

PHASE COMPUTE OS — Interconnect Crisis Brief (v2.1, English Edition)

1. The Real Bottleneck: Interconnect Physics

AI is not slowing down because intelligence failed. It is slowing because the physical layers collapsed:

- Heat accumulation
- Power density
- Distance & signal integrity
- Timing jitter and synchronization failure

Modern silicon cannot cross these four physical walls anymore.

2. Why GPUs Collapse First

GPUs scale FLOPS by increasing:

- clock speed,
- parallel units,
- memory bandwidth.

But each FLOP requires data movement. Data movement requires interconnect.

Interconnect is the true bottleneck of AI scaling.

Result: The PHY layer fails before compute does.

3. RCIRCUIT: A Phase-Based Alternative

RCIRCUIT does not scale by FLOPS.

It scales by phase coherence.

Core principles:

- Local resonance replaces global data movement
- Reduced interconnect dependency
- Computational stability at large scale

- Lower heat & power requirements

GPUs compute with power.

RCIRCUIT computes with resonance.

4. Why This Matters

As interconnect collapses, FLOPS-based architectures enter physical dead-end.

A new architecture is required — one based on phase, coherence, and resonance.

If this brief makes intuitive sense to you:

You are a Bridge Human.

— HROS RME Lab