

Abbreviations
$\sim M_15 = \text{senc}(\text{secretA}, \text{h2}(\text{conc}(\text{idA}, \text{idB}, \text{exp}(\text{g}, \text{x_2}), \text{exp}(\text{g}, \text{y_2}), \text{exp}(\text{exp}(\text{g}, \text{eadd}(\text{y_2}, \text{eadd}(\text{rB_1}, \text{emul}(\text{s_1}, \text{h1}(\text{idB}, \text{exp}(\text{g}, \text{rB_1})))))), \text{eadd}(\text{eadd}(\text{rA_1}, \text{emul}(\text{h1}(\text{idA}, \text{exp}(\text{g}, \text{rA_1})), \text{s_1})), \text{x_2})), \text{exp}(\text{exp}(\text{g}, \text{eadd}(\text{y_2}, \text{b_3})), \text{eadd}(\text{x_2}, \text{a_3})), \text{exp}(\text{exp}(\text{g}, \text{y_2}), \text{x_2}))))$
$\sim M_16 = \text{senc}(\text{secretB}, \text{h2}(\text{conc}(\text{idA}, \text{idB}, \text{exp}(\text{g}, \text{x_2}), \text{exp}(\text{g}, \text{y_2}), \text{exp}(\text{exp}(\text{g}, \text{eadd}(\text{x_2}, \text{eadd}(\text{rA_1}, \text{emul}(\text{s_1}, \text{h1}(\text{idA}, \text{exp}(\text{g}, \text{rA_1})))))), \text{eadd}(\text{eadd}(\text{rB_1}, \text{emul}(\text{h1}(\text{idB}, \text{exp}(\text{g}, \text{rB_1})), \text{s_1})), \text{y_2})), \text{exp}(\text{exp}(\text{g}, \text{eadd}(\text{x_2}, \text{a_3})), \text{eadd}(\text{y_2}, \text{b_3})), \text{exp}(\text{exp}(\text{g}, \text{x_2}), \text{y_2}))))$

A trace has been found.

