technical Management Board), **policy development committees** (CASCO – Committee on conformity assessment, COPOLCO – Committee on consumer policy, DEVCO – Committee on developing country matters) and **advisory groups** (ITSIG – Information Technology Strategies Implementation Group, CPSG – Commercial Policies Steering Group)
- **ISO general documents** (policies and principles to be applied by ISO and ISO members in a variety of fields)
- **ISO circular letters** (on policy and of general nature, and related to standards administration)
- **Other useful information** for ISO members (e.g. ***ISO Statutes and Rules of Procedure***, information on ISO members, agreements with organizations in cooperation with ISO, and practical information on the ISO Central Secretariat (ISO/CS) and on accommodation in Geneva).

In addition, a number of **Web sites** are also located on ISODOC:

- Marketing and Communication
- IPR in ISO
- ISONET


Direct URL: http://www.iso.org/membersportal



Access to the ISO Members' Portal (ISODOC) is password-protected and is provided only to the relevant staff of ISO members, of some international organizations and of the ISO Central Secretariat.

Since, in most cases, the representative of the NSB is the CEO or another member of top management, it may be advisable for him/her to communicate the access password to the person (secretary, IRS staff member or other) handling secretarial tasks.

Each time a document is posted on ISODOC, a notification is sent providing the link to that document on the ISODOC server (which is an implementation of the document management system *Livelink* – see 3.3.1).

Some links from the ISO Members' Portal provide access to publicly available information on ISO Online (e.g. ISO structure and operations, Principal Officers, and annual reports). Several links connect to pages open to all users of this portal (e.g. ISO/CS organization chart, ISO/CS staff contacts, and " How to get to ISO/CS "). The other links provide access to information restricted to staff dealing with specific subjects (e.g. General Assembly, Council, and TMB) or to other servers (e.g. ISOSTD and ISOTC work area).

The ISO Principal Officers (President, Vice-Presidents, Treasurer and Secretary-General) and the Chief Executive Officers (CEOs) of ISO member bodies and correspondent members have access to all linked pages (with the exception of ISOSTD).

Accessing the ISO Members' Portal implies a series of steps:

- Enter ISO Online (www.iso.org)
- Click on the tab "For ISO Members" on the top navigation bar
- A mask shows "username" and "password", both of which are issued by the ISO Central Secretariat (mbportal@iso.org) and, when supplied, remain personal. Once these two data elements have been entered, click on "Log-in". The ISO Members' Portal homepage appears: click on the group of interest.
- All the documents are in PDF format, which makes it possible to open, download, save as a PDF file, print and store them on server (see Annex III for guidance on storing on a server).

The most pertinent example is that of the General Assembly. Each ISO member has access to the General Assembly documents.

Communications from the ISO Central Secretariat concerning the General Assembly, as well as other subjects of general interest (e.g. information on members, circular letters – general and policy) are sent to the members' central e-mail address (those given in the *ISO Memento*). The password enabling access to the General Assembly directory on ISODOC is sent to the member's CEO, who should then identify the person responsible for managing these communications with ISO/CS. This responsible person will then have access to the entire General Assembly directory. He or she can receive the e-mail notification any time ISO updates this folder, may access the new documents or circular letters, print them if a paper version is needed, or simply send an electronic copy to his/her director and to all the people who need to be aware of the content of that document or letter.

Because this information is being updated on a regular basis, it is important for the person in charge to consistently monitor this activity and the flow of information from and to ISO. The frequency of updates and changes varies according to the different directories.

Another important suggestion is to keep the same naming convention for filing local copies, so that finding documents, letters or whatever is present on this server can be easier and quicker.

It is the secretary who may take care of all this and even collect any feedback, if needed, by filing it in a special folder in his/her e-mail application and monitoring all the activity related to ISO governing bodies, including the preparation of any documentation for meetings. If documents are to be sent outside the NSB, it is preferable to send them as attachments to an e-mail instead of giving systematically the username and password to access the ISODOC server.

4.4 ISOSTD

The ISOSTD server contains electronic files of all currently valid ISO standards in both English and French versions (where these have been published). Some standards are also available in Spanish, Arabic and Russian. It also includes the electronic files of DIS and FDIS. All documents are in PDF format and source files are provided (e.g. Microsoft Word or SGML) where available. Additionally, the files of figures and diagrams are available in TIFF and EPS formats in order to facilitate the process of making national adoptions.


Direct URL: http://www.iso.org/isostd

This server is protected by a password to be provided by ISO/CS and is open to ISO member bodies and correspondent members. All ISO standards, including draft standards, are protected by copyright and ISO members are responsible for protecting the copyright of ISO standards. For further information, see the ISO/IEC brochure *Copyright, standards and the Internet* or the Intellectual Property Rights (IPR) in ISO Web site:


Direct URL: http://www.iso.org/ipr

The welcome screen of the ISOSTD server is as shown below:

From the list of items featured on the welcome screen, please note the item "User's guide and instructions". This guide explains how users can use the search feature to find the documents they require. Given the importance of this feature, an example is shown below.

The item "ISO/STADIST" provides access to an archive of the weekly circular letter that lists the standards and drafts that have been

issued by ISO in the past week. This is sent by e-mail to all ISO member bodies and TC/SC secretaries (for documents concerning their committees).

ISO/Standard Week/Semaine 22 (2005)

Instructions on how to download ISO deliverables

By [redacted] of the ISO Council (Council Resolution 8/2002), it was agreed to distribute all ISO standards and other deliverables from the Central Secretariat in electronic form as from 1 January 2004.

Access by ISO Members
To access the ISO deliverables, please connect to the ISO Central Secretariat's ISOSTD server using your log-in name and password, and download the ISO deliverables listed below.

Access by ISO TC/SCs and International Organizations in liaison
To access the ISO deliverables **which you are entitled to download**, please click on the download area hyperlink in the **Actions** column of the list below.

It is recalled that all ISO deliverables are protected by copyright and we are grateful to you for your help in protecting ISO's intellectual property. Indeed, under no circumstances may any of the documents listed below be copied, stored, reproduced, transferred, resold or placed on a network without the prior consent of ISO.

