

University of Arkansas and Blockchain Center of Excellence



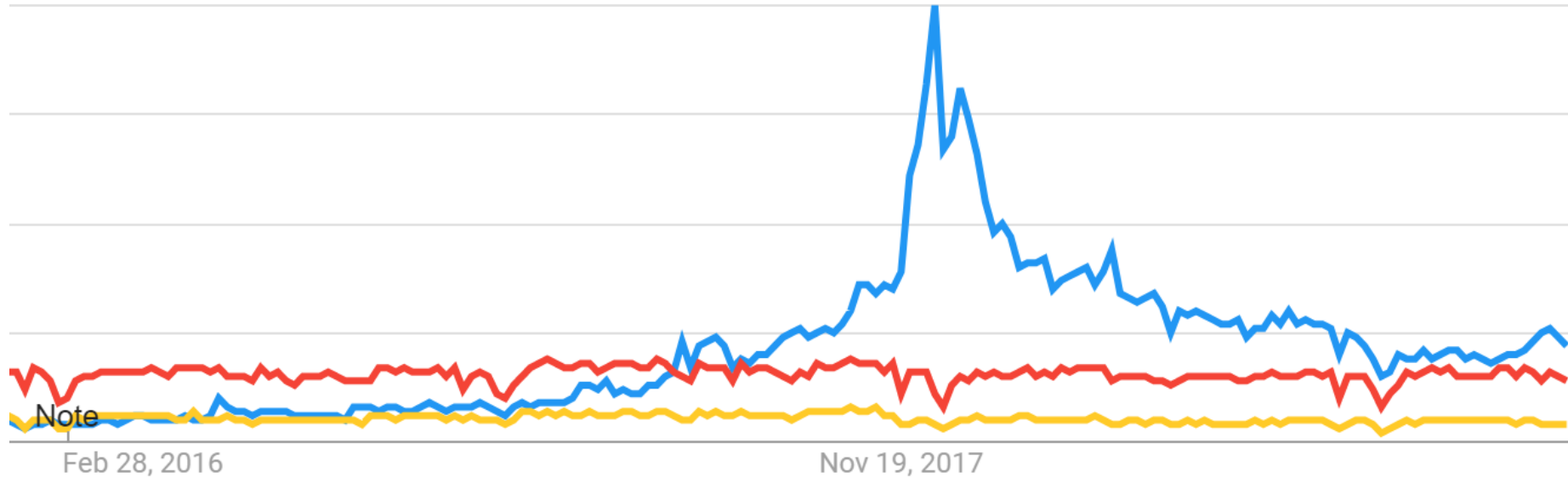
Rhonda Syler, Paul Cronan & David Douglas

