

News

August 2019

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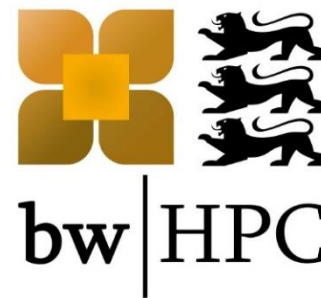
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Flashback: ISC Conference 2019



bwHPC Summary of a bustling Exhibition at ISC 2019

ISC High Performance, formerly known as ISC (the International Supercomputing Conference), is the world's oldest and Europe's foremost HPC conference.

bwHPC was present with a booth at Europe's largest HPC forum ISC High Performance 2019 in Frankfurt, Germany from 17 June to 19 June 2019.

Researchers, supporters and infrastructure providers share a wealth of knowledge via workshops, tutorials, keynotes, and presentations which focus wholly on industry topics, critical to the development of HPC.

This time it is valued by over 3,500 international attendees as a "must attend" HPC event.

The bwHPC booth team welcomed more than 130 ISC visitors and had interesting talks about bwHPC. A wide range of mini presentations completed the booth activities. bwHPC staff actively engage in broadening its national and international reach by forging formal collaborative relationships with a variety of internationally recognized centers. As always, being at ISC was a fantastic experience for bwHPC staff – old and new; first-time and returning.



Photo by Marion Moser/Ulm University

bwHPC has just booked in their booth for ISC2020 – see you at booth #B-1223.



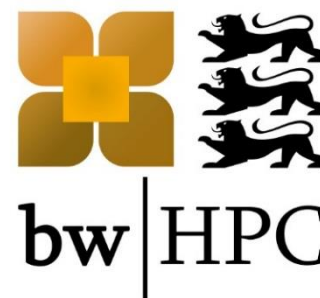
Written by Marion Moser/Ulm University

Current bwHPC Course Offers



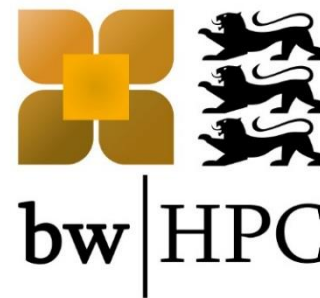
Level	Topic	Title	Begin	End	Location
Advanced course	Simulation	Introduction to Computational Fluid Dynamics	09.09. 2019	13.09. 2019	University Stuttgart hlrs.de/training/2019-09-09-cfd-s
Basic course	Introduction	Introductory Course: High-Performance Computing (HPC) in Baden-Württemberg	08.10. 2019	08.10. 2019	KIT Karlsruhe indico.scc.kit.edu..._course_2019-10-08
Advanced course	Introduction	Intermediate Course: High-Performance Computing (HPC) in Baden-Württemberg	09.10. 2019	09.10. 2019	KIT Karlsruhe indico.scc.kit.edu..._course_2019-10-09
Special course	Introduction	Advanced Course: High-Performance Computing (HPC) in Baden-Württemberg	10.10. 2019	10.10. 2019	KIT Karlsruhe indico.scc.kit.edu..._course_2019-10-10
Advanced course	Parallel programming	Parallel Programming Workshop (MPI, OpenMP and Advanced Topics)	14.10. 2019	18.10. 2019	Uni Stuttgart hlrs.de/training/2019-10-14-par

Current bwHPC Course Offers



Level	Topic	Title	Begin	End	Location
Advanced course	Pre- & Postprocessing	Scientific Visualization	24.10. 2019	25.05. 2019	University Stuttgart hlrs.de/training/2019-10-24-vis2
Advanced course	Programming	Advanced C++ with Focus on Software Engineering	26.11. 2019	29.11. 2019	University Stuttgart hlrs.de/training/2019-11-26-cpp3
Basic course	Introduction	Hands-On Workshop bwHPC	04.12. 2019	04.12. 2019	University Heidelberg urz.uni-heidelberg.de/de/handson-bwhpc
Advanced course	Programming	Fortran for Scientific Computing	09.12. 2019	13.12. 2019	University Stuttgart hlrs.de/training/2019-12-09-ftn2

Save the date: bwHPC Symposium 2019



6th bwHPC symposium

We invite you to participate in the upcoming 6th bwHPC symposium on Monday, September 30, 2019. The events focuses on presentations of the progress of the bwHPC initiative, the activities and measures integrating scientific communities in the bwHPC infrastructure, as well as scientific HPC projects and successes.

