CA Digital Experience Insights: A New Twist on User-Focused Application Analytics and Management

Abstract

In the spring of 2017, CA Technologies (CA, Inc. NASDAQ-GS: CA) announced CA Digital Experience Insights. This is the first in a series of cadenced releases of a fully integrated automation portfolio supporting the Digital Experience with deep visibility to the service supply chain underlying enterprise applications and transactions. Designed to support Application Performance Management (APM), both User Experience Management (UEM) and User Activity Management, and business-focused analytics, the automation platform is initially available as a SaaS-based solution. An on-premises version built on the same code base is expected to be released later in fall 2017.

This Enterprise Management Associates (EMA) Impact Brief describes CA Digital Experience Insights and its content in detail, along with the implications for CA customers and prospects.

Introducing CA Digital Experience Insights

With this new platform, CA is introducing an Operational Big Data platform with massive data storage and processing capacity, built on open technologies including ElasticSearch, Kafka, and Hadoop. APM and UEM data, along with unstructured data such as log files, monitoring data gathered from CA or third-party software platforms, operational metrics from infrastructure and network monitoring, etc., are loaded into a data lake supporting high-speed, real-time analytics processing and both preconfigured and ad hoc reporting. The end result is not only a unified view of applications and services in the context of their supporting technology ecosystems, but also a set of tools specifically designed to ensure the delivery of a digital experience that meets the needs of the business by exceeding the expectations of the customer.

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This is an innovative solution that takes a unique approach to delivering value to both business and IT. A sophisticated set of algorithms, correlations, and analytics elevates CA Digital Experience Insights beyond a simple APM platform or standalone UEM solution to a consolidated, unified view of the delivery systems derived from multiple products and instrumentation points across the service supply chain.

Delivering what CA describes as a "holistic view of the entire Digital User Experience," this solution is an extremely innovative, production-grade competitor to the SaaS-based APM solutions, such as New Relic, AppDynamics, and Dynatrace, which have disrupted the APM and UEM markets in recent years. However, the distinctive capabilities built into this product—particularly the data lake supported by real-time Hadoop-based processing, transaction replay, and step-by-step remediation guidance—are clear differentiators that sets it apart from the vast majority of SaaS-based competitors.

Designed to support companies of every size, from small and midsized business to large enterprises, support for multitenant instances and parent-child relationships also position this product for Managed Service Providers (MSPs) and Global Service Providers (GSPs) delivering services to multiple customers.

Background and Context

EMA's latest research on Digital Experience Management [1] has this to say about the topic: "Digital Experience Management (DEM) shines a spotlight on both the expanded relevance of IT and the pressure on the IT organization to justify itself and perform efficiently in what is now popularly called the digital age." As organizations of all types and sizes become progressively more dependent on digital technologies for their very survival, DEM becomes increasingly more critical to business as usual. DEM is also an area in which many enterprise management vendors are attempting to transform product portfolios to better address the digital era; CA's strategy in this regard is among the most focused and comprehensive in the industry.

While APM, UEM, and DEM are each essential to ensuring the delivery of high-quality applications to end users, these functions have traditionally been conceived and marketed as separate products. Often, competing marketing claims have made it difficult for IT executives and practitioners to determine the capabilities of the products in each category, assess how they are different, and identify why all were needed to create a complete, end-to-end picture of application execution. And although many vendors have attempted to bridge feature-related gaps through partnerships or acquisitions, IT practitioners have often still been on their own to integrate such products or to manually correlate between very different types of capabilities.

At the same time, each of the three product types delivers its own unique perspective on application execution, performance, and/or availability through a different lens.

