

IBM Platform Deployed by Sidra to Advance Qatar's Biomedical Research Capabilities

ARMONK, N.Y., May 24, 2017 /[PRNewswire](#)/ -- IBM (NYSE: [IBM](#)) today announced the deployment of its IBM solutions as the compute and storage infrastructure for [Sidra Medical and Research Center](#) (Sidra).

Sidra, a groundbreaking hospital, biomedical research and educational institution, chose IBM solutions to manage and store clinical genome sequencing data as well as to provide the organization's biomedical informatics technology infrastructure capabilities that will serve as a national resource. The IBM platform is used for data management and storage, bioinformatics and High Performance Computing (HPC).

One of the first programs Sidra used the IBM technology platform was for the [Qatar Genome Programme](#) (QGP)(1). The QGP is a large national genome medical research project, which aims to develop personalized healthcare therapies for the Qatari population. Sidra is a key partner of the QGP and is responsible for sequencing, analyzing and providing the data management for whole genome sequences from the population. Sidra has sequenced over 3000 samples in Phase I and has embarked on the sequencing and analysis for Phase II of the QGP.

"Sidra has undertaken to implement personalized medicine to better meet the unmet needs of the women and children in Qatar and beyond. Biomedical informatics plays a central role in bringing this concept to life," said Dr. Rashid Al-Ali Division Chief of the Biomedical Informatics Division at Sidra. "This is why we hired a multidisciplinary team of experts from all over the world, invested in leading technologies and chosen vendors like IBM to help enhance our approach to offering personalized care to the women and children of Qatar. Our implementation of technologies goes beyond than meeting Sidra's needs - as we have the basic building blocks in place to be considered a national resource in the county and build local capacity."

A number of IBM solutions underpin Sidra's analytics and data architecture, including:

- IBM Flash Storage systems to accelerate access to critical meta data by the Sidra community;
- IBM Software defined infrastructure as a workload and resource manager, to ease the management of big data analytics, and to scale up capabilities to manage HPC analytics involving hundreds of thousands of jobs and vast amounts of data.

"The Sidra and IBM work effort is unique - it was a joint collaboration between our bioinformatics experts who led the complex analysis component and built the pipelines while IBM customised the system to ensure

best performance and ease of use," said Dr. Mohamed-Ramzi Temanni, Manager, Bioinformatics Technical Group at Sidra Medical and Research Center. "Analyzing hundreds of samples in parallel on a regular basis requires a robust HPC system to handle the load properly. From our experience, IBM systems has proven to be reliable in helping us address this technical requirement."

Performing analysis on each sample takes between two to seven days. Failures at any point in the analysis of the data can be very costly as it would require each job to restart from the beginning. Using IBM Spectrum software provides Sidra high reliability to manage the application pipeline to help meet its deadlines.

Since deploying the IBM platform, Sidra has completed hundreds of thousands of computing tasks comprising millions of files and directories, without experiencing system downtime. Overall, Sidra has reduced its time-to-completion for long running jobs while increasing its resource utilization substantially. As a result, Sidra completed its requirements for Phase I of the QGP ahead of time.

"Sidra's remit for the Qatar Genome Program is an ambitious genomics medical research project in terms of compute and data scope," said Dr. Robert Eades, Research Advisor, IBM Middle East & Africa. "To most effectively manage and analyze a large number of whole genome sequences for population genomics, Sidra chose IBM as one of its key players to build a long-term technology foundation for medical analytics research at this scale."

IBM at Bio-IT World

As a Bio-IT World Platinum sponsor IBM will deliver several presentations during the event, including the following, which take place on Wednesday, May 24(th):

- Data Computing: Advances in Computing Applications for Big Data; 2:55pm ET;
- Bioinformatics, 12:00pm ET;
- Clinical Research & Translational Informatics: Transforming Biological Data to Clinical Development, 5:00pm ET:

In addition IBM solutions will appear across the Bio-IT World exhibition floor: IBM Storage Spectrum Scale within IBM Business Partner, DDN booth #357. IBM Aspera in booth #348 and IBM Cloud Object Storage in Booth #554.

For more on IBM Storage, visit www.ibm.com/systems/storage.

About Sidra Medical and Research Center

Sidra Medical and Research Center will be a groundbreaking hospital, research and education institution, focusing on the health and wellbeing of children and women regionally and globally.

Sidra represents the vision of Her Highness Sheikha Moza bint Nasser who serves as its Chairperson. The high-tech facility will not only provide world-class patient care but will also help build Qatar's scientific expertise and resources.

Sidra will be a fully digital facility, incorporating the most advanced information technology applications in all its functions. Designed by renowned architect Cesar Pelli, Sidra features a main hospital building and a separate outpatient clinic.

Sidra opened its Outpatient Clinic on 1 May 2016 and offers outpatient services for women and children through a referral based system in partnership with other healthcare providers in Qatar.

Sidra is also part of a dynamic research and education environment in Qatar and through strong partnerships with leading institutions around the world, Sidra is creating an intellectual ecosystem to help advance scientific discovery through investment in medical research. For more information please visit www.sidra.org.

1 - 'About Qatar Genome Programme' - <http://www.qatargenome.org.qa/>

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