The algorithm makes use of the following variables:

t = current time
t_i = time of ith arrival or departure event
q_i = number of frames in the system after the event
T_0 = time at the beginning of the previous cycle
T_1 = time at the beginning of the current cycle

The algorithm consists of three components:

1. Update: Beginning with $q_0 := 0$
   If the ith event is an arrival event, $q_i := q_{i-1} + 1$
   If the ith event is a departure event, $q_i := q_{i-1} - 1$

2.
$$A_{i-1} = \sum_{\substack{i \\ t_i \in [T_0, T_1)}} q_{i-1}(t_i - t_{i-1})$$

$$A_i = \sum_{\substack{i \\ t_i \in [T_1, t)}} q_{i-1}(t_i - t_{i-1})$$

3.
$$L = \frac{A_i + A_{i-1}}{t - T_0}$$

Figure 20.15 A Frame Relay Algorithm