Ticketing:
How ACME's Cloud-Based Enterprise Platform Benefits Your Business

Today the cloud is replacing on-premise or hosted enterprise workloads, one vertical at a time. ACME was started to introduce a True Cloud alternative to visitation-based venues who rely on on-premise or hosted solutions for their ticketing needs.

In this paper, we explain how True Cloud platforms like ACME deliver operational benefits for venues and an enhanced experience for visitors. While on-premise solutions were once the best choice for ticketing, today those systems impose unnecessary IT costs and responsibilities, including managing data centers, security and privacy compliances, application updates, and supporting costly bespoke integration to other enterprise applications, such as marketing and accounting.

ACME eliminates these problems. Our True Cloud platform is a comprehensive enterprise system, consolidating Point of Sale (POS) and online functions into one ticketing solution, without the need for you to run data centers. Security and privacy compliances are delivered out of the box. Open APIs and integration middleware let you integrate with other enterprise software apps, while our integration middleware is hybrid to connect-on-premise, letting you preserve your existing investments. Most importantly, our multi-tenant architecture leverages economies of scale to dramatically lower costs.

The industry is changing, and we can see the next transformation. Today, forward-thinking businesses are harnessing the power of the cloud to promote their core business objectives, rather than spending time building computer systems. Money, reliability, flexibility: if your business values these, you owe yourself a shift to a cloud-based platform like ACME.

In this paper, we explore the benefits of adopting a multi-tenant platform for your venue's ticketing needs.

How do Cloud-Based Ticketing Platforms save you money?

While technological advantages remain important, for those making choices about enterprise ticketing systems the first consideration is still usually cost. This is why the primary advantage ACME offers over on-premise or hosted systems is a dramatically lower TCO (total cost of ownership). Here's how.

First, Cloud-Based Platforms like ACME remove your direct server costs. Shifting to a cloud-based platform means no data centers for you to purchase and maintain, and no need for you to synchronize your online data with your on-premise application. Security, compliance, and uptime become our guaranteed responsibilities, not yours. Software updates happen on the server side, in the background; innovation remains constant, with zero downtime on your end.

All of this lowers your IT costs and frees your IT resources for higher value-add activities.

Second, ACME lowers costs by leveraging economies of scale. By serving multiple customers with the same servers, and by developing to one code base, as opposed to multiple versions (as is done in on-premise systems), ACME delivers its platform with maximum efficiency. This architecture also means that ACME needs to build connectors to other enterprise applications only once; these connectors then become available to all clients.

Third, ACME integrates easily with other enterprise applications. By nature, ticketing use-cases are omni-channel. On-premise systems, however, make sharing data with other applications – CRM, accounting, finance – prohibitively difficult, forcing venues to either move data manually or to employ costly bespoke systems integrators. ACME's inter-application connectors and open APIs remove these barriers, making it easy to share data with other enterprise applications. This allows you to select the best, most cost-effective applications for the main functions of your business.

The True Cloud Platform

ACME was born in the cloud, and is engineered to last for decades. We built it using the latest technological advances: reliable public hosting, transactional relational and unstructured metadata based databases, open source operating systems and libraries, open HTTP protocols, and open IP local/cellular networks, among others. Our engineers monitor the landscape for new developments, and quickly incorporate them into our platform.

Multi-Tenancy Architecture vs. "Hosted Cloud" model

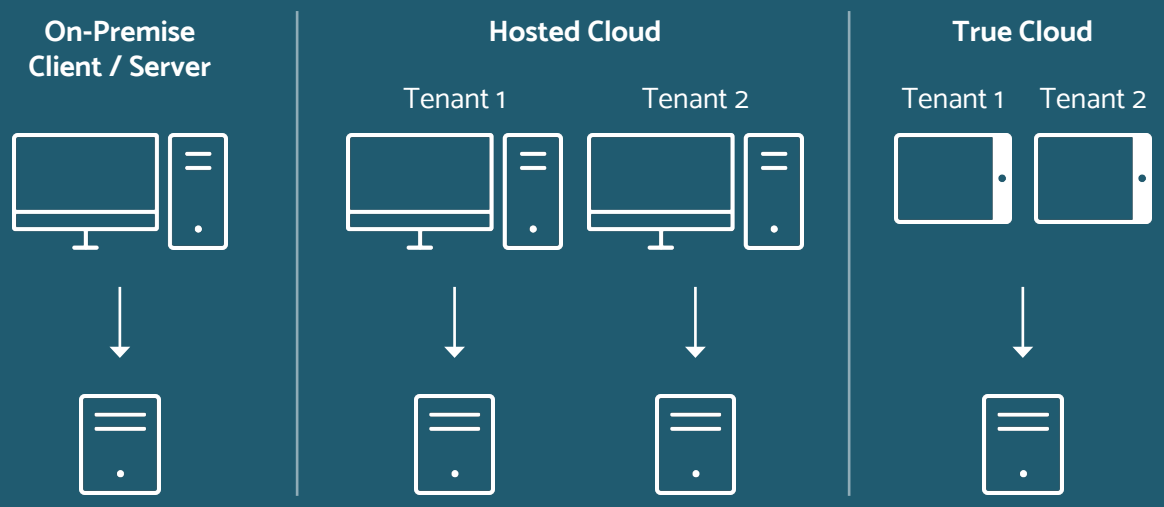
Along with the rest of modern SaaS (Software-as-a-Service) industry, we define a "True Cloud" platform as one employing a multi-tenancy architecture. To understand this idea, let us examine two earlier models: the on-premise server and the hosted cloud system.

