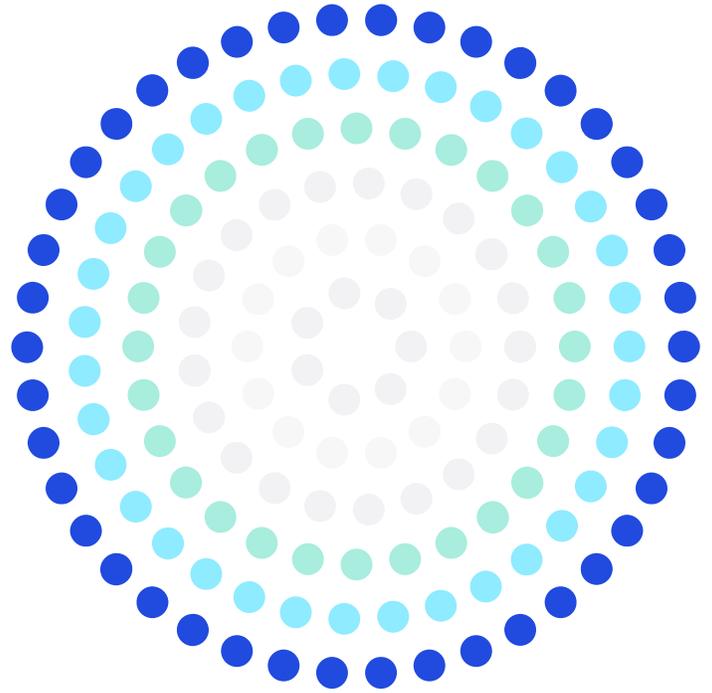


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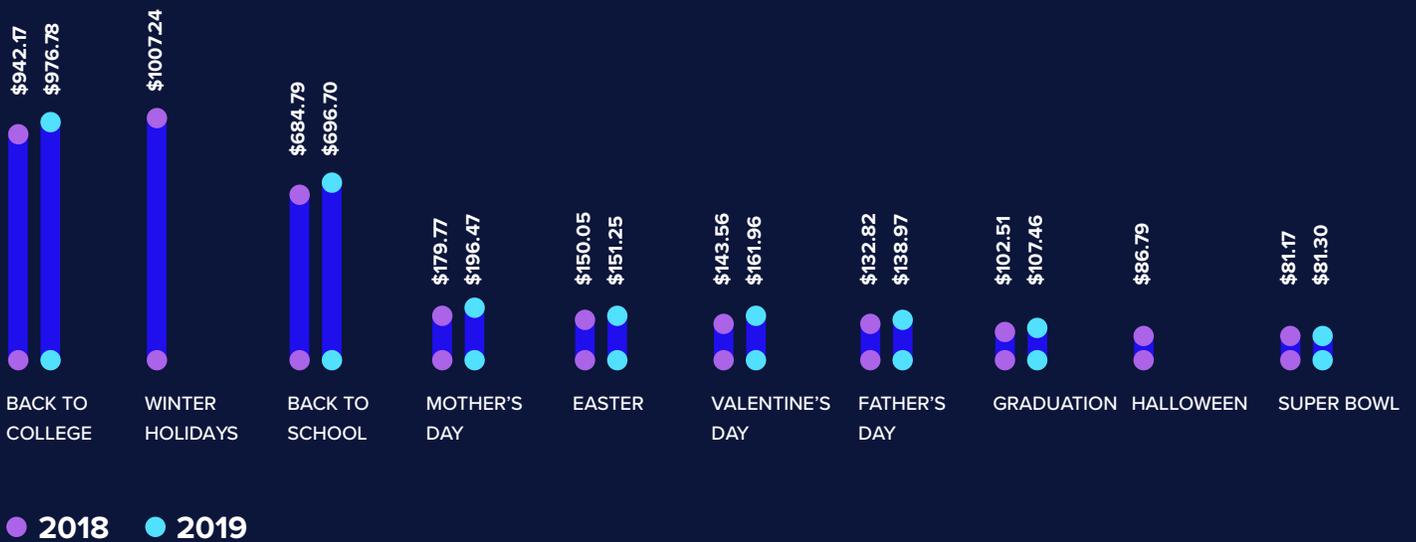


Is Your Enterprise Ready for the Holidays?



