

```

role gateway(A,G: agent,
Kga: symmetric_key, H: hash_func,
SND,RCV: channel(dy))
played_by G def=
%% Variables declaration
local
State: nat,
IDa,IDg,TS1, TS2, Km: text,
M1, M2, M3,M4 : text,
Rn,Na,Ng :message
const m: protocol_id
init State := 1
%%Transition rules of steps taken by gateway node in HLPSL
transition
1. State = 1 ^ RCV({IDa'.IDg'.M1'.M2'.TS1'}_Kga) ^ M2' = H(IDa'.IDg'.TS1'.xor(H(IDa'.TS1'),M1')) =>
State' := 2 ^ Na' := xor(H(IDa'.TS1'),M1') ^ Ng' := new() ^ M3' := xor(H(IDg.TS2),Ng') ^ M4' :=
H(IDg.IDa'.TS2.Ng'.Na') ^ SND({IDg.IDa'.M3'.M4'.Ng'.TS2}_Kga)
2. State = 3 ^ RCV({IDa'.IDg'.Rn'.Km'}_Kga)

```