Structural System Property: *atis*Compactness

(*Structural system properties* are those properties that are part of the theory and describe patterns of system and negasystem connectedness or partitions.)

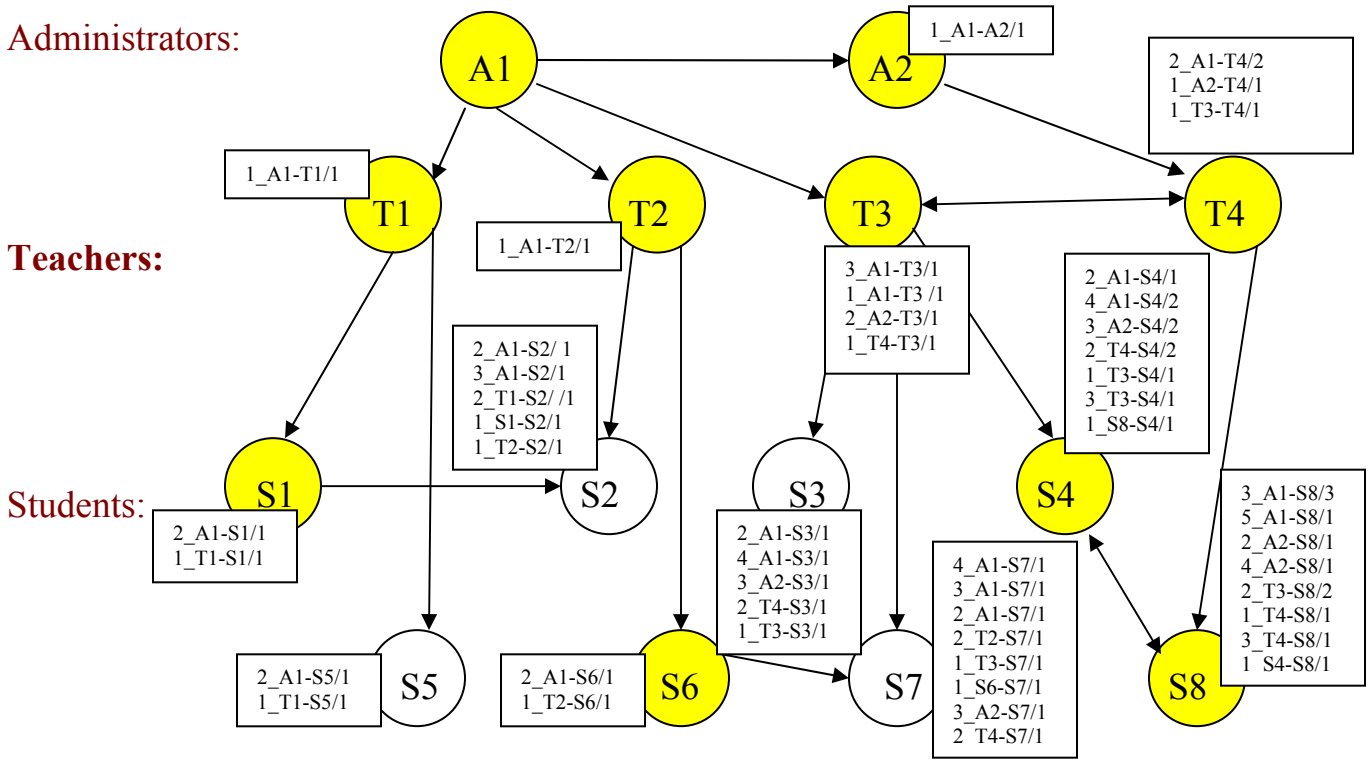
Compactness, ${}_{CP}\mathfrak{S}$, $=_{df}$ a *partition*, $\mathcal{Y} = (V \subset \mathcal{G}_0, \mathcal{R} \subset \mathcal{G}_{\mathcal{A}})$, characterized by affect-relations incident to initiating end-components.

$$ {}_{CP}\mathfrak{S} =_{df} \mathcal{Y} \mid \forall \mathbf{u},\mathbf{v} \in \mathcal{Y}(V)\exists \mathbf{e} \in \mathcal{Y}(\mathcal{R})[\mathbf{e} = (_I\mathbf{u},_I\mathbf{v}) \wedge \ell(\mathbf{e}) \geq 1] $$

$\mathcal{M}$: **Compactness system measure**, $\mathcal{M}({}_{CP}\mathfrak{S})$, $=_{df}$ a measure of the path-length of affect-relations which have initiating components for both end-components.

$$ \mathcal{M}({}_{CP}\mathfrak{S}) =_{df} \{[\sum_{i=1,\ldots,n}[\log_2(\prod_{j=1,\ldots,m}|\ell(\mathbf{e}) \mid \mathbf{e} = (_I\mathbf{u},_I\mathbf{v}) \wedge \ell(\mathbf{e}) \geq 1|_j \div (|\mathcal{Y}(V)|^2 - |\mathcal{Y}(V)|))_i] \div \mathbf{C}\} \times 100 $$

Compactness in a School System



Affect Relation: *Controls Activities of*

In this system, there are 10 system components that *Control Activities of* other components with respect to *Compactness*. Since there is only 1 affect-relation and 14 components, then the total possible affect relation paths is $\boldsymbol{P}[\mathcal{Z}(\mathfrak{S}_0)] = 236{,}975{,}181{,}590$; and therefore, $\mathbf{C} = \log_2(\boldsymbol{P}[\mathcal{Z}(\mathfrak{S}_0)]) \approx 37$. There are 122 paths related to *Compactness*.

Therefore: $\mathcal{M}(_{CP}\mathfrak{S}) \approx 322.87$.