

## t16\_ff\_siec

(TMMH6aJcrUPJDvZdKZtwdfcgZTH98hKrboR)

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Let  $v1\_net\_1 : \iota \Rightarrow o$  be given. Let  $l1\_petri : \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_net\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_net\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(v1\_relat\_1 \\ X4) \Rightarrow & (((r1\_tarski\ X4\ (k2\_zfmisc\_1\ X0\ X1)) \wedge (X0 = k2\_xboole\_0\ X2\ X3)) \Rightarrow \\ & (X4 = k2\_xboole\_0\ (k5\_relat\_1\ X4\ X2)\ (k5\_relat\_1\ X4\ X3))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_net\_1\ X0) \wedge (l1\_petri\ X0)) \Rightarrow ((r1\_tarski\ (k1\_net\_1 \\ X0)\ (k2\_zfmisc\_1\ (k2\_net\_1\ X0)\ (k2\_net\_1\ X0))) \wedge (r1\_tarski\ (k2\_relat\_1 \\ (k1\_net\_1\ X0)\ (k2\_zfmisc\_1\ (k2\_net\_1\ X0)\ (k2\_net\_1\ X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.(v1\_relat\_1\ X1) \Rightarrow (k2\_relat\_1 \\ (k2\_xboole\_0\ X0\ X1) = k2\_xboole\_0\ (k2\_relat\_1\ X0)\ (k2\_relat\_1\ X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(l1\_petri\ X0) \Rightarrow (v1\_relat\_1\ (k1\_net\_1\ X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X0) \Rightarrow (v1\_relat\_1\ (k5\_relat\_1\ X0\ X1)) \quad (5)$$

Assume the following.

$$\forall X0.(l1\_petri\ X0) \Rightarrow (k2\_net\_1\ X0 = k2\_xboole\_0\ (u1\_struct\_0\ X0)\ (u4\_struct\_0\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (7)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_net\_1 X0) \wedge (l1\_petri X0)) \Rightarrow & ((k2\_xboole\_0 (k5\_relat\_1 \\ & (k1\_net\_1 X0) (u1\_struct\_0 X0)) (k5\_relat\_1 (k1\_net\_1 X0) (u4\_struct\_0 \\ X0)) = k1\_net\_1 X0) \wedge & ((k2\_xboole\_0 (k5\_relat\_1 (k1\_net\_1 X0) (u4\_struct\_0 \\ X0)) (k5\_relat\_1 (k1\_net\_1 X0) (u1\_struct\_0 X0)) = k1\_net\_1 X0) \wedge \\ & ((k2\_xboole\_0 (k2\_relat\_1 (k5\_relat\_1 (k1\_net\_1 X0) (u1\_struct\_0 \\ X0))) (k2\_relat\_1 (k5\_relat\_1 (k1\_net\_1 X0) (u4\_struct\_0 X0)))) = \\ & k2\_relat\_1 (k1\_net\_1 X0) \wedge (k2\_xboole\_0 (k2\_relat\_1 (k5\_relat\_1 \\ (k1\_net\_1 X0) (u4\_struct\_0 X0))) (k2\_relat\_1 (k5\_relat\_1 (k1\_net\_1 \\ X0) (u1\_struct\_0 X0))) = k2\_relat\_1 (k1\_net\_1 X0)))))) \end{aligned}$$