Information System Department

Sam M. Walton College of Business

Google Trends (USA) – Label the lines

Blockchain, BI, ERP

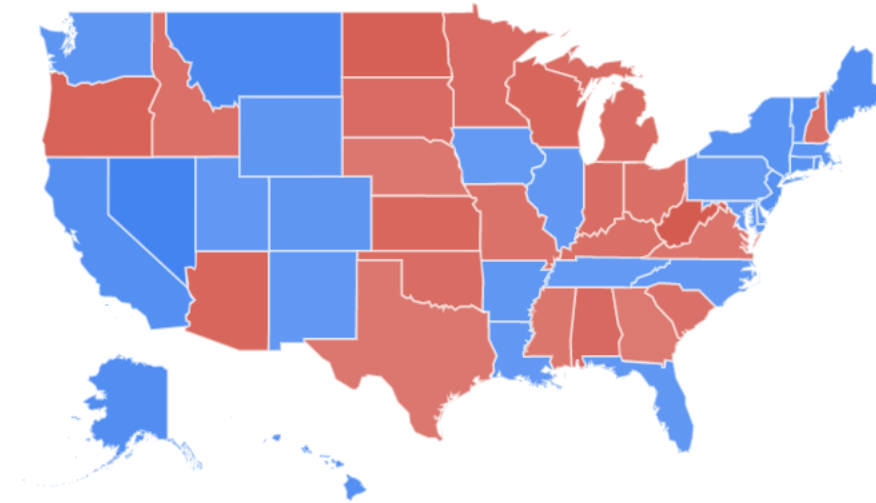


Note

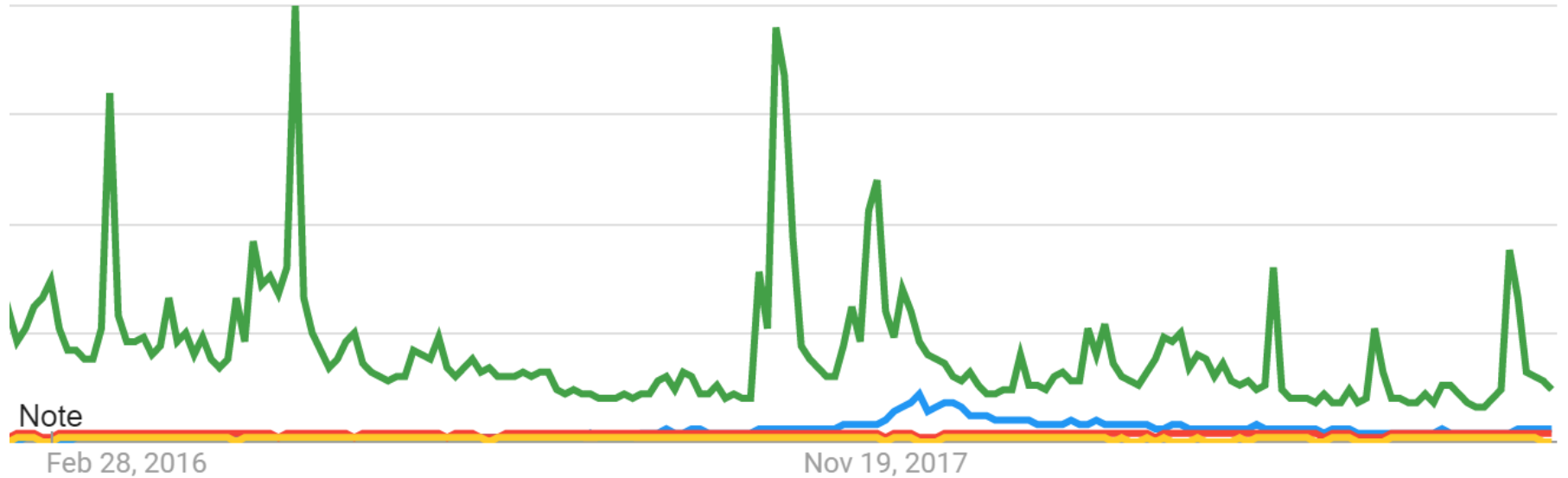
Blockchain, Business Intelligence, ERP

Google Trends (USA)

● Blockchain ● ERP ● Business Intelligence



Google Trends (USA) – Label the lines



Blockchain, Business Intelligence, ERP, Taylor Swift

True or False?

There is an effort to create a prototype ID system for the United Nations aiming to provide legal identification to more than 1 billion people in the world? It will be beneficial to refugees who have left their homes without any documentation.

Our Blockchain Journey

- How we got started
- The first 2 years... consortium to center
- Building impetus for partnerships
 - Hackathon
 - Conference

Our Blockchain Journey

- How we got started....
 - Campus Visit – Fall 2016
 - Alex Gough – IBM University of Arkansas Partner Executive
 - Meredith Stowell – Director of IBM Z Community Advocacy and ISV Success
 - Impressed with our Enterprise Systems and sharing with other Universities
 - Offered to help if we were interested in pursuing Blockchain

Our Blockchain Journey

- November 2016
 - Meredith informed UA IBM would manufacture a new z13 system as a loaner to be housed at the UA
 - Involved Misty Decker - Program Manager, IBM Z Academic Initiative which lead to planning of June 2017 meeting for developing COE

