DPCloud

Dew Point & Phase Envelope Calculation System

by KYCIS Inc.

DPCloud *delivers real-time* ***hydrocarbon dew point, water dew point,*** *and* ***full phase envelope*** *calculations for SCADA and process-control environments. Available as a* **hosted SaaS** *or* **self-contained Windows Service** *— same API, same results across deployment modes.*

TECHNICAL SPECS

Runtime	.NET 10 / FW 4.8
Architecture	x64, self-contained
Protocol	TCP + REST API
OS	Win 10 / Svr 2016+
Calc Engine	Fortran native DLL
Components	24 + BIPs
Concurrency	Channel + Worker

DELIVERABLES

- **DPCloud.Service**
  Windows Service host
- **DewPointApi.dll**
  Client API, FW 4.8
- **Console.Gui**
  WPF diagnostic tool
- **ServiceConsole**
  CLI / scriptable
- **DPCloud.Demo**
  Full API source demo
- **license.lic**
  RSA-signed license
- **Quick Start Guide**
  11-page install PDF

LICENSING

SaaS: pay-as-you-go via API key.
On-premise: RSA-signed .lic file with name, expiry, module authorization.

Trial: **30 days**, both modes. Production licenses per instance.

CORE CAPABILITIES

HC Dew Point (CHDP)

Calculates hydrocarbon cricondentherm dew point for gas mixtures up to C10+ using Peng–Robinson EOS. Designed for pipeline and SCADA applications requiring consistent, repeatable results.

Water Dew Point

Computes water dew point for real gas mixtures with water content inputs. Supports pipeline integrity monitoring, corrosion control, and dehydration operations.

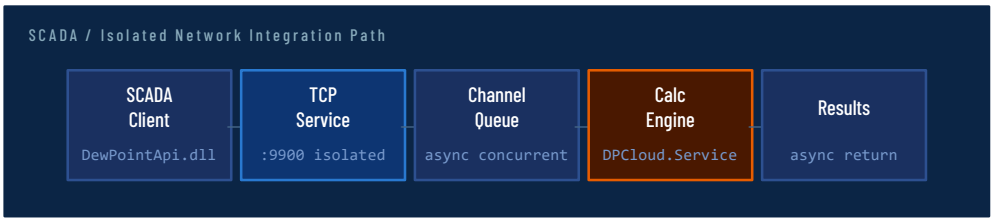
Phase Envelope

Generates complete PT phase envelopes with cricondenbar and cricondentherm. Essential data for flow assurance, facility design, and EOS validation.

Dual Interface

TCP socket for seamless integration with legacy SCADA systems; REST API for cloud platforms, middleware, and web applications.

SYSTEM ARCHITECTURE — SCADA DATA FLOW



VALIDATED PERFORMANCE

6000+ RPS	**Low** Latency	**400-600** RPS	**Dual** modes
SaaS throughput real-time, scalable	~130ms end-to-end ~10ms computation	On-premise sustained Windows Service, typical load	SaaS + on-premise same API, same results

TYPICAL USE CASES

Pipeline SCADA

Drop-in replacement for legacy dew point calculation engines in real-time pipeline monitoring at compressor stations and metering points.

Gas Processing

Real-time HC and water dew point monitoring across gas processing and dehydration units, integrated with DCS and plant historians.

Process Engineering

API-first thermodynamic engine for simulation software, cloud platforms, and custom engineering tools.

SIMPLE 4-STEP INTEGRATION

01	02	03	04
Deploy	**Connect**	**Configure**	**Go Live**
SaaS or on-premise Service	REST API or TCP	License key + EOS parameters	**Real-time calcs + diagnostics drop-in ready**

Ready to deploy?

Hosted SaaS or on-premise Windows Service — same API, consistent results. 30-day trial available across both deployment modes.

Contact KYCIS Inc.

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