

Termination Method:

We know that a process has finished when its last seen sequence is equal to its current sequence (all packets have been sent) and the global aru is equal to the sequence (all packets sent have been received).

When a process passes these conditions, it multicasts a termination packet and terminates itself. When a process receives a termination packet, then it multicasts a termination packet and terminates itself. We can do this because if one process terminated, then we know all process have finished. The re-multicasting of the termination packet greatly decreases the percentage chance of a process not terminating.

We can now calculate the chance of a process not terminating. This will only occur if in a round of multicasting a termination packet, no other processes receive it. We get the exact probability to be:

$$\prod_{i=1}^n (lr)^{(n-i)}$$

where n is the number of processes and lr is the loss rate.