There's Weather in the Cloud(s)

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Over the last several years, The Weather Company, (now) an IBM Business has been migrating much of its forecast and adjacent weather data processing systems from on-premise data centers to cloud while simultaneously scaling its product offerings. Amidst the effort there have been challenging use cases and some clear success stories.

This presentation will provide a high level overview of the weather systems at The Weather Company, an IBM Business undergoing migration to cloud architecture thus far and will focus on a clear success story: Bringing as much of the science as feasible to an on-demand calculation of global-domain forecast and current conditions within a large-scale, globally-deployed, low-latency, high-volume (serving 25 Billion forecasts per day) API delivery framework. Architectural capabilities being leveraged to facilitate this core competency will be explored, among them caching, auto-scaling, load-balancing, redundancy, high-memory instance types and testing flexibility afforded by working in a cloud environment. It will be shown how the on-demand environment has been flexibly adapted to include a human "over the loop" forecaster influence via input from multiple global forecast offices, and how it affords an optimal freshness of forecast result, particularly for the short-term forecast and current condition. The audit of all weather systems being migrated to cloud will additionally highlight other opportunities and challenges related to data volume, IOT, data access variants and HPC.