



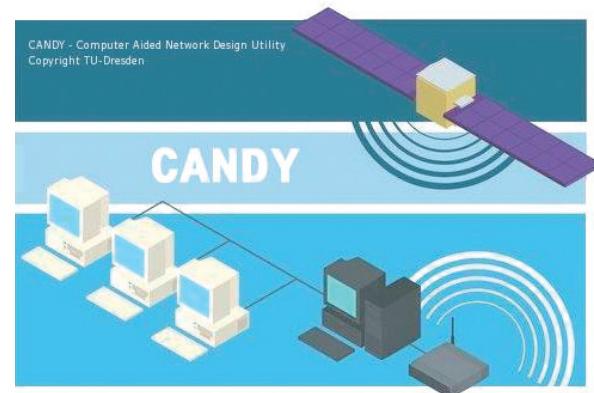
CANDY - COMPUTER AIDED NETWORK DESIGN UTILITY

Motivation

Capacity and quality are essential characteristics of a network and simultaneously its important competition factors. Therefore accurate planning is the precondition to get a decisive advantage in the increasing pressure of competition. In view of the complexity of networks this task can only be solved by using of efficient software tools.

Aims

The engineers have to evaluate, optimize and verify large-scaled objectives characterized by complex coherences. In order of creation of a suitable support, the CANDY project has been started at the Dresden University of Technology. The CANDY Framework represents a uniform platform; each tool implements certain design task. The network description language NDML is an important integration component. CANDY means the optimized design for: Ethernet, WLAN, WiMAX.



Features

The project distinguishing features are:

- combined networks (802.3, 802.11, 802.16) design supporting
- integrated tools interoperability, loose coupling, clear interfaces
- integrated design workflow management
- unified design data description via a XML-based language NDML.

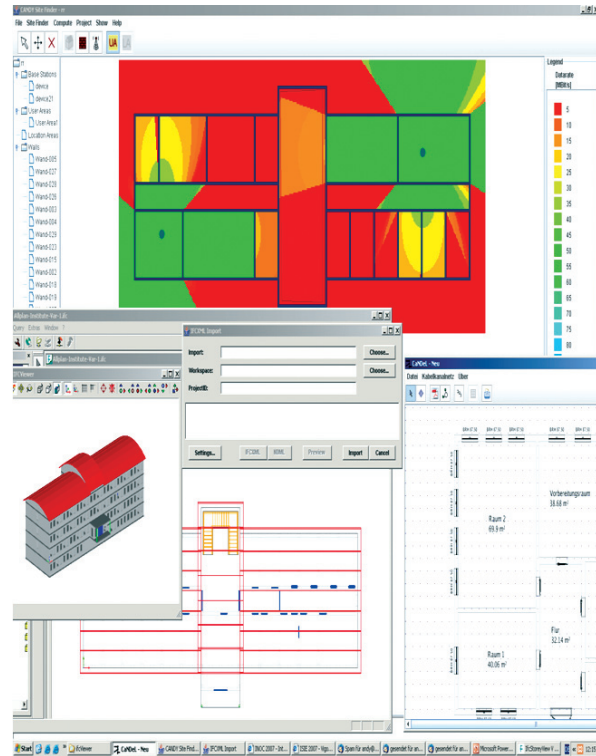
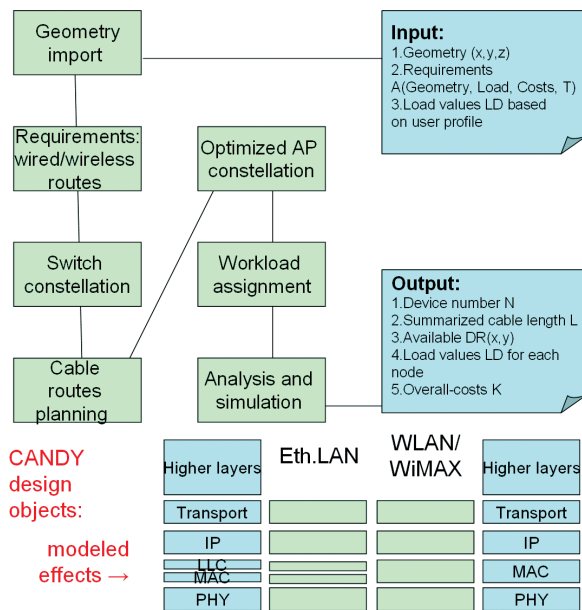
Highlights and issues

Some important project highlights to memorize:

- CAD, CAE
- XML, IFCXML, NDML
- structured cabling
- wireless networks.

The office communication as well as building automation networks

(LON) can be modeled within CANDY:

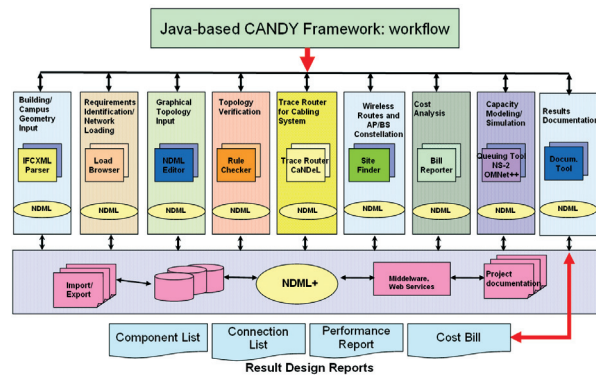


Routines and workflow

A typical CANDY deployment scenario is shown there (the right fig.). The process description and gained characteristic parameters are represented below:

1. Converting IFCXML to NDML
2. Optimized device constellation (switches, routers, AP, BS)
3. Optimized cabling tracing
4. Output of evaluation results for:
 - Device number N
 - Summarized cable length L
 - Load and available DR(x,y)
 - Overall-costs K
5. Further capacity analysis and optimization aimed to overallcost minimization under specified constraints

6. Results documenting within Component, Connection, Performance and Cost Reports and Log file via NDML (see the CANDY integrated workflow below):



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http://www.rn.inf.tu-dresden.de/scripts_Isrn/Lehre/candy/index.html