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ISO/ IEC 27033-1:2015

DRAFT TANZANIA STANDARD

(Draft for comments only)

Information technology — Security techniques — Network security — Part 1: Overview and concepts

TANZANIA BUREAU OF STANDARDS

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1 National Foreword

This draft Tanzania Standard is being prepared by the Telecommunications and Information Technology Technical Committee, under the supervision of the Electrotechnical divisional standards committee (EDC)

This draft Tanzania Standard is an adoption of the International Standard ***ISO/IEC 27033-1:2015*** *Information technology — Security techniques — Network security — Part 1: Overview and concepts,* which has been prepared by the International Electrotechnical Commission (IEC) and the International Organisation for Standardization (ISO)

2 Terminology and conventions

Some terminologies and certain conventions are not identical with those used in Tanzania standards; attention is drawn especially to the following: -

1) The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, it is current practice to use “full point” on the baseline as the decimal marker.

2) Where the words “International Standard(s)” appear, referring to this standard they should read “Tanzania Standard(s)”.

Introduction

In today's world, the majority of both commercial and government organizations have their information systems connected by networks (see Figure 1), with the network connections being one or more of the following:

— within the organization,
— between different organizations,
— between the organization and the general public.

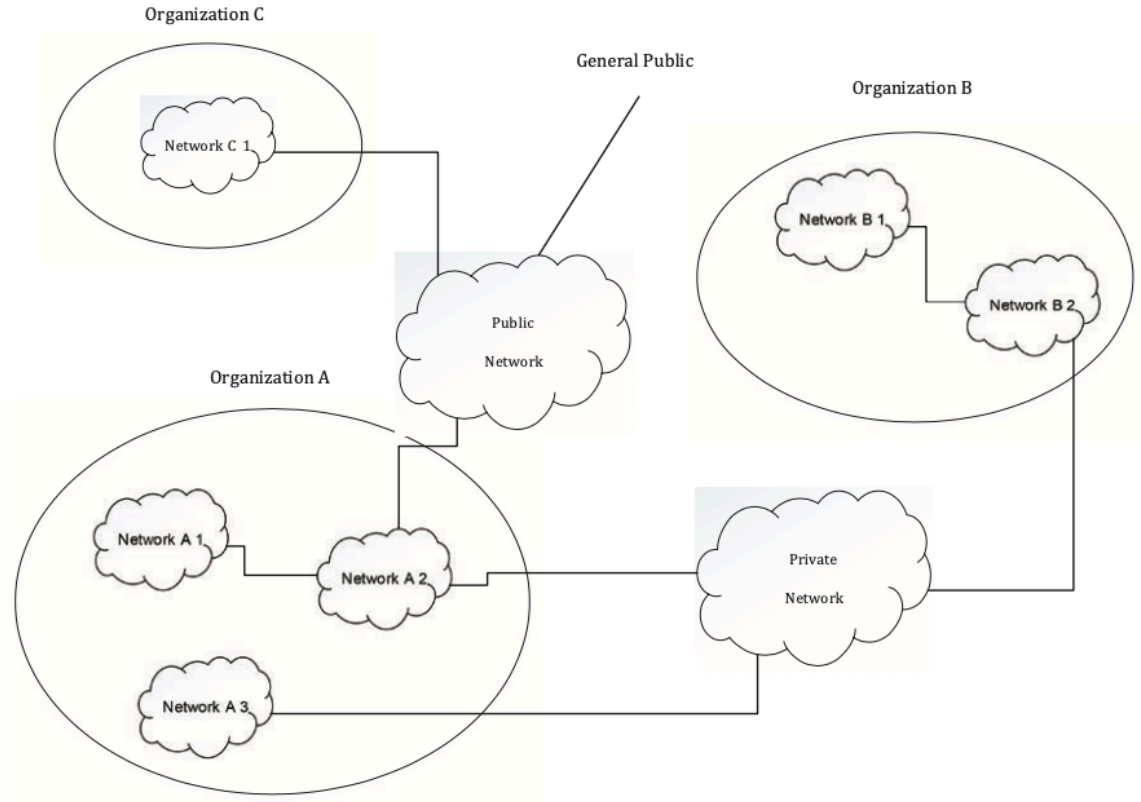

Figure 1 — Broad types of network connection

Further, with the rapid developments in publicly available network technology (in particular with the Internet) offering significant business opportunities, organizations are increasingly conducting electronic business on a global scale and providing online public services. The opportunities include the provision of lower cost data communications, using the Internet simply as a global connection medium, through to more sophisticated services provided by Internet service providers (ISPs). This can mean the use of relatively low cost local attachment points at each end of a circuit to full scale online electronic trading and service delivery systems, using web-based applications and services. Additionally, the new technology (including the integration of data, voice and video) increases the opportunities for remote working (also known as "teleworking" or "telecommuting") that enable personnel to operate away from their homework base for significant periods of time. They are able to keep in contact through the use of remote facilities to access organization and community networks and related business support information and services.

