

Collaboration formed here to work on research for ISM

Companies, experts to look at bio-, medical informatics

By Richard Ripley
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The organization that's working to establish an Institute for Systems Medicine here says a collaboration has been formed to do research on bioinformatics and medical informatics, both of which the institute would use heavily.

The organization, the Institute for Systems Medicine Planning Authority, says that Next IT Corp., a Spokane software company, and SafeDesk Solutions, a company here with proprietary technology in so-called "thin" computing, are involved in the collaboration. Also, Gonzaga University is contributing the efforts of two computer science faculty members.

George Luger, a professor of computer science at the University of New Mexico and a science adviser to the planning authority and Gonzaga's computer science department, will head the research effort, says Lewis Rumpler, the planning authority's chief operating officer.

"We're talking about developing the tool set" that would be used at the institute, says Rumpler.

Legislation to establish a health sciences and services authority and to divert funds from sales and use taxes collected here to help establish the institute passed out of the Senate Ways and Means Committee of the Washington Legislature on Friday, March 30, Rumpler says. As written now, the bill would divert \$1 million in revenue each year, much less than the \$6.5 million the group had said it would seek.

"We're trying to get a much higher number," Rumpler says. "We have a bit of a hill to climb." The House passed the legislation earlier, but it has been amended in the Senate and will be subject to further discussion among legislative leaders, Rumpler says.

The planning authority also is seeking other money from the state, the federal government, private donors, foundations, corporate donors, and potential partners—a total of \$110 million in all—for its first five years.

Bioinformatics employs applied mathematics, statistics, computer science, artificial intelligence, chemistry, and biochemistry to solve biological problems on the molecular level, the planning authority says.

It says medical informatics weds information science and medical and health-care knowledge to improve the acquisition, storage, retrieval, and use of health and biomedicine information.

The authority has touted the institute as a way to attract as many as 250 biomedical scientists, engineers, computer scientists, mathematicians, and other experts to Spokane to help the health-care and education sectors here blaze trails into medicine's new frontiers and to keep the health-care sector up to date. It says the mapping of the human genome, which is expected to give physicians improved ability to see why people get sick or might get sick, opened those new frontiers.

Completed just a few years ago, the mapping of the genome showed that humans have between 30,000 and 50,000 genes, and it's long been known that genetic anomalies can cause disease or increase susceptibility to it, Rumpler says. Meanwhile, he says, other types of cutting-edge medical research, including studies on the interactions between millions of proteins found in the body, are creating additional volumes of useful data.

To use the new data, health-care practitioners and researchers need high-performance computers and access to numerous databases of information about patients, diseases, treatments, and out-

comes, and the institute would give them those things, he says.

"With 30,000 to 50,000 genes and 3 million proteins, understanding all of this is the latest data challenge in front of mankind today," Rumpler says.

He says Next IT is providing initial resources to fund the collaboration.

Fred Brown, Next IT's CEO, says, "The market opportunity posed by medical informatics is enormous. This collaboration will bring together the critical pieces: techniques to interpret data, including visualization, high performance computing at the desktop, and clinical data necessary to advance the science."

He adds, "I am confident that a breakthrough industry-specific application is within the grasp of this collaborative."

The collaboration will seek to obtain a surplus supercomputer from the U.S. government, which replaces high-capacity computing systems every two or three years at installations such as the Pacific Northwest National Laboratory, in Richland, Wash.; Sandia National Laboratories, in New Mexico and California; and the Jet Propulsion Laboratory, at Pasadena, Calif., Rumpler says. "Ultimately, the high-performance computing hardware will be at Next IT," he says.

SafeDesk Solutions, Rumpler says, has expertise in using "dummy" desktop computer terminals that work with powerful centralized computer servers.

Luger, he says, is a Spokane native whose brother, John J. Luger, is a member of Gonzaga University's board of trustees, as is Spokane developer John Stone, a vocal proponent of the proposed Institute for Systems Medicine.

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