TECHNISCHE UNIVERSITÄT DRESDEN

Dresden Database Systems Group

Vorstellung der Fachgebiete

Institut für Systemarchitektur (BAS4, VER4)

Institut für Systemarchitektur

Dresden Database Systems Group

Institut für Systemarchitektur

- Professur für Betriebssysteme (Härtig)
- Professur für Datenbanken (Lehner)
- Professur für Datenschutz und Datensicherheit (Strufe)
- Professur für Rechnernetze (Schill)
- Professur für Systems Engineering (Fetzer)

Prof. Hermann Härtig

Prof. Wolfgang Lehner

Prof. Thorsten Strufe

Prof. Alexander Schill

Prof. Christof Fetzer

https://tu-dresden.de/ing/informatik/sya/

Professur für Betriebssysteme

Dresden Database Systems Group

Themen

- Micro-kernel and virtualization technology, applied to…
- …systems security…
  - L4/Nizza architecture supporting legacy software (based on Linux) together with applications with very high security requirements
- ….and real-time system
  - DROPS architecture, small real-time micro-kernels and real-time managers for disks, communication and windowing systems

Lehrveranstaltungen

- Microkernel-Based Operating Systems 0/0/2 (WS, Prof. Härtig, Dr. Weinhold) → Englisch
- Real-time Systems 2/1/0 (WS, Prof. Härtig, Dr.-Ing. Roitzsch) → Englisch
- Distributed Operating Systems 2/1/0 (SS, Prof. Härtig) → Englisch
- Microkernel Construction 2/0/0 (SS, Prof. Härtig, Dr. Weinhold) → Englisch
- Schedulingtheorie 2/0/0 (SS, Prof. Härtig, Dr. Hamann)

Professur für Datenbanken

Dresden Database Systems Group

Themen

- Moderne DB-Architektur
  - GPU-Accelaration, NUMA-aware In-Memory Storages, Energieeffiziente DBMS, HW/SW-database-codesign
- Lightweight Data Compression
- Datenanalyse / Data Minig
  - Clustering, Forecasting (Renewable Energy), Datenimputation
- Information Extraction
  - DeExcelarator, Dresden Web Table Corpus
- Entity Augmentation
- Database Evolution
- Graphdatenbanken

Lehrveranstaltungen

- Architektur von Datenbanksystemen I 2/2/0 (WS, Prof. Lehner, Dr. Habich)
- Architektur von Datenbanksystemen II 2/2/0 (SS, Prof. Lehner, Dr. Habich)
- Information Retrieval 2/2/0 (WS, Dr. Thiele)
- Big Data Platforms 2/2/0 (SS, Dr. Thiele)
- Datenintegration und –analyse (SS, Dr. Hahmann)

Professur für Datenschutz und Datensicherheit

Dresden Database Systems Group

Themen

- Privacy Enhancing Technologies
  - Darknets (Freenet, I2P), Inference attacks, Network-layer anonymization
- Network security
  - HoneyPots and intrusion detection, Physical Layer Security, Secure Network Coding
- Datenanalyse
  - Analysis of social media usage, Intentions recognition, Graph-based analysis of dynamic systems (Intrusion detection, user behavior) Multimedia forensics
- System Security
  - Secure implementation of instant messengers, System- and protocol vulnerability analysis of SCADA systems

Lehrveranstaltungen

- Security and Cryptography I 2/2/0 (WS, Prof. Strufe, Dr. Köpsell)
- Systemsicherheits-Labor 2/2/0 (WS und SS, Prof. Strufe, Dr. Köpsell)
- Mining Facebook 2/2/0 (WS, Prof. Strufe)
- Kanalkodierung 2/2/0 (WS, Dr. Schönfeld)
- Resilient Networking 2/2/0 (SS, Prof. Strufe)
- Security and Cryptography II (SS, Prof. Strufe, Dr. Köpsell)

Professur für Rechnernetze

Dresden Database Systems Group

Themen

- Delay-tolerant Networking
  - DTN, Interplanetary Internet, Ring Road
- Energy Lab
  - Diffusion models for wireless networks, Energy-efficient networks and protocols
- Pervasive Computing and Collaboration
  - Context-Awareness and Adaptation, Location-based Services, Mobile and Ubiquitous Computing
- Scalable Internet Services
  - Auto-Scaling, Emulation, IoT
- Service and Cloud Computing
- Technology-enhanced Learning