Table of content

- Standards published
- FDIS circulated
- DIS circulated
- Standards withdrawn

List of ISO standards and other deliverables published between 2005-05-30 **and** 2005-06-05

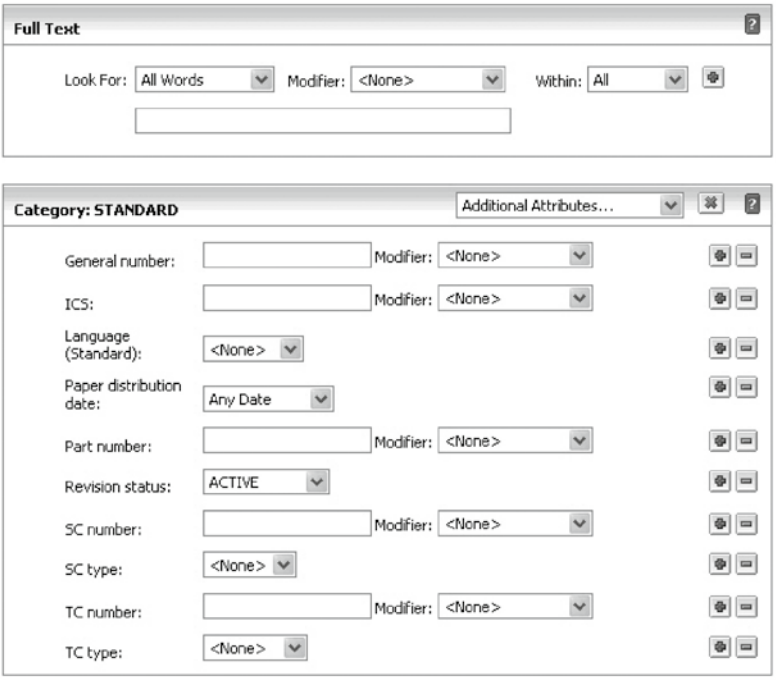
#	Reference	Committee	Title	Titre	Price Group	Actions
1	ISO/IEC 8825-4:2002/Amd 1:2004	JTC 1/SC 6	Information technology – ASN.1 encoding rules: XML Encoding Rules (XER) – Part 4: – Amendment 1: EXTENDED-XER **(delayed publication of the French version)**	Technologies de l'information – Règles de codage ASN.1: Règles de codage XML (XER) – Partie 4: – Amendement 1: Instructions de codage XER et règles de codage XML étendues (EXTENDED-XER)	W	- details on ISO Online - download area
2	ISO/IEC 16513:2005	JTC 1/SC 6	Information technology – Group management protocol **(delayed publication of the French version)**	Technologies de l'information – Protocole de gestion de groupe	L	- details on ISO Online - download area
3	ISO/IEC 14443-2:2001/Amd 1:2005	JTC 1/SC 17	Identification cards – Contactless integrated circuit(s) cards – Proximity cards – Part 2: Radio frequency power and signal interface – Amendment 1: Bit rates of fc/64, fc/32 and fc/16	Cartes d'identification – Cartes à circuit(s) intégré(s) sans contact – Cartes de proximité – Partie 2: Interface radio fréquence et des signaux de communication - - Amendement 1: Débit binaires de fc/64, fc/32 et fc/16 **(disponible en anglais seulement)**	XZ	- details on ISO Online - download area
4	ISO/IEC 14496-4:2004/Amd 8:2005	JTC 1/SC 29	Information technology – Coding of audio-visual objects – Part 4: Conformance testing – Amendment 8: High Efficiency Advanced Audio Coding, audio BIFS, and structured audio conformance	Technologies de l'information – Codage des objets audiovisuels – Partie 4: Essai de conformité – Amendement 8: Codage sonore avancé à haute efficacité, BIFS sonore et conformité sonore structurée **(disponible en anglais seulement)**	L	- details on ISO Online - download area
5	ISO 9588-1:2005	TC 6	Paper, board and pulps – Determination of pH of aqueous extracts – Part 1:	Papier, carton et pâtes – Détermination du pH des extraits aqueux – Partie 1:	C	- details on ISO Online

Towards the bottom of the welcome screen, an important item is the "Copyright protection and watermarking tool" since every ISO member must implement watermarking and include a copyright warning sign on published ISO standards. Please refer to the document in this section "Guidelines for the reinforcement of the protection of copyright" – for further information.

Another item of interest to NSBs will be the ISONET Distribution which is a service established to provide the full data extraction from the ISO/CS project monitoring database and tools for converting this data into other formats.

Using the "Search form" to search for a specific standards

The search form, shown below, has many options for finding documents. When the number of a standard is known, it is easy to enter this into the relevant field and to select the relevant language(s).

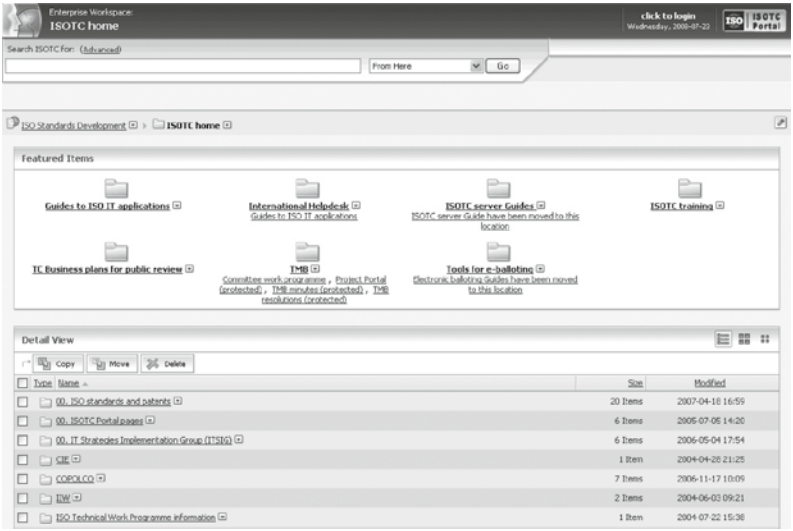


4.5 ISOTC

The purpose of this server is to provide a working environment for ISO TCs, SCs and WGs. Additionally, the server is used for the exchange of documents between the committee members and the secretary / convenor as well as connecting to the Electronic Balloting application (see 4.7) and to other applications.

Direct URL: http://www.iso.org/isotc

The ISOTC server may also be accessed from the standards development section on ISO Online. Some areas of the ISOTC server – such as the homepage (see below), the public information folder of each committee and all user guides – are not password-protected.



As shown above, the first featured item on the ISOTC homepage is "Guides to ISO IT applications" – this item includes the administrator and user guides for the ISOTC server. The user guide should be consulted for further details of how to use the ISOTC server when registered as a user by a TC, SC or WG.

All users and groups are managed by the secretariat, and/or support staff, of a TC, SC or WG via the ISO Global Directory (see 4.6).

4.6 Global Directory

The Global Directory is a database used to manage all data relating to the users who participate in ISO technical work, including roles and access rights to technical groups and documents. For example, all TC participants must be registered in the Global Directory, and their roles assigned as "TC member" in order to provide access to the committee working area on the ISOTC server. As a second example, people having the right to vote on draft standards using the Electronic Balloting application (see 4.7) are assigned the role of "balloter".

