DXI Insights

IoT Hits Its Stride for the Rising Enterprise

Zoho's Release of Its Low-Code IoT Platform Levels the Playing Field for Enterprises of All Sizes

The DX Institute | Digital Transformation | The Digital Experience | The Digital Enterprise

Charles Araujo
Principal Analyst

October 2024

Provided Courtesy of

ZOHO

IoT has never had a *promise* problem.

Some technologies seem like a breakthrough innovation, but then struggle to find a problem worth solving and become technology for the sake of technology.

That's never been the case with IoT.

Originally conceived as the *Internet of Things*, IoT was the simple idea that if you could connect the physical world to the digital one, it would have a transformational impact. The benefits would extend across virtually all facets of the enterprise: reduced costs, happier customers, safer environments, more productive employees, improved sustainability — the potential seemed endless.

There was just one problem: *actually making IoT work was impossibly hard*.

What sounded easy on the surface—connecting the physical and digital— was incredibly difficult in practice. Unlike the digital world, the physical plant was decades older and had operated without any real need for standardization.

Connecting operational technology (OT) to information technology (IT) became an exercise in deploying a mishmash of connectors, collectors, and code. And even if you could make the connections, normalizing the data, transforming it into insights, and then operationalizing OT automations from those insights added whole new dimensions to the challenge.

It quickly became obvious that despite the promise, actually deploying and realizing the benefits of IoT was not for the faint of heart and only achievable by the largest organizations that could invest massive amounts of financial and human capital to make it work.

However, Zoho's latest initiative demonstrates that this need not be so. The company has coupled its focus on simplicity and ease-of-use with technology innovations that change the dynamic and democratize IoT. The result is that the enterprises that can potentially create the most value from IoT may finally be able to realize its promise.

The Promise and (Historical) Challenges of IoT

Before you can fully understand the significance of what Zoho has done, you need to understand the magnitude of the challenges—and potential—that have historically defined IoT.

As I alluded to in the opening, a principle challenge with IoT has been the complete lack of interoperability. To connect any given piece of OT to the IT estate meant navigating through a dizzying array of proprietary protocols and data schemas. Seemingly, every single device adhered to its own set of protocols.

Second, most of the early approaches to this OT-IT integration were themselves proprietary. Led by major OT firms, they sought to enable integration within their respective ecosystems, but had the effect of locking you into that vendor if you wanted to maintain the integration.

But successfully getting the physical plant connected was just the first step. After that, you still needed to orchestrate the data pipeline and transform data into insights. This process was often laborious, requiring manual coding and lots of know-how.

And you still weren't done. To go beyond merely generating a report, to automate actions like turning off environmental controls or altering device configurations, it was necessary to operationalize the full feedback loop—which introduced a whole new set of challenges.

You don't need to be an expert to quickly realize that it's no mean feat. Nonetheless, organizations persevered in their efforts to implement it due to its significant benefits. Connecting the physical and digital worlds unlocks new possibilities for using data to understand operations and take informed actions. These include:

• Increased Efficiency

• Significant Cost Savings

• Better Decision-making

• Improved Customer Experiences

In addition, successfully adopting IoT was an enticing proposition because it had such a wide operating plane.

If you could make it work, you could apply it across industrial applications, healthcare equipment, environmental controls, remote monitoring of critical parts of your infrastructure, and so on.

And across each of these categories it enables reduction in equipment failures, avoidance of costly downtime, optimization of staff deployment, better resource allocation for upgrades and capital improvements, and enhanced customer experiences through reduced service disruptions.

"Connecting the physical and digital worlds unlocks new possibilities for using data to understand operations and take informed actions."

IoT Hits the Magical Sweet Spot

One of IoT's most appealing aspects, especially in the hands of adept operators, is its ability to achieve a unique balance and live in a magical "sweet spot": unlike most technologies, it requires no trade-offs.

Typically, enhancing operational efficiency risks compromising the customer experience, while improving customer experiences often incurs optimization or financial costs.

