Distributed Clock Generator
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- **Lower EM noise than H-tree**
  Current moves in only one direction along clock wires.
  Layout conforms to standard grid power-distribution structure which allows for easy insulation hi-powered clock wires.

- **More power efficient than H-tree**
  Lower logical effort than H-tree by half.
  Less wiring infrastructure, by minimum of 62.5% in a 16 leaf distribution system.

- **Simple placement and route**
  Rectangular clock zones make for easy placement of functional units and registers.

- **Closed loop clock generation to mitigate skew**
  Neighbour clock wires are synchronized on each transition. The H-tree is a large open loop structure.

**16 leaf DCG**
In practice the pockets of transistors occupy a small area and the wires are long. The wires form the clock net.
Four-way Phase Lock Loop

Abstract View

Implementation

Phase on the main conductors to the North, South East, and West are located. This signal is used as the clock signal.