

## **White Paper: From Software Sprawl to Operating Architecture**

### **Why leading architecture and engineering firms are rethinking the digital environment**

In most large A&E firms, fragmentation is not the result of poor judgment. It is the cumulative effect of many reasonable decisions made over time as the firm's needs evolved, technology advanced, and new systems were added to solve immediate problems. Each investment made sense in context. The difficulty came later, when all those systems had to operate together.

That is now one of the central technology issues in large architecture and engineering firms.

The problem is not a lack of software. Most firms already have capable systems for design technology, cybersecurity, ticketing, asset management, workforce administration, reservations, onboarding, reporting, and AI. The problem is that these systems usually evolve on parallel tracks. They exchange some data, but they do not function as one operating architecture. Leadership sees more dashboards yet often has less confidence in how work moves through the firm.

The strain is visible across the organization. Support teams spend too much time assembling context across systems. Security teams work through noise spread across multiple consoles. Design technology leaders can see application behavior, but not in correlation to project health or user performance. Workplace tools are usually siloed from operational workflows. This makes it nearly impossible to create a unified strategy for project time, compliance, and readiness. Once AI is added to this landscape, there is not enough continuity to operate reliably across the ecosystem. The result is: more software, more reporting layers, more integration work, more governance overhead, and more people assigned to managing the seams.

For large firms, this is no longer just an IT issue. It affects project delivery, employee productivity, risk management, and the ability to scale without adding more friction. In architecture and engineering firms, the digital environment sits directly under design work, project delivery, compliance, and client risk. When that architecture is weak, the effects show up well beyond IT.

AI has only made this easier to see.

AI did not create fragmentation. It made existing weaknesses in the operating environment much more visible. AI can accelerate analysis, automation, and decision-making, but its effectiveness depends on context. When that context is spread across disconnected systems, it often accelerates inconsistency. The results in more review, more exception handling, and more processes added to an already complex environment.

That is why the next phase of digital transformation in A&E will be shaped less by who adds the most software and more by who builds a stronger operating model across the systems already in place.

A digital operating system does not require replacing every application in the firm. It requires a governed layer across the functions reduces friction between service management, assets, workplace operations, workforce compliance, onboarding, design-technology visibility, and AI. When those functions sit closer together, firms spend less time stitching systems together and more time using them to improve performance.

Most CTO's do not get a blank check to redesign the entire environment at once. They need a first use case that produces visible savings or operational improvement and helps justify broader investment. Software usage and license optimization are often the most credible places to start. When firms can see where



spending is misaligned with actual demand, savings become tangible. That creates room to fund support automation, design-technology insight, stronger security workflows, and broader operating improvements.

This is the logic behind Cumulus.

Cumulus is ProGroup's digital operating platform for architecture and engineering firms, delivered through the ProGroup Cloud. It provides a private cloud environment that unifies service management, endpoint intelligence, workplace workflows, workforce compliance, onboarding, and private AI within a single governed architecture. Its value is straightforward: it gives firms a more controlled way to run the layers they already depend on.

The cloud foundation is part of that story. ProGroup's infrastructure combines private and public cloud architecture with East, West, and ERCOT grid georedundancy, geographic diversity, and grid isolation. For firms handling sensitive project data and operating in demanding client environments, this provides tighter control over continuity, data flow, and exposure. It also creates a stronger foundation for CMMC 2 alignment.

Within that environment, applications such as Cumulus Desk, Skyline, Float, Cumulus Time, Cohana, and Gale function as interoperable parts of a single operating model rather than as disconnected utilities. Support operations, asset intelligence, design-tool monitoring, workplace coordination, workforce compliance, onboarding, and AI no longer have to be managed as unrelated layers.

The real issue is not how much software a firm owns; it is whether those systems support the way the firm actually works. In architecture, performance depends on coordination. The same is true of the digital environment.