

## REPORT REPRINT

# InterSystems expands its IRIS Data Platform: Machine learning is on the way

**AUGUST 23 2019**

**By James Curtis**

The vendor is seeing healthy adoption of its IRIS Data Platform, which is capable of handling transactional as well as analytical workloads. But InterSystems is not stopping there and plans to expand the platform with additional functionality, including introducing in-database machine learning tooling.

---

THIS REPORT, LICENSED TO INTERSYSTEMS, DEVELOPED AND AS PROVIDED BY 451 RESEARCH, LLC, WAS PUBLISHED AS PART OF OUR SYNDICATED MARKET INSIGHT SUBSCRIPTION SERVICE. IT SHALL BE OWNED IN ITS ENTIRETY BY 451 RESEARCH, LLC. THIS REPORT IS SOLELY INTENDED FOR USE BY THE RECIPIENT AND MAY NOT BE REPRODUCED OR RE-POSTED, IN WHOLE OR IN PART, BY THE RECIPIENT WITHOUT EXPRESS PERMISSION FROM 451 RESEARCH.



### Introduction

InterSystems is seeing strong adoption of its IRIS Data Platform, which was made available a year and a half ago and is capable of handling transactional and analytical workloads. But the company is not stopping there and plans to expand the platform with additional functionality, including introducing in-database embedded machine learning tooling.

### 451 TAKE

While InterSystems' IRIS Data Platform has only been generally available for a little more than 18 months, it is based on highly stable and hardened technology. And the vendor continues to expand the platform with plans to add orchestration and management of analytical workflows as well as in-database machine learning tooling, for instance. All of this should give organizations confidence, particularly as they consider investing in mission-critical workloads. While InterSystems' roots have traditionally been in the healthcare space, our ongoing coverage of the company reveals continued traction in other sectors such as financial services, logistics, logistics/supply chain and manufacturing. With organizations realizing the opportunities that exist with hybrid workloads (transactional and analytical), we expect a burgeoning market here, but InterSystems, which is looking to raise its profile in other segments, will certainly find stiff competition from relational to NoSQL to distributed data-processing framework (Hadoop-based) vendors.

### Context

InterSystems has been around for the better part of 41 years. The company was founded in 1978 by Terry Ragon, who remains the CEO today. Having been a mainstay in the healthcare industry for some time, InterSystems has built a loyal following, but it has also gained considerable traction in other sectors such as financial services, logistics, logistics/supply chain and manufacturing. The vendor operates in over 80 different countries globally and cites more than 150,000 deployments and 1,000+ enterprise-class customers.

### Products

In our previous coverage of InterSystems, we discussed the rollout of its IRIS Data Platform, first announced in September 2017 and then made generally available in January 2018. The company pitches the IRIS Data Platform as a highly flexible offering that can handle both transactional and analytical workloads for data-heavy applications.

When the IRIS Data Platform first came out, it was designed to combine two of InterSystems' products into one platform: Caché, a NoSQL-like object database, and Ensemble, a rapid integration and development platform. The company reports strong adoption of the platform since its release, particularly among existing Caché and Ensemble customers.

Adoption of the IRIS Data Platform is being fueled by several factors. One factor is a tighter, deeper integration between Caché and Ensemble that drives certain system efficiencies while also enabling a simplified process for handling updates and upgrades. Cloud has also been a strong driver because the platform was architected with the cloud in mind and management reports several clients running it in production on AWS, Microsoft Azure and Google Cloud Platform (GCP), including some running hybrid (on-premises and cloud) deployments.

### Technology

Besides combining two of its products, InterSystems points to the underlying technology of the platform for differentiation. For instance, the IRIS Data Platform accepts varied data types and can access the data as relational or non-relational. All of the data is stored as a single master representation in what the company calls its Globals data structures. This approach provides greater performance flexibility for developers who can combine relational and non-relational data in the same application without requiring the data to be replicated. As data is ingested into the platform, it lands on disk but can also be immediately available in-memory, thus providing the benefits of in-memory without the typical memory constraints.