But part of the magic of IoT is the promise to do both at once. By improving operational efficiency and reducing equipment downtime, you were simultaneously creating a better customer or patient experience because it resulted in less wasted time and cancelled appointments. Likewise, improving and automating environmental controls meant that you could deliver an optimal operating environment to your staff without paying for unnecessary lighting, heating or air conditioning when there was no one there to enjoy it.

And the lists went on and on. In use case after use case, IoT was that unique technology that allowed you to simultaneously reduce costs, improve efficiency, and enhance decision making, while delivering a better experience to customers and employees.

These benefits, however, are attainable only when IoT can be implemented without complexity.

This objective is precisely what Zoho aims to achieve with its IoT Platform release.

Zoho's Low-code, Security-first, Independent Approach Democratizes IoT for Every Enterprise

Zoho's IoT platform stands out because it is not a complex, technology-centric platform.

True to its organizing ethos, the company's IoT platform prioritizes ease-of-use and business outcomes. The company leverages its extensive expertise from years of delivering a range of complementary enterprise applications, including CRM, low-code development, data analytics, business intelligence, and integration platforms.

Building on this foundation, Zoho has developed an IoT platform that is both capability-rich and simple to deploy, operationalize, and manage. It accomplishes this by focusing on three key elements:

- Its Low-code Orientation

- A Security- and Privacy-first Posture

- An Open, Vendor-agnostic Framework

Low-code Orientation

The platform's core orientation is to enable non-technical users to configure and orchestrate their IoT connections and data pipelines using a simple, drag-and-drop interface.

Using this intuitive, visual approach, the platform enables an organization to put the development, deployment, and management of IoT capabilities into the hands of the operators who understand the use cases and business needs. In typical settings, these users might not directly leverage an IoT platform, resulting in deployment delays, resource dependencies, and an inability to swiftly adapt to changing requirements.

This democratization has the opposite effect, enabling greater scale, more rapid adaptation, and faster time-to-value. Most importantly, it empowers those best positioned to take action to rapidly operationalize and leverage the insights from the platform.

Security- and Privacy-first Posture

Organizations often hesitate to expand user access to IoT platforms due to two primary hurdles: the learning curve, which is mitigated by the platform's low-code orientation, and security concerns.

By definition, IoT data is sensitive. In the wrong hands it can represent a significant risk, and leveraged improperly, it can lead to substantial, negative impacts in the form of poor decisions and wasted resources. For this reason, most organizations have been reticent to provide widespread access to these platforms.

Central to Zoho's efforts across its application suite is a focus on democratization. In the IoT context, Zoho extends its strong commitments to security and privacy. This commitment is demonstrated through features such as:

- Full end-to-end data encryption

- The ability to leverage multi-factor authentication (MFA)

- Compliance with industry-wide security standards

- Built-in GDPR support

- The ability to manage personally identifiable information (PII) within the platform
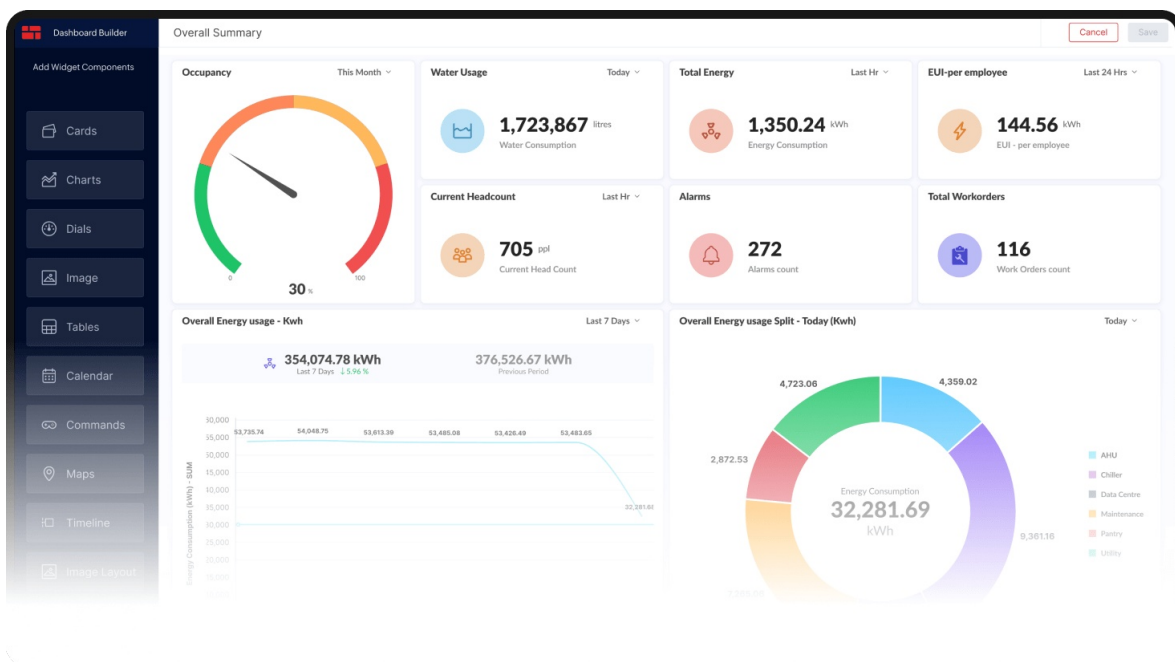
Source: Zoho