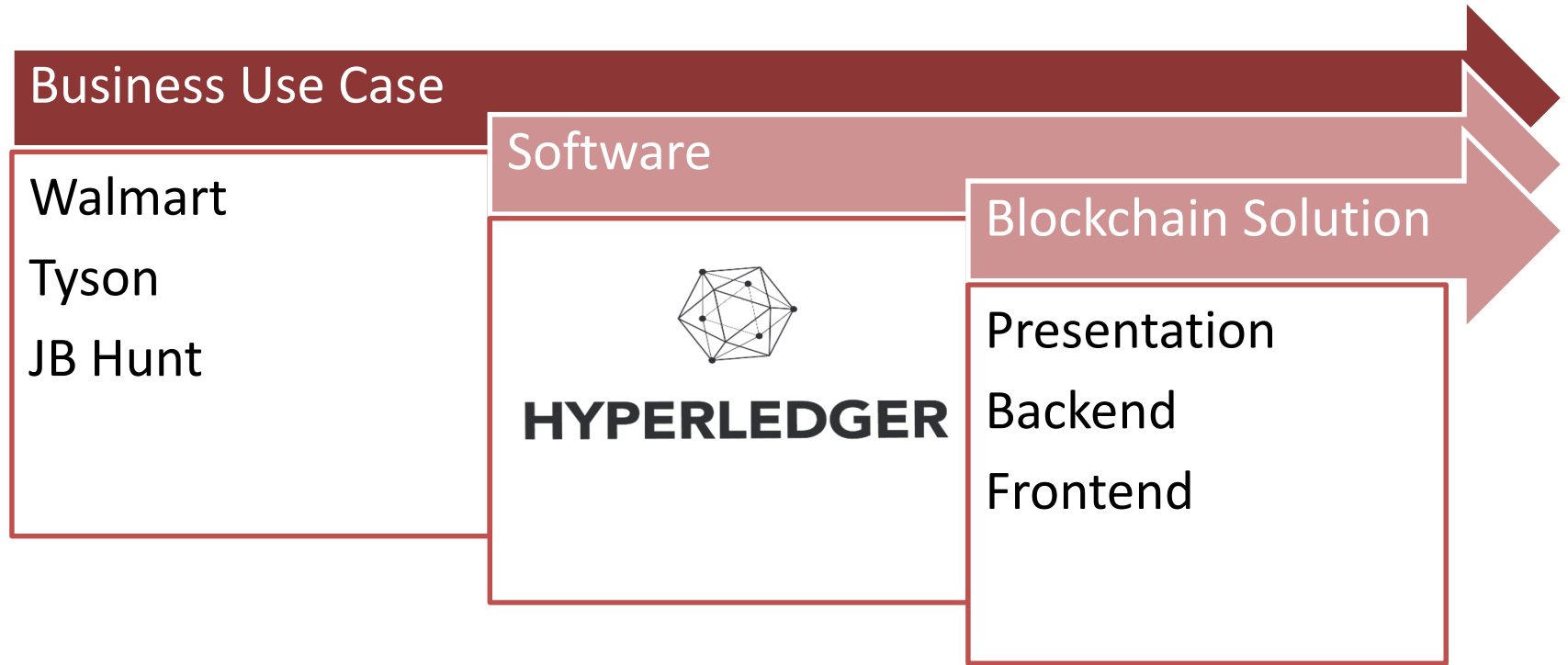
Our Blockchain Journey

- June 2017: Meeting using design thinking process -
 - Develop vision, mission, objectives, focus areas and assessment tools for COE
 - Lead by UA (David Douglas) and IBM (Misty Decker)
 - Included selected industry representatives—ArcBest Technologies, Dillard’s, Tyson Foods and Walmart.
 - All day meeting resulting in draft of vision, mission, objectives, focus areas and assessment tools for COE
 - Follow up conference call gained consensus and commitment for COE (JB Hunt replaces Dillard’s)

