Investor Session: Product Update

MongoDB.local NYC 2024
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We are pursuing one of the largest & fastest growing markets in software
Data Management Software Market, $Bn

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>$49</td>
</tr>
<tr>
<td>2020</td>
<td>$54</td>
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<tr>
<td>2021</td>
<td>$64</td>
</tr>
<tr>
<td>2022</td>
<td>$72</td>
</tr>
<tr>
<td>2023</td>
<td>$81</td>
</tr>
<tr>
<td>2024</td>
<td>$94</td>
</tr>
<tr>
<td>2025</td>
<td>$106</td>
</tr>
<tr>
<td>2026</td>
<td>$120</td>
</tr>
<tr>
<td>2027</td>
<td>$135</td>
</tr>
<tr>
<td>2028</td>
<td>$153</td>
</tr>
</tbody>
</table>

Source: IDC, Data Management Software Market, $Bn
The unit of competition in many other software markets is a customer. Competition tends to be binary - only one competitor wins a customer.
The unit of competition in our market is a **workload**

We compete one workload at a time, and are never fully shut out of an account.
To grow within an account, we need to acquire more workloads over time.
The best way to add more workloads faster is to become a standard in the account.

Becoming a standard means that MongoDB is approved to be broadly used in the account.
Benefits of becoming a standard

Explicit C-level Support

Company-wide developer access

Streamlined app deployment
Benefits of Becoming a Standard

A F100 Financial Institution

ARR ($k)

JAN '19  JAN '20  JAN '21  JAN '22  JAN '23  JAN '24
Benefits of Becoming a Standard

A F100 Healthcare Multinational

ARR ($k)

JAN ‘19  JAN ‘20  JAN ‘21  JAN ‘22  JAN ‘23  JAN ‘24

2,000  6,000  10,000  14,000  18,000  22,000
Benefits of Becoming a Standard

A Global Retail Company

ARR ($k)

JAN '19 JAN '20 JAN '21 JAN '22 JAN '23 JAN '24
How we become a standard

- Solve a broad range of problems
- Accelerate application modernization
- Establish ourselves as a trusted AI partner
How we become a standard

Solve a broad range of problems

Accelerate application modernization

Establish ourselves as a trusted AI partner
Over the past decade, enterprises have sought to compensate for limitations of legacy technology by introducing niche point solutions into their data estate.

Resulting in architectures that look like this...
This complexity inhibits innovation

87% of CIOs agree that complexity is slowing them down

75% of Developers say working with data is the hardest part

McKinsey: CIO Agenda

MongoDB: Report on Data and Innovation
Enterprises are moving away from point solutions

- Improve developer productivity
- Eliminate back end complexity
- Reduce costs and improve ROI
MongoDB’s Developer Data Platform is designed to allow customers to address a broad set of use cases across a variety of deployment models on one standard platform.
Document Model & Query API

- OLTP
- Time Series
- Full-Text Search
- Real-Time Analytics
- Stream Processing
- Vector Search
- Edge

Your Data

Secure • Global & Multi-Cloud • Resilient & Elastic

On AWS, Azure, GCP
OLTP
Reminder: MongoDB’s origin story was to address the limitations of relational databases.

- Rigid to change + imposes unnecessary constraints for developers
- Don’t cope well with high-fidelity data
- Not appropriate for Internet scale
- Not appropriate for distributed data
- Expensive hardware, punitive licensing, cloud lock-in, intrusive audits
MongoDB
OLTP Value Proposition

Developer Experience
Security, Resilience & Scalability
Run Anywhere
MongoDB’s foundational technical advantage is the document model.

**Developer Experience:** The document model is flexible and maps to how developers think and code.

**Flexibility:** Documents are a superset of all other data models, allowing us to address the vast majority of operational / transactional use cases.