However, whilst this environment does facilitate significant business benefits, there are new security risks to be managed. With organizations relying heavily on the use of information and associated networks to conduct their business, the loss of confidentiality, integrity, and

availability of information and services could have significant adverse impacts on business operations. Thus, there is a major requirement to properly protect networks and their related information systems and information. In other words: implementing and maintaining adequate network security is absolutely critical to the success of any organization's business operations.

In this context, the telecommunications and information technology industries are seeking costeffective comprehensive security solutions, aimed at protecting networks against malicious attacks and inadvertent incorrect actions, and meeting the business requirements for confidentiality, integrity, and availability of information and services. Securing a network is also essential for maintaining the accuracy of billing or usage information as appropriate. Security capabilities in products are crucial to overall network security (including applications and services). However, as more products are combined to provide total solutions, the interoperability, or the lack thereof, will define the success of the solution. Security must not only be a thread of concern for each product or service, but must be developed in a manner that promotes the interweaving of security capabilities in the overall security solution.

The purpose of this International Standard is to provide detailed guidance on the security aspects of the management, operation and use of information system networks, and their inter-connections. Those individuals within an organization that are responsible for information security in general, and network security in particular, should be able to adapt the material in this International Standard to meet their specific requirements. Its main objectives are as follows.

— ISO/IEC 27033-1, to define and describe the concepts associated with, and provide management guidance on, network security. This includes the provision of an overview of network security and related definitions, and guidance on how to identify and analyse network security risks and then define network security requirements. It also introduces how to achieve good quality technical security architectures, and the risk, design and control aspects associated with typical network scenarios and network "technology" areas (which are dealt with in detail in subsequent parts of ISO/IEC 27033).

— ISO/IEC 27033-2, to define how organizations should achieve quality network technical security architectures, designs and implementations that will ensure network security appropriate to their business environments, using a consistent approach to the planning, design and implementation of network security, as relevant, aided by the use of models/frameworks (in this context, a model/framework is used to outline a representation or description showing the structure and high level workings of a type of technical security architecture/design), and is relevant to all personnel who are involved in the planning, design and implementation of the architectural aspects of network security (for example network architects and designers, network managers, and network security officers).

— ISO/IEC 27033-3, to define the specific risks, design techniques and control issues associated with typical network scenarios. It is relevant to all personnel who are involved in the planning, design and implementation of the architectural aspects of network security (for example, network architects and designers, network managers, and network security officers).

— ISO/IEC 27033-4, to define the specific risks, design techniques and control issues for securing information flows between networks using security gateways. It is relevant to all personnel who are involved in the detailed planning, design and implementation of security gateways (for example, network architects and designers, network managers, and network security officers).

— ISO/IEC 27033-5, to define the specific risks, design techniques and control issues for securing connections that are established using Virtual Private Networks (VPNs). It is relevant to all personnel who are involved in the detailed planning, design and implementation of VPN security (for example, network architects and designers, network managers, and network security officers).

— ISO/IEC 27033-6, to define the specific risks, design techniques and control issues for securing IP wireless networks. It is relevant to all personnel who are involved in the detailed planning, design and implementation of security for wireless networks (for example, network architects and designers, network managers, and network security officers).

It is emphasized that this International Standard provides further detailed implementation guidance on the network security controls that are described at a basic standardized level in ISO/IEC 27002.

It should be noted that this International Standard is not a reference or normative document for regulatory and legislative security requirements. Although it emphasizes the importance of these influences, it cannot state them specifically, since they are dependent on the country, the type of business, etc.

Unless otherwise stated, throughout this part of ISO/IEC 27033 the guidance referenced is applicable to current and/or planned networks, but will only be referenced as “networks” or “the network”.

1 Scope

This part of ISO/IEC 27033 provides an overview of network security and related definitions. It defines and describes the concepts associated with, and provides management guidance on, network security. (Network security applies to the security of devices, security of management activities related to the devices, applications/services, and end-users, in addition to security of the information being transferred across the communication links.)

It is relevant to anyone involved in owning, operating or using a network. This includes senior managers and other non-technical managers or users, in addition to managers and administrators who have specific responsibilities for information security and/or network security, network operation, or who are responsible for an organization’s overall security program and security policy development. It is also relevant to anyone involved in the planning, design and implementation of the architectural aspects of network security.

This part of ISO/IEC 27033 also includes the following:

— provides guidance on how to identify and analyse network security risks and the definition of network security requirements based on that analysis,

— provides an overview of the controls that support network technical security architectures and related technical controls, as well as those non-technical controls and technical controls that are applicable not just to networks,

— introduces how to achieve good quality network technical security architectures, and the risk, design and control aspects associated with typical network scenarios and network “technology” areas (which are dealt with in detail in subsequent parts of ISO/IEC 27033), and briefly addresses the issues associated with implementing and operating network security controls, and the on-going monitoring and reviewing of their implementation.

Overall, it provides an overview of this International Standard and a “road map” to all other parts.