It's no surprise that the end-of-year holidays see the largest uptick in consumer activity and spending, with only back to school and college coming close.¹

Top 10 Consumer Spending Events
Average planned spending per person



¹nrf.com/insights/holiday-and-seasonal-trends



With the 2019 holiday season rapidly approaching, which looks to be the biggest spending year ever, enterprises need to ensure their IT infrastructure is ready for the tremendous burst in activity that will be felt across both their traditional and digital business lines. Over half of consumers today are multi-channel in behavior, meaning they utilize both legacy and online methods for holiday spending with two-thirds of all shoppers using digital devices to do the research and purchasing according to the National Retail Federation.²



All vendors know that consumer activity can dramatically expand and contract because of certain promotions they run. Even different days during the holiday season can see major increases over others.³ This means enterprises must ensure they have the IT capacity needed to meet such demands, while at the same time not overprovisioning their infrastructure during the rest of the year and incurring wasted resources and spend.

Top 10 US Holiday Season Shopping Days, Ranked by Retail Ecommerce Sales, 2018

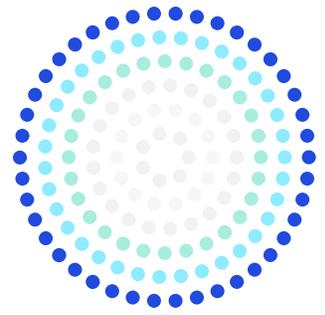
Billions



²nrf.com/media-center/press-releases/thanksgiving-weekend-multichannel-shopping-almost-40-percent-over-last

³emarketer.com/content/us-2018-holiday-season-review-and-2019-preview





01

Data Management Challenges During the Holidays

The added pressure the holiday season puts on an enterprise's IT infrastructure—especially the data platform—can be intense, especially with the ever-advancing aggressiveness of digital competitors like Amazon that have routinely garnered up to a staggering 89% of all online retail sales during the time period.⁴

The challenges staring those in the face who want to compete with such giants on a level playing field, or any modern business wanting to excel during the holidays, include:

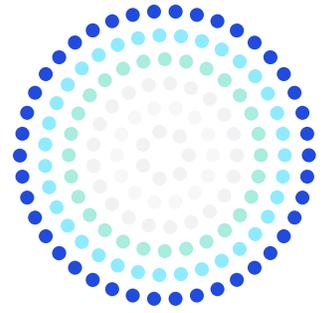
- **Smart and dynamic capacity expansion** that allows for easy and budget-friendly scale increases and decreases in storage and compute capacity needed to service spikes in consumer activity
- **Zero outages** which translates into 100% uptime around-the-clock and avoids pushing customers to competitors whose doors are always open for business
- **Fast and uniform performance** that ensures impatient customers aren't kept waiting no matter how many are demanding attention or where they are geographically located
- **Strong data security** which guards both customer privacy and an enterprise's reputation
- **Expert assistance when needed** which sees to it that any issues are instantly corrected and business-facing systems stay well optimized

Such data platform capabilities have become table stakes to compete in today's modern business marketplace. The problem is, from both technical and cost perspectives, legacy database software has rapidly proven itself inadequate to address these must-haves.

⁴[bloomberg.com/news/articles/2018-01-05/amazon-maintains-holiday-dominance-despite-stepped-up-pressure](https://www.bloomberg.com/news/articles/2018-01-05/amazon-maintains-holiday-dominance-despite-stepped-up-pressure)



Solving Holiday Data Challenges



The fact that traditional database architectures are not designed for constant record-breaking volume demands that come around each holiday season weighs heavily on IT leaders who are on the hook to deliver an excellent 24/7 customer experience.

Fortunately, there are answers for problems like complex and outdated architectures, time-consuming and costly administration, database sprawl, difficulties in taking advantage of open source software, and the inability to elastically expand and reduce resources when needed.

The DataStax Solution

Apache Cassandra™, which originated at Facebook and was contributed to the Apache Foundation in 2008, is the top data platform option for those needing help with the challenges cited above. Cassandra has become one of the top open source NoSQL databases in use today by many enterprises across all industry verticals, especially those affected by the holidays such as retail, travel and entertainment, financial services, and others.

DataStax was founded in 2010 as the primary developer of and support organization for Cassandra. In 2011, the first version of DataStax Enterprise (DSE) was released, whose foundation is the most advanced distribution of Cassandra available. Since then, DSE has remained the only production-certified distributed database platform that is built on Cassandra. Hundreds of businesses use DSE today for their modern business applications, both on premises and in the cloud.