**Scalable:** Documents put data together in a way that is more performant and efficient and allows almost infinite scalability.
Document model brings all data types together

Vector embeddings

Unstructured image data

Generated text descriptions

```json
{
    "_id": ObjectId("238478293")
    "title": "MongoDB TV",
    "description": "All your MongoDB updates, news, videos, and ...",
    "genre": ["Programming", "Database", "MongoDB"],
    "vectorEmbeddings": [0.25, 0.5, 0.75, ...],
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            "episodes": [
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                    "thumbnail": "image_65.jpg",
                    "title": "EASY: Build Generative AI Applications",
                    "date": ISODate("Oct 5, 2023")
                },
                {  
                    "description": "Join Jesse Hall...",
                    ...
                }
            ]
        }
    ]
}
```
We are seeing success across industries and use cases
WE ARE FURTHER DRIVING OLTP PERFORMANCE

MongoDB 8.0

- Significant performance improvements (20-60%) across all common workload types, especially common read/write and time series workloads
- Materially enhancing our sharding capabilities, including resharding up to 50x faster and a more balanced distribution of data across shards
- Providing customers better control and performance visibility via Query Insights
- Continue to expand Queryable Encryption functionality, including range support
Search Before Atlas Search

Application

Database Cluster → Data Sync → Search Cluster

Atlas Search

Application

Database Cluster → Data Sync → Search Cluster
Atlas Search
Value Proposition

Eliminate “Synchronization Tax”
Superior Developer Experience
Fully Managed Platform
I thought it was going to be difficult to migrate the data, but it turns out that the toolkit Atlas provides made it incredibly simple. One of the big selling points for Atlas is that it has Atlas Search, meaning I can get rid of our search databases.

— Ken Schuelke, Division Information Officer Toyota Financial Services

MongoDB Atlas Search was a game changer. We ran a proof of concept and discovered how easy it is to use. We can index in one click, and because it’s a feature of MongoDB Atlas, we know data is always up-to-date and accurate. We don’t need to maintain additional infrastructure as the new features were implemented in less than two weeks, compared to the three months it would have taken to roll out another solution.

— Andrii Hrachov, Principal Software Engineer Delivery Hero
Building a rich Full-Text Search experience

Recent Innovation:
- Dedicated Atlas Search nodes on AWS and GCP
- Support for sequential pagination in Atlas Search
- Atlas Search local experience on Atlas CLI
- Atlas Search query analytics preview

Announcement:
- Dedicated Atlas Search nodes on Azure (Public Preview)
- Search coming to MongoDB Community
Vector Search
Building AI-enabled apps is difficult.

Embedding Generation
The process of representing data as vectors using embeddings models.

Vector Search
A method for retrieving similar items from a dataset by comparing their vector representations.

Database
Contains high value proprietary operational data that can be retrieved to aid an LLM in answering a query.

LLMs
Generates output based on relevant data that it receives from the vector search process.
Atlas Vector
Search Value
Proposition

Streamline RAG with unified data
Enterprise readiness
Stay agile with flexible data model
Retool’s State of AI 2023 report shows that our Atlas Vector Search value proposition is resonating with customers.
With Atlas Vector Search, we now possess a battle-tested vector/metadata database, refined over a decade, effectively addressing our dense retrieval requirements. There’s no need to deploy a new database, as our vectors and artifact metadata can be seamlessly stored alongside each other.

— Russell Sherman, Co-Founder & CTO VISO Trust

The generative AI we’ve introduced currently creates vector embeddings from documents, so when a user asks a question, it retrieves the most relevant document and uses LLMs to build the answer. We’re looking at migrating vector embeddings into MongoDB Atlas to create a fully integrated, functional system. We’ll then be able to use Atlas Vector Search to build AI-powered experiences without leaving the Atlas platform – a much better experience for developers.

— Sabato Severino, Senior AI Solution Architect Eni
Rapid pace of innovation in Vector Search

Recent Innovation:
- Vector Search local experience with Atlas CLI (Sept 2023)
- Dedicated $vectorSearch Aggregation Stage (Sept 2023)
- Vector Search GA (Dec 2023)
- Create and manage Atlas Vector Search indexes in Compass (Feb 2024)

Announcement:
- Dedicated Vector Search nodes on Azure in Public preview
- Vector Search as a datastore on Haystack and DocArray
- Vector Search as a knowledge base on AWS Bedrock
- Vector Search coming to Community
Stream Processing
Streaming data is critical for real time use cases

Energy
Energy company rapidly adding IoT devices seeks a **continuous view** into grid health

Manufacturing
Pump Supplier using **continuous monitoring** for pump yield optimization, early failure detection, and equipment health

Technology
An engineering software leader wants to offer more **tailored app experiences**

Airlines
A major airline to power a crew maintenance application tracking parts use with **low-latency**
Components of a streaming system

Streaming Transport
Services that ingest data from “sources” as it’s created and then stream that data to targets (“sinks”). Kafka is the dominant technology.

