University of Oklahoma

Developing innovative approaches to understanding social and natural risks

Increased flexibility

Easy access

Fixed price

Understanding and addressing societal risks and increasing the resilience of communities and society require mountains of data and powerful infrastructure. Just ask the team at the Institute for Public Policy Research & Analysis (IPPRA), one of the world's most advanced centers for risk-related teaching, research, and outreach arising from natural, technological, and human hazards. Based at the University of Oklahoma (OU), IPPRA combines leading-edge modeling with an interdisciplinary approach among experts in policy and those in psychology, communication, engineering, and other disciplines. The result is a better way to help communities become more resilient when facing these risks.

Joe Ripberger and Matthew Henderson are part of the team behind IPPRA's mission. Their work is making the world a safer place. "We study all sorts of risks, ranging from those related to energy security and nuclear weapons on the national security side, all the way to public health risks like natural hazards," said Ripberger, who serves as the Deputy Director for Research at IPPRA.

Since this work began at OU, IPPRA's role and the diversity of risk scenarios it addresses have grown. Originally focused on risk and crisis management, the Institute now operates as an interdisciplinary school with researchers who have worked with some of the most pivotal scientific organizations in the world, including the National Science Foundation, the National Oceanic and Atmospheric Administration, and the Department of Energy.

INSTITUTE FOR PUBLIC POLICY RESEARCH & ANALYSIS
The UNIVERSITY of OKLAHOMA

University of Oklahoma Institute for Public Policy Research & Analysis (IPPRA)

Norman, Oklahoma
ou.edu/ippra

Industry

Public Sector

Solution

Cloud Computing Services

Some of the Institute's work includes partnering with the National Weather Service to create surveys that analyze how people receive, understand, and take protective actions in response to different kinds of weather alerts, forecasts, and warnings. Researchers examine the collected data to work on the local and regional levels and create messaging that accurately communicates when dangerous weather systems are approaching a community.

Another research project compared perceptions and misinformation regarding the COVID-19 pandemic. In March 2020, the IPPRA team began analyzing millions of social media posts regarding the pandemic and compared that data with surveys conducted across the country. Researchers then compared the datasets to understand better how misinformation and individual perceptions of the pandemic influenced behaviors.

This critical and timely research helps policymakers better understand how accurate messages about health information influence behaviors. It also helps them measure how misinformation can affect behaviors that lead to negative health outcomes.

Simple, affordable, and accessible cloud computing

For projects of this magnitude, the research team at IPPRA needs a reliable cloud infrastructure partner to manage and process this large amount of information. That's why Ripberger, Henderson, and their team have partnered with Linode (now Akamai) for more than a decade.

With the increased flexibility and accessibility in data storage and easy access to information, the IPPRA team can present its findings without disrupting ongoing data collection. This capability allows researchers to use their data to build important relationships and maintain the integrity of the research.

"That's one reason Linode [now Akamai] has proven to be so important to us over the years," said Henderson, the Institute's Deputy Director for Research Support & Integration. "We have a lot of projects that move online and offline, so we have to be able to respond quickly."

IPPRA uses a combination of cloud infrastructure resources and on-premises resources for workloads that need to run behind a physical firewall.

"

We had to have rapid access to data and all the things you need to be able to manage a project like this on such a rapid timeline. That's why it has been really valuable to have Linode [now Akamai] helping us with that.

– Dr. Joe Ripberger,
*Deputy Director for Research,
IPPRA, University of Oklahoma*

Akamai (formerly Linode) also empowers the IPPRA team to continue its cutting-edge work by providing cloud computing services at a fixed price that fits the Institute's budget realities. In the academic world, said Ripberger, knowing costs ahead of time could be the difference between whether or not the Institute can take on a project. "Getting to the point where we can reliably estimate costs gives us enough confidence to move forward with projects," he said. "Going over budget on compute resources is not an option, as we simply cannot operate in the red."

As the research team at IPPRA continues to analyze new ways to reduce risks in communities across the globe, Henderson and Ripberger believe that partnering with Akamai is empowering their forward-thinking group to stay on the cutting edge of this invaluable work.

INSTITUTE FOR PUBLIC POLICY RESEARCH & ANALYSIS
The UNIVERSITY of OKLAHOMA

The IPPRA team builds partnerships and conducts research by integrating public policy scholarship with the physical and engineering sciences to increase human well-being, improve our social choice infrastructure, and enhance resilience by addressing complex public policy problems and creating opportunities that span natural, technological, and social systems.

ou.edu/ippra