

## STARS ALIGN TO VIRTUALIZE ACCESS TOP SCIENCE INSTRUMENTS

### University Coalition Launches new Tools to Remotely Access and Manage Research Equipment.

**(September 1, 2020 - Tempe, Arizona)** Research just got easier for scientists who need access to rare, expensive science instruments and equipment for their work. Today, a coalition of universities, including ASU, UofA, NAU, University of Reno, NASA, Sun Corridor Network (SCN) and Internet2 announced SIRAS, the Science Instrument Reservation and Access System. SIRAS is an open-sourced software application for science assets, including instruments, data sets, supercomputers, and Internet of Things (IOT) devices. SIRAS both standardizes and simplifies the access and management of science assets for owners and users.

"I am a professor at the University of Indiana in Bloomington. There is one specialized instrument in the whole world that my research depends on and it is in Arizona," said Sky Smith. "Before SIRAS, the only way I could reserve time and use that instrument was to get on a plane and go to Tucson. Now I can schedule my workloads remotely using the SIRAS reservation system. SIRAS knows who I am, that I am authorized to use the equipment, and what is required from the instrument and networks to optimize performance. Now I can run my project remote from Bloomington without traveling, which makes my wife and kids happy and my university finance officer too."

Science assets like supercomputers, special telescopes and microscopes, satellites, colliders and other large research platforms come with large price tags to build and maintain, limiting the number that exist in the world. Today the systems for accessing and using research equipment are largely stuck in the dark ages and can hold up projects and lead to inefficient scheduling and use.

"We get requests from colleagues all over the world. We can't let just anyone use our equipment so we have an authorizing process, a scheduling process, a whole bunch of processes. It's a lot of work to manage our portfolio of equipment and it keeps us from doing our own research," said April Jones, Core Research Director at ASU. "SIRAS has made our life so much easier to manage our equipment and easier for researchers to use. We can control access management, users can schedule workloads and they run large projects virtually. SIRAS is a win for everyone." By making it easier for researchers worldwide to access science assets, SIRAS helps to democratize science and improve the cost-effectiveness of expensive instruments.

SIRAS combines three elements – a software defined network (SDN) that supports network performance optimization for remote access, operation and collaboration of science assets; software resident on science instruments to support scheduling, communicate requirements, and support instrument virtualization; and self-service provisioning of science assets and networks by researchers.

The SIRAS solution is open source and can be configured to work with a number of instruments. The initial SIRAS application suite includes a microscope at ASU, telescopes at UofA and NAU and an IOT sensor array at UNR. NASA is currently adapting the tool for use with their Earth science research satellites.

For more information, please visit SCN/Internet2 or read about the project at the ASU CIC website - [smartchallenges.asu.edu](https://smartchallenges.asu.edu). Researchers interested in learning more about SIRAS and using the software can download the source code, applications and operations manual on GitHub.