Guide to Administrative Procedures of the Internet Infrastructure - English

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GUIDE TO ADMINISTRATIVE PROCEDURES OF THE INTERNET INFRASTRUCTURE

Summary

This document describes the administrative procedures for countries (or networks) seeking to connect to the global Internet. This includes the steps and operations necessary for address space allocation and registration, routing database registration, and domain name registration. Where to find the required forms and instructions on how to complete them are included.

Who Should Read This Document

This document is intended for system engineers and technical managers of countries (or networks) that want to make a connection to the Internet. It assumes a basic knowledge of the Internet and networking.

This information is intended to help new or expanding networks understand and follow the Internet administrative procedures, and to provide assistance in filling out the various templates and registration forms. Please note that Appendix D is a glossary of acronyms.

Checklist

This document will explain the following procedures:

- Determine your organization type and current status.
- Determine your administrative and technical contacts.
- Determine your budget (and chargeback system) and choice of carriers.
- Determine to whom you will connect.
- Predict your current and projected address space needs.
- Set-up your system to connect.
- Request and register your address space allocation.
- Request and register an autonomous system number, if needed.
- Register with a routing database, if needed.
- Register your country?s domain name, if needed.
- Request and register your IN-ADDR.ARPA domain name, if needed.

Prerequisites

This document assumes that you have examined different alternatives for physical connectivity and will assist you in navigating the Internet infrastructure so that you can use that connectivity. In choosing your upstream provider, you should consider their ability to deal with the Internet infrastructure.

What will you be doing and what role will you play?

- If you are interested in connecting yourself (or a small organization), you are an Internet end-user. You will probably want to contact an Internet Service Provider (ISP) for most of your needs. Read section I and the first part of section II.
- If you are interested in connecting your organization and in having address space to distribute within your network, you are an Internet high volume end-user. You will need more address space, but still may chose to work with an Internet Service Provider (ISP) for most of your needs. Read sections I and II.
- If you are interested in connecting your organization, and in distributing addresses to your clients (who are end-users), you are an Internet Service Provider (ISP). You will need to contact

a Local Internet Registry (if one is available, or your upstream provider). Read section I and continue reading the rest of this document.

- If you are interested in distributing addresses to your clients and your clients are in turn distributing addresses, you are a Local Internet Registry or large ISP. You will probably need to contact the Regional Internet Registry in your geographical area. Read section I and continue reading the rest of this document.

I.Preparation of Systems and Network Planning

STEP ONE: PREPARE INFORMATION, ORGANIZE HARDWARE, FIGURE OUT TO WHOM YOU WILL CONNECT, AND TEST IN-COUNTRY SYSTEMS.

A. What do I need to connect to the Internet?

You can connect using dial-up or dedicated lines, and you can choose UUCP or IP. It is preferable to be running the UNIX operating system with TCP/IP over a dedicated line, although you can begin by using UUCP over a dial-up line. Although there are alternatives to UNIX, for historical reasons and robustness UNIX is more prepared to handle Internet connectivity. It is best to use TCP/IP internally even if you use another method for your external connectivity.

You will need to obtain an Internet Protocol (IP) address, or block of addresses, and a domain name. You may also need an Autonomous System Number (ASN) and an IN-ADDR.ARPA (reverse addressing) domain name. However, you may begin by having dial-up connectivity to another organization that has a mail exchange (MX) record for your site.

B. What connectivity medium should I choose?

You may be constrained by telecommunications regulations in your country as to your choice of dial-up, digital phone lines, fiber optic cable, or satellite suppliers (such as Intelsat, Savvis, PanAmSat, PeaceSat, ComStream, Cable and Wireless, Inc., NSN Network Services, Inc). If not, cost, bandwidth, and reliability will determine your choice.

C. What else do I need to do?

Before you do anything else:

1.Designate an administrative contact person and a technical contact person.

Choose one person to be the administrative contact and another person to be the technical contact. Write down their full names, email and postal addresses, and telephone and fax numbers (with country prefixes in the form + country code, city code, and local telephone number). The administrative contact should be a member of your organization and must reside in the country. The technical contact should be the key network support person and may be represented initially by someone outside of the country. Note that the technical contact must become a network

support person residing in the country. The Internet Registries will request this information in the form of database entries called objects. For example, on the RIPE template, the administrative contact should be listed in the *admin-c* field in the database objects, and the technical contact in the *tech-c* field in the database objects (more information on database objects follows in section II D below).

2. Determine your cost-recovery charging scheme, if needed, so that you can sustain operations.

3. Diagram your organization chart and network topology.

Draw your organization chart. Determine the number of groups and end-users. Describe the size and shape of your current network. Design your addressing plan based on this information.

If you are restricted to using the local telecommunications company?s telephone circuit, choose your circuit carrier based on capacity and where it lands geographically. Consider an asymmetric circuit, e.g. 128kbps in and 64kbps out, if you expect to have more incoming traffic than outgoing (e.g., if most of the traffic is expected to originate from web servers outside your network).

4. Determine to whom you will connect.

5.Predict your address space and bandwidth requirements from end-user needs.

Since address space is finite and must be conserved, end-users are not permitted to reserve address space. Address space is based on what your needs are and how you justify those needs. Evaluation of IP address space requests is usually based on the documentation you provide for the following 12 months, as specified in the address space usage template and in the addressing plan you submit. Once you have used your assigned address space, you can request additional space based on an updated estimate of growth in your network.

You will need to justify your needs for address space by communicating your network design and should be prepared to clearly present your plan for effective use of the request. Determine your current and future user needs. Remember that if you are setting up a virtual web server designed to provide each customer with a domain name and a web server, then each customer will need a separate address. Allocations for points of presence (POP) throughout your region should also be determined. Predictions of user behavior can be based on analysis of published rates, interviews with individual and institutional subscribers, and case histories of other countries (see "History of the Internet in Thailand"). For example,

Area1

- 10 dialup modems
- 10 leased lines to organization?s LANs (size of the LANs)