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THE AMERICAN DIABETES ASSOCIATION: Improving the Accuracy of Health Care System Modeling Grid MP Case Study

The Customer

The American Diabetes Association (ADA) is the nation's leading voluntary health organization supporting diabetes research, information and advocacy.

The Challenge

Diabetes is a complex disease. In determining treatment, a clinician is challenged with multiple disease factors as well as the problem of considering how each patient's lifestyle will impact a particular therapy. The ADA has a vision to accurately predict the effectiveness of different therapies to best manage the disease while considering these myriad factors. ADA experts found a technical solution for the disease predictions—but needed a way to expand its accessibility: to feasibly meet their vision, they needed their software solution to produce answers more quickly.

The Solution: Archimedes and Grid MP Workstation

Archimedes is a predictive software program developed by Kaiser Permanente that, among other uses, helps health care professionals analyze clinical programs and treatments. The ADA will use Archimedes to process and manage the data representing the complexities of diabetes. However, this type of complex data crunching requires a great deal of computational power—so the ADA contacted United Devices.

Summary

The American Diabetes Association (ADA) is working to provide a way to **accurately predict the effectiveness of various therapies** in treating and managing each of the complex disease variables found in diabetes. To reach this goal, the ADA is using Archimedes, a predictive software application, on United Devices' Grid MP Enterprise.

By using a grid approach, the organization can speed up results as Archimedes computes the possibilities, factoring hundreds of disease factors and variables, and thus optimizes the intervention for groups with disease similarities (or even individual patients). **This approach may revolutionize the management of diabetes, a disease that afflicts 16 million in the US alone.**

By using the Grid MP platform to fuel a PC grid, the ADA has begun to realize their dream of increasingly accurate predictive therapies. By using their existing resources, the ADA will accelerate the computation time required to run the complex, multi-faceted research questions.

The organization will initially run the Archimedes application on a 250-PC grid in the American Diabetes Association's headquarters in Alexandria, Virginia. The flexibility of the Grid MP platform allows them to add additional nodes as their research capacity and needs expand. The initial ADA grid will also serve as the test bed for further development of the Archimedes application.

Says David Eddy, one of the developers of the Archimedes application, **“The distributed computing system that United Devices is setting up for us will revolutionize not only how we do our work, but the accuracy of the decisions people make about the management of diseases.”**

“We will be able to **more quickly identify treatment regimens** that will have the greatest positive impact for people with diabetes.”

Richard Kahn, PhD, Chief Scientific and Medical Officer
American Diabetes Association

“Normally, answering a single question of this type on a PC requires 24 to 48 hours.

United Devices is helping us reduce the computing time to minutes. This will enable us to put the solutions in the hands of doctors and patients quickly.”

David Eddy, MD, PhD
Co-developer, Archimedes

Next Steps

The American Diabetes Association envisions that the grid-enabled application will be made available to individuals visiting the Association's Web page. This would enable those who need to make recommendations for modification of treatments, behaviors and lifestyles related to diabetes care to access and benefit from the distributed tool.

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