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**Online database aids personalized medicine**

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**The Ohio Supercomputer Center (Columbus, OH) is working with two US hospitals on a project that will provide instant online access to imaging data and genetic information about a patient's tumour. The venture - Virtual Microscopy to Microarray, or VM2M - is envisaged as an enabler for personalized medicine, in which treatment is individually tailored to deliver the right dose of the right therapy to each patient.**

Custom software developed at The Research Institute at Nationwide Children's Hospital (Columbus, OH) will allow multiple pathologists to quickly, simultaneously and securely review digitally formatted, diagnostic-quality microscopy scans of diseased tissue, along with the corresponding molecular expression data. These virtual scans will be paired with microarrays of the same tumours - created by Timothy Triche at the Childrens Hospital Los Angeles (Los Angeles, CA) - that detail each sample's genetic code.

Underlying this project is the software, data storage and network access provided by the Ohio Supercomputer Center (OSC). High-resolution images and data from just 100 patients could easily fill the hard drive on a typical PC, while a comparative analysis of that data on a PC could take a day or more. Thus the OSC provided a secure repository and hosted the development platform during the project's first phase, allowing the group to prototype the research project's concept.

"We're extremely pleased to be involved in this collaborative effort through our Blue Collar Computing programme," said Ashok Krishnamurthy, OSC's senior director of research. "OSC's powerful data management and networking resources enabled storing, organizing and retrieving this memory-intensive information."

The collaboration is now exploring the next phase of development for VM2M, by moving into a production-supported environment. "Once the virtual microscopy field receives FDA approval, clinicians will be able to utilize the VM2M platform for diagnosis," said Dave Billiter, director of the Research Informatics Core of The Research Institute at Nationwide Children's Hospital. "This will optimize the process of patient diagnosis, review and treatments that are most appropriate for each individual."

