

A PROCUREMENT DECODER FOR OWNER-OPERATORS, EPCs, AND I&C TEAMS

“Open” now means four different things on a DCS quote.

How to tell them apart before you sign a ten-year lock-in.

A framework, a seven-dimension comparison matrix, and six
specification clauses written for direct insertion into your RFQ.

TREVOR CUSWORTH

CSI Automation

Open process automation & process safety intelligence

REFERENCED AGAINST

The Open Group · OPC Foundation

Schneider · Emerson · Yokogawa

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How to use this document

Read the executive summary and the tier framework. Print the seven-dimension matrix on page 8 and the six specification clauses on pages 9–10. Insert those clauses verbatim into your next RFQ or FEED specification. Any bidder who cannot answer them is telling you which tier they belong to.

Executive summary

Three of the largest names in process automation shipped announcements this quarter using the word open in the first paragraph. They mean four different things.

Between April and July 2026, Yokogawa completed the industry’s first OCF-001 certification against the O-PAS 2nd Edition standard [1], Schneider Electric announced EcoStruxure Foxboro SDA as the “industry’s first open, software-defined DCS” [2], and Emerson began positioning Project Beyond as an enterprise operations platform on top of DeltaV [3]. All three campaigns use the same vocabulary. All three deliver different levels of buyer freedom.

For an owner-operator or an EPC evaluating any of these systems, the word open in a datasheet or a keynote does not tell you whether you can, in ten years, take an application you paid to develop and run it on a competing vendor’s hardware. That question — application portability — is the entire economic point of open process automation, and it is answered by exactly one thing: whether the product is certified against a named profile in a published, third-party-tested standard.

This document distinguishes the four tiers of “open” that appear in current DCS quotes, provides a seven-dimension comparison matrix for evaluating any vendor claim, and supplies six specification clauses drafted for direct insertion into your RFQ or FEED specification. The clauses are worded so that any bidder who cannot answer them is, by their answer or their silence, telling you which tier they belong to.

WHO THIS IS FOR	Owner-operator I&C leads, EPC automation groups, process safety engineers, and CFOs approving DCS lifecycle capex.
WHAT IT REPLACES	Vendor-supplied “open architecture” slides used to justify sole-source procurement.
HOW LONG TO READ	20 minutes. The clauses on pages 9–10 are the deliverable.

The problem: one word, four contracts

“Open” has been the most valuable adjective in process automation marketing for a decade. It is also the most degraded. Every incumbent DCS vendor uses it. Every next-generation architecture uses it. Every OPC UA gateway product uses it. The word has become uninformative precisely because it has become universal.

Behind the word sits a range of commitments that differ by orders of magnitude in buyer freedom. On one end, a vendor calling their system “open” may mean only that a competitor’s controller can read a tag from theirs — useful for a historian integration, useless for lifecycle economics. On the other end, a product certified against the O-PAS Connectivity Framework Profile OCF-001 has passed third-party testing that any conformant client can interoperate with it using standardized information models [4].

The market’s current top three claims can be mapped onto four discrete tiers. Each tier has a real technical meaning, a real level of buyer freedom, and a real ten-year cost implication. The next four sections define them.

The Four Tiers of Open

Order from least to most buyer freedom. Every product on the market today lands in exactly one tier.

TIER 1 · MARKETING-OPEN

What the vendor means

The product is proprietary end-to-end. The word “open” appears in the datasheet because there is a REST API for reading tags, or because the HMI runs in a web browser, or because a partner ecosystem exists. There is no standardized information model. There is no third-party certification. Applications developed on this system cannot execute on any competitor’s hardware.

How to identify it

The vendor cannot name a published profile the product has been certified against. Ask: which O-PAS profile, and which certificate number? Silence, deflection, or “we are on the roadmap” answers all resolve to Tier 1.

Buyer economics

You are buying a fifteen- to twenty-year relationship with a single vendor. Application code, control logic, alarm rationalization, and operator graphics all become the vendor’s asset in effect, because moving them costs a rewrite. Migration RFPs at year fifteen routinely price a like-for-like replacement at 40–60% of a greenfield build.

TIER 2 · OPC UA CONNECTIVITY**What the vendor means**

The product exposes an OPC UA server. Third-party clients — historians, MES layers, other control systems — can subscribe to tags, browse the address space, and read structured data. This is a real, valuable capability governed by the IEC 62541 standard maintained by the OPC Foundation [5].

What it does not mean

OPC UA governs how data moves between systems. It does not govern how applications are configured, how control logic is expressed, how alarms are structured, or how any of it moves between vendors. A Tier 2 system will let a competing historian read your process data. It will not let a competing controller execute your control application.

Buyer economics

Better than Tier 1 for data integration — the plant's process data is not held hostage. Identical to Tier 1 for application portability. The moment you commit to the vendor's engineering environment, the ten-year lock-in economics apply in full.

