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**Customer:** Microsoft

**Website:** [http://crm.dynamics.com](http://crm.dynamics.com/)

**Customer Size:** 92,000 employees

**Country or Region:** United States

**Industry:** Manufacturing—Software publishing

Customer Profile

Microsoft Dynamics CRM Online is a cloud-based customer relationship management (CRM) offering hosted by Microsoft and targeting business customers of all sizes.

**Solution Spotlight**

* Provides an innovative solution that meets ambitious high-availability and disaster-recovery needs.
* Gives the team confidence that it can exceed service level agreements of 99.9 percent availability.
* Offers a more flexible way to serve customers from each of six data centers.

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| Microsoft SQL Server  Customer Solution Case Study |
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|  |  |  | Microsoft Boosts Resiliency and Reliability for Cloud Service with Innovative Solution |
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“With SQL Server 2012 AlwaysOn, we can confidently deliver world-class availability and disaster-recovery solutions that easily span our global infrastructure and meet the needs of our most demanding customers.”

Andrew Bybee, Group Program Manager, Microsoft Dynamics CRM

Microsoft Dynamics CRM Online is a cloud-based customer relationship management offering used by thousands of organizations. In response to rapid growth and the increasing adoption of cloud-based solutions, the Microsoft Dynamics CRM Online team sought to enhance its existing high-availability solution. It implemented an innovative new model that provides high availability and robust disaster recovery across all six data centres hosting the service. Customers benefit from reliable access to critical CRM data and have confidence that Microsoft Dynamics CRM Online can meet their business continuity needs.

Business Needs

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Microsoft Dynamics CRM Online is a customer relationship management solution delivered as a cloud service from Microsoft. Thousands of organizations of all sizes rely on it to support their sales, marketing, and service efforts using an accessible, subscription-based model. In keeping with this diverse customer base, the solution supports a wide range of database sizes.

For the Microsoft Dynamics CRM Online team, it is essential that the service is highly available at all times. “Our customers use Microsoft Dynamics CRM to access and manage their critical CRM data,” says Andrew Bybee, Group Program Manager, Microsoft Dynamics CRM. “If the service is down, they can’t support their business. We provide a financially backed service level agreement for 99.9 percent availability, so we’re very serious about our commitment here.”

As part of a recent expansion of Microsoft Dynamics CRM Online to two additional data centers and 38 additional markets, the Microsoft Dynamics team implemented a custom high-availability solution using the database-mirroring capabilities of Microsoft SQL Server 2008 R2 data management software. However, with strong post-launch business growth and an increasing number of customers with more demanding data resiliency requirements, it was clear that further enhancements were needed. “Our mirroring-based approach was solid, but we needed to refine it to get where we wanted to be,” says Bybee.

In the fall of 2010, the Microsoft Dynamics team started seeking a new solution to meet its needs.

Solution

The Microsoft Dynamics product development team partnered with the Microsoft SQL Server product development team to create a new solution. “They had asked us to review the architecture for a multi-site data replication solution, but they were still looking for an integrated high-availability component,” says Gus Apostol, Principal Program Manager, SQL Server, Microsoft. “That’s when we encouraged them to consider using AlwaysOn.” With this high-availability feature in SQL Server 2012, customers can query database replicas and do backup from those replicas. It also offers readable database-mirroring capabilities and availability groups, which support primary databases and up to four sets of secondary databases.

Although the Microsoft Dynamics team was encouraged by these capabilities, it wasn’t certain that the solution could support an infrastructure with tens of thousands of distinct databases. “AlwaysOn isn’t optimized for having one availability group for each customer, nor would it support thousands of databases in one availability group,” says Apostol. “We finally settled on 12 availability groups for each ‘scale group,’ which provided the right balance.”

The SQL Server 2012 Enterprise solution was deployed in the first half of 2012. Each customer using the Microsoft Dynamics CRM Online service has a distinct SQL Server 2012 database, and all tenants share the front-end web and application server logic. Each database has one synchronous mirror for high availability and two asynchronous mirrors for disaster-recovery capabilities. The Microsoft Dynamics team also rolled out three additional data centers around the world, bringing the total number of centers to six.

Benefits

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| Software and Services   * Microsoft Server Product Portfolio * Microsoft SQL Server 2012 Enterprise |

Using AlwaysOn, Microsoft Dynamics CRM Online can effectively meet its high-availability and disaster-recovery needs and give customers reliable data access. The solution also gives customers more choice over where to access data from.

**Innovative High-Availability and Disaster-Recovery Solution**

The SQL Server 2012 solution solved the organization’s chief challenge. “With SQL Server 2012 AlwaysOn, we can confidently deliver world-class availability and disaster-recovery solutions that easily span our global infrastructure and meet the needs of our most demanding customers,” says Bybee. The innovative solution provides these capabilities in an active-active configuration with multiple data centers.

“This implementation really used the power of SQL Server 2012 to assure reliability and availability,” Apostol says. “Microsoft Dynamics CRM Online really pushed the envelope in designing this model with us. It’s great to see the largest implementation of AlwaysOn being used today in this way.”

**Reliable Access for Customers to Mission-Critical Data**

With its new solution, Microsoft Dynamics CRM Online can give customers more reliable access to the mission-critical data they need every day. “With SQL Server 2012 AlwaysOn, we are confident that we can continue to exceed our service level agreement of 99.9 percent availability,” says Bybee. “This solution gives us much better failover between data centers, so we can stay up and running if there is a problem with one of the centers.”

Additionally, AlwaysOn provides the Microsoft Dynamics team with new models for system maintenance, reducing the need for both planned and unplanned downtime. “Our goal with the new capabilities is to effectively eliminate planned downtime and perform most regular maintenance as needed without any impact on our customers,” says Bybee.

**More Flexibility to Serve Customers**

Microsoft Dynamics CRM Online can also take advantage of a solution configuration that offers more flexibility. “With SQL Server 2012 AlwaysOn, we can easily move a customer’s active SQL database instances from one data center to another,” Bybee says. “We can optimize customer access based on location and network environment. If a customer has most of its users in a particular geographic area that is better served by a specific data center, we can switch their database to that data center to accommodate the request.”

This kind of flexibility is one more advantage of having an integrated high-availability and disaster-recovery solution. “Microsoft Dynamics CRM Online was really looking to the future in implementing the solution in this way,” says Apostol. “It was a great partnership between our two teams to deliver what’s being deployed now, and both teams will definitely benefit in the long run.”