

Colorado State University Moves Enterprise Analytics to the Cloud with ibi™



Located in Fort Collins, at the base of the Rocky Mountains, Colorado State University (CSU) is a large, public, research-intensive university that – consistent with its land-grant heritage – offers a comprehensive array of undergraduate and graduate programs through eight individual colleges. By statute, there are also four state agencies assigned to CSU: the Colorado Agricultural Experiment Station, Extension, the Colorado State Forest Service, and the Colorado Water Center.

15K

financial reports
consolidated from multiple
data sources

20

years of data organized and
made easy to sort

30%

reduction in ETL loads

Challenge

Data and analytics drive many of these academic initiatives, and data is also critical to the many back-office administrative functions that keep the university running smoothly, from finance to human resources (HR), admissions to institutional research. As the university's analytics endeavors expanded, the institution's faculty and administration had increasing difficulty obtaining consistent data, due to inconsistent operational definitions and the lack of a central reporting platform.

"People were showing up at meetings with conflicting numbers," says Melissa Hein, an accounting and budget analyst in the university's College of Veterinary Medicine and Biomedical Sciences. "We needed one centrally supported platform that could deliver one version of the truth."

Solution

With the support of the vice president for Information Technology (IT) and dean of Libraries, CSU's Information Services (IS) department led the effort to select one enterprise platform that could fulfill the analytics needs of the entire university.

Colorado State University

Colorado State University (CSU) is a research-intensive public landgrant university located in Fort Collins, Colorado, with more than 33,000 students, nearly 2,000 faculty, and more than 2,500 administrative staff.

Campus constituents wanted a cloud-based solution that could improve student outcomes through predictive analytics, boost operational efficiencies, and differentiate CSU from other institutions with externally facing dashboards and fact books. “ibi™’s collaboration with Amazon Web Services was the right answer for us. A SaaS solution was what we needed, as we didn’t have the resources to invest in hardware platforms, system upgrades, and product maintenance,” says Steve Juarez, a senior developer in the university’s IS department. “With ibi Cloud, we could focus our resources on adding value to our business operations.”

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Steve Juarez, Senior Developer, Colorado State University

Benefits

Since going live with ibi Cloud, the university has created a centralized analytics platform that consolidates more than 15,000 financial reports from multiple data sources, departments, and reporting environments. The Office of Institutional Research, Planning and Effectiveness developed an externally facing dashboard that prospective students and their parents can use to get to know the various departments and majors at the university.

A portal built on the ibi analytics platform includes self-service applications targeted to specific domains, such as student enrollment, degrees conferred, entering freshman characteristics, and student success.

“With our previous platform, we could only produce reports with limited interactivity,” says Reena Khosla, a developer in the Office of Institutional Research, Planning and Effectiveness, who led development of the portal. “Now we have complete interactive control with far more options for display.”

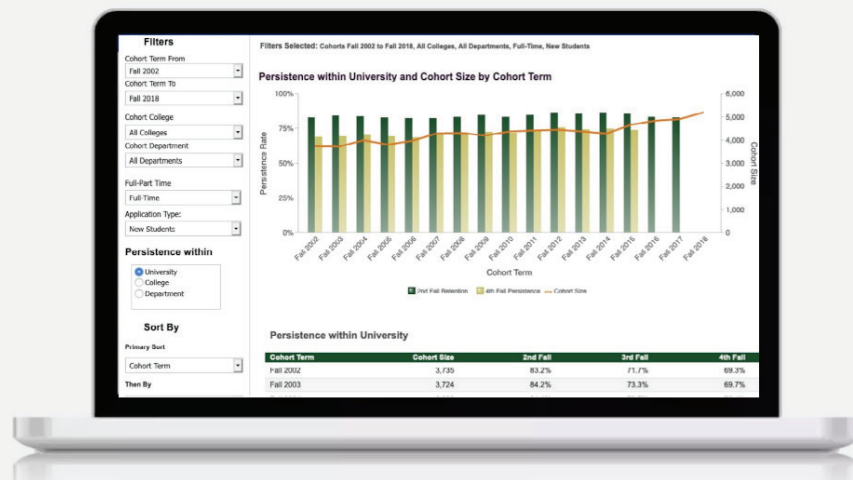


Figure 1: The Student Success self-service applications

For example, the Student Success self-service applications (See Figure 1) allows administrators to study student success in terms of retention, graduation rates, and attrition. Users can see how students are persisting year to year, as well as monitor how long it takes for students to graduate, broken down by various filters and sorting variables, so the university can better allocate its resources.