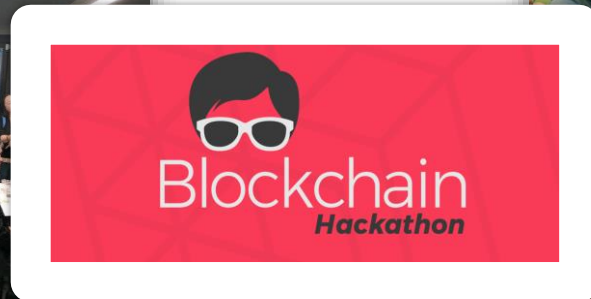
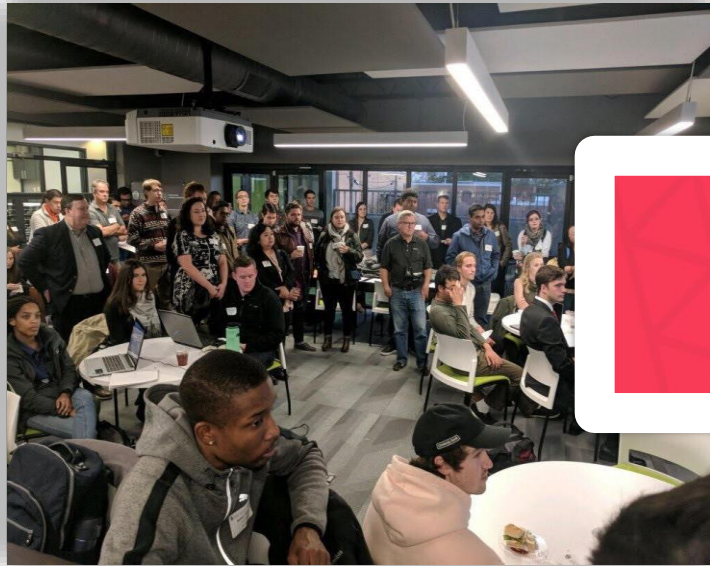
Our Blockchain Journey

- Introducing Blockchain into the Curriculum
 - Dr. Zach Steelman incorporated blockchain projects into his Introduction to Enterprise Systems Course Fall 2017
 - Students from his class competed in Fall 2017 Hackathon
 - Concepts taught in undergraduate courses
 - Spring 2018, Zach's students fully implementing blockchain projects designed in Fall 2017

Blockchain Hackathon 2017



Blockchain Hackathon 2017



Hackathon Highlights

- Very successful—13 teams of 4-5
- IBM instrumental in helping organize the event
- Challenges were created by Industry Partners—JB Hunt, Tyson Foods, and Walmart
- Judges from Industry Partners providing challenges plus Meredith from IBM

University of Arkansas Fall 2017 Blockchain Hackathon

Sponsors:



Blockchain Conference – Spring 2018

- Dr. Mary Lacity, Keynote
- Panel – ArcBest, Bike Rack Brewery, IBM, JB Hunt, Tyson Foods, Wal-Mart
- 228 Registered
- More than 30 companies
- Workshops – ‘Use Case’; ‘Hyperledger’; MS; SAP; & ‘Citizen Data Scientist’

The Blockchain Center of Excellence

Officially launched by Governor Asa Hutchinson Aug 1, 2018



Blockchain Center of Excellence Director




Dr. Mary Lacity

- Curators' Distinguished Professor of IS at the University of Missouri-St. Louis
- Visiting Scholar at MIT, London School of Economics and Oxford University
- Senior Editor of MISQ Executive and editor on many more
- Authored 27 books— most recently *A Manager's Guide to Blockchains for Business: From Knowing What to Knowing How* and *Robotic Process and Cognition: The Next Phase*

The Blockchain Center of Excellence

Vision

A background illustration featuring a network of red dashed lines connecting various red 3D cubes and padlocks. The scene is set against a light gray background with stylized white clouds and a faint cityscape at the bottom. The padlocks are open, and the cubes are interconnected, symbolizing a decentralized blockchain network.