The main purpose of the Global Directory is to provide the ISO members with the right to register and maintain data relating to the individuals acting as representatives in TCs, subcommittees, working groups and as balloters. The Global Directory is also used to manage the registration of national users onto the National Mirror Committee server (see 4.9).

The Global Directory provides a convenient tool for decentralized management of users and their assignment of roles by the member bodies for their representatives instead of having to rely on the ISO Central Secretariat or committee secretaries.

Please note that **use of the Global Directory is mandatory** for all ISO member bodies and correspondent members. ISO members must have registered at least one Member Body User Administrator (MBUA) in order to be able to use the Global Directory.

A member body can have up to five MBUAs. The first is registered by ISO after receiving training on the Global Directory. This person can then add the other MBUAs.


Direct URL: https://directory.iso.org

For complete guidance on the use of the Global Directory, please refer to the detailed user guides available:


Direct URL: http://www.iso.org/e-guides

4.7 Electronic Balloting (eBalloting)

The first version of the Electronic Balloting application was set-up in 2000 to replace the system of voting by ordinary mail or fax. Since January 2003, the Electronic Balloting application is **mandatory** for all votes cast by ISO member bodies on draft standards (DIS and FDIS).

The eBalloting application is also mandatory for Committee Internal Balloting (CIB) since April 2008, for example on New Work Item Proposals, and for the Systematic Review (SR) of standards – once every five years – which are dealt with by the TCs.


Direct URL: http://isotc.iso.org/livelink/eb3/home.do

Balloting permissions on behalf of an ISO member body are managed in the Global Directory (see 4.6). The authorized balloter can access the files which may be opened, saved, downloaded and printed, for distribution as appropriate at national level. Any time a draft is submitted for voting, the authorized balloter receives a notification by e-mail from ISO/CS (for business notifications see 4.8), informing him/her that one or more drafts are being made available for voting – see stage 2 of the electronic balloting process shown below:

Stages of the electronic balloting process :

1	Opening of ballots
2	E-mail notification to registered balloters
3	Access to ballot documents by balloters and liaison organizations
4	National consultation process by member bodies
5	Casting of national votes and submission of comments
6	Reminder e-mail notifications
7	Closure of ballot
8	E-mail notification by ISO/CS on closed ballots to balloters and TC secretary and chairperson
9	Access to ballot results and comments (for balloters, TC secretary, chairperson and their support staff)
10	Follow up by TC secretary/chairperson

For complete guidance on the use of the Electronic Balloting application, please refer to the detailed user guides available:


Direct URL: http://www.iso.org/e-guides

NOTE: As far as draft standards are concerned, distribution and archiving are of the greatest importance for the national activity. For any draft submitted for voting, when the NSB is a P-member, it is necessary and fundamental that the draft be circulated to the national experts operating in the field covered by that DIS, because this is the only way to express a national position and to bear on the technical content of the draft.

That is why it is important to define the method of national distribution.

Indeed, it would be particularly advisable to make use of electronic means, and to circulate the DIS to be voted on, in the form of a PDF file attachment to an e-mail message.

Filing documents is important as well: it would be expedient to save and file the drafts in electronic format, so that they may be traced for any future needs or to respond to requests. For more details see Chapter 2 and Annex III.

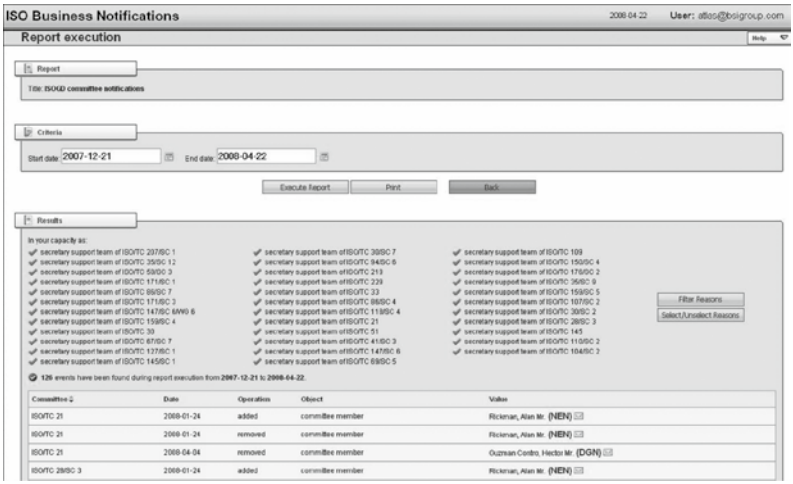
NOTE: Training sessions dedicated to ISO eServices are available from ISO:


Direct URL: http://www.iso.org/ISO/about/training

4.8 Business notifications

A business notifications application has been developed which allows a registered user of ISO eServices (ISOTC server, eBalloting, Global Directory) to configure how and when business notifications are received. In addition, a detailed overview of notifications that have been sent out can be consulted.


Direct URL: http://isotc.iso.org/biznotif



For complete guidance on the use of the business notifications application, please refer to the detailed user guides available:

Direct URL: http://www.iso.org/e-guides

4.9 NMC server

The NMC (National Mirror Committee) server has been set-up to automate the dissemination process and to provide ISO documents in the shortest possible time and with the highest degree of reliability to national stakeholders in the countries of ISO member bodies and ISO correspondent members.

All ISO member bodies and correspondent members **are strongly recommended to use the ISO NMC server**.

If a member body decides to use the ISO NMC server, access to documents of the relevant ISO/TCs is provided to the representatives of national mirror committees registered in the Global Directory (see 4.6). The NMC server is maintained by ISO/CS ; the member body only needs to manage the registration of national users via the Global Directory. This is what is called "NMC Option 1".

ISO members who have in place a solid IT infrastructure and who wish to use their existing national servers (maintained by them-

selves) to provide access to ISO documents, can use "NMC Option 2" for document dissemination. In this case, metadata and the documents are made available to the ISO member body for download so that the national server can be regularly updated.

