Error Report for NIST OPNET DSR Model
L. E. Miller, 27 July 2001

Thanks to Martin Byrod of Ericsson, an error in the DSR routing reply handling function has been identified. The offending code is on line 839 of the function block (FB) for the process model, dsr_routing_layer and affects the files dsr_routing_layer.pr.c and dsr_routing_layer.pr.m (and the related object file). The location of the error is illustrated below.

The incorrect condition (…waiting_time==0) in the if statement prevents the cancellation of the timeout and interrupt for the routing request message when a reply is returned. Although the routing information is collected from the reply message, the node’s timeout does not get cancelled because the condition of the if statement is never satisfied. The result is that routing request messages are sent again and again whenever the timer times out.

The correct condition is (…waiting_time!=0). This change is best made from within OPNET in the window illustrated above, then saved and recompiled. The correctness of this change was tested using the example 16-node network scenario included in the download file. There is no node movement for this scenario, so after a finite time there not be any more routing requests. The screen capture included on the next page shows that, indeed, with the (==0) condition (the upper graph), the number of requests keeps on growing with time. With the corrected (!=0) condition (the lower graph), the number of requests climbs to about 175 requests and then stays there.

Shortly the DSR model download files will be updated and the download page will state that the file is a corrected version.