

## Mathematics Property: *atis*FeedFunctionSchema

(Mathematics properties are those properties that are part of the metatheory and describe mappings within a system or between a system and its negasystem.)

**Feed-function schema:** The “feed-“ functions,  $f_V$ ; that is,  $f_I$ ,  $f_N$ ,  $f_S$ ,  $f_F$ ,  $f_O$ ,  $f_T$ ,  $f_B$ , and  $f_E$ , are state transition functions between two disjoint sets,  $X_{\mathcal{G}}$  and  $Y_{\mathcal{G}}$ , defined as follows:

$\sigma(\mathbf{x}_{X_{\mathcal{G}}})(f_V \circ g \circ f) \in Y_{\mathcal{G}} \mid \sigma(\mathbf{x}_{X_{\mathcal{G}}}) = \mathbf{x}_{Y_{\mathcal{G}}}$ ; where  $f: X_{\mathcal{G}} \times_{X_{\mathcal{G}}} \mathcal{L}_C \rightarrow \{\perp, \top\}$ , and

‘ $_{X_{\mathcal{G}}} \mathcal{L}_C$ ’ designates the “ $X_{\mathcal{G}}$  logistic-control qualifier.”

$$g(\mathbf{x}_{X_{\mathcal{G}}}) = \begin{cases} \emptyset, & \text{if } f = \perp \\ \mathbf{x}_{X_{\mathcal{G}}}, & \text{if } f = \top \text{ and} \end{cases}$$

$$f_V: W \subset X_{\mathcal{G}} \rightarrow Y_{\mathcal{G}} \mid (g(\mathbf{x}_{X_{\mathcal{G}}}) \neq \emptyset \supset g(\mathbf{x}_{X_{\mathcal{G}}}) = \mathbf{x}_{X_{\mathcal{G}}} \in W) \wedge f_V(\mathbf{x}_{X_{\mathcal{G}}}) = \mathbf{x}_{Y_{\mathcal{G}}} \in Y_{\mathcal{G}}$$