If at least one of $(R_k^+)_{k\in\mathbb{Z}^+}$ or $(R_k^-)_{k\in\mathbb{Z}^+}$ is infinite, then D has property $\mathbb{Z}$.

5. Number of ends

D ... infinite, loc. finite, transitive, prop. $\mathbb{Z}$

If D has more than two ends, then at least one of $(R_k^+)_{k\in\mathbb{Z}^+}$, $(R_k^-)_{k\in\mathbb{Z}^+}$ is infinite.

If $(R_k^+)_{k\in\mathbb{Z}^+}$, $(R_k^-)_{k\in\mathbb{Z}^+}$ are both finite and for some i the relations R_i^+ and R_i^- have infinite equivalence classes, then D has one end.