t4_msalimit (TMRi-VAE8GLNgxgPp9xusJ8pxMUXSFN8RU5J)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v3\_orders\_2 : \iota \Rightarrow o$ be given. Let $v4\_orders\_2 : \iota \Rightarrow o$ be given. Let $v5\_orders\_2 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $m1\_msalimit : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_msalimit : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_msalimit : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_msalimit : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_msualg\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_pralg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((\neg v11\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1))) \Rightarrow (\forall X2.(m1\_msalimit\ X2\ X0\ X1) \Rightarrow (\forall X3.(m2\_msalimit\ X3\ X0\ X1\ X2) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0)) \Rightarrow ((r1\_orders\_2\ X0\ X5\ X4) \Rightarrow ((X4 = X5) \vee (k1\_binop\_1\ X3\ X5\ X4 = k1\_binop\_1\ (k2\_msalimit\ X0\ X1\ X2\ X3)\ X5\ X4)))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))))) \wedge (((\neg v2\_struct\_0\ X1) \wedge ((\neg v11\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1))) \wedge ((m1\_msalimit\ X2\ X0\ X1) \wedge (m2\_msalimit\ X3\ X0\ X1\ X2)))) \Rightarrow (v1\_msalimit\ (k2\_msalimit\ X0\ X1\ X2\ X3)\ X0\ X1\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))))) \wedge (((\neg v2\_struct\_0\ X1) \wedge ((\neg v11\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1))) \wedge ((m1\_msalimit\ X2\ X0\ X1) \wedge (m2\_msalimit\ X3\ X0\ X1\ X2)))) \Rightarrow (m2\_msalimit\ (k2\_msalimit\ X0\ X1\ X2\ X3)\ X0\ X1\ X2) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v11\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1)))\Rightarrow(\forall X2.(m1\_msalimit\ X2\ X0\ X1)\Rightarrow(\forall X3.(m2\_msalimit\ X3\ X0\ X1\ X2)\Rightarrow((v1\_msalimit\ X3\ X0\ X1\ X2)\Leftrightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(k1\_binop\_1\ X3\ X4\ X4 = k2\_msualg\_3\ (u1\_struct\_0\ X1)\ (u3\_msualg\_1\ X1\ (k5\_pralg\_2\ (u1\_struct\_0\ X0)\ X1\ X2\ X4)))))))) \tag{4}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0)))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((\neg v11\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1)))\Rightarrow(\forall X2.(m1\_msalimit\ X2\ X0\ X1)\Rightarrow(\forall X3.((v1\_msalimit\ X3\ X0\ X1\ X2)\wedge(m2\_msalimit\ X3\ X0\ X1\ X2))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow((r1\_orders\_2\ X0\ X5\ X4)\Rightarrow(k1\_binop\_1\ (k2\_msalimit\ X0\ X1\ X2\ X3)\ X5\ X4 = k1\_binop\_1\ X3\ X5\ X4)))))))$$