

## Graph-Theoretic Property: *atis* **CompletelyConnectedElements**

(*Graph-theoretic properties* are those properties that are part of the meta-theory and have been abducted from graph theory to be used as a tool to provide solutions concerning the theory. Those solutions may be assigned as values to components or relations of the theory and thereby become part of the theory.)

**Completely-connected elements**,  ${}_{cc}E$ , =<sub>df</sub> Elements that are path-connected in both directions.

$${}_{cc}E, =_{df} \{(\mathbf{x}, \mathbf{y}) \mid \forall(\mathbf{x}, \mathbf{y})[(\mathbf{x}, \mathbf{y}), (\mathbf{y}, \mathbf{x}) \in {}_{pc}E]\}$$

**Completely-connected elements** are defined as a set of ordered pairs such that the elements are path-connected in both directions.