The Sam M. Walton College of Business aims to be an academic leader in *education* and *research* on blockchain applications.

Blockchain COE Mission

- Develop research partnerships, alliances, and help establish standards
- Conduct collaborative industry-university research (e.g. proof of concepts, use cases, projects)
- Knowledge dissemination
- Accelerate industry adoption and value identification

Blockchain CoE at University of Arkansas



ArcBest



MCKESSON



Executive Advisor Board Members

Advisor Board Members

EXAMPLE USE CASES FROM THE 2018 HACKATHON:



Truck driver recruiting/retention



Online voting



Luxury goods authenticity



Birth certificates & citizen identity



Donation tracking



Self-governed markets



Food quality



Food traceability for beef



Bill of Lading

Our New Blockchain Curriculum:

- Undergraduate interdisciplinary minor
- Undergraduate IS major concentration
- Graduate IS major concentration (including 9 credit hours of blockchain)
- Graduate certificate (12 credit hours)



2nd Annual Student
Hackathon,
September 2018



Course Presentations,
December 2018



Presentation to the Governor,
December 2018



2019 Blockchain Hackathon set for October 4-5!



Our New Blockchain Curriculum:



- Graduate certificate (12 credit hours)

- Understand the *history of blockchains* (BC)
- Understand the *global BC landscape*—size of market; major consortia; open source communities; major players; major consultants; investors; geographies
- Articulate the different components of a BC application: *Consensus protocols, distributed ledgers, digital assets, smart contracts, cryptography* (understand pros and cons of choices for each component)
- Identify the strengths and weakness of different types of blockchains—*permissioned vs. permissionless; public vs. private*
- Identify the potential *business and social value* of BCs in general
- Apply the *criteria for ideal use cases* to various proposals
- Know the business and technical attributes of protocols & *platforms* (e.g., Hyperledger Fabric, Ethereum, Bitcoin, Multichain)
- Identify major *technical challenges* and emerging solutions
- Identify major *business challenges* and emerging solutions
- Be able to *code blockchain-enabled applications*, including a web-based interface
- Integrate BCs with *IoT, ERP, and Analytics*

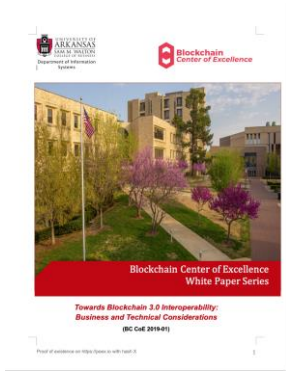
Blockchain Enterprise Systems Certificate Curriculum

Summer
<ul style="list-style-type: none"> • ISYS 5173 Blockchain Fundamentals
Fall
<ul style="list-style-type: none"> • ISYS 5133 Blockchain and E Business Development • ISYS 5103 Data Analytics Fundamentals (recommended elective)
Spring
<ul style="list-style-type: none"> • ISYS 5453 Blockchain and Enterprise Data