 Direct URL: https://nmc.iso.org

For complete guidance on the use of the NMC application, please refer to the detailed user guides available:

 Direct URL: http://www.iso.org/e-guides

4.10 Project Portal

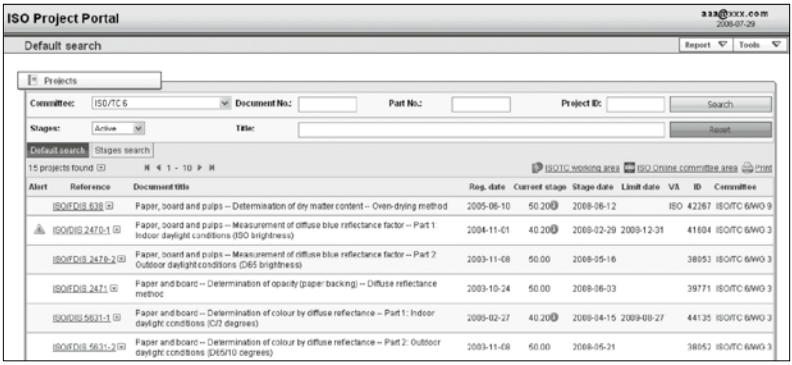
The main function of the ISO Project Portal is to provide access to all stages of the complete ISO work programme for all technical committees and subcommittees. An additional function is to provide aggregated project status information to authorized individuals in the ISO member bodies.

For users with specific roles in ISO technical committees (e.g. committee secretary), direct access is provided from the ISO Project Portal to other ISO eServices such as the Submission Interface, eBalloting (see 4.7) and others.

The main function of the ISO Project Portal is to provide a structured tool to:

- Help committee secretaries manage their entire committee work programme from preliminary stage (stage 00.00) to withdrawal stage (95.99)
- Provide a clear view for the ISO community of the work of the ISO committees
- Provide full details on projects (history, current status and limit/target dates).

 Direct URL: http://isotc.iso.org/pp



For complete guidance on the use of the Project Portal, please refer to the detailed user guides available:

Direct URL: http://www.iso.org/e-guides

4.11 Single Sign-On (SSO)

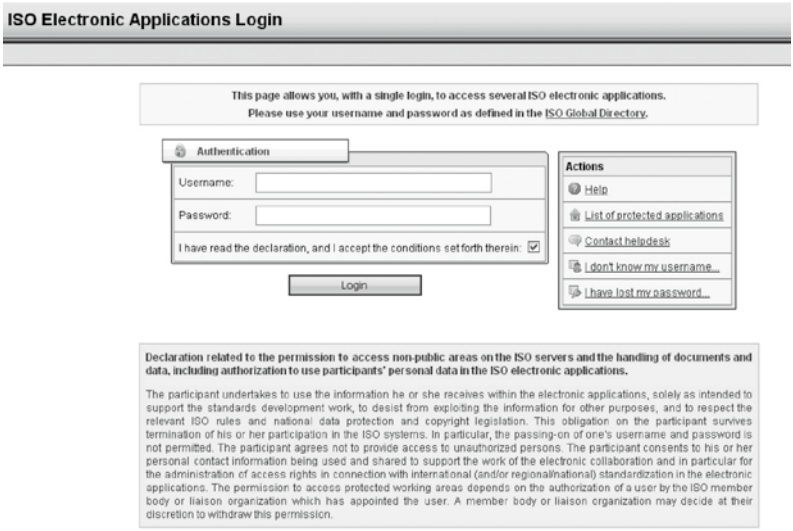
ISO electronic applications are protected by a Single Sign-On mechanism (SSO) that allows the user to be granted access to any of the protected applications without having to repeatedly re-type username and password.

Permission to access the applications is given according to the roles the user have been allocated in the ISO Global Directory (see 4.6).

The SSO application will appear automatically after accessing one of the protected eServices applications. Users should access the applications via the usual page of ISO Online for IT tools:

Direct URL: http://www.iso.org/e-services

Please notice that the single login mechanism works across any number of applications if they are opened in the same browser.



When launched in July 2008, the following applications were included under SSO:

- ISOTC server (see 4.5)
- Global Directory (see 4.6)
- Electronic Balloting Portal (see 4.7)
- Business Notifications (see 4.8)
- Project Portal and Submission Interface (see 4.9)

In the future, the SSO will include other eServices such as the NMC server (see 4.10), ISODOC (see 4.3) and ISOSTD (see 4.4).

The list of protected ISO eServices applications is available at the following URL:

Direct URL: https://login.iso.org/idm/portal.action

Annex I – Description of the most common IT products to be used and recommendations for their use

This Annex provides further details of the software referred to in Chapter 3 of this guide (IT-based activities).

Word processing

The most commonly used word processing tool today is Microsoft Word. It has a large number of features, although a small subset of these is sufficient for producing high-quality documents.

Microsoft Word is a component of the Microsoft Office package. The official Web site provides online help and training courses for all the components:


Direct URL: http://office.microsoft.com/en-gb/default.aspx

In order to facilitate the processing of draft documents throughout the ISO system, authors are encouraged to use, whenever possible, the same tool. At present, Microsoft Word is the most frequently used application for standards drafting, and is the word processor currently used by the Central Secretariat.

It is important to consider that different versions of Microsoft Word have certain functions in the latest versions that are not supported in the previous ones. It is therefore recommended to avoid using these functions, or to disable features not supported by the previous versions of the software, if files are to be shared with users of the previous versions.

In text editing, a good habit is to use a template. Whether for writing a letter, an internal communication or a draft standard, one should use a predefined "model", that is, a template, specifying – for each type of document – all editorial elements and attributes (font, size, colour, alignment, line spacing, etc. should be defined in styles). This is the only way to ensure consistency among all documents issued by the organization.

If an organization has been allocated one or more ISO/TC secretariats, the rules for submitting documents shall be followed – these rules and other aspects of standards publishing are fully described in the ISO eServices Guide. ISO templates used for the preparation of ISO and ISO/IEC drafts and final drafts are described in detail in the ISO eServices Guide.


Direct URL: http://www.iso.org/ISOeServicesGuide
http://www.iso.org/templates

Presentations

Microsoft PowerPoint provides a complete set of tools for creating powerful presentations ; organize and format your material easily, illustrate your points with your own images or clip art, and even broadcast your presentations over the Web.

Microsoft PowerPoint is a component of the Microsoft Office package. The official Web site provides online help and training courses for all the components:


Direct URL: http://office.microsoft.com/en-gb/default.aspx

Spreadsheets

A spreadsheet is a table consisting of rows and columns. It is very easy to use a spreadsheet to present information in large tables, whereas setting-up the same table in a word processor would be more difficult. Although spreadsheets are often used for presenting financial information, the cells of a spreadsheet can contain text, numerical values or formulae. Microsoft Excel is the most

commonly used spreadsheet application and is a component of the Microsoft Office package.

The official Web site provides online help and training courses for all the components:

 Direct URL: http://office.microsoft.com/en-gb/default.aspx

Web site creation and maintenance

As discussed in section 3.6, some organizations will develop their own Web pages as HTML files. Software typically used for making and editing HTML pages are Microsoft FrontPage (recently replaced by Microsoft Expression Web) and Adobe Dreamweaver (formerly Macromedia Dreamweaver). However, Web pages typically include images and therefore separate software for creating and editing images will be required.