Stream Processing
Services that perform real-time queries on streaming data, such as transformations and aggregations.

Databases
Ingest and index data from streaming platforms and processors into a persistence layer, making it queryable.
Atlas Stream Processing
Value Proposition

Data model natural fit for stream processing
An integrated and unified experience
Operational simplicity
We process about half a billion messages per month in one of our busiest microservices. Atlas Stream Processing has the potential to help us greatly simplify our architecture and leverage powerful operators like windowing and validation are critical to us as our business evolves and scales. It will potentially reduce the latency in our aggregation pipelines.

— Ray Chew, Principal Software Engineer, Playvox

Our Acoustic Connect platform must be able to efficiently process and manage millions of marketing, behavioral, and customer signals as they occur. With Atlas Stream Processing, our engineers can leverage the skills they already have from working with data in Atlas to process new data continuously, ensuring our customers have access to real-time customer insights.

— John Riewerts, EVP Engineering, Acoustic
WE ARE EXCITED FOR THE NEXT MILESTONE

Atlas Stream Processing GA

- Initial support for AWS expanding to Azure and GCP
- Integrates with Apache Kafka, Confluent, AWS MSK and other Kafka-compatible streaming platforms such as Azure Event Hubs and Redpanda
- Available presized for Development and Production workloads
Edge
Cloud computing vs. Edge Computing

Cloud computing

Edge computing

Processing happens here

Edge Server

Processing happens here
Benefits of Edge Computing

- Local processing and low latency
- Tolerance to disconnection or unreliable connection
- Real-time data enabling time-sensitive use cases
- High volume and variance
- Cost optimization
- Data privacy
Despite the benefits, building edge applications is challenging.

- Complex data synchronization & management
- Diverse hardware and software requirements
- Security vulnerabilities and risks
Atlas Edge Server enables end-to-end connectivity

- Virtual Factories
- Healthcare Equipment
- IoT Devices
- MongoDB Drivers

On-premise, using local network

Built-in, real-time synchronization

Collaborative & real-time data

Always-on experience

Secure by default

MongoDB Atlas

Edge Sync

Atlas Device Sync

Server

Desktop

Laptop
Atlas Edge
Server Value Proposition

- Real-time sync
- Optimized bandwidth
- Low latency/always on
WE ARE OPENING ACCESS TO MORE CUSTOMERS

Atlas Edge Server
Public Preview

- Announced Atlas Edge Server Private Preview October 2023
- Local MongoDB paired with a sync server that runs on-premises to enable bidirectional sync between the edge server and Atlas.
- Ensures local capabilities, such as inventory management and point-of-sale, run smoothly in disconnected and offline situations.
How we become a standard

Solve a broad range of problems

Accelerate application modernization

Establish ourselves as a trusted AI partner
Personal Intro: 28 years of data and middleware experience

Paul Done  
Field Chief Technology Officer  
Modernization Factory

'96-'00
'00-'05
'05-'13
'13-NOW

Oracle
Novell
SilverStream
Oracle
MongoDB
Our principal competitor remains legacy relational technology.

Source: IDC, Data Management Software Market, $Bn
Relational technology is no longer capable of meeting the needs of today’s modern applications.

Rigid to change + imposes unnecessary constraints for developers

Don’t cope well with high-fidelity data

Not appropriate for Internet scale

Not appropriate for distributed data

Expensive hardware, punitive licensing, cloud lock-in, intrusive audits
So why does relational technology still have dominant market share?