Lehrveranstaltungen

- Application Development for Mobile and Ubiquitous Computing 2/2/0 (WS, Dr. Springer / Dr. Braun)
- Distributed Systems 2/2/0 (WS, Prof. Schill, Dr. Springer, Dr. Braun)
- iOS-Programmierung 2/0/0 (WS, Prof. Schill, Dr. Springer)
- Mobile Communication and Mobile Computing 2/0/0 (WS, Prof. Schill, Dr. Springer, Dr. Dargie)
- Prediction and Estimation Techniques 2/2/0 (WS, PD Dr. Dargie)

Professur für Rechnernetze (2)

Dresden Database Systems Group

Themen

- Delay-tolerant Networking
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- Energy Lab
  - Diffusion models for wireless networks, Energy-efficient networks and protocols
- Pervasive Computing and Collaboration
  - Context-Awareness and Adaptation, Location-based Services, Mobile and Ubiquitous Computing
- Scalable Internet Services
  - Auto-Scaling, Emulation, IoT
- Service and Cloud Computing
- Technology-enhanced Learning

Lehrveranstaltungen (Fortsetzung)

- Rechnernetzpraxis 2/2/0 (WS, Prof. Schill, Dr. Feldmann)
- Service and Cloud Computing 2/2/0 (WS, Dr. Springer, Dr. Braun)
- Internet and Web Applications 2/2/0 (SS, Prof. Schill)
- Wireless Sensor Networks 2/2/0 (SS, Prof. Schill, Dr. Dargie)

Professur für System Engineering

Dresden Database Systems Group

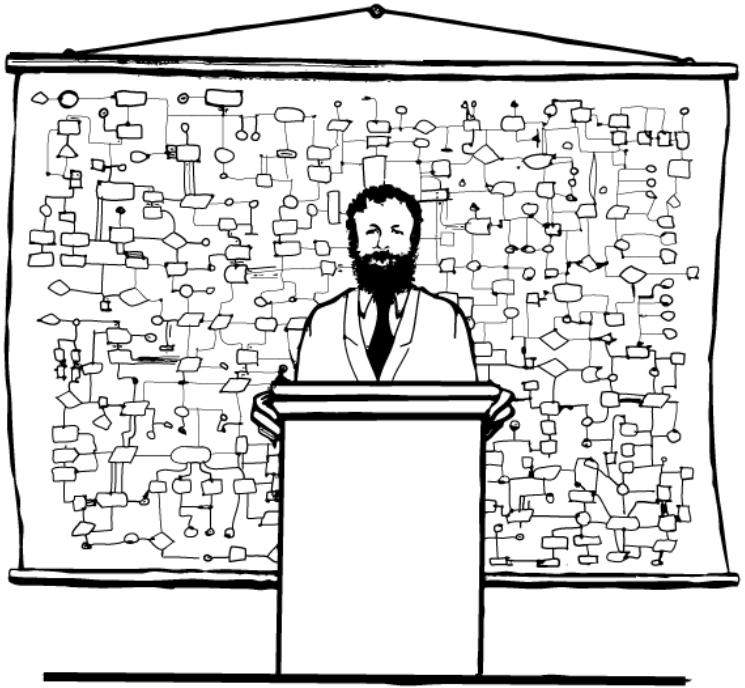
Themen

- Arithmetic codes to recognize erroneous program executions
- Data-as-a-Service, atop an innovative infrastructure based on an elastic collection of geographically distributed micro-clouds
- Cloud security (Intel SGX)
- Event Stream Processing Systems
  - Software Fault Tolerance, Elasticity
- Transactional memory
  - Concurrency control, failure isolations

Lehrveranstaltungen

- Principles of Dependable Systems 2/2/0 (WS, Prof. Fetzer)
- Systems Engineering I 2/2/0 (WS, Prof. Fetzer)
- Systems Engineering II 2/2/0 (WS, Prof. Fetzer)
- Foundations of Concurrent and Distributed Systems 4/0/0 (SS, Prof. Fetzer)
- Software Fault Tolerance 2/2/0 (SS, Prof. Fetzer)

System Architecture



"Now that you have an overview of the system, we're ready for a little more detail"