 Direct URL: http://www.adobe.com/products/dreamweaver/

Microsoft FrontPage is a component of the Microsoft Office 2003 package. The official Web site provides online help and training courses for FrontPage 2003:

 Direct URL: http://office.microsoft.com/en-gb/frontpage/default.aspx

There is a wide range of software for processing images, ranging from the most sophisticated like Adobe Photoshop and Adobe Illustrator to the basic Microsoft Paint (included with Microsoft Windows). However, a basic tool like Microsoft Paint is not recommended for image creation.

 Direct URL: http://www.adobe.com/products/

Drawings

If an organization is submitting draft standards to ISO/CS the basic rules for the preparation and drafting of figures are in the *ISO/IEC Directives*. ISO has developed templates for AutoCAD drawings which allows drawings to meet the "ITSIG specification for the preparation and exchange of graphics".

For further information see:


Direct URL: http://www.iso.org/directives
http://www.iso.org/templates

Exchanging electronic documents

The circulation of paper is now largely superseded by the circulation of electronic documents. This turns out to be far more efficient and less expensive; however, it requires organization and choice of the appropriate format, which can be read and used by the receiver without losing any information embedded in the document.

The ISO Submission Interface provides committee secretaries and their support staff the means to submit files to the ISO Central Secretariat. This applies in particular to the submission of files for the processing as Draft and Final Draft International Standards (DIS and FDIS).

For further information please refer to the "Submission Interface – User guide":


Direct URL: http://www.iso.org/e-guides

Exchange formats

The file format shall be chosen according to the purpose for which the document is being distributed (i.e. revisable format for purposes of revision/commenting/etc. and a display format for purposes of review), and according to any special needs (e.g. graphics, use of tables, etc.).

The following are revisable formats:

- Plain ASCII text file with explicit carriage return and line feeds encoded in accordance with ISO 8859-1 (e.g. DOS text files and Windows text files) – for e-mail and simple messages.
- Microsoft Word (see above)
- Hypertext Markup Language (HTML)
- SGML/XML conforming to the ITSIG exchange DTD in the case of standards – for standards and related metadata.

The most popular non-revisable format Portable Document Format (PDF), allows anyone with Adobe Reader to view a PDF document. When printed, a PDF document should have exactly the same presentation – in fact, professional printers often use PDF for exchanging files with their clients.

PDF is considered to be a non-revisable format because Adobe Reader cannot be used to edit PDF files. Although other Adobe products such as Adobe Acrobat Professional and Adobe Photoshop can be used to modify PDF files, this is not recommended except for minor editing.

Adobe Reader is available free of charge and can be downloaded from:


Direct URL: http://www.adobe.com/products/

Further details on how to generate PDF files are available here:


Direct URL: http://www.iso.org/pdf

File compression

Complex documents tend to be large and often consist of many parts. It is useful to take advantage of compression and archiving utilities to package and compress such documents for delivery via electronic media or the Internet. The most commonly used compression and archiving utility is the zip utility which can package and compress a multiple number of documents. A Windows version called Winzip can be obtained at the following URL:


Direct URL: http://www.winzip.com

Exchange security

Viruses are unwanted programs or portions of programs, usually self-replicating, which attach themselves to other programs or documents. Their effects range from harmless to complete destruction of all files on the computer, or even on the network. They are generally transmitted when files are exchanged from one computer to another.

Users should therefore take precautions to protect themselves against viruses. Programmes are available from any computer store; examples of widely used programs are available from McAfee, Norton, AVG, etc. It is important to ensure that the virus lists for the program you use are regularly updated.

It is good practice for the sender to ensure that all files being sent are virus-free. The recipient of files should however also check all incoming files, regardless of the media used.

Direct URL: http://www.mcafee.com (McAfee)
http://www.symantec.com (Norton)
http://www.grisoft.com (AVG)

Exchange media

In general, diskettes are obsolete and most new PCs only have a CD-ROM, or combined CD-ROM / DVD reader. Therefore, the recommended exchange media is CD-ROM for cases where the amount of data to be exchanged is less than 650-700 MB. Software used to make CD-ROMs (a process often referred to as "burning") should produce a CD-ROM conforming with ISO 9660 to ensure that the CD-ROM is compatible with all operating systems.

DVD may be used but senders should ensure that the recipient has the necessary hardware to read the medium before sending it.

As discussed in the chapters of this guide, ISO's eServices are Web-based which allows documents and data to be exchanged via servers. This method eliminates the need to exchange files by any other means and has the following advantages over other types of exchange:

- Only requires an Internet connection and browser

- Documents are downloaded as necessary
- Documents are always the latest versions.

E-mail is used to exchange documents and data as attachments but it should be noted that some e-mail servers reject incoming e-mails that exceed a certain size.

Another type of exchange mentioned in chapter 3, often used for updating Web sites, is FTP (File Transfer Protocol). Software for carrying out FTP transfer is readily available and makes the process very simple, for example, FireZilla is available from:


Direct URL: http://filezilla-project.org

Database

A database management system (DBMS) provides a software tool for organizing data. Examples of databases created by NSBs were given section 3.3.2 of this manual.

A DBMS includes facilities to add, modify or delete data from the database, ask questions (or queries) about the data stored in the database and produce reports summarizing selected contents. DBMS products vary in complexity, performance, price and the cost of developing a custom-made solution. Some popular products are mentioned below – including the possibility of using an Open Source solution.

FileMaker Pro databases are popular among both Macintosh and Windows business users. This easy-to-administer platform ships out of the box with business templates for the database administrator:


Direct URL: http://www.filemaker.com

Microsoft Access provides developers with one of the simplest DBMS solutions on the market today. Regular users of Microsoft products will enjoy the familiar Windows "look and feel" as well as the tight integration with other Microsoft Office family products like Word and Excel.

Microsoft Access is a component of the Microsoft Office Professional package. The official Web site provides online help and training courses for all the components:


Direct URL: http://office.microsoft.com/en-gb/default.aspx

The popular Open Source DBMS called mySQL – available for free as a community edition – can be compared to high end commercial solutions such as Microsoft SQL Server and Oracle. All three products provide maximum completeness and reliability.

For further information:


Direct URL: http://www.mysql.com (mySQL)
http://www.microsoft.com/sqlserver (SQL Server)
http://www.oracle.com (Oracle)

Electronic mail

There are many e-mail applications (client programs) – the most popular are listed below.