Because getting off relational is very hard.
There is tremendous variety within relational applications

<table>
<thead>
<tr>
<th>User Interface</th>
<th>ORACLE Forms</th>
<th>Win32</th>
<th>JSP</th>
<th>ASP.NET</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB Integration</td>
<td>Hibernate</td>
<td>Stored Procedures</td>
<td>ODBC</td>
<td>Java EJB</td>
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<tr>
<td>Runtime</td>
<td>Microsoft COM</td>
<td>JBoss by Red Hat</td>
<td>IBM WebSphere</td>
<td>Apache Tomcat</td>
</tr>
<tr>
<td>Language</td>
<td>Java</td>
<td>COBOL</td>
<td>C#</td>
<td>C++</td>
</tr>
<tr>
<td>Database</td>
<td>ORACLE</td>
<td>SQL Server</td>
<td>SYBASE</td>
<td>IBM DB2</td>
</tr>
</tbody>
</table>
Reminder: three steps in app modernization

- Update schema
- Rewrite code
- Migrate data
A more detailed look at the process

- Analyze legacy system
- Create end-to-end tests
- Design solution architecture
- Rewrite & add code
- User testing & developer fixing
- Migrate data & deploy
Last year, we announced the general availability of Relational Migrator, a product that simplifies modernization.
Relational Migrator makes these steps easier today:

1. Analyze legacy system
2. Create end-to-end tests
3. Design Solution architecture
4. Rewrite & add code
5. User testing & developer fixing
6. Migrate data & deploy
Relational Migrator is an easy and seamless tool for apps looking to migrate from RDBMS to MongoDB. All we needed to give is the MongoDB destination and with one click the records started migrating to the destination.

— DBA from a Fortune 50 Health Insurance Company

Relational Migrator is a great tool to support the migration, especially the graphical support for modeling the data streams from the source structure to the target structure. The MongoDB enabling team did an excellent job in helping us to be able to go through the migration steps.

— Lead Architect from a Global 50 Financial Services Company
But we can make app modernization much easier thanks to AI

We are running several pilots this year to learn how much easier
AI can simplify every step of app modernization

<table>
<thead>
<tr>
<th>Activity</th>
<th>AI Acceleration</th>
<th>AI Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANALYZE LEGACY SYSTEM</td>
<td>Use LLMs to analyze legacy codebase in order to understand its structure, eliminating the need for input from original developers who will have moved on</td>
<td>✔✔</td>
</tr>
<tr>
<td>CREATE END-TO-END TESTS</td>
<td>Analyze how users interact with the app and then feed that information to an LLM to create tests that ensure the viability of the new application</td>
<td>✔✔</td>
</tr>
<tr>
<td>DESIGN SOLUTION ARCHITECTURE</td>
<td>Identify how to “pull out” potential microservices from the monolith by using existing source code + recorded end-user behaviour with LLMs</td>
<td>✔</td>
</tr>
<tr>
<td>REWRITE &amp; ADD CODE</td>
<td>Partially automate the creation of microservices by using existing source code + recorded end-user behaviour with LLMs</td>
<td>✔✔</td>
</tr>
<tr>
<td>USER-TESTING &amp; DEVELOPER-FIXING</td>
<td>Human intervention for testing and bug code fixing is still needed but can be streamlined through the use of LLMs</td>
<td>✔✔</td>
</tr>
<tr>
<td>MIGRATE DATA &amp; DEPLOY APP</td>
<td>Reduce deployment risk by using the LLMs to identify how best to structure code to dual-run old and new databases during intermediate phases of migration</td>
<td>✔</td>
</tr>
</tbody>
</table>
Some (very early) lessons from the pilots

AI-Generated tests hold great promise to shorten development and testing cycles and reduce risk.

Capabilities of LLMs vary significantly, increasing the importance of picking right.

“Last mile” human expertise will remain critical to validate code and ensure quality.
This year we are focused on deep engagements with a small number of customers, to prototype and iterate on a number of approaches for AI-enhanced app modernizations.

Where do we go from here?

**FY 24**

- **Pilots**
  - In the future, we'll consolidate the learnings to build processes and templates to accelerate app modernization for each customer and also scale the number of engagements we can run.
  - We expect that app modernization will always involve some human interaction. However, over time, we will incorporate many of our learnings into Relational Migrator, the product.

