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New ODIN platform allows for uninterrupted data access [1]

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University Information Services (UIS) launched its Online Data and Information Network (ODIN) in December 2019. Much like its namesake Norse god, this centralized integration platform represents wisdom in supporting the University of Colorado's online education initiatives, providing a new way to access university data and enabling innovation.

Built from the ground up using as many best-in-class technologies as possible, ODIN addresses a fundamental issue with downtime during maintenance windows for internal student and Human Resources systems. ODIN is designed to always be available, even when core systems are offline for maintenance. It is a truly 24x7 platform.

Kevin Sarsen, senior engineer of Enterprise Integrations for UIS, was the lead developer of the application programming interface (API) and the genius behind the term 'ODIN.' Sarsen cited three primary goals he had in mind while designing and thinks they've been 99.9% successful in achieving these:

- To make a highly stable, highly available API which could provide real- and near-time system integrations and allow customers to stop worrying about system outages
- An architecture that adhered to current industry standards and best practices, not only in technologies used but also in their implementation
- An architecture that could grow and evolve with CU and the ever-changing needs of its customers without incurring the typical technical debt associated with increasingly complex systems

To advance the CU Board of Regents' online education initiative (often referred to as their 'moonshot [3]'), UIS recognized the need for a single, flexible integration point that is always available, which CU campuses could leverage to best support students.

The newly announced Fall Online Marketing Campaign represents a prime example of ODIN's usefulness. This program offers supplemental marketing and enrollment management to support about a dozen current online programs offered across all four campuses and is the first step in CU's two-part effort [4] to bolster the university's online presence.

"In order to support this program, we need to be able to integrate with state-of-the-art CRM and marketing automation systems. We need to deliver data in modern, standard formats. And we need to do it all 24x7 with no downtime or regular service interruptions. ODIN checks all of those boxes," said Al Wirtes, assistant director of Advanced Technologies and Enterprise Architecture for UIS.

Nearly every UIS team worked on the project's first phase, with 1,948 work hours required to bring it to fruition. The Integration and Architecture teams created the system design and

developed the application programming interface (API). The Enterprise Cloud Services (ECS) team's work building out a UIS Multi-cloud environment provided the ODIN's networking backbone, which is "at the heart of what allows ODIN to be up 24x7," Wirtes said.

UIS Middleware, Student Systems Development, Student IT Services, Quality Assurance and Project Management Office all played major roles.

Campus users are just beginning to explore ODIN's functionality but hope to capitalize on its potential.

"We will be able to pull data much closer to real time. We'll also be able to simplify and replace a lot of legacy processes," said Christin Deville, learning management system administrator with the UCCS Office of Information Technology.

Sarsen believes campuses are just beginning to "catch the vision and realize the possibilities."

Jason Black, senior domain architect for CU Boulder's Office of Information Technology, said Wirtes is "an engaged and thoughtful service provider … addressing our concerns and taking our suggestions on board, as we in Boulder explore ways to leverage the service."

Wirtes' team is experimenting with alternative uses for ODIN. So far, they've found that it lowers the cost of experimentation, allowing for more innovative solutions.

If online education is CU's moonshot, Wirtes likens ODIN to being UIS's Tang. The technological advances have been designed to be re-used in a variety of solutions across the university, not just online education.

"I think we've still to realize the full potential of what ODIN empowers us to do. I think it's a real game-changer," Sarsen said.

UIS continues to make iterative improvements to enhance and advance ODIN and its supporting tools through successive project phases.

UIS [5], Multi-Cloud [6], API [7], [8]
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