- **APM solutions** traditionally utilize correlation and other types of analytics to create a bottom-up, infrastructure-focused view of application execution. While this perspective is valuable, infrastructure monitoring alone, no matter how well correlated, is incapable of delivering a viable model of application execution—the monitoring points simply don't support complete, end to end visibility.
- **UEM solutions** attempt to remedy this gap by delivering an accurate perspective on end to end performance as experienced by the user. Whether delivered via "real" or "synthetic" transaction monitoring, browser instrumentation, or endpoint monitoring however, UEM can't connect the user experience with underlying infrastructure performance. Such connections are an absolute necessity for troubleshooting and root cause analysis.
- Finally, while APM and UEM are both technology-focused, **DEM solutions** typically focus on the business and user-related impacts of a given application. This could be from the perspective of the code itself, user reactions to design and coding scenarios, performance/availability, or actual revenue-related impacts of application problems.

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– EMA Research

[1] EMA, "User, Customer, and Digital Experience: Where Service and Business Performance Come Together," February 2017.

Conceptual Highlights

CA's unique and seamless blend of APM, UEM, DEM, and analytics focuses on three key pillars (see Figure 1).

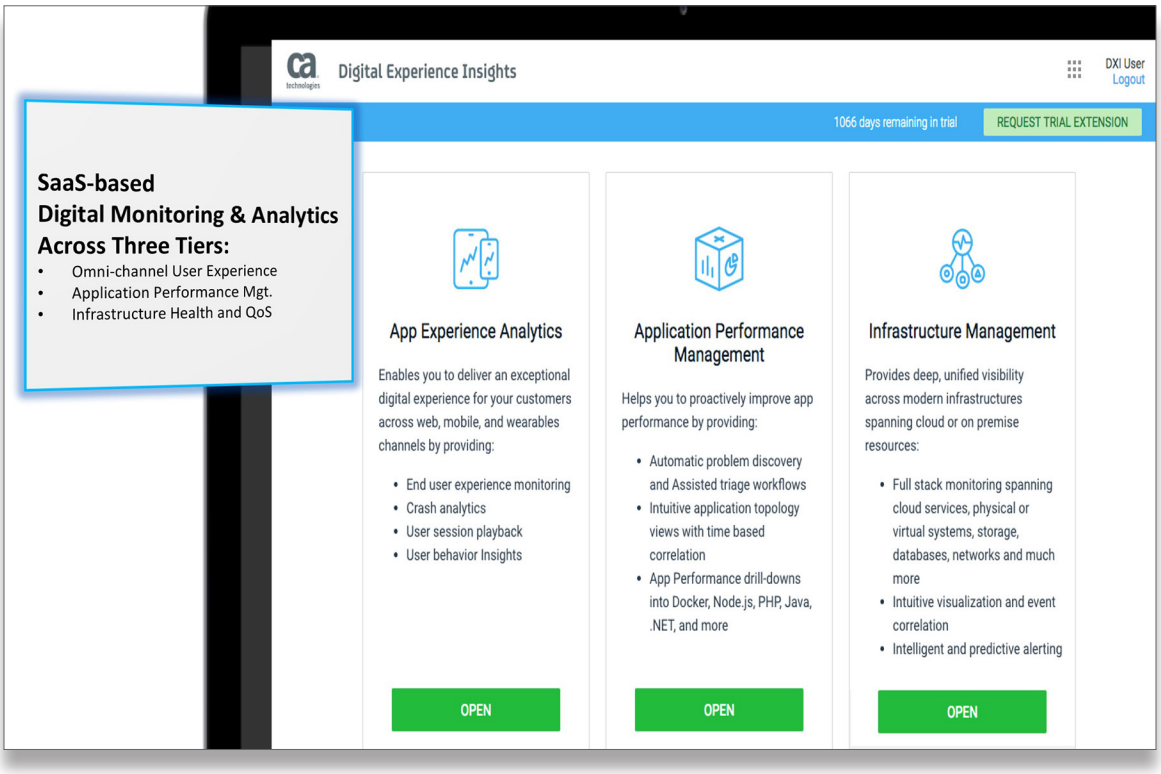

Figure 1. Three Pillars of CA Digital Experience Insights

- **App Experience Analytics** – These capabilities monitor application usage at a granular user- and device-focused level to reveal a true measure of the user experience in context with the user actions. This pillar tracks user interactions with the application to detect opportunities to improve the user experience via changes to application design and/or performance. It also supports Mobile Application Management (MAM) functions such as crash, software defect, and user behavior analysis.
  - **Key Differentiator: User Session Playback is a unique differentiator. Unlike competing playback solutions, it is not limited to pre-deployment, development time usage; because of the breadth of the stored data and the powerful processing power inherent in the platform,** it can also be used to triage production environments. The extensive data storage capabilities of the underlying data lake, combined with the high-speed processing capabilities underlying the solution, enable a complete playback of user actions leading up to a crash, even for transactions occurring days or weeks in the past.