Microsoft Outlook is a component of the Microsoft Office package. The official Web site provides online help and training courses for all the components:


Direct URL: http://office.microsoft.com/en-gb/default.aspx

Outlook Express (was included with Internet Explorer up to version 6):


Direct URL: http://www.microsoft.com/windows/ie/ie6/using/oe/default.mspx

In Windows Vista, Outlook Express was replaced by Windows Mail:


Direct URL: http://www.microsoft.com/windows/windows-vista/features/mail.aspx

Mozilla Thunderbird (an Open Source product):

 Direct URL: http://www.mozilla.com/en-US/thunderbird/

Eudora (is popular on Windows and Macintosh):

 Direct URL: htttp://www.eudora.com

Annex II – Recommendations and guidelines concerning the development of an ISO member Web site

This Annex summarizes some key principles for the development of a Web site for a national standards body (NSB).

Other useful recommendations are to be found on the Web site of the World Wide Web Consortium, W3C, at www.w3.org. Of particular interest in the context of Web content are the Web Content Accessibility Guidelines.

In addition, it is recommended that HTML files should be checked with the online validator at validator.w3.org

General principles

- All sites should be kept up-to-date; and the date of the last update clearly indicated on each page
- Copyright information and notices should be incorporated where appropriate. It is recommended that each page displays the copyright symbol and the year e.g. "© 2008 "which is a hyperlink to a page describing the organizations' copyright notices and contact information. For further details see: *ISO policy for the protection of ISO's intellectual property* (ISO/GEN 9: 2007).
  These guidelines should be used by ISO and its members
- A user feedback form is recommended
- A search mechanism should be provided
- A catalogue of standards and other publications should be browsable. This provides a convenient user interface
- For information retrieval purposes, certain sections of WSSN members' home pages need to be accessible through a common language. English has been agreed as the primary or secondary language most commonly used. Therefore, it is recommended that, as a minimum, the main menu and sections related to the description of the organization and catalogue be available in English.

Contents

A template for creating an NSB Web site and a database providing information for the technical work programme and catalogue of national standards for the Web site have been designed by the ISO Central Secretariat. The template and the database will considerably facilitate the creation of a national standards organization's Web site.

It is recommended that each Web site contain at least the following sections, accessible through the first (home) page:

Introduction of the standards body and its Web site	This section should provide general information on the particular standards body and contact information (postal address, e-mail address, telephone and fax numbers, etc.).
Information on standards activities	It is recommended that this section introduce the subject of standardization and provide a link to the general information on standardization given on the ISO/IEC Information Centre Web site (www.standardsinfo.net). This section could include any complementary national or regional information which is felt relevant.
Catalogue	The Catalogue should be arranged by ICS fields, groups and sub-groups and provide bibliographic information on all publications and documents available for sale from the standards body. The possibility to have lists of standards for each TC / SC would be an asset. Information on how to identify and order publications should be provided. The Catalogue should contain at least the following sections: ■ How to use the Catalogue ■ How to place your order ■ Standards and other normative documents ■ Publications other than standards. The search page should provide for retrieval of standards by a choice of criteria, e.g.: ■ Product/document reference ■ Keywords ■ ICS code ■ Development committee ■ Type of document ■ Range of dates of application.

Work programme information (of projects)	The work programme of the standards body as well as a meeting calendar should be included. Please follow the guidelines contained in the document: *Notification procedures related to the Code of Good Practice for the Preparation, Adoption and Application of Standards* contained in Annex 3 of the WTO Agreement on Technical Barriers to Trade (document ISO/GEN 5:1995). The work programme normally contains information on, at least, all projects or work items for development of standards and other normative documents. The guidelines contained in document ISO/GEN 5 indicate that all items of the work programme should be classified in accordance with the International Classification for Standards (ICS), that the stage system used should be the Harmonized Stage Code (HSC) system (ISO Guide 69:1999), and that references to any International Standards taken as a basis should be referenced in accordance with ISO/IEC Guide 21-1:2005 and ISO/IEC Guide 21-2:2005.
Conformity assessment	It is recommended that this section introduce the subject of conformity assessment and give an explanation of the conformity assessment activities undertaken by the NSB. This section might also include certification schemes operating in the member's area, as well as lists of accreditation bodies, certification bodies, certified companies, etc.
Products and services (including catalogue)	This section should provide information on the standards, other publications and all products and services offered by the body, including information services, promotional services, etc. Where possible, the body should consider allowing online ordering or registration, as appropriate.
News	This section should include news items of interest to the customers (e.g. new national, regional, international standardization activities, new marks of conformity, coming events…)
FAQ	A list of frequently asked questions is a useful way to optimize the management of the enquiries an NSB receives.

WSSN	This item should provide the WSSN logo, with link to the WSSN home page (www.wssn.net). It is recommended that the full title (and/or translation of the full title) of WSSN is given.

Technical tips

It is recommended that a small consistent set of information be included on every Web page, that is: the last date of modification of the page, the copyright label with a link to a page containing copyright information, a link to the sitemap and a Webmaster e-mail address or link to a contact page. This will help to identify your page if someone comes to it browsing through the Web without passing through your home page.

To assist the casual browser, it is also recommended to provide on all your pages a "toolbar" or side frame, with links to some of the main items on your server such as your home page, a "latest news" page, etc. Your users will also appreciate a print function which allows each page to be printed.

Help the user navigate by keeping text short and to the point. The Web was meant for browsing rather than for online reading. Supply a short summary of long pages to help users understand what the page is about.

Do not overwhelm your visitors with a large number of options. "Less is more" in Web design. Similarly, limit the use of graphics to the essential: remember that white space accentuates what is there and well-spaced elements increase readability. Italic type is hard to read on many computer screens and should be used sparingly. Make sure that the background colours do not interfere with the readability of the text.

Give readers a road map, perhaps through the use of "breadcrumb navigation" (see below), to help them know where they are and how to get to where they want to be.

Standards development > Governance of technical work > Technical management board (TMB)

Reduce frustrations on download time: include information concerning the size (in megabytes for example), the type (images,

sound, etc.) and the format (PDF, TIFF, AU) of a file when providing links to such files.

Limit the use of elements that take a long time to load, including large graphics, Flash movies, frames, animated GIFs, Java or Javascripts. Also remember that some users may not be able to use Java, Javascript or Flash.

When using the same graphic many times on different pages, use the same URL for the image source, so that the visitor can take advantage of the local cache.

Test your pages for slow speed connections. You can use Sloppy (http://www.dallaway.com/sloppy/) to simulate a slow modem connection. Most pages should take no longer that 10 seconds to load; less than 5 seconds is preferable.

Good practice

Do not use the term "under construction" for a page: every Web site is generally considered to be under constant construction. It is better to construct completely the page and provide it when it is finished.

