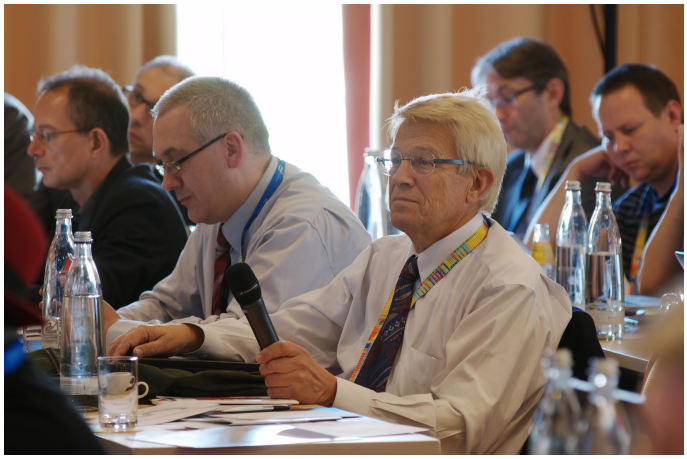
Journeying from data to knowledge at ISC Big Data '14

Last week, decision makers and technical experts from the world of IT met in Heidelberg, Germany, for the second ISC Big Data conference. The event focused on a wide range of big data applications and featured discussion of the latest developments in data-centric computing from both major industry players and academic researchers.



Sverre Jarp, CERN openlab technology advisor, is chair of ISC Big Data. Read more from Jarp in our interview article from last year: 'Big data, big opportunities - for science and for enterprise'. Image courtesy Tim Krieger.

Earlier this month, decision makers and technical experts from the world of IT met in Heidelberg, Germany, for the second ISC Big Data conference. The event focused on a wide range of big data applications and featured discussion of the latest developments in data-centric computing from both major industry players and academic researchers.

Fueling business with big data

One of the highlights of the event was a keynote speech given by Stefan Wrobel, director of the Fraunhofer Institute for Intelligent Analysis and Information Systems (IAIS) and professor of computer science at the University of Bonn, both in Germany. He began his talk by showing an infographic from PennyStocks lab that demonstrates the staggering rate at which data is being generated and transferred online. "Big data is

Posted on OCT 15 2014 8:35AM

Andrew Purcell
European editor

Share this story

Republish

Tags

BIG | big data | Business | economy | EUDAT | finance | Fraunhofer | Heidelberg | ISC Big Data | privacy

Security

Wrobel

not just big, it's also heterogeneous and complex," notes Wrobel. "Big data is definitely more than hype ... and linked open data is also a growing trend," he says. "In the coming five years, no business application will be designable without taking account of this."

Wrobel argues that companies do see the value in big data, but says that significant challenges still remain in terms of exploiting its full potential. He cites the results of a 2012 survey conducted by Fraunhofer IAIS in which 69% of companies reported that they are actively working to gain strategic advantages from big data. However, 78% also reported that that they need to improve human resources in order to fully tap the potential of the big data available to them. "Education and training needs are significant; this must not be underestimated," says Wrobel. "Big data is not an isolated IT issue; it must be linked end-to-end to the business value of the company. Departmental boundaries have to be broken and data silos have to be linked with each other and enriched with external data sources."

Always, always, always read the small print

Wrobel also spoke about data security in his keynote speech, arguing that this must not simply be an afterthought for companies, but rather something which is built into processes and solutions from the very beginning. Security and privacy was likewise a major topic in a talk given by Stefan Schiffer of the European Union Agency for

Network and Information Security (ENISA). ENISA seeks to aid the European Union, the member states, and the European business community in preventing, addressing, and responding to network and information security problems. Schiffer argues that the growing big data phenomenon is creating completely new privacy issues and echoed Wrobel's sentiments on security in calling for "privacy by design". "We need clear incentives for industry to use privacy-friendly technology," says Schiffer. "We also need to reduce the burden on users; we cannot expect users to read long privacy statements."

