

```

#include "policeNp5.h"

/* Token Bucket parameters in param_block (initialized at configuration) */

/* Bit Rate (initialized to RTC ticks per byte) */
unsigned BR param_block[0:1] input;

/* Burst Size (initialized to Bytes x BR) */
unsigned BS param_block[2:9] input;

/* Previous arrival time (initialized to zero) */
unsigned last_pdu_arrival param_block[10:13] inout;

/* Token counter (initialized to BS) */
unsigned tokens param_block[14:21] inout;

/* Packet length (passed as argument from FPL) */
unsigned pdu_length fpp_args[0:1] input;

unsigned(4) delta_t;          /* RTC ticks since last packet arrived */

unsigned(4) pdu_len_t;       /* Packet size in RTC ticks */

boolean OutOfProfile $[15] output; /* results of policing */

script tokbucket {          /* will be bound to asiPoliceEOF0 */
    delta_t = current_time - last_pdu_arrival;
    pdu_len_t = pdu_length * BR;
    tokens = tokens + delta_t; /* update bucket depth */
    if (tokens > BS) {
        tokens = BS;
    }
    OutOfProfile = tokens < pdu_len_t; /* compute result */
    if (!OutOfProfile) {
        tokens = tokens - pdu_len_t; /* update bucket depth */
    }
    last_pdu_arrival = current_time; /* update timestamp */
}

```

Figure 21.2 An example policing function that implements a single token bucket. Values in variable *param_block* are initialized before the script runs.