Do not use the term "click here" for a link: the link should be incorporated into the wording of the text. A link will be evident in the browser (i.e. underlined, different colour, etc.).

Be aware that many readers find the BLINK tag annoying, so use it sparingly.

Print your page and inspect it: many users like to make hard copies of Web pages. It should be fairly easy to read.

Try and follow the W3C accessibility guidelines (www.w3.org/WAI) to make sure that older people or people with disabilities can also use your Web site. For example, you should always supply a description of each image on your site using the ALT text.

Annex III – Recommended architecture of file servers for standardizing bodies in developing countries

Introduction

This Annex sets outs a recommended architecture of file servers for a national standards body (NSB) in a developing country.

Depending on the size of the NSB and on physical constraints – such as the location of departments – these recommendations can be implemented on one or several file servers. The structure (servers, repositories, directories, sub-directories) can be enlarged or reduced as necessary.

The NSB implementing these recommendations should develop specific rules and procedures with regard to the creation, registration and movement of files, their storage, archiving and retrieval.

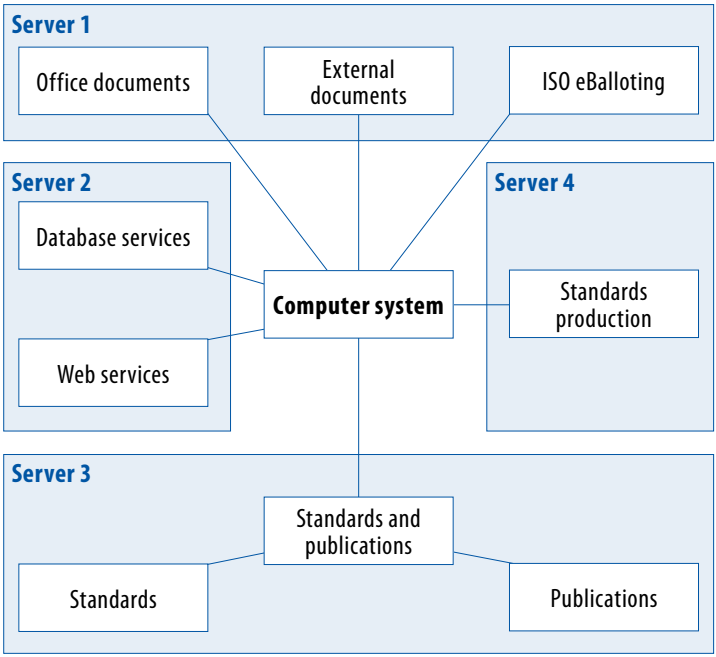
General requirements

All of the NSB's electronic documents should be filed, and secure back-up should be defined in the relevant quality documents of the departments/units concerned.

The top-level architecture could consist of three or four servers with the following repositories:

- Office documents (Server 1)
- External documents (Server 1)

- ISO eBalloting (Server 1)
- Database services (Server 2)
- Web services (Server 2)
- Standards and publications (Server 3)
- Standards production (Server 4)



For the purposes of this manual, only Server 1 is considered in detail. Some NSBs implementing these guidelines may wish to investigate further servers for Standards and publications (Server 3) and Standards production (Server 4).

Server 2 is not the server that hosts the Web site: only a copy of the Web site and any associated databases should be on the hosting server. Server 2 is the server where the master files (Web site and any associated databases) are stored.

Access to all servers/repositories/directories should be protected by passwords.

Description of repositories

Office documents: all the NSB's documents, including incoming and outgoing correspondence in electronic form, should be stored here. Repositories/directories can be password protected. For the purposes of this Annex, the organizational structure follows a division of departments based on the ISO sectors.

External documents: any documents that are received from outside the NSB are stored here in non-revisable formats (e.g. PDF). There are two very important considerations for this repository:

a) the naming convention used for file names. For ISO documents, it is recommended that the ISO convention is followed.

Examples:

General Assembly 01/2007
Council 12/2007
Council 06/2007 (Add.1)
LRS 16/2006

b) the person responsible for keeping the repository up-to-date must make sure that new documents and revisions of existing documents are put into the repository in the correct place so that others in the NSB are sure to find them. For ISO documents, notifications will indicate new and revised documents. The above-mentioned file naming convention will ensure that revisions are easily recognizable.

Examples:

TMB 31/2007
TMB 31/2007 (Rev. 1)

ISO eBalloting: the contents of this repository should mirror the ISO eBalloting system such that all draft standards (DIS and FDIS), comments and correspondence are stored under the relevant ISO technical committee reference.

Database services: any database used by the NSB.

Web services: a Web site may be hosted here, or a file server mirroring that of the host server for the purpose of transferring files via FTP.

Standards and publications: this would be designed to access currently valid publications. The Standards repository contains standards and their drafts at various stages of development. The Publications repository is designed to access all valid publications other than standards.

Standards production: this would be for working documents and drafts of standards under development by the NSB and would include working documents/correspondence of technical committees.

Recommendations

The general requirements stated in this Annex should be taken into account for each respective server or part of a server. Additionally, specific requirements are presented in the following tables for each server/repository.

Table 1 – Office documents (basic structure)

Directory [Level 1]	Sub-directory [Level 2]	Sub-directory [Level 3]	Sub-directory [Level 4]
10 Chief Executive Officer	Budget Committee	Working documents	
		Correspondence	
	Executive Committee	Working documents	
		Correspondence	
	Staff Affairs Committee	Working documents	
		Correspondence	
20 Governing Council	Certification Advisory Committee	Working documents	
		Correspondence	
	Finance Committee	Working documents	
		Correspondence	
	Standards Policy Advisory Committee	Working documents	
		Correspondence	
	Testing and Metrology Advisory Committee	Working documents	
		Correspondence	

Table 1 – Office documents (basic structure)			
Directory [Level 1]	Sub-directory [Level 2]	Sub-directory [Level 3]	Sub-directory [Level 4]
40 International organizations	CAC	Correspondence	
	CIE	Correspondence	
	IAEA	Correspondence	
	IATA	Correspondence	
	IEC	Correspondence	
	ILO	Correspondence	
	IMO	Correspondence	
	ISO	Governing bodies (GA, Council)	Correspondence
		Marketing and information (CPSG, ISONET, etc.)	CPSG
			ISONET
		PDCs (CASCO, COPOLCO, DEVCO)	CASCO
			COPOLCO
			DEVCO
		Technical activities (TMB, TAGs, etc.)	JTAG 1
			TAG 4
			TAG 8
			TMB
		z – Other activities	
	ITU	Correspondence	
	UN-CEFACT	Correspondence	
	UNIDO	Correspondence	
	WIPO	Correspondence	
	WTO	Correspondence	
	z – Others		

