

# Beacon Interval Formula

## Formula

The beacon interval is calculated based on network density:

## Parameters

- $n$ : Number of neighbors
- $D_{max} = 15$ : Maximum density threshold
- $I_{min}$ : Minimum beacon interval
- $I_{max}$ : Maximum beacon interval

## Equation

$$\rho = \min \left( 1, \frac{n}{D_{max}} \right) \quad (1)$$

$$I = I_{min} + \rho \cdot (I_{max} - I_{min}) \quad (2)$$

Where:

- $\rho$ : Density factor (0-1)
- $I$ : Resulting beacon interval