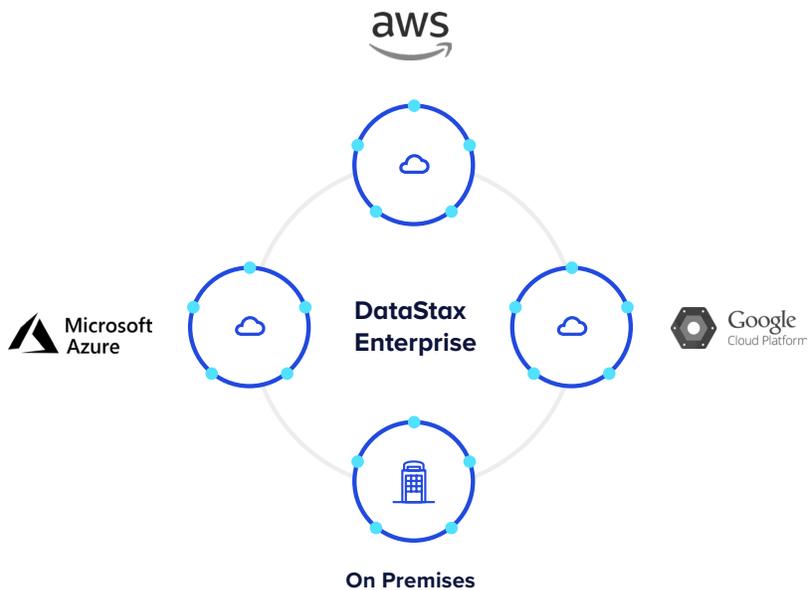
Cassandra has become one of the top open source NoSQL databases in use today by many enterprises across all industry verticals, especially those affected by the holidays.



DataStax database solutions elegantly solve the challenges faced by modern businesses during the holidays in the following ways.

Online Elasticity for Holiday Traffic Spikes

DataStax database solutions are unique in that they sport a masterless architecture, which is unlike traditional relational database management systems (RDBMS) and other NoSQL databases. This allows for seamless, easy, and online elasticity when it comes to increasing or decreasing database resources. Further, such elasticity can be accomplished on premises, in the cloud, across clouds, and in hybrid cloud fashion, which provides complete deployment flexibility. Also, all deployments and elasticity operations can be visually managed via DataStax Enterprise OpsCenter across all environments, which makes administration work easy.



DataStax has earned the industry reputation for being an indestructible data platform.

The Indestructible Database

DataStax and Cassandra’s architecture provides disaster avoidance vs. disaster recovery, and in doing so, it has earned the industry reputation for being an indestructible data platform. Redundancy in both compute and storage resources is built into the database and is handled transparently so that any particular machine, geographic or cloud region that goes down doesn’t affect overall platform availability. Moreover, once downed resources come back online, they are automatically brought back up to date and return to handling client traffic. All of this allows DataStax to supply continuous availability vs. the high availability of other NoSQL and RDBMS offerings—something which is critical during the holidays.



Bill de hÓra

@dehora

Coming to the conclusion that #cassandra is kind of indestructible. “Robust” doesn’t do it justice.



Performance for Today's Can't-Wait Customer

Heavy increases in user traffic and data stored—such as those that happen during holiday periods—can cripple the performance of a database. Further, serving customers in different geographic locations can be challenging when it comes to ensuring uniform performance for each customer as different locations can experience different speed levels due to network and other issues.

Because DataStax and Cassandra deliver the gold standard in scale and data distribution ease/power, they can easily scale in an online fashion to meet any increased user and storage demand. Plus, adding new geographic locations is a breeze and ensures that customers experience the same levels of performance no matter where they are. Finally, DSE's Advanced Performance Suite delivers 3-4x the performance of open source Cassandra, which guarantees the fastest possible response times and improved hardware total cost of ownership (TCO).

Enterprise Protection for All Data

Today's modern applications are "translytical" in nature, meaning they require a database that supports multiple workloads and data formats. An often overlooked complexity of that requirement is that all data, whether transactional, analytical, search, in-memory, key-value, tabular, graph, etc., must be secured and protected from loss and theft.

Such a thing is not easy when multiple databases are involved because each has their own security paradigm, which is not only different from others but may be lacking in overall security coverage. This isn't the case with DSE because not only does it check off all the enterprise security features needed for today's applications, but it supplies uniform coverage for all workloads (e.g., analytics, search) and data formats (e.g., tabular, graph). This ensures no enterprise receives a reputation-damaging black eye for a data breach.

The Expert Advantage

Sooner or later, enterprises that go down the do-it-yourself path with open source database software find out that being in the database business is very hard. Testing new, unproven open source releases, trying to get fixes addressed in the community, hoping to find help on web forums is a losing game in the long run—especially during holiday crunch time.