**FUTURE**

- **Playbooks/Templates**
  - This year we are focused on deep engagements with a small number of customers, to prototype and iterate on a number of approaches for AI-enhanced app modernizations.

**Product**

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- We expect that app modernization will always involve some human interaction. However, over time, we will incorporate many of our learnings into Relational Migrator, the product.
In summary...

Getting off relational is very hard

We are learning how to harness the power of AI to make the process much easier
How we become a standard

Solve a broad range of problems

Accelerate application modernization

Establish ourselves as a trusted AI partner
Enterprise customers tell us that AI strategy is a **board-level priority**, due to its promise to dramatically change cost structures and enhance customer experiences.
Customers also tell us that they are struggling to formulate and execute a strategy because the AI space is complex and fast-moving.
Introducing the next generation of Claude

Introducing Meta Llama 3: The most capable openly available LLM to date

Mistral AI debuts Mixtral 8x22B, one of the most powerful open-source AI models yet

Reka Core: Our Frontier Class Multimodal Language Model

Introducing Phi-3: Redefining what’s possible with SLMs

Introducing DBRX: A New State-of-the-Art Open LLM
This can clearly feel overwhelming

87%

of customers don’t feel equipped to transform with AI

— WEBER SHANDWICK — UN/PREDICTIONS 2024
Customers do understand they need a holistic and flexible approach to AI.

Any Use Case
Any Model
Any Cloud
Any Data Type
Customer AI Needs

- Any Use Case
- Any Model
- Any Cloud
- Any Data Type

Deep Market Expertise

- Any LLM Provider
- Cloud Independent
- Document Model
In other words, we are well positioned to serve as a trusted AI advisor to our customers as they navigate this mega trend.

But what does that have to do with becoming a standard?
Traditionally, we grow in an account through a land-and-expand motion
We land in an account by engaging with developers to help them solve problems they cannot solve with their existing tech stack.
We expand by building momentum with more developer teams and business unit leads.
We become a standard when we are so spread in the account that the C-suite realizes the strategic benefits of partnering with us.
Increasingly, thanks to our AI positioning, we are engaging in strategic C-level conversations with customers sooner, giving us an opportunity to sell tops down to accelerate our land-and-expand motion.
We organized a GenAI executive briefing in London on April 18th.

The event attracted 40 C-level execs from 10 countries, representing verticals including finance, retail, technology and government among others.

“The depth of discussion was invaluable, MongoDB are uniquely positioned to garner such a cross section of CxOs.”

— Head of AI, Large Global Consulting Firm
How will we seize this AI moment?
We will continue with AI innovation in our product

**Infrastructure and Vectors:**
- `$vectorSearch Aggregation Stage`
- MongoDB BSON Specification for Vectors
- Dedicated nodes for Vector Search
- Programmatic deployment for Search nodes (Terraform + Cloudformation)
- Broad Vector Search performance improvements
- Local Development with Atlas CLI
- Vector Search coming to MongoDB Community

**AI Stack Integrations:**
- New partnerships with Fireworks.ai and Mistral, adding to a growing list
- Atlas Vector Search as an AWS Bedrock Knowledge Base GA
- Dedicated Langchain-MongoDB package in Python and JS
- OpenAI ChatGPT retrieval plugin for MongoDB
- Microsoft Semantic Kernel integration for Atlas Vector Search
- Atlas Vector Search as a datastore on Haystack and DocArray

**Productivity & Migrations:**
- Collaboration with Amazon CodeWhisperer, Microsoft Copilot and Google Gemini
- Intelligent query experience in Compass
- Vector Search index management in Compass
- Create visualizations using natural language in Charts
- SQL-to-Query API Conversion in Relational Migrator
- Upcoming innovations in application modernization (code analysis, schema mapping, code conversion)
We will keep expanding our AI ecosystem
We will make it easier for customers to get started

ATLAS
Pre-configured and optimized MongoDB products, features, and services

REFERENCE ARCHITECTURES
Proven, repeatable architectures for simple implementation

PARTNERS
Pre-selected, leading AI tech partnerships

SERVICES
PS & expert Boutique SIs to handle implementations