



# The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

## Final Copy of Case Study

**Status:**

Laureate

**Year:**

2013

**Organization Name:**

Institute of Information Science (IZUM)

**Organization URL:**

[http://home.izum.si/izum/o\\_IZUMu/about\\_IZUM.asp](http://home.izum.si/izum/o_IZUMu/about_IZUM.asp)

**Project Name:**

Institute of Information Science (IZUM) Gives Entire Slovenian Population Access to Public Library System

**Please select the category in which you are submitting your entry:**

Philanthropy

**Please provide an overview of the nominated project. Describe the problem it was intended to solve, the technology or approach used, how it was innovative and any technical or other challenges that had to be overcome for successful implementation and adoption. (In 300 words or less.)**

The Institute of Information Science (IZUM) is a public, not-for-profit organization founded by the Government of the Republic of Slovenia. IZUM provides library information service to more than 600 Slovenian libraries, allowing the entire country's population to have anytime access to the national bibliographic system, as well as resources for research, education and culture. Due to its database being available at all times to its nearly 3,000 librarians and more than 300,000 public users across the country, the organization's peak access times were beginning to reach an all-time high where libraries were facing several problems with the existing system's performance and reliability; availability was

inconsistent and users were frequently reporting problems with applications. Furthermore, the ever-growing base of new users coupled with the increasing amounts of data written to the system meant that IZUM was quickly running out of storage space. To overcome these issues, IZUM looked at upgrading its existing storage infrastructure with the primary goal of providing hundreds of thousands of Slovenian adults and children continued access to millions of titles in their libraries. To measure the project's success, the organization hoped to achieve stabilization and simplification of its system, 100 percent availability, increased storage capacity and data replication functionality, as well as increased productivity. Other important measurements were for the system to help achieve consolidation of all storage and virtualization of external storage.

**When was this project implemented or last updated? (Please specify month and year.) Has it incorporated new technologies and/or other innovations since its initial deployment? (In 300 words or less.)**

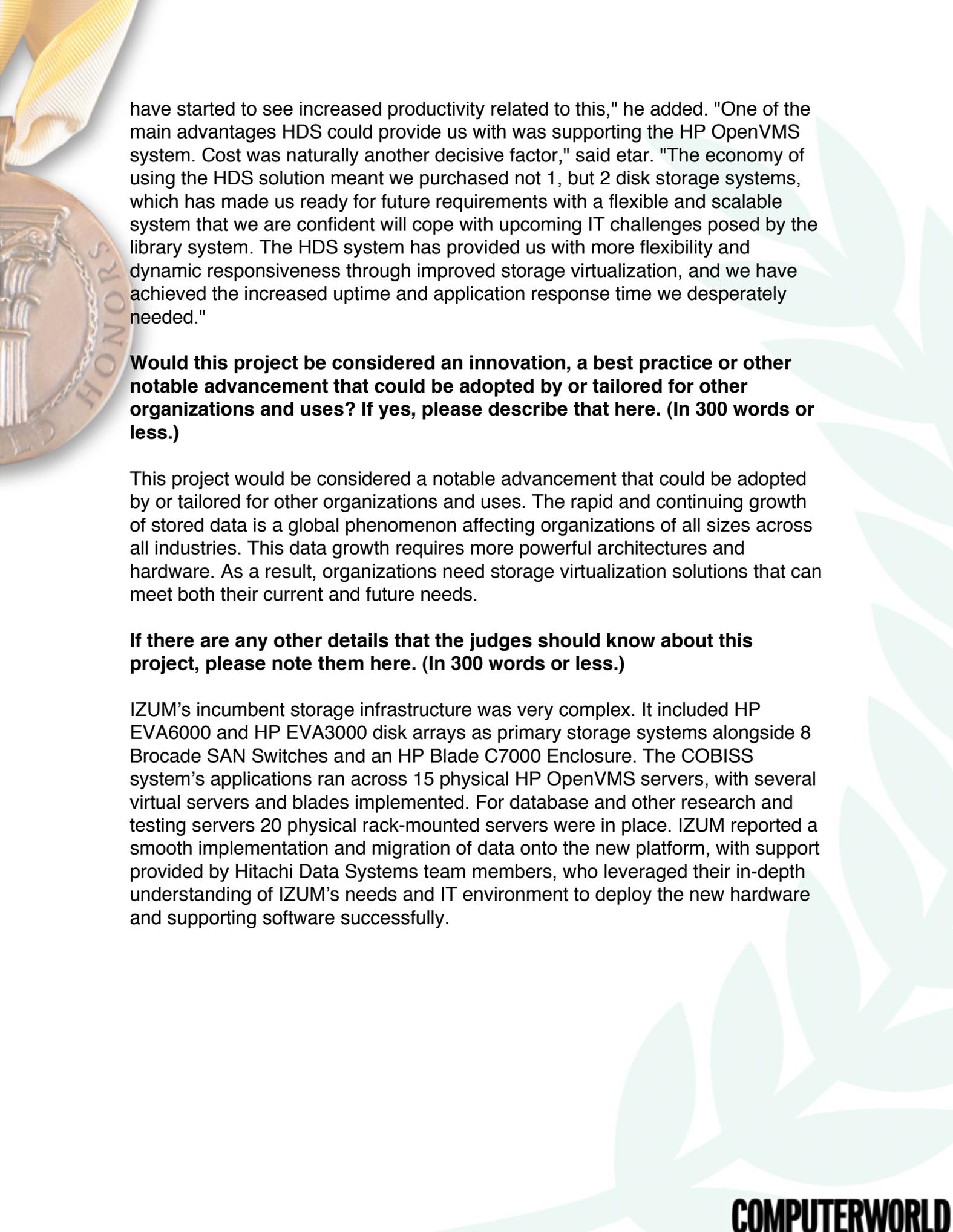
The project was completed in June 2010.

