Workshop: *„Memory-driven Computing for Big Data Analytics“*
May 30, 2018, Univ. of Applied Sciences (HTW) Berlin

The workshop considered an important topic of the future: In upcoming research projects, even individual data objects may exceed the petabyte-limit and current computing architectures have not been designed for their automated analysis. Experts of leading big data institutions determined the research needs in this area that is expected to become a matter of society as a whole in the medium-term.

The workshop considered the following questions:
- What are the requirements for a “memory-driven computing“?
- How can programming be done efficiently in architectures of this kind?
- Are there points of reference to technology developments, e.g. photonics?
- How could “The German Machine“ be developed?

The aim of the workshop was to estimate the research effort for answering the questions.

The results of the workshop are summarized in this memorandum:
http://bigdata.htw-berlin.de/18/Memorandum_BigDataAnalytics.pdf (in German).

Agenda

12:30 - 13:00 *Coffee + Snacks*
13:00 - 13:05 Welcome (Hermann Heßling, HTW Berlin)
13:05 - 13:25 Summary of the 1. Workshop (Volker Gülzow, DESY)
13:25 - 13:45 Data Pipelines at SKA (Hans-Rainer Klöckner, MPI for Radioastronomie Bonn)
13:45 - 14:05 Data Management Technologies for the Big (and Dark) Data Era (Marcus Paradies, DLR)
14:05 - 14:25 Schneller IO für Big-Data-Anwendungen und Maschinelles Lernen (René Jäckel, ScaDS)
14:25 - 14:45 LRZ: Big Data Strategy (Luigi Iapichino, LRZ)
14:45 - 15:05 Big Data at SAP and HPI (Thomas Bodner, SAP)
15:05 *Coffee*
15:30 - 16:00 The Machine (Knut Alpers, Hartmut Schultze, HPE)
16:00 - 17:00 All: Keypoints for Future Research Programme. Conclusion.
17:00 *End*

This event was a continuation of the workshop “Exascale Data Center“ which took place at the University of Applied Science (HTW) Berlin, Jan. 30, 2018. The following talks were given there:

- The CERN perspective on the EU Science Cloud, Volker Gülzow (DESY)
- The SKA data challenge, Hermann Heßling (HTW Berlin)
- Preliminary results from the AENEAS study, Hans-Reiner Klöckner (MPIfR)
- The LOFAR data challenge at Jülich (Oleg Tsigenov, FZ Jülich)
- The computing and memory infrastructure at the tier-1 center GridKa (Jan Erik Sundermann, KIT)
- HP's TFinity for exascale library (Knud Alpers, HPE)

The final discussion, which was moderated by Karl Mannheim (U Würzburg), demonstrated that the scientific challenges of the exascale computing need new forms of collaboration between science and industry.