

UW CSE alum Ben Hindman honored with 2016 Diamond Award for Early Career Achievement

More than 90 companies — from Airbnb to Yodle — rely on the Apache Mesos infrastructure software to manage their data centers. Mesos is working behind the scenes when we watch a Netflix movie, discover a new restaurant on Yelp, ask Apple's Siri a question, or post on Twitter. Power players in science and industry, including CERN — home of the Large Hadron Collider — and Time Warner Cable, use Mesos, too.

Ben Hindman (B.S., '07) is co-creator of Mesos and co-founder of the company Mesosphere. For this work, the UW College of Engineering honored Hindman with its 2016 Diamond Award for Early Career Achievement.

Hindman grew up in the Rocky Mountain town of Carbondale, Colorado. His high school did not offer any classes in computer science, so Hindman talked his math teacher into letting him learn programming as an independent study. Having grown up in a community focused on outdoor adventure — Hindman is a serious telemark skier who also enjoys road biking and surfing — Hindman chose to enroll in UW after high school for its proximity to mountains as well as the strength of its CSE program.

"I couldn't have asked for a better place to become a computer engineer. UW CSE set the stage for me, grounded me in fundamentals that have been invaluable for solving problems, and gave me a sense of vision and inspiration for what we can really accomplish in our field," says Hindman.

As an undergraduate, Hindman worked on several research projects and was a teaching assistant for CSE professor Dan Grossman, an expert in programming languages and current holder of the J. Ray Bowen Professorship for Innovation in Engineering Education.

"My colleagues and I have always admired Ben as a gifted student, stunning engineer, and charismatic individual, but now we also get to watch in awe as his Mesos software system has become instrumental infrastructure for many of the most innovative and widely successful Internet services," says Grossman.

After earning his bachelor's in computer engineering with distinction from the UW, Hindman spent seven months as a software engineering intern at Google before pursuing a Ph.D. at the University of California, Berkeley. In a research paper published in 2011, he and his fellow Berkeley researchers presented *Mesos*:



A Platform for Fine-Grained Resource Sharing in the Data Center, a groundbreaking new system that would enable companies to run all of their applications on the same set of servers.

Hindman took a lead role in the development of the Mesos prototype and was instrumental in making the software quickly available to industry, where it was put to the test thanks to the crushing loads experienced by sites such as Twitter and Airbnb. By eliminating the need for companies to run different data services on separate, expensive, and energy-consuming hardware systems, Mesos offered a timely, effective solution to a vexing problem.

"In the early days, Twitter was known for what they called the 'fail whale,' and it looked like it was going to kill the company unless they could solve that problem," says Brad Silverberg, a former Microsoft executive and co-founder of venture capital firms Ignition and Fuel Capital. "Ben went to Twitter to help."

Rapid industry adoption of Mesos over the next three years, plus Hindman's entrepreneurial skills, enabled him to secure the venture capital to found Mesosphere, Inc., in 2013. The company provides features and services under the Apache Mesos banner to supplement the open-source Mesos software. With tens of millions of dollars raised to date, more than 150 employees, and offices in San Francisco, California and Hamburg, Germany, Mesosphere is a hot infrastructure computing company that has operated largely out of the public eye — but people would miss it.

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"We're looking to make Mesos become even more fundamental to the way software that runs in datacenters and clouds is programmed. We're doing that by building a distributed systems operating system that we call DC/OS," Hindman says.

"Twitter itself probably wouldn't be what it is today without Mesos," observes Florian Liebert, co-founder of Mesosphere. "Apple's Siri team publicly announced that Siri is powered by Mesos... I think it's important to look at both the impact Mesos has as a system...and the impact it has in terms of ideas that seeded an entire industry."

The company's name seems particularly fitting given its relatively anonymous but dynamic position in the tech universe. The mesosphere is the middle, little-studied layer of the Earth's atmosphere tucked above the stratosphere of high-altitude flight and below the thermosphere where satellites orbit. And yet, this region of strong winds, atmospheric tides, and gravity waves shakes up global circulation the way Mesos has shaken up the middle space between network servers and users' electronic devices.

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"Mesosphere has the opportunity to be one of the most impactful, powerful and valuable companies in the computing technology space," Silverberg says. "As the inventor of technology that could underlie the way most companies do computing, Ben could be one of the top luminaries in our industry — as both a technology and business person."

The College of Engineering celebrated Hindman's achievements at its annual Diamond Awards ceremony on May 20th.

View the College's video profile of Hindman at **tinyurl.com/HindmanProfile**.

Learn more about Mesos at **dcos.io** and more about Mesosphere at **mesosphere.com**.