OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG | INF | FAKULTÄT FÜR INFORMATIK

Distributed and Operating Systems Group

Advanced Operating System Issues (AOSI)

Practical Excercise Sheet 2

Due date: 22.11.2012

1 Practical task 2

For the second part of the practical excercise the server will get a defined amount of unreliability. The new servers, which generate new authentication rokens will in 10% of all cases create false tokens. To overcome this problem it is needed to ask multiple servers for tokens and compare the results. You need at least three complete tokens from three different servers on which you can then do a majority vote. You are provided with two new servers in the directory **/home/steup/Shared/AOSI** on the machines in the Lab G29-334:

udpServer2 : 32bit executable shared boost-1.44 for Fedora 14

udpServer2_64 : 64bit executable static boost-1.46

rpcServer2 : 32bit executable shared boost-1.44 for Fedora 14

rpcServer2_64 : 64bit executable static boost-1.46

The UDP-Server now listens on the multicast address 224.0.0.1. Your task is to modify your existing client programs to cope with the changes and answer the following questions:

1. Test your implementation by issuing challenges for RPC and MPI containing:

   id = aosi2012
   passwd = yetAnotherPassword

   Did you receive?

   udp = bd3874648cf1cae508761d3257d73150394f5a70
   rpc = not yet available

2. Use a package monitoring system like tcpdump or wireshark to capture the packages that are transmitted during the challenge-response communication.

3. Compare the current dumps against the dumps of the first practical task. Which major differences can you observe.

4. Explain the mechanism of UDP-Multicast. How is a multicast routed through different networks. How is the multicast used on the medium access layer?

5. Which communication scheme is now more appropriate for this task? How did the unreliability change the results of the previous discussion: