

CHAPTER I

INTRODUCTION



Names have several purposes in any systems: an important purpose is to facilitate the referring objects. Additionally, names are used to share resources, to uniquely identify entities, to refer to locations, and so on [1]. Moreover, name plays an important role in all computer systems to resolve the objects. Implementing a name service is an important action to manipulate names in an organization. Name service is a fundamental service to all computer networks. For examples, basic network resources need names to be the identifiers, or in the Internet, a number of interconnected host computers needs names to refer to IP addresses. Grapevine [2], Clearinghouse [3], Domain Name System (DNS) [4-6], Global Name Service (GNS) [7], Network Information Service Plus (NIS+) [8], Novell Directory Service (NDS) [9-11], Handle System [12,13], and CORBA naming service [14-16] have been developed under various purposes. The structure of these name services is hierarchical for scalability. This means that the service will remain effective on an increasing number of resources. However, limitations and drawback founded are uniqueness, character support, and anonymity. The demand of using sharable names is increasing. Additionally, using the same name to refer different objects or persons is always occurred in the daily life. Likewise, there is needed in a distributed system.

1.1 Motivation

As we know that “Name” is an important identifier which is globally used. Without names, people cannot indicate things easily. However, using the same name to identify several objects will be occurred. The hierarchical structure of current name services does not support this matter. Therefore, the dissertation is motivated regarding to “Name” that can be shared to map different objects and provide the right result.

1.2 Objectives

In this dissertation, our objectives are as follows:

1. To design a new naming system called Intelligent Domain Name System (IDNS) which addresses some of the limitations and drawback of the existing name service
2. To devise the IDNS and prove by theoretical analysis.

1.3 Scope of Work

The scope of work are as follows:

1. Simulate the IDNS which can be shared each name to map several objects.
2. Each name in the IDNS can handle either ASCII or non-ASCII characters, but the security issue will be omitted.

1.4 Contributions of the Dissertation

In this dissertation we simulate the IDNS and analyze it by mathematical approval.

The proposed naming system have the interesting features:

1. Each name maps to a set of objects called sharable name.
2. Each name in the IDNS can be either ASCII or non-ASCII characters.

1.5 Dissertation Organization

The rest of the dissertation is organized into four additional chapters. In Chapter 2, we discuss about the background and related work. Chapter 3 describes the architecture of the IDNS. This new architecture can solve the limitations of the current name services. In Chapter 4, the implementation and analytical approval is presented. In Chapter 5, we discuss and conclude our research.