In an on-premise server model, venues are responsible for hosting their own servers and data centers. Configuration happens on-site, in the codebase, and is performed either by an internal IT team or outside software vendor. Advantages are extreme configurability; disadvantages are extremely high hardware costs, low flexibility once the codebase has been configured, difficulty accommodating new mobile devices, and inability to communicate with other enterprise systems.

In a hosted cloud model, the venue contracts with a technology vendor to host an on-premise server to a cloud-based data center through a remote Windows connection. This model reduces costs by shifting responsibility for some hardware and security to an outside vendor. However, the vendor still maintains multiple codebases and data schemas, and must therefore implement software updates and external connections individually, for each client's codebase. This increases the vendor's operational costs, which are then passed on to its clients.

In a True Cloud architecture like ACME, the software provider (ACME) hosts and maintains all servers and data centers; venues need only computers and an internet connection, as they access the platform through their browsers, or through native apps for POS and Access Control. In this model, ACME maintains only one code base and one database schema; when the code is updated, or given new features, the improved code becomes part of every client's platform. Customization happens on the UI layer, allowing venues to adapt the platform to their specific needs without employing costly IT professionals.

Because the same codebase and database schema supports all customers, this model is called "multi-tenancy". Multi-tenancy is, currently and for the foreseeable future, the most efficient model on the planet, delivering more benefits for a lower price.



ACME is designed for flexibility, engineered to accommodate your business processes, rather than forcing your business to conform to the specifics of our software.

In ACME, workflow definition and data definition modeling (custom attributes, dynamic buying form definitions) are easily configurable from the UI layer. Because our underlying databases are natively built for metadata structures, we can develop a flexible app at a faster pace than previous database technologies.

Finally, since we rely on open Internet protocols such as REST APIs and HTTP, we make it easy for clients to build front end applications, or to integrate with other applications from our backend API platform.

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Enterprise Mobility

ACME lets you go mobile throughout your venue, including at point-of-entry and in-venue experiences. Our POS devices are mobile, and support adding new orders to previous purchases or when scanning tickets. This frees you to upsell, both at your venue and offsite.

The native apps for our POS and Scanners are built on modern mobile Operating Systems (OS), and easily connect to standard mobile wifi or cellular networks. This expands the number of locations at which you can sell e-commerce wares (tickets, memberships, simple retail), or rapidly scale up the number of visitor entry points during peak periods.

Since our POS key payment flows are secured on point-to-point, end-to-end encryption starting from the hardware firmware, as well as on standard http secure protocols, our systems are deployable on standard IP/cellular networks, without the need for proprietary networking add-ons.

Online Visitor Experience

Today, visitation often starts online. This is why we designed our platform to maximize online revenue.

Out of the box, ACME provides a White Label web application that lets visitors buy from our unified cart flows. Our unified cart provides powerful e-commerce capabilities, combining ticketing, membership, donations, and simple retail into one purchasing flow. We configure these flows so that their look and feel integrate seamlessly with your front end e-commerce store.

For venues who have significant investments in their e-commerce visitor experience, or prefer to control the end-to-end visitor experience themselves, open APIs let you build ACME functionality natively into your online store fronts.

However, the cloud truly shines in its ability to connect these online purchase flows to the same centralized, real-time inventory used at your POS and back of house (phone) online sales channels. This means visitors will no longer walk in with a ticket, only to find that their event is sold out, or be unable to purchase tickets for an event because available tickets were released to a different platform.

Reliability, Uptime, and Application Performance

We build our platform on the strongest public hosting infrastructures available, currently Amazon Web Services. Every element of our data center stack runs on reliable operating systems such as Linux. Transactions and configurable data schemas rely on proven open source database technologies with a mix of SQL for transactions and NoSQL for configurability.

Our main application architecture is redundant, allowing for higher uptime in the rare event of component failure. Every layer of our stack is stateless, fault tolerant, either in real time at the application servers or within minimal service interruption to standbys at the database layer. Additionally, for the venue POS, a mission critical sales channel, we have developed an offline mode that ensures continuity of operations in the event of LAN (Local Area Network), internet, or data center failure. These multiple redundancy points, from the POS to data center layers, enable us to provide enterprise-grade uptime SLAs (Service Level Agreements).

Our stateless application architecture enables us to add capacity quickly to accommodate increased API traffic. Our infrastructure can sustain hundreds of transactions per second, at 99.9% uptime service levels, and we continuously optimize performance to sustain higher and higher levels of scale.

