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„The essence of truth lies in its resistance to being ignored.“  
Charles S. Peirce  
philosopher and logician

„75% of e-business projects fail.“  
analyst firm Gartner

## Formulars

„word =  $\frac{\text{picture}}{1000}$  “

„GPS =  $\frac{\text{We'll find it}}{\text{Honey, ask for directions}}$ “

„office worker =  
ants - 4 legs - 2 feelers“

„modernart = i could do that  
+ yeah, but you didn't “  
morenewmath.com

## ICSY's ToMaTo goes Open-Source

ToMaTo, the topology-centric testbed software that has been developed in the context of the German-Lab project has been released as open-source.

The Topology Management Tool (ToMaTo) is a networking testbed software giving researchers the possibility to design and use virtual networking topologies consisting of devices and connectors. Devices are networking components like computers, connectors are networking components that transport and manipulate networking data like switches or routers. Researchers can run their experiment software on the devices like on virtual machines and can connect them via hubs, switches, routers or via the Internet.

A graphical editor allows to create topologies in seconds, so researchers can focus on the experiment and not on how to set it up. To build huge topologies the built-in topology creator can be used. The topology creator allows researchers to create star, ring, or full mesh topologies consisting of large numbers of devices. The devices are automatically connected, configured, and arranged to form the selected topology. ToMaTo helps researchers to configure

their topologies by automatically configuring network interfaces, so that all devices can communicate. Users are free to adapt this setup to their needs.

ToMaTo utilizes Proxmox virtualization technology (OpenVZ and KVM), Tinc VPN and Dummynet link emulation to organize virtual machines in virtual topologies.

ToMaTo has been developed in the context of the German-Lab project. This fall, ICSY released ToMaTo as open source. The source code has been licensed under the AGPL license and is available on the **Github** project page. The ToMaTo project is now open for external users and contributors. A first collaboration with the US project **Seattle** resulted in a new feature that allows users to process network traffic with lightweight python-based scripts.

Homepage:  
<http://dswd.github.com/ToMaTo>

(Text: Dennis Schwerdel)

## Bachelor/Master Project in Cooperation with the Software AG finished with enormous Success

Jürgen Powik, director of the University Relations Program of the Software AG, commends the students of Kaiserslautern for their strong commitment to the project and its great outcome.



This summer term, ICSY offered within the Service-oriented Computing Project module an industry-related assignment in cooperation with Software AG. Software AG is one of the leading experts in Business Process Excellence and SOA-based integration solutions. The company offers a wide variety of professional tools supporting the migration to a service-oriented architecture and its management.

(SOA), Business Process Management (BPM), Databases and Application Modernization. To do so, Software AG offers their products for free, bundles it with other useful services and material, and suggests using the whole package in a pre-defined, real-life scenario, delivered with training material and sample solutions.

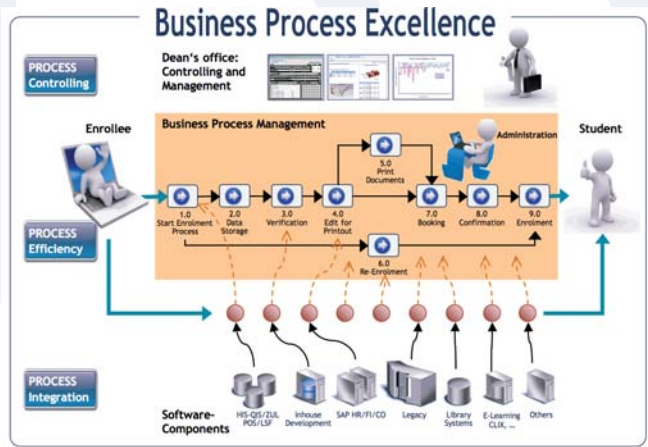
Relations department Jürgen Powik. Mr. Powik and his team were excited by the achievements of our project team and are looking forward to future collaborations within the Campus Connect cases study.

### About Software AG

Software AG is the global leader in Business Process Excellence. Our 40 years of innovation include the invention of the first high-performance transactional database, Adabas;

Within the "Campus Connect" scenario the project team of six students got the chance to apply these tools to modernize and expand the functionalities of available outdated systems and create a new web based campus management system. The implementation of a service-based exam registration office application and an enrolment office application addressed problems known to the students from their everyday life on the campus and offered them a lot of space for creativity by the identification of problems and solutions. Within the team, students assumed typical roles of an IT project, which helped the students to learn a lot about teamwork and project management skills.