**Is implementation of the project complete? If no, please describe the project's phases and which phase the project is now in. (In 300 words or less.)**

Yes. The project is completed.

**Please provide at least one example of how the technology project has benefited a specific individual or organization. Feel free to include personal quotes from individuals who have directly benefited from the work. (In 300 words or less.)**

Because of the success of this project, IZUM has seen favorable results, including ensured 100 percent availability of its book database. Additionally, it has been able to achieve the uptime, reliability, and application response it needed in order to support hundreds of thousands of users accessing millions of titles in Slovenian libraries. Moreover, by implementing HDS virtualization technologies, IZUM has significantly simplified data management and migration tasks. Quotes: "Stability was our first concern. Our users access the system 24 hours a day, 7 days a week, so we need it to be a 100% available. We had encountered problems with our previous servers going down and needed to fix this," said systems administrator for IZUM's OpenVMS server and SAN environments, Domen etar. "The primary benefit of our new storage solution is the high availability of our applications and services," reported etar a few months after the installation. "The old system needed a lot of time and effort dedicated to maintenance as it had so many component parts with different systems from different vendors. We now have better IT core infrastructure and processes and



have started to see increased productivity related to this," he added. "One of the main advantages HDS could provide us with was supporting the HP OpenVMS system. Cost was naturally another decisive factor," said etar. "The economy of using the HDS solution meant we purchased not 1, but 2 disk storage systems, which has made us ready for future requirements with a flexible and scalable system that we are confident will cope with upcoming IT challenges posed by the library system. The HDS system has provided us with more flexibility and dynamic responsiveness through improved storage virtualization, and we have achieved the increased uptime and application response time we desperately needed."

**Would this project be considered an innovation, a best practice or other notable advancement that could be adopted by or tailored for other organizations and uses? If yes, please describe that here. (In 300 words or less.)**

This project would be considered a notable advancement that could be adopted by or tailored for other organizations and uses. The rapid and continuing growth of stored data is a global phenomenon affecting organizations of all sizes across all industries. This data growth requires more powerful architectures and hardware. As a result, organizations need storage virtualization solutions that can meet both their current and future needs.

**If there are any other details that the judges should know about this project, please note them here. (In 300 words or less.)**

IZUM's incumbent storage infrastructure was very complex. It included HP EVA6000 and HP EVA3000 disk arrays as primary storage systems alongside 8 Brocade SAN Switches and an HP Blade C7000 Enclosure. The COBISS system's applications ran across 15 physical HP OpenVMS servers, with several virtual servers and blades implemented. For database and other research and testing servers 20 physical rack-mounted servers were in place. IZUM reported a smooth implementation and migration of data onto the new platform, with support provided by Hitachi Data Systems team members, who leveraged their in-depth understanding of IZUM's needs and IT environment to deploy the new hardware and supporting software successfully.