Università della Svizzera italiana

Faculty of Informatics

Distributed Systems **Autumn 2023/24**

Theory Assignment 5 — Naming

Exercise 1 -

Give three examples of identifiers.

Exercise 2 -

In a hierarchical location service with a depth of k, what is the procedure for entity lookup request? How many forwarding requests are needed in the worst case?

Exercise 3 -

Consider an entity moving from location A to B, while passing several intermediate locations where it will reside for only a relatively short time. When arriving at B, it settles down for a while. Changing an address in a hierarchical location service may still take a relatively long time to complete, and should therefore be avoided when visiting an intermediate location. How can the entity be located at an intermediate location?

Exercise 4 -

High-level name servers in DNS, that is, name servers implementing nodes in the DNS name space that are close to the root, generally do not support recursive name resolution. Can we expect much performance improvement if they did? Consider that the root DNS node supports caching.

Exercise 5 -

Assume that USI uses the LDAP directory service to organise student entities. Make an example of a possible list of relative distinguished names (RDNs) corresponding to your personal record (e.g. name, surname) in the USI LDAP. Argue whether your example could be used as a globally unique name.