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- **Application Performance Management** – Tracks performance and availability to automate the processes of troubleshooting and root-cause analysis via a combination of APM and UEM metrics. This pillar also includes drill-down into correlated stacks for .NET, Docker, and Java, to name a few, as well as comparative topology views with time-based correlation.
  - **Key Differentiator: Guided Problem Resolution and Assisted Triage automate the process of problem tracing and guide IT support personnel through the problem resolution process.** This enables less-skilled personnel to perform higher-skilled tasks and helps experienced IT support personnel to dramatically reduce **Mean Time to Resolution (MTTR) o**ver less automated approaches.
- **Infrastructure Management** – Elevates silo-focused management techniques with unified visibility spanning hybrid (public and private) cloud, physical and virtual servers, storage, database, network, etc.
  - **Key Differentiator: Self-learning capabilities automate detection and alerting for impending problems.**

Architectural Highlights

CA Digital Experience Insights (see Figure 2) is comprised of a set of integrated services centered on visibility into the Digital Experience. The services sit on top of an extensive data store and powerful analytics processing capabilities. This "big operational data" engine provides broad and deep visibility into the execution fabric, and supports cross-tier correlation and guided problem resolution.

This unified visibility includes auto-generated topology dependencies/relationships supporting drill-down capabilities, along with real-time operational insights and predictive analysis drawn from self-learning capabilities. One significant differentiator is the fact that, from the analytics standpoint, the product is vendor agnostic; the platform can ingest monitoring metrics from either CA or third-party tools, enabling customers to maximize automation investments regardless of past acquisition history.