Deadline for abstracts: Wednesday, September 18, 2019

Deadline for registration: Wednesday, September 25, 2019



Registration

Registration for this event is currently open.

<https://indico.scc.kit.edu/event/524/registrations>



The call for abstracts is open

You can submit an abstract for reviewing.

<https://indico.scc.kit.edu/login/?next=%2Fevent%2F524%2Fabstracts%2F%23submit-abstract>



Starts Monday, September 30, 2019 2019 at 09:00 am

Ends Monday, September 30, 2019, 08:50 pm

Europe/Berlin



KIT Campus South

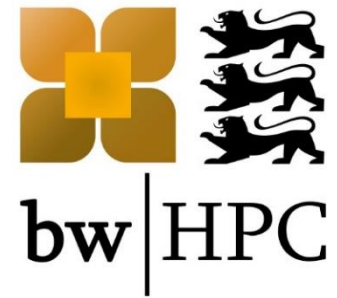
Building 30.10, NTI Lecture hall

76131, Karlsruher Institut für Technologie (KIT),

Engesserstrasse 5

For more information, visit: <https://indico.scc.kit.edu/event/524/>

bwNET100G+ SDN Workshop



Press release on the „bwNet100G+ SDN Workshop“

For the first time the bwNET100G+ project team of the Universities of Karlsruhe, Ulm, Tübingen and the so-called BelWü (stands for Baden-Württemberg's extended LAN and is the network of scientific institutions in Baden-Württemberg) organized a workshop on „Software-Defined Networking (SDN) using OpenFlow and P4 as examples“. The event took place on July 17, 2019 at the Institute for Telematics in Karlsruhe (KIT).



The aim of the workshop was to give the participants an overview of the different possibilities of software-defined networking and to reduce the corresponding hurdles in dealing with them.

A total of 15 participants from the data centers in Stuttgart, Karlsruhe, Tübingen, Ulm and Konstanz came together. For the first time, eight external data center employees were also represented to exchange information on the subject of SDN.

INFO: Software-Defined Networking is a network concept that decouples or separates hardware and software. This means that the control of the network is separate from the hardware that performs the actual data forwarding. The two central components of an SDN are the control plan and the data plan, which executes the statements of the control plan. These can include the rules for routing the data packets.



bwNET100G+ SDN Workshop



The day of the event was divided into two halves:

The aim of the morning was to convey the theoretical basics and to bring all participants up to a common level of knowledge.

The second part in the afternoon focused on the practice and offered a detailed hands-on to successfully implement the learned theory in the programming application. Thomas Lukaseder, who first discussed the basic principles and ideas of software-defined networking in his opening presentation "Introduction to SDN", introduced the topic. In a short Q&A session, the participants had the opportunity to ask questions that were still open.

This was followed by a joint lecture by Mark Schmidt, Frederik Hauser and Marco Häberle on "Data plane programming with P4". The general principles were explained and a number of application cases and areas were pointed out. P4 enables the network operator to adapt the behavior of network hardware on the data plane layer to the desired behavior with the help of a high-level programming language. This in turn results in a large number of areas of application, which were examined in detail during the workshop.

Goals & Benefits of SDN

In times of increasingly complex and extensive networks and their requirements, conventional network components, which are equipped with their own intelligence and usually work independently, are no longer able to meet these requirements.

The devices often use different operating systems or software versions, for example, which significantly increases the time and effort required for appropriate adjustments and the susceptibility to errors. SDN is moving away from the concept of distributed intelligence and the use of different operating systems.

In SDN, the intelligence of the network is practically located on a central instance; the configuration of individual devices or operating systems is therefore obsolete.

The use of SDN is likely to be of interest mainly to large providers and cloud operators, but smaller networks can also benefit from the separation of Control and Data Plane.

bwNET100G+ SDN Workshop



In the more practical part in the afternoon, the participants were able to develop flow-based SDN applications themselves with the help of the “SDN Cockpit” – an open source teaching and learning software for SDN developed by KIT – which was received with great interest. An “expert” was available to provide advice and assistance to the participants as required.

For further networking, there was a relaxed discussion round at the end of the event, during which the data center employees already gave a variety of positive feedback regarding the event and its smooth organization. The “bwNet100G+” team is therefore already looking forward to the next successful joint event and would like to thank all participants.



Photo by KIT

For more information, visit <https://www.bwnet100g.de>

Written by Marion Moser/Ulm University

What is SDS@hd?



