Mapping out a transition to a cloud-first model for business and IT, Cornell University’s information technologies team faced a significant obstacle. The Ivy League school’s on-premise integration middleware was complex, time-consuming, costly and incompatible with the array of cloud applications in Cornell’s pipeline.

The Cornell Information Technologies (CIT) group estimated that it would take months to build a single integration with an existing Oracle Fusion middleware system. This approach would also increase troubleshooting and maintenance costs. Shortcomings in stability, runtime speed, reusability and visibility into the status of integrations contributed to CIT’s decision to modernize its integration environment. To do that, the Cornell IT team turned to Dell Boomi.

Cornell CIT determined that the university would benefit from a faster, more agile cloud-native platform to scale integration across Cornell’s nearly 10,000 employees, 23,000 students and 15 colleges and schools in the United States, Europe and the Middle East. The Boomi cloud-native integration platform has proved to be a good fit to address Cornell’s integration needs.

Bringing Together Cloud and On-Premise Applications
Starting with an integration involving a Workday cloud human resources application in 2013, Cornell’s IT team today leverages Boomi for 37 integrations across a hybrid environment of best-of-breed cloud and legacy on-premise applications. The Boomi integration platform as a service (iPaaS) has provided flexibility to swiftly build a connected campus.

Cornell University’s IT Team Builds the Connected Campus with Dell Boomi
Cornell’s Information Technologies group leverages Boomi to accelerate its transformation into a cloud-first connected campus, building integrations in a quarter of the time needed with legacy middleware.

**Market:** Higher Education  
**Headquarters:** Ithaca, N.Y.  
**Founded:** 1865  
**Students:** 23,000  
**Employees:** 9,950  

**Business Goals:** Swiftly and easily connect best-of-breed cloud apps and legacy systems to modernize administrative, academic and IT functions.

**Integration Challenges:** Legacy integration middleware was costly, complex and impossible to scale across a diverse hybrid IT environment.

**How Boomi Helped:** Cornell’s IT division has cut months from integration development cycles with Boomi’s agile, cloud-native platform, now powering 37 integrations.

**How Boomi Helped:**
- Integrations developed in one-quarter the time previously needed
- Integration runtime speed improved up to 4x
- Easy monitoring and maintenance for two-person team
- Scalability to rapidly expand to 37 integrations
- A more modern and connected digital campus
“We fell in love with Boomi,” says John Parker, a lead software engineer and integrations architect with CIT. “We develop integrations with Boomi in a quarter of the time it took us before, and those integrations run three or four times faster than they did on our previous platform.”

IT teams at Cornell, Ithaca, N.Y., have a long history with integration technologies. In the 1990s, IT staff hand-coded integrations to connect applications and data with mainframe systems. Then in early 2000 the IT team switched to webMethods, which it used until implementing Oracle Fusion middleware in 2012. After deciding Oracle middleware couldn’t sufficiently meet the needs for the university, the CIT group evaluated MuleSoft and Boomi for moving integration to the cloud.

Parker says the contrast was clear: MuleSoft offered a development-heavy approach that would cause complexity and slow projects. Boomi was faster and easier to use. Boomi also provided a comprehensive set of capabilities for addressing the full array of integrations needed for running a hybrid IT environment, Parker adds.

“We looked at Boomi and thought, ‘This is too simple — how can you create complex integrations with something that’s this easy to use?’” he says. “Even with no training, we were soon rolling out integrations in days with Boomi that took months and months of development time using our previous platform.”

**Making the Move to the Boomi Integration Cloud**

With its decision made, CIT migrated all its integration processes from Oracle Fusion to Boomi in three months. In contrast, it took a full year to shift integrations from webMethods to Oracle Fusion. Since switching to Boomi, IT staff have steadily increased Boomi integrations across a diverse application landscape.

Cornell’s IT Integration Competency Center (ICC) team selects and uses “best fit” tools like Boomi, Wherescape, etc. to provide connectivity and data management solutions that touch and span systems like Salesforce for student CRM, iModules for alumni bio-demo information, Oracle PeopleSoft for student data of record (DoR) detail, Workday for human resources, Blackboard for faculty and students, Longview for budget planning and management, SAP Concur for expense management, and Kuali Financial System for accounting.

The Cornell ICC team’s portfolio of tools provides what they need to quickly and efficiently integrate disparate administrative systems (via Boomi) and to efficiently organize their data using modern data warehousing tools.

Across Cornell’s environment, integration runtimes are dramatically faster. A payroll integration that took 2 1/2 hours to execute in Oracle ran in 20 minutes with Boomi, Parker notes.

“We’re seeing astounding performance bumps in both development time and runtime,” Parker says.

**Faster, Simpler Monitoring and Maintenance**

Boomi’s simplicity and capacity for custom development helped Parker readily replicate into Boomi prepaid expenditure (encumbrance) calculations based on the original 1,200 lines of code in Oracle. Parker reverse-engineered the code into nine processes in Boomi, with visual representation of all calculation steps involved.

“No one could understand the old code, and the person who had written it had left,” Parker explains. “We went from this unmanageable code that no one understood to something much more straightforward and simple. It worked just as well, and it was faster.”

Monitoring and maintenance is also much more streamlined with Boomi. As a result, CIT needs just two developers on its integration team.

“We are spending much less time on support because our integrations with Boomi are more stable and easier to understand than our previous platform,” says Dennis Frederick, an integration developer at Cornell who is now part of the university’s central Salesforce team (taking a predisposition for Boomi with him).
“Boomi is powerful, easier to use and a lot more flexible,” Frederick adds. “With the wide array of Boomi connectors, we can integrate practically anything easily.”

Boomi in the Classroom

With a strong integration platform in place, Cornell IT staff are now architecting with Boomi’s API design and management tool to unlock data from legacy applications and support a modern cloud and mobile environment.

Cornell IT staff are also rolling out Boomi into a university class on data modeling in the fall 2018. “Student integrators” will be required to use Boomi to integrate and augment data used by the data visualization tool Tableau and by the WhereScape data warehouse automation system. Through this class and others in the future, students will gain hands-on training and experience with Boomi and enter the workforce as Boomi-certified developers.

“We’ve capped the number of student for this first semester to 80, all of whom will go through training customized for just this purpose by Boomi,” Parker says. “If history is any predictor, a fair number of students will fall in love with the concept of integrations, and, using Boomi’s curriculum, they will be Boomi-certified upon graduation.”

That initiative is one of many as Cornell’s IT staff continue to capitalize on Boomi’s flexibility and scale to enhance both administrative and academic programs by connecting applications, data, people, processes and devices. Cloud-native integration is viewed as essential to improving productivity, business insights and student engagement.

“Boomi’s Private Atom Cloud architecture, in conjunction with all the other tools in their suite, has helped us greatly accelerate our move to cloud-based, best-of-breed applications with a much more streamlined and simple upgrade path,” Parker says. “Boomi is now a cornerstone of our ongoing transformation into a more connected digital campus.”

“Even with no Boomi training, we were soon rolling out integrations in days with Boomi that took months and months of development time on our previous platform.”

John Parker
Lead Software Engineer & Integrations Architect, Cornell University