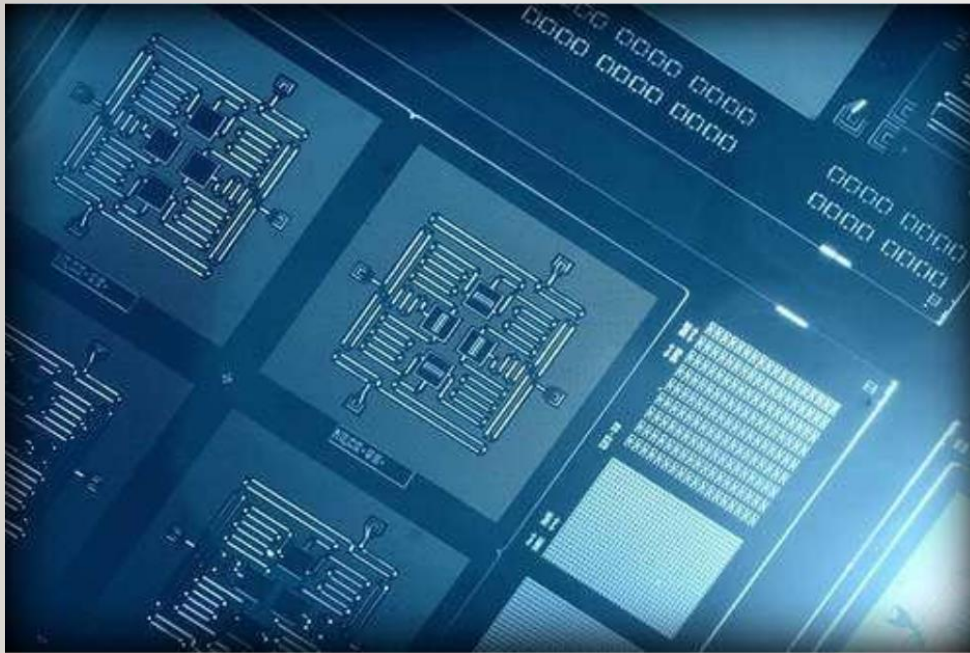# QUANTUM OPERATING SYSTEMS: OPPORTUNITIES & CHALLENGES

IBM's square lattice of four superconducting qubits enables detection of both types of quantum errors (bit-flip & phase-flip) for the first time.

- The shift to quantum means reevaluating what we know about operating systems

- Fault Tolerance
  - Error detection/correction is important
  - Current bits can hold a value of 0 or 1
  - Qubits can hold a value of 0, 1 or both (superposition)

- Security implications?