Reporting

Our reporting infrastructure uses new database technologies natively built for the scale of the cloud. With support for horizontal scalability for both memory and computing, our reporting tool is able to query large data sets while maintaining application performance.

Our platform offers a large number of standard reports to satisfy your business needs; it also includes a powerful query tool that can define a wide variety of reports. If your data insights needs are more complex, data from the ACME platform can be exported through our APIs into standard BI (Business Intelligence) tools.

Enterprise Application Integrations (EAI)

In ticketing-driven verticals, visitation data from ticket sales drives many other key business functions, including retail, marketing, and accounting. Yet until recently, venues wanting to share visitation data across business operations had only two choices: they could find an all-in-one vendor with an integrated portfolio of products, and accept software that was rarely deep or configurable enough to meet their needs, or they could procure best-of-breed vendors in each area and then pay high costs for bespoke data exchange software to connect applications.

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ACME offers a new model: we focus our core ticketing experience as a best-of-breed vendor while providing middleware connectors to automate data sharing with marketing and accounting applications. By moving the heavy lifting work of application connectivity to our data center, where we can control the code updates and utilize the on-demand computing resources of our public hosting infrastructure, we significantly reduce the costs of system integration. Our server-side connectivity middleware is focused on data management , such as data model mappings from different applications, facilitating data exchanges either through API or file-based architectures, and enforcing application constraints logic.

For ACME cloud-to-on-premise connector installations, client side costs consist only of lightweight data reads and writes; effort levels are limited to configuration, instead of coding. If coding is required, it usually involves only simple scripting.

For cloud-to-cloud connectors with APIs on both ends, installation costs are generally restricted to simple configuration.

Integration with Marketing Apps

Our platform provides several connectors to integrate data between ACME and BlackBaud Raiser's Edge, both on-premise and hosted. Those investments are now carrying over into the Raiser's Edge cloud version, NXT. Our File based I/O architecture using APIs on our back end can also be adapted, at minimal cost, to other higher-end constituent management systems from BlackBaud, like their CRM product line.

If you use the Salesforce ecosystem for fundraising, we built a 2-way data synchronization connector, as well as a managed application on top of Force.com, to manage membership flows (becoming a member, upgrading, downgrading, renewing, etc.). This application allows additional transactional data history to flow into Salesforce, enabling deeper drilldowns of customer behavioral data. You can then tie this information into outbound email systems, re-entering ACME e-commerce flows to increase revenue.

Integration with Accounting Apps

Our reporting engine lets you integrate daily to accounting systems, either through report file exports or through custom reporting scripts based on our reporting APIs. The engine lets you build journal entries customized to your revenue recognition rules, and to the General Ledger chart of accounts mapped to transaction types.

This ability to post transactional-level data into the accounting systems provides finance teams more insight into their operations, and lets them leverage analytics from the accounting system. By automating these systems, we reduce clerical data-entry costs, letting you focus on high value-add activities.

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We currently support middleware that integrates with Microsoft Great Plains to post transactional level data detail. We also can customize our reporting exports though easy-to-develop scripting solutions to post into major accounting systems such as Oracle PeopleSoft or Financial Edge.

Compliance

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Security (PCI and PII)

Today's digital world offers a stark enterprise divide: either your data is encrypted, or your customer is exposed. We know that data breaches destroy reputations, and have continuously invested in security from day one. Customer trust towards a cloud provider needs to start by understanding the underlying security architecture.

Payment Card Industry (PCI) security standards are the minimum requirements for protecting your customers' payment card information, and PCI compliance is required for all merchants that store, transmit, or process payment card information. ACME is PCI Level 1 certified for our online and POS flows. Our payment flows are encrypted end-to-end on a point-to-point basis, and we store no actual card numbers, only encrypted versions manufactured by our trusted payment processors. We additionally use EMV-based hardware to further reduce potential card fraud associated with magnetic stripes.

We follow the U.S Federal FIPS-140-2 privacy laws governing protection of personal information (PII) by ensuring all data is encrypted at rest, and by providing configuration privacy controls to disable cookies for outbound transactional emails at the client's request.

Accessibility

Our software products are designed to be accessible for our online and native applications. Auditors regularly audit our VPAT to ensure that our applications conform to Federal Law 508 US Guidelines.

IT Financial Controls

ACME's System & Organization Control (SOC) Type 1 Report is an independent third-party examination report that demonstrates how ACME achieves key compliance controls and objectives. These reports assist our clients, independently verifying the controls we utilize to support operations and compliance, including information security, change management, financial reporting, and customer management.

Service

At ACME, we follow customers all the way, from initial advising, through implementation, to full use of the ACME platform, to ongoing upgrades and support.

ACME Client Services expertly guides your team. We help you configure, implement, and optimize ACME to best serve your needs. Above all, we give you the tools to pull ACME's various components - back office, payments, hardware, data, API integrations - into one, single, enterprise-level SaaS platform.