The result is a trusted platform that meets enterprise-grade security and privacy requirements while providing necessary access to those who need it most.

Open, Vendor-agnostic Framework

Finally, the platform underscores the company's commitment to an open, vendor-agnostic IoT framework, designed fundamentally to avoid vendor lock-in. This approach liberates enterprises to freely connect all elements of their physical and digital environments. And if future needs change, they can transition away from the platform without risk.

To deliver this open framework, the company supports all open protocol standards. Furthermore, the platform supports a wide range of hardware devices out-of-the-box, and enables users to easily configure non-standard devices.

Most importantly, by leveraging this open framework and eliminating vendor and ecosystem lock-in, it avoids the greatest issue that has plagued so many historical IoT efforts.

"True to its organizing ethos, the company's IoT platform prioritizes ease-of-use and business outcomes."

Zoho Helps IoT Hit Its Stride

With the release of its IoT platform, Zoho aims to finally fulfill the promise of IoT for every enterprise.

For many organizations, there is an abundance of value waiting to be harvested by connecting their physical and digital environments. It's only been the complexity and costs of IoT platforms that have held them back.

This benefit is powerful as it simultaneously enhances customer, patient, and partner experiences while boosting efficiency and reducing costs. Although this proverbial win-win benefits any organization, mid-sized enterprises, in particular, stand to gain the most.

Achieving both efficiency and enhanced experiences through IoT will place them on par with much larger competitors. And once the playing field is leveled, the true strengths of these enterprises—agility, flexibility, and innovation—can create a meaningful competitive advantage. This advantage is further amplified when supported by the capabilities of a robust IoT platform like Zoho's.

For most enterprises, achieving these benefits is impossible if they remain burdened by the costs and complexities of legacy IoT platforms. This truth is why a platform like Zoho's represents such immense potential and the ultimate realization of IoT's long-held promise.

About This Report

Charles Araujo, The DX Institute and The DX Report

Charles Araujo is a technology analyst and internationally recognized authority on Digital Transformation, the Digital Enterprise, the Digital Experience, and the Future of Work. Researching Digital Transformation for over 10 years, he is now focused on helping leaders transform their organizations around the digital experience and to reimagine the future of work. Publisher and principal analyst of The DX Report, founder of The DX Institute, founder of The Institute for Digital Transformation, co-founder of The MAPS Institute, and author of three books, he is a sought-after keynote speaker and advisor to technology companies and enterprise leaders.
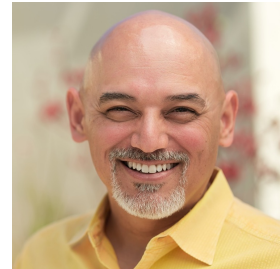
About Zoho

With 55+ apps in nearly every major business category, Zoho Corporation is one of the world's most prolific technology companies. Headquartered in Austin, Texas, with international headquarters in Chennai, India, Zoho is privately held and profitable with more than 15,000 employees. For more information, please visit: www.zoho.com