<https://gsb.uark.edu>

Email: gsb@uark.edu

Blockchain Research at the University of Arkansas



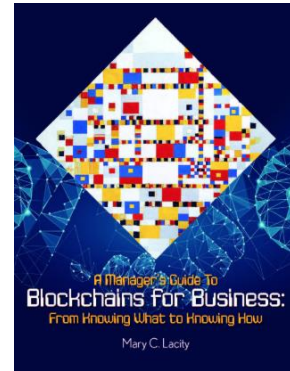
BC CoE
White Paper Series



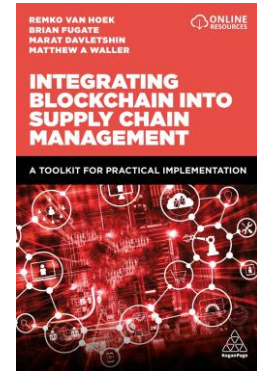
Practitioner Papers



Academic Papers



Books by Faculty



JUST RELEASED!
White Paper:
Blockchain Interoperability

<https://blockchain.uark.edu/resources/>

The Blockchain Center of Excellence

Examples of our outreach, participation and partnerships



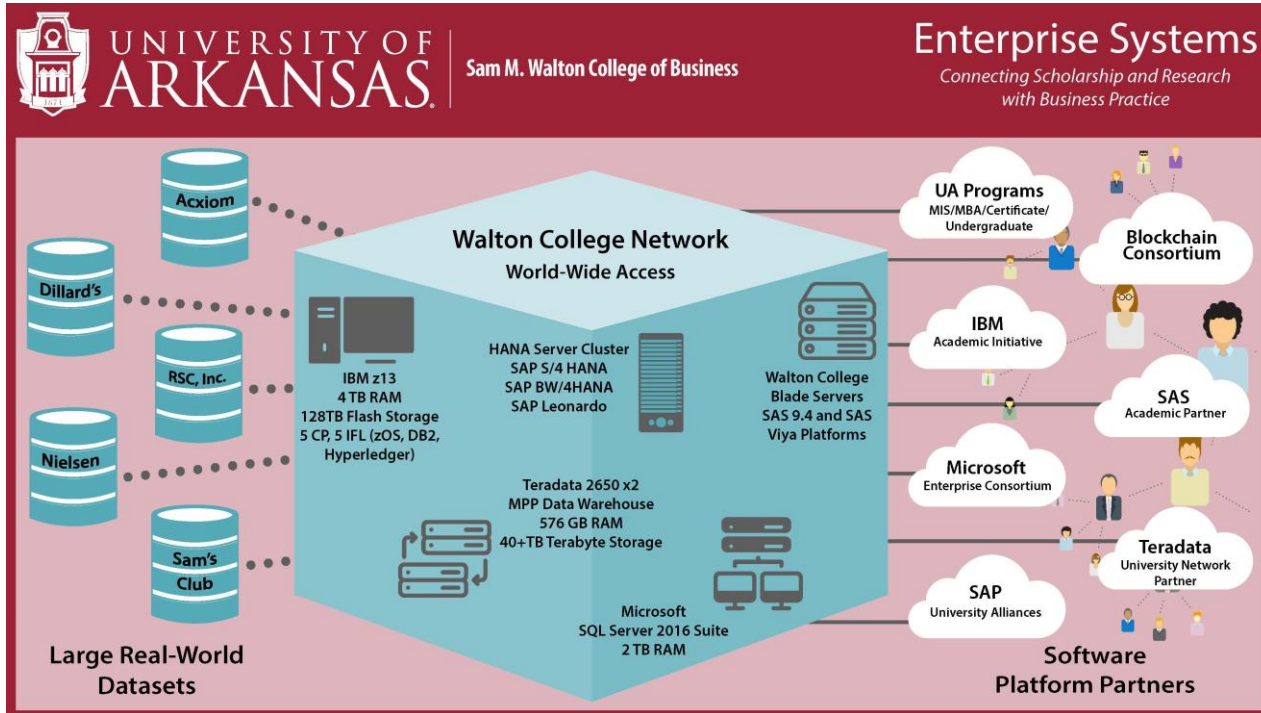
2019 Blockchain Conference
Beyond The Headlines: Blockchains for Business



