The output model for OSS is:

- States $:= \{s_0, s_1\}$ where
  - $s_0 := \{i := \{pk_i, sk_i, pk_r, \{i, n_i\}_{pk_r}\}, r := \{pk_r, sk_r, pk_i\}\}$
  - $s_1 := \{i := \{pk_i, sk_i, pk_r, \{i, n_i\}_{pk_r}\}, r := \{pk_r, sk_r, pk_i, \{i, n_i\}_{pk_r}\}\}$
- $R_B := R_{B_i} \cup R_{B_r}$ where
  - $R_{B_i} := \{(s_0, s_1)\}$
  - $R_{B_r} := \emptyset$
- $R_{send} := R_{send_{i,r\{i,n_i\}_{pk_r}}} = \{(s_0, s_1)\}$
- $R_{recv} := R_{recv_{r\{i,n_i\}_{pk_r}}} = \{(s_0, s_1)\}$

The output model for Needham-Schroeder is:

- States $:= \{s_0, s_1, s_2, s_3\}$ where
  - $s_0 := \{i := \{sk_i, pk_i, pk_r\{i, n_i\}_{pk_r}\}, r := \{sk_r, pk_r, pk_i\}\}$
  - $s_1 := \{i := \{sk_i, pk_i, pk_r\{i, n_i\}_{pk_r}\}, r := \{sk_r, pk_r, pk_i, \{i, n_i\}_{pk_r}, \{n_i, n_r\}_{pk_i}\}\}$
  - $s_2 := \{i := \{sk_i, pk_i, pk_r\{i, n_i\}_{pk_r}, \{n_r\}_{pk_r}\}, r := \{sk_r, pk_r, pk_i, \{i, n_i\}_{pk_r}, \{n_i, n_r\}_{pk_i}\}\}$
  - $s_3 := \{i := \{sk_i, pk_i, pk_r\{i, n_i\}_{pk_r}, \{n_r\}_{pk_r}\}, r := \{sk_r, pk_r, pk_i, \{i, n_i\}_{pk_r}, \{n_i, n_r\}_{pk_i}, \{n_r\}_{pk_r}\}\}$
- $R_B := R_{B_i} \cup R_{B_r}$ where
  - $R_{B_i} := \{(s_0, s_1), (s_0, s_2), (s_0, s_3), (s_1, s_2), (s_1, s_3), (s_2, s_3)\}$
  - $R_{B_r} := \{(s_1, s_2), (s_1, s_3), (s_2, s_3)\}$
- $R_{send} := R_{send_{i,r\{i,n_i\}_{pk_r}}} \cup R_{send_{r,i\{\{n_i,n_r\}_{pk_i}\}}} \cup R_{send_{i,r\{n_r\}_{pk_r}}}$ where
  - $R_{send_{i,r\{i,n_i\}_{pk_r}}} := \{(s_0, s_1)\}$
  - $R_{send_{r,i\{\{n_i,n_r\}_{pk_i}\}}} := \{(s_1, s_2)\}$
  - $R_{send_{i,r\{n_r\}_{pk_r}}} := \{(s_2, s_3)\}$
- $R_{recv} := R_{recv_{r\{i,n_i\}_{pk_r}}} \cup R_{recv_{i\{n_i,n_r\}_{pk_r}}} \cup R_{recv_{r\{n_r\}_{pk_r}}}$ where
  - $R_{recv_{r\{i,n_i\}_{pk_r}}} := \{(s_0, s_1)\}$
  - $R_{recv_{i\{n_i,n_r\}_{pk_r}}} := \{(s_1, s_2)\}$
  - $R_{recv_{r\{n_r\}_{pk_r}}} := \{(s_2, s_3)\}$