The difficulties faced by users constantly bombarded with long, confusing terms and conditions whenever signing up to use an online service - from purchasing an app to signing up for cloud storage - was a theme also highlighted by Simon Thompson of BT Research. He explained that these documents can often have very important implications for the privacy and security of users, but their length and the language in which they are frequently written can make things challenging. As an example of this, Thompson cited a recent experiment sponsored by security company F-Secure. The experiment, which was backed by European law enforcement agency Europol, involved a mobile hotspot being set up in central London, UK, using a Raspberry Pi computer and some other simple equipment. Users of this free hotspot were required to sign up to terms and conditions that included a so-called 'Herod clause', through which they agreed to give their first-born child over to F-Secure for the duration of eternity.

Despite the existence of this clause, six people still signed up to use the Wi-Fi (the company confirms that they won't be enforcing this clause).

Big data in finance and society

Other presentations at ISC Big Data focused on more conventional academic research projects. One highlight was a talk by Kurt Stockinger, associate professor of computer science at the Zurich University of Applied Sciences in Switzerland, about efforts to model the global economic system. Stockinger and his colleague Wolfgang Breyman argue that a lack of globally-agreed standards for modeling financial contracts means that accurate comparison of risk exposures between banks is almost impossible. Together, Breyman and Stockinger are working to identify potential weak points in today's global financial system and are investigating the big-data challenges that arise when designing large-scale massively parallel financial simulations. Read more about their exciting work in the coming weeks in *iSGTW*.

Domenico Talia, a professor of computer engineering at the University of Calabria in Italy, also spoke at the event. He discussed the role that cloud computing can play in providing effective support for addressing both the computational and data-storage needs of big-data mining and parallel analytics applications. In a recent interview, he told *iSGTW* that it's time for the public sector to invest in big data, so as to provide better services to citizens: "It's now time for the public sector to

invest in big-data collection and analysis," says Talia. "This could improve the quality of life of citizens and the efficiency of public administrations." He continues: "The use of cloud for big-data management and analysis represents a good investment for governments. In Europe, for example, big-data analysis should be used for social goods, such as disease prevention and control, public security, pollution prevention, and other public services." Read more in the feature article '*Digging up value with big-data mining*'.

Strategy and infrastructure

Wolfgang Gentzsch, co-founder of the UberCloud Experiment and chair of the ISC Cloud conference (read more about this in an upcoming feature article), also gave a presentation about the work of EUDAT, for which he serves as an advisor. EUDAT's vision is to enable European researchers and practitioners from any research discipline to preserve, find, access, and process data in a trusted environment. It seeks to achieve this by supporting a collaborative data infrastructure, which is conceived as a network of collaborating, cooperating centers. EUDAT has received funding under the European Commission's FP7 scheme and recently held its third annual conference, which you can read about in full in the article '*Building bridges for research data sharing*'. "EUDAT aims to foster interoperability between pan-European infrastructures and bridge national and European solutions," says Gentzsch, explaining the organization's goals for the end of this decade.

"EUDAT also aims to establish innovative international collaboration and consolidate the infrastructures for academia and industry," he adds.

Finally, the event wrapped up with a talk from Edward Curry and Nuria de Lama Sanchez about the Big Data Public Private Forum (BIG), which has also received funding under the FP7 scheme. BIG involves collaboration between organizations from both academia and industry. Together, these partners are working towards the definition and implementation of a clear strategy for tackling the data challenges related to research and innovation, while also boosting technology adoption and supporting European efforts towards successful implementation of 'the big data economy'. During her talk, De Lama Sanchez alluded to research from the International Data Corporation (IDC) showing that the big data market is currently growing six times faster than the traditional IT market. "We believe that the economy will be data-driven in the future," she says. "If Europe fails to react to this, we will not be able to compete."

Join the conversation

Contribute

Do you have story ideas or something to contribute? **Let us know!**

CATEGORIES

Advanced computing
Research networks
Big data
Tech trends
Community building

CONTACT

Science Node
Email:
editors@sciencenode.o
Website:
sciencenode.org