Transactions and SQL querying are core capabilities of the platform, but InterSystems also touts its interoperability and embedded analytics functionality. For instance, there is embedded API management tooling to integrate third-party services, as well as the ability to model business processes using graphical-based tooling – all managed within the system. There is also the ability to embed analytics to enable mixed workloads. The IRIS Data Platform comes with a BI, natural language and machine learning (ML) processing engine to address a variety of workloads. Additionally, a parallelized Spark connector ships with the platform.

### Innovation and roadmap

Looking ahead, InterSystems has several items on its roadmap – a few of them are noted here. Besides its containers, Kubernetes and cloud marketplace (AWS, Azure and GCP) offerings, the vendor will be looking to provide industry-specific SaaS offerings, as well as forthcoming managed services, including DBaaS. On the analytics front, it will be expanding its machine learning (ML) functionality. The IRIS Data Platform currently can run ML models with an embedded ML engine that accepts PMML code to execute predictive models, but InterSystems is also working to enable ML models to be developed in-database with a forthcoming tool that operates within a SQL environment. Another initiative includes the ability to orchestrate and maintain analytic workflows, which are comprised of analytical artifacts (dashboards, ML models, etc.) that traditionally involve numerous individuals and systems. The goal is to streamline communication and collaboration while also focusing on the repeatability and monitoring of those workflows.

### Competition

There is a cadre of vendors specifically targeting hybrid workloads, or what 451 Research refers to as hybrid operational and analytic processing. The competitive field includes firms with relational-based architectures, although many NoSQL vendors are providing mixed-workload capabilities, as well as providers with distributed data-processing framework (Hadoop-based) platforms.

Starting with relational-based companies, Oracle has its In-Memory Column Store product that can be paired with row storage for handling dual workloads. IBM offers Shadow Tables functionality that can be deployed within Db2 for hybrid, and Microsoft leverages what it calls Columnstore indexes, as well as the ability to enable advanced analytics with SQL Server R Services. SAP targets hybrid workloads with its HANA in-memory system; Actian has its Actian X offering; and there are others such as MemSQL, NuoDB, VoltDB, PingCAP, MariaDB and Percona.

Several NoSQL specialists offer mixed-workload capabilities, including DataStax, MongoDB, MarkLogic, Aerospike, Couchbase, Redis Labs and FairCom. On the cloud front, we expect rivalry to come from enterprises blending cloud services to address mixed workloads, such as Amazon Redshift or Snowflake being paired with Amazon Aurora, for instance.

## REPORT REPRINT

Additionally, there are a few players delivering mixed-workload systems based on distributed data-processing framework (Hadoop-based) platforms or similar open source projects. These include Splice Machine, which provides a Hadoop- and Spark-based RDBMS system that leverages HBase and Apache Derby as part of its architecture. There is also Esgyn, an HP spinoff that is aligned with the Apache Trafodion project and has earlier ties to Tandem Computer's NonStop database offering. Another potential contender is LeanXcale.

### SWOT Analysis

#### STRENGTHS

While a relatively new offering, InterSystems' IRIS Data Platform is built on stable and mature underlying technology, including the company's Caché database. Moreover, it can handle both transactional and analytical processing.

#### WEAKNESSES

The company's profile is somewhat smaller compared with many of its competitors, perhaps because of its partnership strategy and strong presence in the healthcare vertical.

#### OPPORTUNITIES

Hybrid workloads continue to appeal to new and existing customers. For existing customers, the IRIS Data Platform integrates two products, so there is ample reason to upgrade. For new customers, there is the assurance that the platform is built on stable, enterprise-grade technology.

#### THREATS

There is increased interest among organizations to adopt mixed-workload systems, which has resulted in the emergence of many players looking to capitalize on this opportunity, making the market highly competitive for InterSystems.