What is SDS@hd?



SDS@hd

Scientific Data Storage

SDS@hd is a service that provides large-scale storage for scientific data and is meant to be used for “hot data” – data that is frequently accessed and worked with. The service can be used by researchers at most public higher education institutions in Baden-Württemberg. All data handled through SDS@hd is safely stored at the Heidelberg University Computing Centre (URZ). It is protected by state-of-the-art technologies, encryption as well as restrictive access and data policies.



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What is SDS@hd?



Why use SDS@hd?

- ✓ Tailored to the safety of research data

Research data is a precious resource and should be stored using a trustworthy service to keep it safe from prying eyes. Data handled via SDS@hd can be encrypted and is stored in an appropriate environment at the Heidelberg University Computing Centre (URZ) and can only be accessed through our secure network infrastructure.

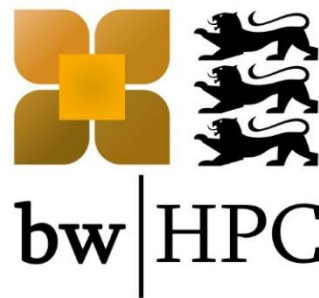
- ✓ Ideal for collaborations

SDS@hd is useful for researchers from different departments or institutions who want to work together. They can join a collaborative storage project and store their research data at a single spot. Using a web interface, the storage project owner can manage user groups and user roles and can thus determine who is allowed to access which parts of the data storage.

- ✓ Storing HPC and visualization data

The SDS@hd service is connected to a range of data-intensive computing resources also available through the Heidelberg University Computing Centre. These resources – such as the bwForCluster MLS&WISO or the bwVisu visualization service – can automatically obtain or save data to and from the SDS@hd storage infrastructure. General access to SDS@hd, e.g. from the bwUniCluster and other bwForClusters or from your notebook, is possible via the protocols SMB (2.x/3.x), NFSv4 (Kerberos) or SSHFS/SFTP. Users no longer need to find their own large-scale storage solutions.

What is SDS@hd?



Where is my data stored?

Your data will be stored on the ****Large Scale Data Facility (LSDF2)****, a state-of-the-art storage system located at the URZ's main server rooms in Heidelberg. The system is associated to a project between URZ and the Steinbuch Centre for Computing (SCC) at Karlsruhe Institute of Technology (KIT). The project aims to provide modern and valuable storage services for researchers.

The LSDF2 infrastructure was built as part of the bwDATA initiative that fosters collaboration in the field of data-intensive computing between higher education institutions in Baden-Württemberg. The system was funded by the Ministry of Science, Research and the Arts Baden-Württemberg (MWK) and the German Research Foundation (DFG).

How can I use the service?

To learn how to use SDS@hd, please visit the service website to get to know more about the technical and institutional requirements and the registration process: <https://sds-hd.urz.uni-heidelberg.de>