Table 1 – Office documents (basic structure)			
Directory [Level 1]	Sub-directory [Level 2]	Sub-directory [Level 3]	Sub-directory [Level 4]
60 Regional organizations	AIDMO	Documents	
		Correspondence	
	ARSO	Documents	
		Correspondence	
	CEN	Documents	
		Correspondence	
	CENELEC	Documents	
		Correspondence	
	COPANT	Documents	
		Correspondence	
	ETSI	Documents	
		Correspondence	
	z – Others		
70 Metrology	BIPM		
	OIML		
	Reference materials (REMCO)		
80 Certification	Management system certification		
	Product certification		
	z – Other certification		

Table 1 – Office documents (basic structure)			
Directory [Level 1]	Sub-directory [Level 2]	Sub-directory [Level 3]	Sub-directory [Level 4]
90 Departmental folders	Accounting		
	Administration		
	Information Services		
	IT Services		
	Legal		
	Personnel		
	Public Relations		
	Sales		
	Technical Departments	Agriculture and food technology	
		Certification Unit	
		Construction	
		Electronics, IT and telecommunications	
		Engineering	
		Generalities	
		Health, safety and environment	
		Materials technologies	
		Metrology Unit	
		Special technologies	
		Standards Coordination Unit	
		Technical Coordination Services	
		Transport and distribution of goods	

Table 1 – Office documents (basic structure)			
Directory [Level 1]	Sub-directory [Level 2]	Sub-directory [Level 3]	Sub-directory [Level 4]
99 Quality system	Accounting		
	Administration		
	CEO		
	General		
	Information Services		
	IT Services		
	Legal		
	Personnel		
	Public Relations		
	Sales		
	Technical Departments	Agriculture and food technology	
		Certification Unit	
		Construction	
		Electronics, IT and telecommunications	
		Engineering	
		Generalities	
		Health, safety and environment	
		Materials technologies	
		Metrology Unit	
		Special technologies	
		Standards Coordination Unit	
		Technical Coordination Services	
		Transport and distribution of goods	

Table 2 – External documents (basic structure)			
Directory [Level 1]	Sub-directory [Level 2]	Sub-directory [Level 3]	Sub-directory [Level 4]
10 ISO	10 General documents		
	20 Circular letters (policy and general)	2007	
		2008	
	30 General Assembly	Working documents	2007
			2008
		Minutes-Resolutions	2007
			2008
	40 CASCO	Working documents	2007
			2008
		Minutes-Resolutions	2007
			2008
	50 COPOLCO	Working documents	2007
			2008
		Minutes-Resolutions	2007
			2008
	60 DEVCO	Working documents	2007
			2008
		Minutes-Resolutions	2007
			2008
	70 Marketing and information	CPSG	
		ISONET	
	80 Council	Working documents	2007
			2008
		Minutes-Resolutions	2007
			2008
	90 TMB	JTAG 1	
		TAG 4	
		TAG 8	
		TMB Minutes-Resolutions	2007
			2008
		TMB Working documents	2007
			2008
	98 Statutes, and information on members		
	99 Hotels in Geneva, ISO-CS staff		

Table 2 – External documents (basic structure)			
Directory [Level 1]	Sub-directory [Level 2]	Sub-directory [Level 3]	Sub-directory [Level 4]
30 Other international organizations	CAC		
	CIE		
	IAEA		
	IATA		
	IEC		
	ILO		
	IMO		
	ITU		
	UN-CEFACT		
	UNCTAD		
	UN-ECE		
	UNESCO		
	UNIDO		
	WIPO		
	WTO		
	z – Others		
40 Regional organizations	AIDMO		
	CEN		
	CENELEC		
	ETSI		
	z – Others		
60 Other standardizing bodies			

Table 3 – ISO eBalloting (part of structure)			
Directory [Level 1]	Sub-directory [Level 2]	Sub-directory [Level 3]	Sub-directory [Level 4]
ISO TC 002 Fasteners	ISO TC 002	Drafts Comments Correspondence	
	SC 01 Mechanical properties of fasteners	Drafts Comments Correspondence	
	SC 07 Reference standards for fasteners (mainly covering terminology, dimensioning, sizes and tolerancing)	Drafts Comments Correspondence	
	SC 10 Product standards for fasteners	Drafts Comments Correspondence	
ISO TC 004 Rolling bearings	ISO TC 004	Drafts Comments Correspondence	
	SC 04 Tolerances	Drafts Comments Correspondence	
	SC 05 Needle roller bearings	Drafts Comments Correspondence	
	SC 06 Insert bearings and accessories	Drafts Comments Correspondence	
	SC 07 Spherical plain bearings	Drafts Comments Correspondence	

Table 3 – ISO eBalloting (part of structure)			
Directory [Level 1]	Sub-directory [Level 2]	Sub-directory [Level 3]	Sub-directory [Level 4]
	SC 08 Load ratings and life	Drafts Comments Correspondence	
	SC 09 Tapered roller bearings	Drafts Comments Correspondence	
	SC 11 Linear motion rolling bearings	Drafts Comments Correspondence	
ISO TC 005 Ferrous metal pipes and metallic fittings	ISO TC 005	Drafts Comments Correspondence	
	SC 01 Steel tubes	Drafts Comments Correspondence	
	SC 02 Cast iron pipes, fittings and their joints	Drafts Comments Correspondence	
etc.			

Glossary

CAD	Computer-aided design
CEO	Chief executive officer
DMS	Document management system
DBMS	Database management system
DTD	Document Type Definition
EPS	Encapsulated PostScript
FTP	File Transfer Protocol
GIF	Graphics Interchange Format
HSC	Harmonized Stage Code
HTML	HyperText Markup Language
ICS	International Classification for Standards
ICT	Information and communications technologies
IPR	Intellectual property rights
IRS	International Relations Service
ISO/CS	ISO Central Secretariat
ISP	Internet service provider
IT	Information technology
ITSIG	Information Technology Strategies Implementation Group
LAN	Local area network
MBUA	Member Body User Administrator
NMC	National Mirror Committee
NSB	National standards body
PC	Personnal computer

PDF	Portable Document Format
SC	Subcommittee
SGML	Standard Generalized Markup Language
TC	Technical committee
TIFF	Tagged Image File Format
TMB	Technical Management Board
TO	Technical Officer
URL	Uniform Resource Locator
WG	Working group
W3C	World Wide Web Consortium (see www.w3.org)
XML	Extensible Markup Language
ZIP	compressed file format

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ISBN 978-92-67-10493-5