TIER 3 · SOFTWARE-DEFINED PROPRIETARY**What the vendor means**

The product decouples control applications from physical controllers. Applications run as containerized workloads on general-purpose compute (edge servers, virtualization platforms, or private cloud). Deployment, versioning, and rollback follow patterns familiar from IT DevOps. This is a genuine architectural advance and represents where the industry is going.

What it does not mean

Applications, information models, and configuration formats remain proprietary to the vendor. A control application built on one Tier 3 platform cannot execute on another Tier 3 platform — they are architecturally similar but semantically incompatible. Schneider's EcoStruxure Foxboro SDA [2] and Emerson's Project Beyond [3] both sit in this tier.

Buyer economics

Real operational benefits: faster deployments, easier patching, better redundancy models, better integration with modern IT tooling. No structural change in vendor lock-in economics. When you buy Tier 3, you are buying a modernized version of the same commercial relationship.

TIER 4 · O-PAS CONFORMANT

What the vendor means

The product has been tested and certified by an accredited third party against one or more named profiles in The Open Group's O-PAS Standard, 2nd Edition. The standard is publicly available, member-developed, and enforced through a public certification register [6]. Yokogawa's April 2026 OCF-001 certification is the first at the connectivity layer [1].

Which profiles matter for procurement

As of July 2026, seven profiles are available for third-party certification: **GDS-001** (Global Discovery Server), **OCF-001** (OPC UA Client/Server Connectivity), **OSM-003** (Redfish System Management), **PP-002** and **PP-003** (Physical Platform), and **NET-101 / NET-102** (Ethernet Networking). **SEC-F-001** (based on ANSI/ISA 62443-4-2) is required for all products. Application portability profiles derived from Part 8 of the standard are the next horizon; they are the profiles that will make control applications truly portable between vendors [4].

Buyer economics

Multi-vendor procurement becomes contract-enforceable. Application investment is protected by a standard, not a vendor promise. The strategic value grows as more profiles reach certification. Owner-operators who insert O-PAS profile language into RFQs now capture the option value of every future certification without needing to re-tender.

Seven-dimension comparison matrix

Print this page. Use it as a scoring sheet for every vendor response.

	T1 Marketing-Open	T2 OPC UA	T3 Software-Defined	T4 O-PAS Conformant
Standard governance	None. Vendor-defined.	IEC 62541 (OPC UA).	None. Vendor-defined.	O-PAS 2nd Ed. by The Open Group. Publicly available.
Third-party certification	None.	OPC UA compliance testing (voluntary).	None.	Accredited certification against named profiles. Public register.
Data interoperability	APIs vary. No structured model.	Full. Any UA client can subscribe.	Vendor-supplied APIs. Usually good.	Full via OCF-001. Standardized information model.
Application portability	None. Rewrite required.	None. Rewrite required.	None between platforms. Rewrite required.	The strategic goal of O-PAS Part 8. Profiles emerging.
Multi-vendor DCN mix	Not supported.	Historian- or gateway-level only.	Vendor stack only.	Contract-enforceable via profile certifications.
Roadmap risk (10 yr)	Full vendor discretion.	Full vendor discretion above the UA layer.	Full vendor discretion.	Governed by public standard evolution.
What to write in the RFQ	(nothing that would qualify)	"Shall expose OPC UA server per IEC 62541."	"Shall support containerized control app deployment."	"Shall be certified against O-PAS Profile [X], certificate number [Y]."

How to score a bidder. Ask for the certificate number for each claimed profile. A bidder who lists profile numbers and certificate IDs from the public register is Tier 4 for that capability. A bidder who names "OPC UA support" without profile numbers is Tier 2. A bidder who describes containerization and DevOps deployment without either is Tier 3. A bidder who cannot produce evidence for any of the above is Tier 1.

Six specification clauses

Draft language for direct insertion into your RFQ, FEED specification, or master automation standard. Numbering can be renumbered to match your document schema.

Clause 1 · Certification evidence

The Supplier shall provide, with the technical bid, the current O-PAS certificate number and Profile identifier for each component of the proposed system that is certified against The Open Group's O-PAS Standard, 2nd Edition. Certificates shall be verifiable in the O-PAS Certification Register at certification.opengroup.org. Uncertified components shall be identified as such, with the Supplier's target profile and certification date, if any.

Clause 2 · Connectivity conformance

The Distributed Control Node (DCN) hardware and its embedded software shall be certified against O-PAS Profile OCF-001 (OPC UA Client/Server Connectivity) of the O-PAS Standard, 2nd Edition, or later. Uncertified alternatives shall be individually evaluated by the Owner and shall not qualify as 'O-PAS conformant' in any submitted response.

Clause 3 · System management conformance

System management interfaces shall be certified against O-PAS Profile OSM-003 (Redfish System Management). Where hardware platform certification is offered, PP-002 (Base Physical Platform) or PP-003 (Regulatory Physical Platform) shall be identified with corresponding certificate numbers.