Walmart International Supplier Collaboration Board



Blockchain & Enterprise Systems



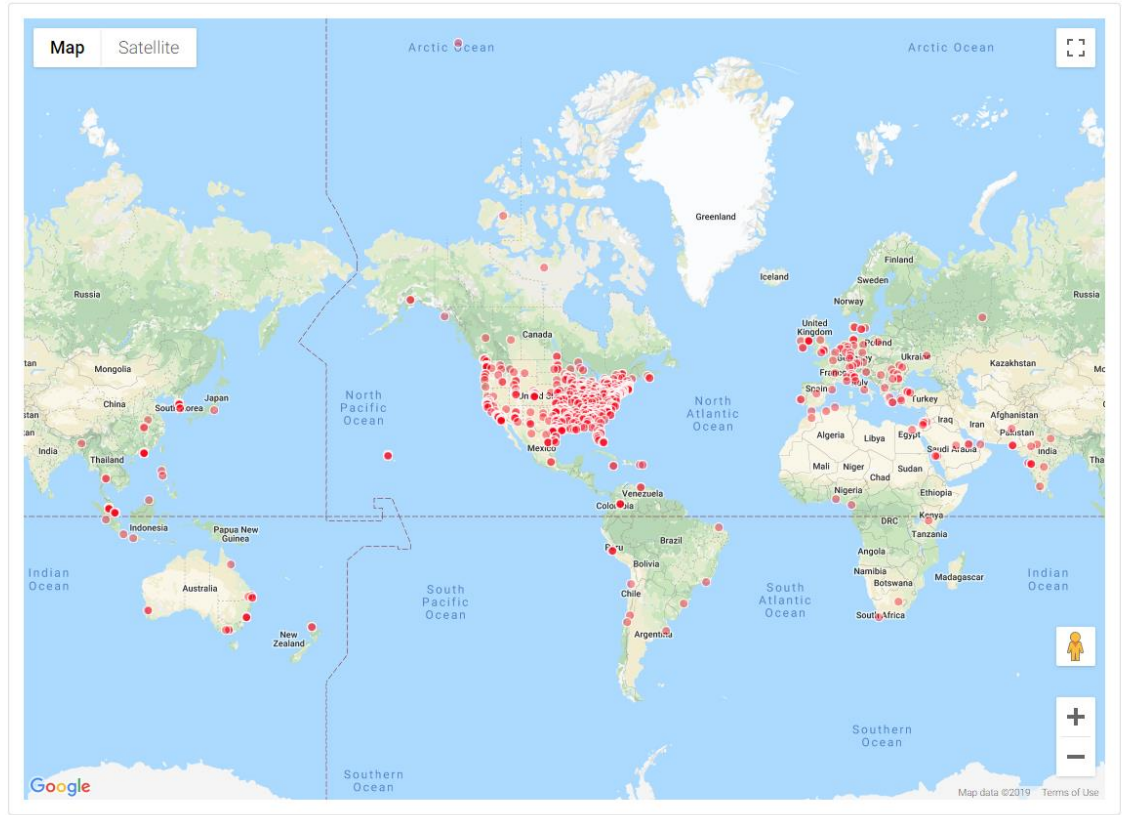
Institutions → 775 since 2016

Global Impact

Unique User Accounts In 2018....

- 5,404 Microsoft
- 4,933 Teradata
- 2,969 SAP
- 1,960 IBM (TSO & zLinux)
- 151 SAS

<https://request.information-systems.uark.edu/institutions>



Walton Enterprise Systems Resources

[Enterprise Systems Home](#)

[Exercises, Use Cases, and Labs](#) ▾

[Systems](#) ▾

[Datasets](#) ▾

[Collaboration](#)

[Blockchain Center](#)

[About Us](#)

[Information Systems Curriculum](#)

[Request Systems Access](#)

[Future Students](#)

Enterprise Systems at Walton College

[U of A](#) / [Walton College](#) / Enterprise Systems

As a premier source of academic enterprise curriculum and systems, we support education and research efforts at the University of Arkansas and around the world. Our programs produce globally competitive students and world-leading faculty for teaching and research.

Exercises, Use Cases, and Labs

Expose your students to business processes and techniques sought after by the world's top employers.

[View Resources](#)

Systems

Access world-class Enterprise Systems platforms used by Fortune 100 companies for mission-critical applications.

[More about our Systems](#)

Datasets

Students learn with real-world datasets from our industry partners, including Dillard's, Sam's Club and Tyson.

[View the Datasets](#)



UNIVERSITY OF
ARKANSAS



Blockchain

Thank you!

walton.uark.edu/enterprise

Blockchain.uark.edu