

**A STUDY ON THE EFFICIENCY OF THE OBJECT MODEL FOR A DYNAMIC
FEEDBACK MECHANISM IN NETWORK SIMULATOR 2 (NS-2)**

BY:

NOR ADORA ENDUT

ROZIANAWATY OSMAN

NOORAZIDA MOHD IDRIS

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PROJECT TEAM MEMBERS

NOR ADORA ENDUT
Project Leader

.....
Tandatangan

ROZIANAWATY OSMAN
Project Member

.....
Tandatangan

NOORAZIDA MOHD IDRIS
Project Member

.....
Tandatangan

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ABSTRACT

An apparent constraint on the Network Simulator (NS-2) is that it does not currently allow for dynamic interaction between itself and the users while a network simulation process is running. Having realized the advantages of NS, it is interesting to investigate the feasibility to develop a mechanism that would enable the dynamic interaction between the users and NS itself. This project is focused on proposing the utilization of CORBA to develop a middleware having the dynamic interaction mechanism for NS-2. With CORBA having the overall view of the programming realm as individual objects allowing for interoperability, it offers the possibility to observe NS procedures and algorithms as objects and allow for a remote CORBA client to access these objects to be operated on without the direct access to the NS core itself. In essence, this project presents the key characteristics of the CORBA architecture, making it relevant in the development of the dynamic feedback mechanism within NS. A CORBA interface that binds a CORBA server with the NS core is utilised and based on the CORBA server, a CORBA client which provides remote access to the NS core is developed. Several simulations are run via the developed CORBA client to demonstrate the capability to trigger simulations, retrieve simulation results and modify the simulation configurations by the CORBA client without directly accessing the NS core.