Clause 4 · Application portability provision

The Supplier shall state, in writing, its position on O-PAS Part 8 (Application Portability) and shall commit to certifying its application execution environment against Part 8 profiles within twenty-four (24) months of those profiles becoming available for certification. Failure to make this commitment shall be a scored deduction in bid evaluation.

Clause 5 · Security baseline

All O-PAS-certified components shall additionally hold SEC-F-001 certification, demonstrating conformance to ANSI/ISA-62443-4-2 at a minimum Security Level 2 (SL 2). This is a mandatory requirement, not a scoring criterion.

Clause 6 · Roadmap disclosure

The Supplier shall disclose, in the technical bid, all product-line end-of-life notices, deprecation announcements, and successor-product plans affecting proposed components. The Supplier shall further identify any O-PAS profile against which any current product line has failed certification testing, and shall provide the remediation plan.

The signal beneath the noise

There is a reason all three incumbents are talking about openness right now.

ExxonMobil's Lighthouse project — the field trial that validated an O-PAS-based system on a live production facility — closed the strategic debate. The question is no longer whether open process automation works technically. It works. The question is whether the market moves at the pace of the incumbents' depreciation schedules or at the pace of owner-operators' procurement decisions.

Yokogawa's April 2026 OCF-001 certification made it the first major DCS vendor to accept independent conformance testing against the standard [1]. Schneider's June 2026 EcoStruxure Foxboro SDA announcement chose to redefine "open" around software-defined architecture rather than compete on certifications [2]. Emerson's Project Beyond positions the value at the enterprise operations layer, above the control system [3]. Each move is a rational response to the same underlying pressure: owner-operators are starting to write O-PAS profile language into RFQs.

The tier framework is not neutral. It sequences the four positions from most to least buyer freedom. If an owner-operator adopts these clauses, competition in a five-bidder RFQ is transformed. Tier 4 responses come with certificate numbers. Everything else must argue for an exception. The burden of proof moves from buyer to seller.

That transfer of burden is the entire point of a specification standard. It is also the reason the vocabulary has become so degraded so quickly — the value of controlling what "open" means, when the word is about to reshape the ten-year cost curve of an industry, is very high.

"The first buyer to insert 'certified against Profile [X], certificate number [Y]' into their FEED specification changes the conversation for every vendor in their tender pool."

Appendix A · O-PAS profiles available for certification

Current as of July 2026. Consult the official register for updates.

Profile	Description	Part
SEC-F-001	Security baseline per ANSI/ISA-62443-4-2 (required for all products).	Part 2
GDS-001	Global Discovery Server — system-wide UA discovery services.	Part 4
OCF-001	OPC UA Client/Server connectivity, minimum functionality for OCF conformance.	Part 4
NET-101	Single Ethernet, end-to-end measurement, Layer 3 time sync.	Part 4
NET-102	Single Ethernet, peer-to-peer measurement, Layer 2 time sync.	Part 4
OSM-003	Redfish System Management — in-band software agent.	Part 5
PP-002	Base Physical Platform — minimum requirements for integrated nodes.	Part 7
PP-003	Regulatory Physical Platform — extends PP-002 for regulatory control devices.	Part 7

Appendix B · The O-PAS Standard structure

Part 1 covers technical architecture (informative). Part 2 covers security, integrating ANSI/ISA-62443. Part 3 defines profiles and conformance testing. Part 4 covers the Connectivity Framework, based on OPC UA. Part 5 covers system management via DMTF Redfish. Part 6 covers information and exchange models, including IEC 61131 and IEC 61499 for control logic. Part 7 covers the physical platform. Part 8 covers application portability, and Part 9 covers system orchestration — both are the strategic frontier of the standard.

Appendix C · Sources

[1] Yokogawa Electric Corporation. “Yokogawa Products Certified as the First to Conform to the O-PAS Standard.” Press release, 16 April 2026.

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[2] Schneider Electric. “Schneider Electric Unveils the Industry’s First Open, Software-Defined Distributed Control System.” Press release, 18 June 2026.

<https://www.se.com/us/en/about-us/newsroom/news/press-releases/Schneider-Electric-Unveils-the-Industry%E2%80%99s-First-Open-Software%E2%80%91Defined-Distributed-Control-System-DCS-to-Power-Flexible-Future%E2%80%91Ready-Industrial-Automation-698a05f929071e0d260ff517/>

[3] Emerson. "Project Beyond to Build Enterprise Operations Platform." Corporate news, 2025.

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[4] The Open Group. "O-PAS Certification — Profiles Available for Certification." Program page.

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[5] OPC Foundation. "About OPC UA — OPC Unified Architecture." Technology overview.

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[6] The Open Group. "O-PAS Certification Register."

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[7] The Open Group. "The O-PAS Standard, 2nd Edition and Earlier Licensed Downloads." Standard downloads page.

<https://www.opengroup.org/opas-standard-2nd-ed-licensed-downloads>

Prepared by Trevor Cusworth, CSI Automation. This document is a working procurement reference; it is not a formal legal specification. Clauses should be reviewed by the Owner's legal and technical procurement teams before insertion into a binding tender document.

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