The Degrees self-service applications (See Figure 2) shows degrees conferred by year, gender, ethnicity, and degree category, sorted by college, gender, ethnicity, and other variables.

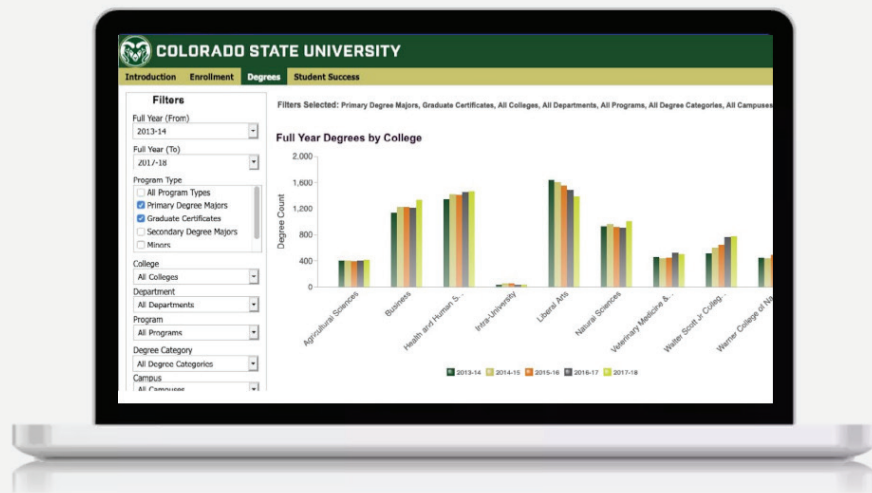


Figure 2: The Degrees self-service applications

Khosla calls these self-service applications “guided analytics,” because users can filter the data simply by selecting variables from pull-down menus. “We have data going back 20 years, which is important for federally mandated reporting and to provide data to inform campus discussions,” she notes. “It’s easy to sort, summarize, and visualize the output in dynamic charts and graphs. It’s truly interactive; you can slice and dice the data however you like.”

In a related effort, a small team of people from across the university migrated key HR, finance, and student reports to the new analytics environment, based on a database schema that enables business users to query and visualize the data through InfoAssist, part of the ibi analytics platform. Data flows from the university’s transactional systems into an Oracle data store. From there, it is immediately available to the ibi analytics platform, which populates self-service applications and other interactive displays.

“Even people who have a modest level of technical proficiency can get the data they need,” Hein says. “Power users in finance, HR, at the college level, and other areas are taking analytics into their own hands. When people come to meetings all the numbers are correct and consistent. We have standardized our reports and we no longer have data consistency issues.”

Initially, the IS team was concerned that if they kept their data on-premises, and hosted their analytics applications in the ibi Cloud, that the performance would not be adequate, but this has not been an issue with ibi Cloud.

“Our nightly data movements are much simpler than before,” Juarez says. “By moving to the ibi Cloud, we have reduced our ETL loads by at least 30 percent. Some of our reports are rather large but the WebFOCUS adapters [part of ibi’s analytics platform] do a great job generating SQL queries.”

The innovation continues, anchored by the variety of software tools available in ibi Cloud. For example, the Admissions department is exploring the use of ibi analytics platform’s predictive models that will help them monitor fall enrollment numbers week by week, as well as indicate which types of students are most likely to enroll, based on data in their applications. AWS Auto Scaling, combined with the ability of ibi analytics platform to expand hardware usage on demand, improves surge capacity without requiring any administrator support.

“It’s pretty much hands-off on our side,” Juarez continues. “It was an easy conversion, with lots of communication with our stakeholders. Both vendors have been very responsive whenever questions or issues arise.”

“We don’t have to think about server hardware, performance, capacity, or tape backups and restores,” Juarez concludes. “We can easily access the reporting servers if we need to, but we don’t have to worry about lights and power and data centers and geographical distributions. We put the keys in the ignition, and we drive.”

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Global Headquarters
851 W Cypress Creek Rd.
Fort Lauderdale
FL 33309
+1 650-846-1000 TEL
+1 800-420-8450
+1 650-846-1005 FAX
www.ibi.com

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