IBM Newsroom

Kevin Petty: Bringing Weather Forecasting Into the Cloud

By Ronald Gordon

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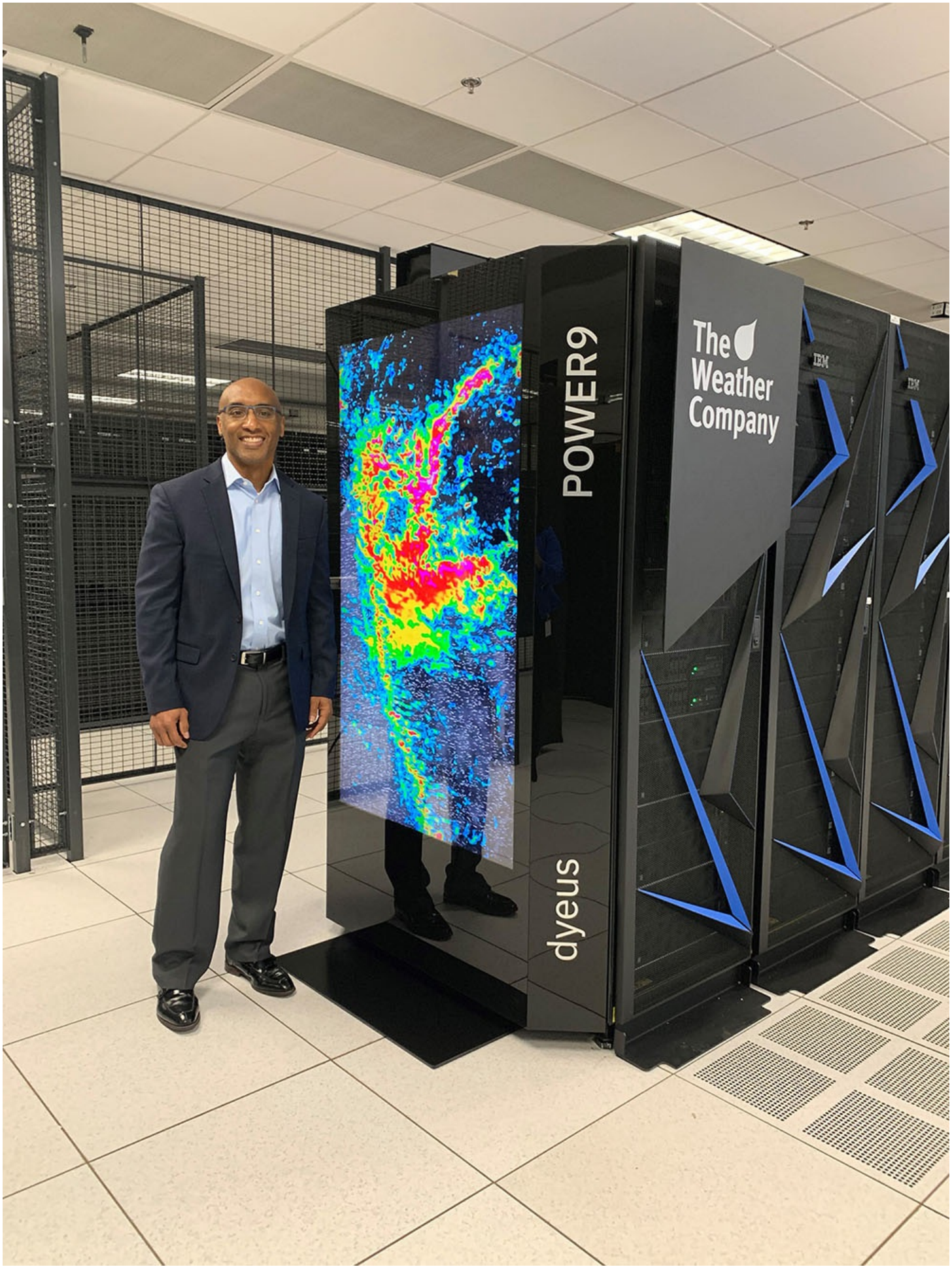
Imagine you’re a big-box retailer playing in brutally competitive markets where margins are thin and product availability is everything. How can you manage your enterprise so that your stores have plenty of snow shovels before a winter storm rolls in?

Or maybe you’re a farmer in sub-Saharan Africa, Southeast Asia or Latin America. Can you afford to plant your fields, only to have your seeds and fertilizers washed away by unexpected heavy rains?

It’s Kevin Petty’s job to imagine himself in such situations and help his team come up with weather-science solutions.

Petty is Director of Science and Forecast Operations, and Head of Public-Private Partnerships for The Weather Company, an IBM business. It’s a position to which he brings significant analytical expertise and management insight.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IBM*Kevin Petty and the Dyeus supercomputer in Raleigh, N.C., that powers the GRAF weather forecasting model.*

“No other technology company has IBM’s unique combination of the world’s most complete and up-to-date weather data with leadership in AI and Cloud,” Petty says.

Those capabilities distinguish IBM in the weather forecasting field and position the company to support the operations of IBM’s government and enterprise clients, and to reinforce The Weather Company’s standing as the world’s responsible steward of technology. Petty refers to it as “‘democratizing’ global access to forecasts that can protect life and property.”

Petty, who works in Louisville, Colo., near Boulder, holds a Ph.D. in atmospheric science from The Ohio State University. He joined IBM last year after serving as Chief Science Officer for Vaisala, a company that develops environmental and industrial measurement products and services.

MISSY PETTY*Time outdoors, like here in Telluride, is one of the things Kevin Petty loves about working and living in Colorado.*

At IBM, Petty oversees scientists, software engineers and operational meteorologists. They help clients capitalize on highly accurate forecasts, which are driven by complex mathematical models and scientific processes that rely on computational resources with high availability.

“Our enterprise, government and non-profit clients can benefit from the insights our cloud, AI and weather data provide without the costs and headaches of massive capital investment and maintenance,” Petty says. And, of course, the general public can benefit through free offerings like The Weather Channel app.

One highlight of how this works is IBM’s GRAF (Global High-Resolution Atmospheric Forecasting System), which is helping to bring the world’s most accurate and timely local forecasting to populations that have been underserved traditionally. The high-precision GRAF system can deliver forecasts that are updated hourly, at 3 kilometers (less than two miles). People in the United States are accustomed to such precision in weather forecasting. But GRAF-enabled forecasts can be a game changer – and life saver – across Africa, Asia and Latin America.

Harnessing technology for the greater good is in keeping with Petty’s interest in science policy and desire to foster innovation and increase diversity in the sciences.

He recently delivered a commencement address at Colorado State University’s college of engineering. “I implored graduates to define success on their own terms, to pursue well-rounded lives and never to stop learning,” he says.

Petty says he and his wife, Missy – a mathematician in the meteorological field – try to set that example for their teenage daughters, through their religious faith and their actions.

“We work hard, but we also enjoy the outdoor life here in Colorado,” Petty says. “For me, it’s about striking that balance that culminates in a life well-lived.’’

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