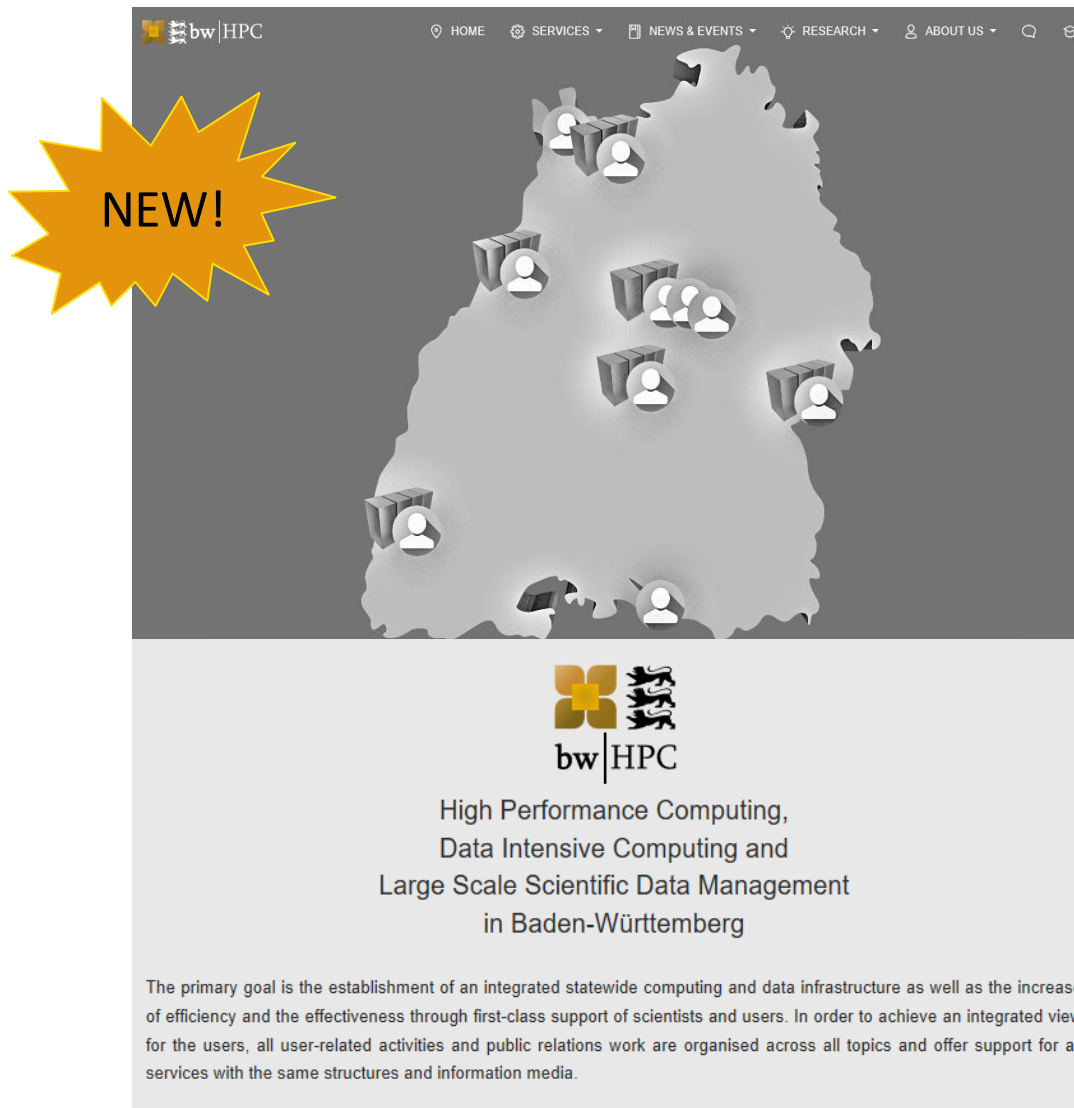
If you have any further questions about the registration process or SDS@hd in general, please do not hesitate to contact us: sds-hd-support@urz.uni-heidelberg.de

New! Website launch of bwHPC



Announcing the launch of our new website

We're excited to announce that our new and refreshed website is live. The updated site includes changes to navigation, with dropdown menus for both mobile and desktop versions. We've also improved the structure of our content, so you'll get more from a quick read. There's a whole host of smaller but impactful changes, all to make your experience of the bwHPC site that much better for you.



New! Website launch of bwHPC



When we started the project we had big ideas, from updating company messaging to helping users get from one place to the next without skipping our most important content.

Our solution was to split our site content into three places. We now have "SERVICES", "NEWS & EVENTS" and "RESEARCH". If you'd like to know more about what we do, then our service and news pages can help. In the "research" pages, we've collected resources for a set of more specific use cases. The wiki and other resources are still available, and only a single click away.



We have also created user guides and operational status ranging for our bwHPC Clusters, the Tier 2,1,0 Clusters and the Data Facilities from

OK, **CONSTRAINED**, **UNAVAILABLE** to **UNKNOWN**.

We hope you like the changes, and if you have any feedback, please let us know on office@bwhpc.de

Beautiful summer time

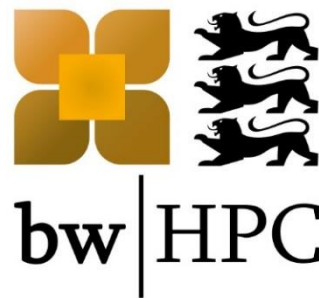


FOR TODAY
WE SEND
YOU OUR
SINCERE
REGARDS
FROM
BWHPC
AND WISH
YOU A
PLEASANT
AND
REFRESHING
SUMMER.



Photo by Marion Moser/Ulm University

Imprint



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Photo by Elvira Eberhardt/Ulm University

The editorial staff uses gender-appropriate language. In individual cases there may be deviations for reasons of easier legibility. At this point we expressly point out that both the male and the female spelling are meant for the corresponding contributions.

For further information please visit www.bwhpc.de

