

TAD DCNET**géneros** dcNet**igualdad observacional**

$$(\forall d, d' : \text{dcNet}) \left(d =_{\text{obs}} d' \iff \left(\begin{array}{l} (\text{topo}(d) =_{\text{obs}} \text{topo}(d')) \wedge ((\forall p : \text{paquetes}) \\ (\text{paquete?}(d, p) =_{\text{obs}} \text{paquete?}(d', p)) \Rightarrow_{\text{L}} \\ (\text{recorridoPaquete}(d, p) =_{\text{obs}} \text{recorridoPaquete}(d', p))) \wedge \\ ((\forall p : \text{pc})(p \in \text{pcs}(\text{topo}(d)) \wedge p \in \text{pcs}(\text{topo}(d'))) \Rightarrow_{\text{L}} \\ (\text{paquetesEnEspera}(d, p) =_{\text{obs}} \text{paquetesEnEspera}(d', p))) \end{array} \right) \right)$$

generadorescrearRed : topo \longrightarrow dcNetseg : dcNet \longrightarrow dcNet

mandarPaquete : dcNet $dcn \times \text{pc } p1 \times \text{pc } p2 \times \text{paquete} \longrightarrow \text{dcNet}$
 $\left\{ \begin{array}{l} (p1 \in \text{pcs}(\text{topo}(dcn)) \wedge p2 \in \text{pcs}(\text{topo}(dcn))) \wedge_{\text{L}} \\ \text{conectadas?}(\text{topo}(dcn), p1, p2) \end{array} \right\}$

observadores básicosrecorridoPaquete : dcNet $dcn \times \text{paquete } p \longrightarrow \text{secu}((\text{ip}, \text{interface}))$ $\{\text{paquete?}(dcn, p)\}$ paquetesEnEspera : dcNet $dcn \times \text{pc } p \longrightarrow \text{conj}(\text{paquete})$ $\{p \in \text{pcs}(\text{topo}(dcn))\}$ paquete? : dcNet $\times \text{paquete} \longrightarrow \text{bool}$ topo : dcNet $\longrightarrow \text{topologia}$ **otras operaciones**maxPaquetesMandados : dcNet $\longrightarrow \text{pc}$ **axiomas** $\forall p, p': \text{paquete}, \forall c, c': \text{pc}, \forall dcn: \text{dcNet}, \forall t: \text{topologia}$ topo(crearRed(t)) $\equiv t$ topo(seg(dcn)) $\equiv \text{topo}(dcn)$ topo(mandarPaquete(dcn, c, c', p)) $\equiv \text{topo}(dcn)$ **Fin TAD**