The final presentation of the project result has taken place in the Software AG headquarters



(C) Software AG

The main ambition of Software AG is to win students for education in the areas of Service Oriented Architecture

in Darmstadt. After a successful demonstration of the newly developed SOA-based campus management system, the project participants were rewarded with a certificate of completion from the Director of University

the first business process analysis platform, ARIS; and the first B2B server and SOA-based integration platform, webMethods.

(Text: Aneta Kabzeva)

# NGI 2011 and Euro-NF Plenary Meeting 2011

ICSY hosted both the Next Generation Internet (NGI) conference and the plenary meeting of the network of excellence Euro-NF.



Some members of ICSY (from left to right):  
Rahamatullah Khondoker, Bernd Reuther, Paul Müller, Daniel Günther, Tino Fleuren, Joachim Götze

ICSY organized the 7th Euro-NF Conference on Next Generation Internet (NGI 2011) from 27 to 29 June. The conference was funded substantially by the network of excellence Euro-NF. The convention center at the famous Betzenberg soccer stadium was chosen as the venue. Betzenberg offers plenty of conference rooms and a restaurant preparing good food for the conference. Memorable feature: conference participants got a chance to glance at the “holy turf” of the Kaiserslautern football club (1. FCK).

The NGI conference covered a wide area of topics in the area of “Future Network” research, according to the topic areas of the Euro-NF. On each day, top-class keynote speakers held inspiring presentations: Torsten Braun (University of Bern), Anja Feldmann (T-Labs), and Peter

Steenkiste (Carnegie Mellon University).

After the presentations, on the first evening, conference participants joined a relaxing social event at the Kaiserslautern horticultural show (Gartenschau) with its impressive dinosaur exhibition. While drinking champagne, the

conference participants enjoyed a live performance of a Japanese drum group, followed by a buffet at the restaurant. On the second evening of the conference, a tour guide showed the stadium of the 1. FCK.

Immediately after the NGI conference, the annual Euro-NF plenary meeting was held at the same venue. This was advantageous, because many participants of the NGI conference also wanted to join the plenary meeting. Amongst fruitful discussions, the participants also learned about the activities and outcomes of several special joint research projects (SJRP).

See also:  
<http://www.icsy.de/conferences/ngi2011/index.shtml>

<http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=5977166>

(Text: Bernd Reuther)



## Milestones in the History of Computer Science: 30 years of IBM PC and 15 years of ICSY

We celebrate two anniversaries: thirty years ago, IBM introduces a computer called 5150, which will coin the phrase "IBM-compatible PC". Fifteen years ago, ICSY is founded.

### Anniversary 1:

1980. IBM representatives schedule a meeting with Microsoft's Bill Gates: IBM produces its own personal computer and plans to equip it with a brand-new operating system. IBM starts a secret project called "Project Chess" and named the new computer "Acorn". William C. Lowe and his team design and construct the "Acorn".

1981. IBM releases "Acorn" under the name IBM PC. PC is the abbreviation for "personal computer", which becomes a popular term.



Original IBM PC (Source: IBM)

### Anniversary 2:

1995. Paul Müller accepts an offer from the University of Kaiserslautern on a full professor position in the department of computer science in conjunction with heading the university's central computing department.

1996. Bernd Reuther becomes the first research assistant at ICSY. He has no office; he sits behind a makeshift desk in the room for Hiwis.

*(Text: Tino Fleuren)*

## ICSY Alumni

ICSY wishes to stay in contact with former colleagues, students, and student researchers in order to build a strong alumni network.

Alumni receive the ICSY report in order to get a regular update of ICSY's activities.

We report about selected highlights of the past months, present current research topics, and inform former ICSY members about news in research and lecture.

ICSY hopes you enjoy reading the report and would like to stay in touch with ICSY.

If you have any questions or would like to give feedback about the ICSY report please send an email to [alumni@icsy.de](mailto:alumni@icsy.de)

Please inform other former colleagues and students about ICSY Alumni.

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