DataStax offers around-the-clock expert support from the engineers who build and run Cassandra, Spark, and other open source technologies. Having certified software, trusted experts to turn to for help, a regular cadence of software updates, and emergency bug fix assistance provides the kind of help needed to go into the holiday season with confidence.



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The DataStax Difference



A Retail Giant's Journey from Traditional to Transformational

Macy's department store experienced a heavy increase in traffic for its ecommerce site and omnichannel catalog and needed a database that could scale to accommodate 10x the amount of products and also handle major spikes, such as Black Friday. They needed a way to deliver real-time updates on store and inventory data, by integrating website, mobile, store, and partner applications.

By moving to DataStax, Macy's was able to provide real-time updates, and reduce its catalog refresh time from three hours to less than 30 minutes. They also increased sales more than 50% in the first six months. Being able to keep pace with customer demand during heavy traffic and holidays helps Macy's deliver great omnichannel customer experiences.

50%

Increased sales



Innovative Payments Intelligence on a Global Scale

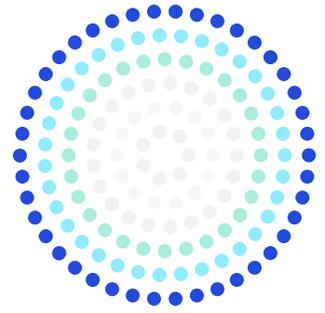
ACI Worldwide, a payment systems software leader and pioneer, faced increasing volume of transactions running across its globe-spanning payment systems. With this came an increased risk for payment transaction fraud, especially around the holiday season. To make the most of its data and keep transactions safe, the company needed a database made to scale easily, analyze massive volumes of data in real time, and offer zero downtime.

With DataStax, ACI Worldwide has been able to ensure 100% uptime to keep customers' systems running during high traffic periods, garnered a three percent increase in false positive and fraud detection rates, and has saved millions of customer dollars via better fraud detection.

100%

Uptime during high traffic periods





Conclusion

While the holiday season brings with it heavy-duty data challenges, such obstacles can be hurdled by using a solution from DataStax that's purpose-built for today's modern applications and unpredictable resource requirements.

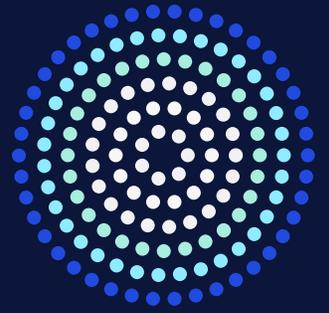
Before DataStax

- Difficult to add or shrink database resource power, whether on premises or in the cloud, to meet activity ebbs and flows
- Legacy database architecture that is not designed for the anticipated record-breaking volume demands of the holiday season; creates risk for outages
- No way to guarantee scalable performance, especially for different geographical locations, which jeopardizes customer loyalty
- Hard to manage security infrastructure that spans multiple platforms and software providers; risk of data breach is high
- Rolling your own with open source software leaves a business vulnerable to major problems should issues occur

After DataStax

- Easily add and shrink capacity in online fashion on premises, in the cloud, or in hybrid deployments, which results in much greater cost efficiency and protects against overprovisioning
- Masterless architecture delivers an always-on, active everywhere database platform that never goes down and keeps the enterprise open for business
- Linear scalability plus elegant data distribution functionality provides a uniform customer experience where performance is concerned
- Easy and enterprise-class security paradigm that covers all workloads and data models; risk of data breach is very low
- Expert support provided on a 24/7 basis ensures enterprises have help when they need it to keep their systems online





For more information on how DataStax supports the database infrastructure for top-performing enterprises all year around, please visit datastax.com for downloads of DSE and other resources.

DataStax delivers the only active everywhere hybrid cloud database built on Apache Cassandra™: DataStax Enterprise and DataStax Distribution of Apache Cassandra, a production-certified, 100% open source compatible distribution of Cassandra with expert support. The foundation for contextual, always-on, real-time, distributed applications at scale, DataStax makes it easy for enterprises to seamlessly build and deploy modern applications in hybrid cloud. DataStax also offers DataStax Managed Services, a fully managed, white-glove service with guaranteed uptime, end-to-end security, and 24x7x365 lights-out management provided by experts at handling enterprise applications at cloud scale. More than 400 of the world's leading brands like Capital One, Cisco, Comcast, Delta Airlines, eBay, Macy's, McDonald's, Safeway, Sony, and Walmart use DataStax to build modern applications that can work across any cloud. For more information, visit www.DataStax.com and follow us on Twitter [@DataStax](https://twitter.com/DataStax).

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