

POLARAIR HVAC & CONTROLS LLC
3400 Industrial Blvd, Austin, TX 78744 | Lic: TACLA-77421H
SUSTAINABLE DATA CENTER COOLING PROPOSAL

Date: September 22, 2026

Project: 2 MW Direct Fresh Air & Indirect Evaporative Cooling System

Prepared For: Apex Data Systems LLC

1. COOLING SYSTEM ARCHITECTURE & INNOVATION:

- Cooling Technology: Indirect Air-to-Air Heat Exchangers (IAHE) coupled with auxiliary direct evaporative cooling cores. Eliminates traditional chillers and cooling tower water consumption by 85%.
- Capacity: 2,000 kW continuous IT load handling with N+2 redundancy modules (6 operating units, 2 standby).

2. AIR DISTRIBUTION & FILtration:

- High-volume modular air handling units utilizing MERV 13 filtration stages and chemical scrubbers for gaseous contaminant removal (ISA Class G1).
- Direct supply to hot/cold aisle containment without raised floor plenums (slab-on-grade overhead delivery).

3. CONTROLS & WATER MANAGEMENT:

- Intelligent psychrometric controller automatically shifts between dry-mode, indirect evaporative mode, and mechanical DX boost based on real-time wet-bulb calculations.
- Water Treatment: Automated RO filtration and scale inhibition system for evaporative sumps.

4. PRICING & INVESTMENT SUMMARY:

- Total Turnkey Cost (IAHE Units, Ductwork, Controls, Filtration & Start-up): \$1,320,000
- Timeline: 20 weeks.
- Warranty: 2-year full system warranty with remote IoT diagnostic monitoring.