December 9, 2013

Newton Energy Group and AIMMS venture into cloud-based optimization with *pCloudAnalytics*

Today, AIMMS and Newton Energy Group (NEG), a software analytics and consulting company based in Massachusetts, announced that they will venture further into cloud-based optimization with *pCloudAnalytics*, an AIMMS-based SaaS solution that provides a state-of-the-art power market simulation environment for enterprises in the electric power industry.

Modern power markets define the physical operation of the electrical grid and facilitate interactions among the numerous parties engaged in buying and selling energy as a commodity. Power market simulators enable stakeholders to forecast future market outcomes and make better business and policy decisions. However, simulators are complex, computationally intensive and many cannot adapt to reflect changes in market rules, information flow and decision processes. Further, most simulator environments are not scalable and designed to simulate one scenario at a time. This leads to project turnaround times of days or even weeks, requiring disproportionate amounts of human resources and budget.

pCloudAnalytics (*pCA*) addresses these limitations by allowing users to take advantage of virtually unlimited computational power available on the cloud and combines ready-to-use data with the support of NEG's power market and modeling experts. *pCA*'s power market simulation engine is highly flexible and accurately captures and optimizes the economics and operations of the power grid at an unparalleled level of detail. *pCA* enables users to perform an unlimited number of market simulations in the same time frame that is required to complete a single simulation with today's technology, resulting in faster and more thoroughly informed decision-support.

pCloudAnalytics incorporates Power System Optimizer (PSO), an application built by Polaris Systems Optimization Inc. (Polaris) using the AIMMS modeling platform. For the optimization portion, *pCA* uses Gurobi Optimizer, an integrated solver in AIMMS that is used by industry leaders for many types of optimization models. The complete solution runs on the Amazon and Microsoft clouds.

"*Our approach to power market modeling emerges from years of practical experience in using market simulators for a wide variety of applications and understanding the core needs and concerns of the client,*" said Dr. Alex Rudkevich, President and Founder of NEG. "*To address these concerns we built the pCA SaaS environment using best in class solutions across the entire system: PSO, AIMMS modeling platform and Gurobi Optimizer. We are grateful to our partners for believing in our vision and generously providing support throughout the development*

"*pCloudAnalytics offers its users the game-changing capability to study power markets at an unprecedented depth and speed,*" said Jill Lizardi, VP North America at AIMMS. "*Its simulation environment is also equipped with a friendly and intuitive interface, both experienced users and beginners can start using pCA to get the insights they need. We are proud of this project and are fully committed to support NEG in their quest to make optimization solutions more accessible through the cloud.*"
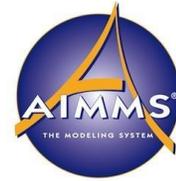
pCA launch users include economic consulting firm *The Brattle Group*. "*Using pCA we have been able to analyze a range of power market scenarios, performing analyses beyond the capability of other models,*" said Ira Shavel, Principal at *The Brattle Group*. "*pCA has been especially useful to us for simulating future conditions or complex phenomena in power markets, such as those under high levels of renewable penetration. In a report to be released tomorrow by the Texas Clean Energy Coalition, The Brattle Group used pCA to analyze the electricity futures for Texas.*"

About NEG

Newton Energy Group (NEG) located in Cambridge, Massachusetts is a software development and consulting company. NEG is developing a new generation of energy market modeling tools by combining advanced analytics with cloud computing technology. In designing these tools, NEG synthesizes its expertise in software development and operations research with decades of consulting and academic experience in the design and operations of energy markets, energy economics and regulatory policy.
Visit www.newton-energy.com for more info.

About AIMMS

AIMMS is an innovative technology company with offices in The Netherlands, Seattle (US), Singapore and Shanghai. For over 20 years, the company has been developing and selling a unique mathematical optimization platform. AIMMS customers can create optimization engines and solutions that enable optimal decision making on complex strategic, tactical or operational problems. Visit www.aimms.com for more info.

About Gurobi

Gurobi is in the business of helping companies solve their hardest problems by providing the best optimization solver possible, outstanding support, and no surprises pricing. The Gurobi Optimizer is a state-of-the-art solver for linear programming (LP), quadratic programming (QP), quadratically constrained programming (QCP), mixed-integer linear programming (MILP), mixed-integer quadratic programming (MIQP), and mixed-integer quadratically constrained programming (MIQCP). It was designed from the ground up to exploit modern architectures and multi-core processors, using the most advanced implementations of the latest algorithms. Founded in 2008, Gurobi Optimization is based in Houston, TX. Visit www.gurobi.com for more info.

About Polaris Systems Optimization

Polaris provides optimization-based tools for control and simulation of power-grid operations. Founded in 2009 to support efficient integration of renewable energy, Polaris' staff includes leading experts in the application of mixed-integer programming to security constrained unit commitment and economic dispatch and the deployment of these capabilities in market management systems (MMS) and energy management systems (EMS) of large utilities in the U.S. and internationally. Polaris is located in Shoreline, Washington. Visit www.psopt.com for more info.