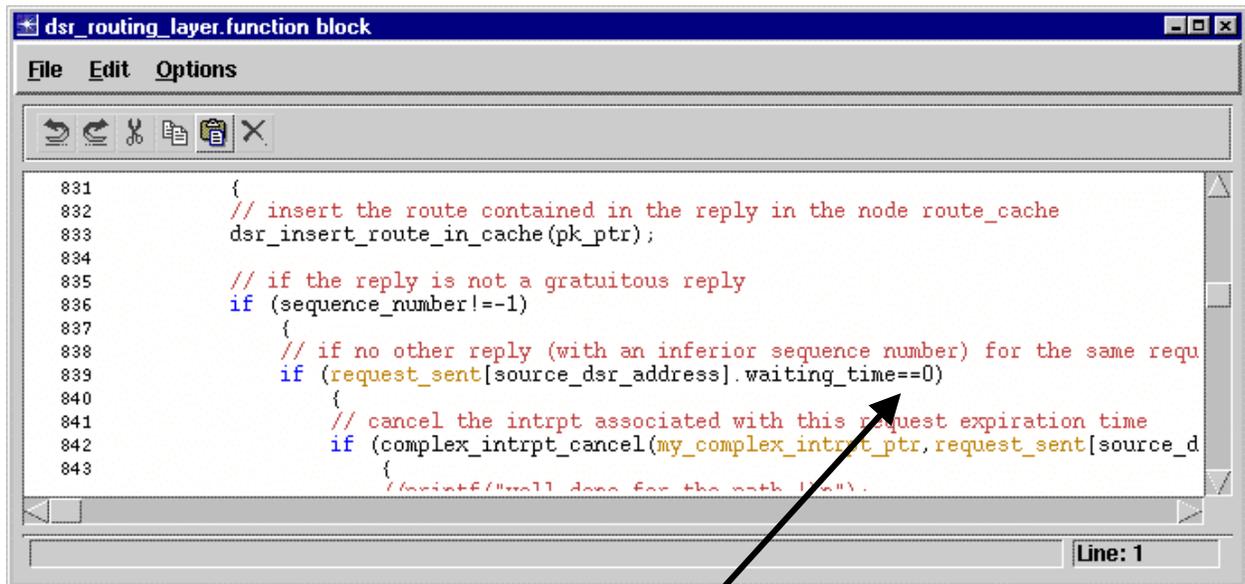


## Error Report for NIST OPNET DSR Model L. E. Miller, 27 July 2001

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.



```
831 {
832 // insert the route contained in the reply in the node route_cache
833 dsr_insert_route_in_cache(pk_ptr);
834
835 // if the reply is not a gratuitous reply
836 if (sequence_number!=-1)
837 {
838 // if no other reply (with an inferior sequence number) for the same requ
839 if (request_sent[source_dsr_address].waiting_time==0)
840 {
841 // cancel the intrpt associated with this request expiration time
842 if (complex_intrpt_cancel(my_complex_intrpt_ptr,request_sent[source_d
843 {
//printf("rll done for the path %s").
```

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.