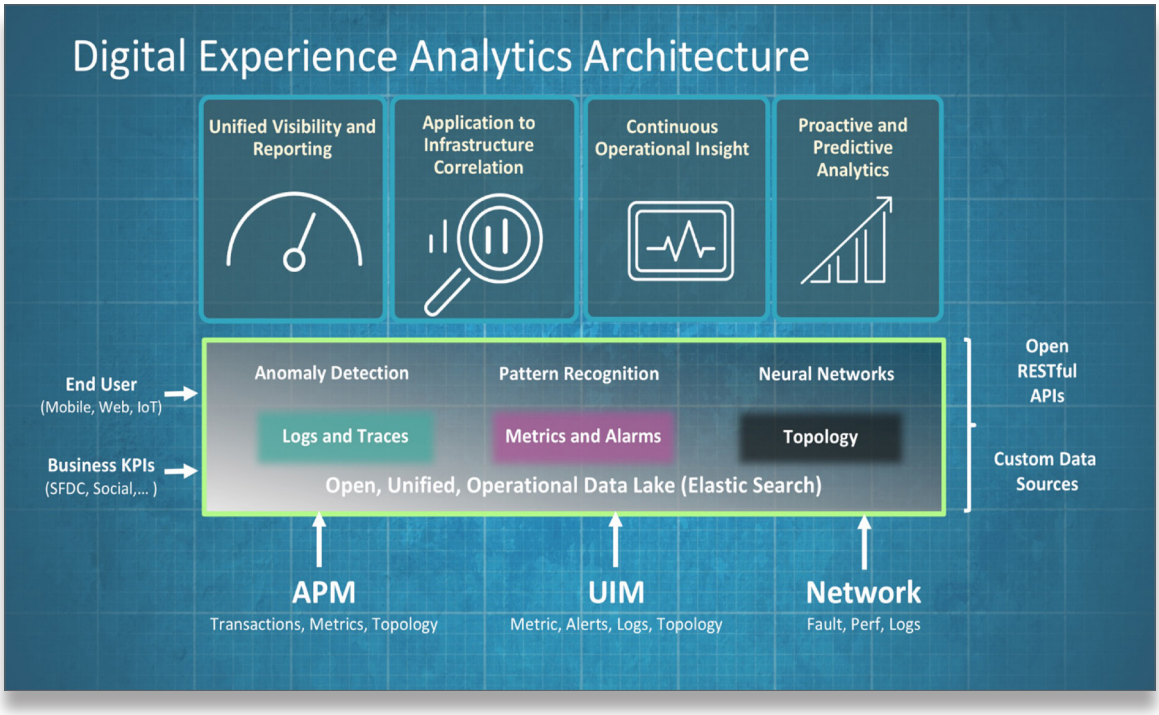

Figure 2. Architectural Model of CA Digital Experience Insights Platform and Analytics

Additional Differentiators

- Pre-integrated to support DevOps collaborations across the application lifecycle – CA has integrated the platform to include both production-facing monitoring capabilities and visibility into preproduction solutions such as Jenkins and GitHub. This supports collaborative information sharing across the lifecycle. CA BlazeMeter can also be integrated with the platform, providing SaaS-based load testing seamlessly integrated across lifecycle stages.
- Network insights, missing in many competing solutions, feed into analytics as well – As the network continues to play a bigger role in application delivery, capabilities supporting Software Defined Networking (SDN) and network-performance insights become a very big part of the picture. CA plans to add more network-focused features in the coming months.

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- Mobile to mainframe – End-to-end unified view includes both mobile and mainframe as essential execution elements. EMA's latest APM-focused research indicates that nearly 85% of respondents view mainframe support as an "extremely important" or "very important" feature in making application-related tool purchase decisions.
- **Customizable dashboards and reporting** – "Elastic search" capabilities allow customers to use predesigned dashboards and/or reports *or* to run ad hoc reports.
- **Integration** – The platform has out-of-box integration with cloud-native technologies such as PagerDuty and Slack.
- **Tenancy and sub-tenancy support enterprises, GSPs, and MSPs**
  - **Enterprises**– EMA research shows that enterprise-sized companies are far less likely than small or medium-sized companies to utilize public SaaS services. However, enterprise-sized companies will see significant value in the analytics and other differentiators of this solution. CA has also made it easy for them to migrate to a SaaS-based solution. They can start with a single department and a single SaaS tenant, then create different sub-tenancy groups as more departments come on board. Dashboards provide both enterprise-wide and sub-tenant service views.
  - **GSPs/MSPs** – The tenant/sub-tenant model supports service providers as well. Service providers can either white label the offering *or* host the entire stack on their own infrastructure.
- Flexible pricing models supporting virtually any deployment/design requirement and any company type or size

EMA Perspective

While most IT organizations have made significant investments in automation supporting infrastructure management functions, less than half are currently using APM-specific products. In part due to this lack of investment, support costs continue to rise, primarily because of the complexity of the applications and services supported by the average IT organization. Modern applications are simply too complex to manage with infrastructure-focused tooling and manually driven root-cause analysis.

With these new capabilities, CA is focusing on the entire service supply chain underlying applications and transactions, from the time the user pushes a button through the back-end systems—including mainframes—supporting applications and mobile apps. CA has added a high-speed, analytics-focused twist to APM, UEM, and DEM capabilities developed over years of investment to create a truly open, modern platform. And although the SaaS form factor of the initial release appears to compete directly with market newcomers, this new take on DEM is very differently conceived, architected, and functionally delivered than its competitors.

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MSPs, GSPs, and companies of all sizes will be interested in the capabilities offered here. Particularly for companies still struggling to manage applications with infrastructure-focused tools, CA Digital Experience Insights presents an opportunity to streamline support costs by investing in a 21st century DEM platform.

Additional information on CA Digital Experience Insights is available at www.ca.com/us/products/digital-experience-solutions.html.