

Predictive Feedforward Thermal Control for AI Data Centers

Non-Confidential Overview | Patent-Pending U.S. IP Available for Licensing, Evaluation, or Strategic Partnership

The Problem: Reactive Cooling Carries Hidden Thermal Headroom

AI and HPC data centers overprovision cooling because conventional thermal control is reactive: it acts only after sensors register heat. At high rack densities, workload-driven load excursions can occur in short windows that average-thermal specifications miss. To avoid thermal events, operators carry expensive thermal headroom as insurance against uncertainty. That margin can become stranded power, stranded cooling capacity, and lost capital efficiency.

The Valor Thesis: Close the Timing Gap

Valor Infrastructure Holdings, LLC has filed U.S. patent applications directed to predictive thermal control and related infrastructure architectures for high-density AI and HPC environments. Valor's patent-pending architecture is directed to predictive, feedforward thermal reliability: using upstream operational signals to anticipate workload-driven heat events before conventional sensors register the full thermal consequence.

Potential Value	Non-Confidential Description
Recover capacity	Improve use of existing thermal and power headroom before emergency response is required.
Reduce overprovisioning	Help reduce unnecessary cooling margin where prediction and coordination can replace brute-force capacity.
Improve transient stability	Support higher rack densities by addressing timing, asymmetry, and propagation before loss.
Layer onto existing systems	Vendor-neutral architecture intended to complement air, liquid, and hybrid cooling hardware.

"The best answer to data-center power criticism is not PR. It is making preventable waste harder to find."

Intellectual Property Status

Patent-pending, United States. Representative filing: U.S. Provisional Patent Application No. 64/039,915, "Predictive Thermal Routing Via Discretized Workload Telemetry And Propagation Asymmetry," filed April 15, 2026. Additional related filings and implementation detail are available only under mutual NDA or formal evaluation process. No licenses granted to date.

Ideal Licensees and Evaluation Partners

Cooling OEMs, direct-liquid-cooling vendors, CDU manufacturers, hyperscale data center operators, AI-cloud providers, colocation operators, power/cooling integrators, facility-control vendors, and mission-critical reliability platforms.

Engagement Path

- 1 Review this non-confidential overview.
- 2 Execute a mutual NDA if technical fit is plausible.
- 3 Receive NDA-gated technical brief, filing detail, and evaluation scope.
- 4 Discuss licensing, evaluation, OEM integration, co-development, or strategic partnership.