

# Center for Energy and innovative Technologies

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## Demonstration of Operational DSS of EnRiMa

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**To be presented at the e-nova international congress 2013, University of Applied Science Campus Pinkafeld, Nov. 14-15 2013, Pinkafeld, Austria**

<http://www.cet.or.at/>

Version: November 12 2013

CET-number: P-2013-3

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 **EnRiMa**

Energy Efficiency and Risk  
Management in Public Buildings

# Demonstration of Operational DSS of EnRiMa

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14 November 2013



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der Zukunft



# Overview

- test site 'Campus Pinkafeld'
- information technology integration at 'Campus Pinkafeld'
- demonstration

# Test site 'Campus Pinkafeld'

- main interest: reduce energy costs by having the same or even better comfort conditions within the building
- achievement: EnRiMa's operational DSS results can be presented via Web-Interface manually or in automated fashion

# IT integration at Pinkafeld

- Siemens DESIGO building management system (BMS)
- BMS Server cannot be accessed from outside the Campus
- BMS Server cannot directly access Internet → “proxy” computer required at Campus to get/store information from/at Web-EnRiMa server
- “proxy” computer facilitates communication with BMS via scripted http-communication (emulation of Siemens WEB Insight)

# IT Integration at Pinkafeld

The screenshot displays the EnRiMa web application interface. At the top left is the EnRiMa logo with the tagline "Energy Efficiency and Risk Management in Public Buildings". The top right shows user information: "User: User1" and "Role: User", with a "Log out" link. Below this is a navigation bar with tabs for "Building", "Energy Prices & Weather", "Optimisation", and "Results", and a "Help" button. The main content area is split into two columns. The left column, titled "Building", contains a tree view with categories: "Description", "Basic Properties", "BMS Details" (expanded), "Demand", and "Technology". Under "BMS Details", "BMS Access" is selected. The right column, titled "BMS Access Details", contains several form fields: "BMS web server address" (http://172.16.120.10), "Communication timeout (sec.)" (120), "BMS web server URL" (/webinsight/object-editor.as), "BMS web server parameter" (ro=0&id=), "BMS web server user" (berger.eum11admin), and "BMS web server password" (masked with dots). "Save" and "Cancel" buttons are located at the top right of this section. A footer bar at the bottom reads "Improving the Energy Efficiency in Public Buildings".

(1) enter data and run optimization

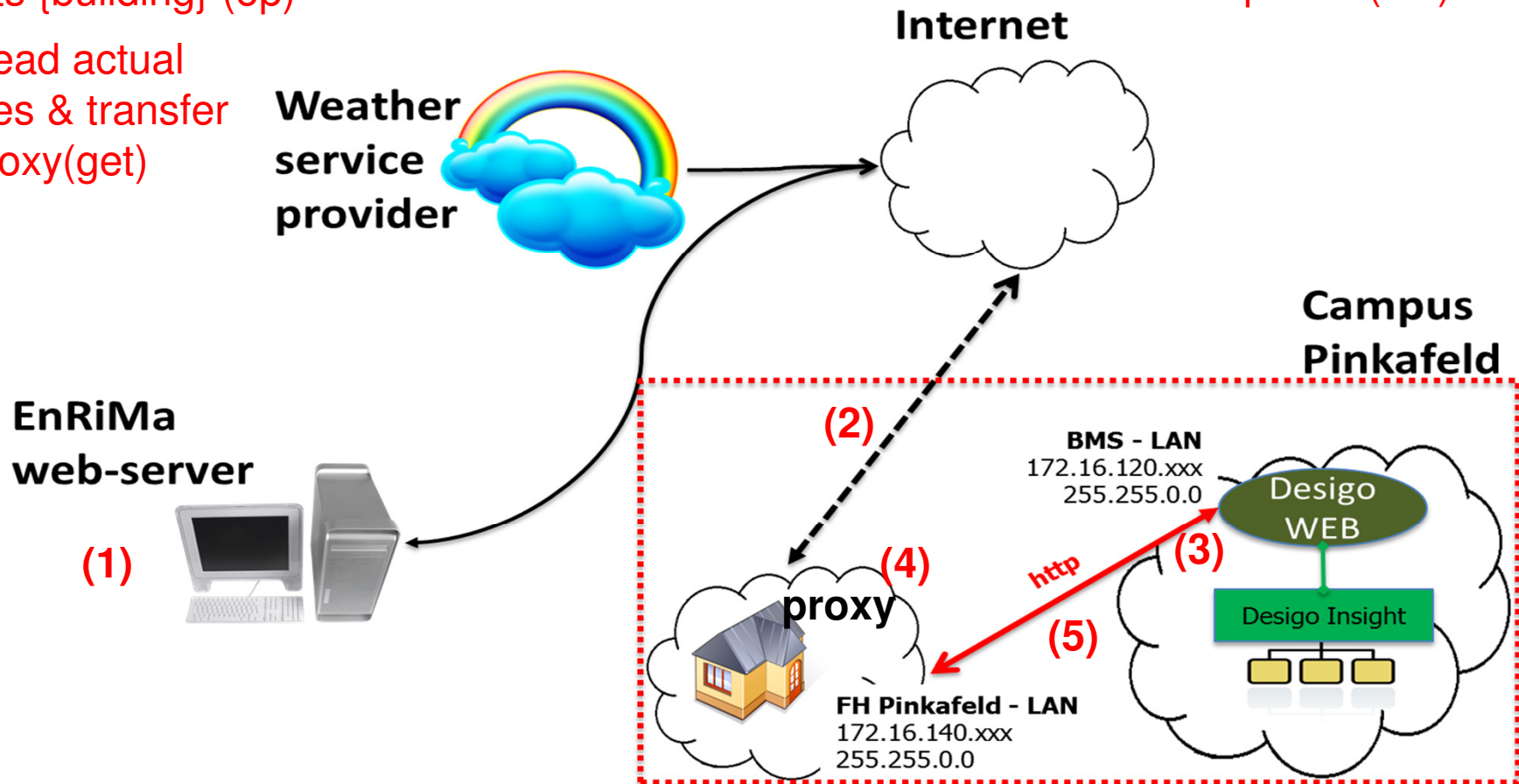
(2) download set-points {building} (op)

(3) read actual values & transfer to proxy (get)

(4) calc set-points {rooms}

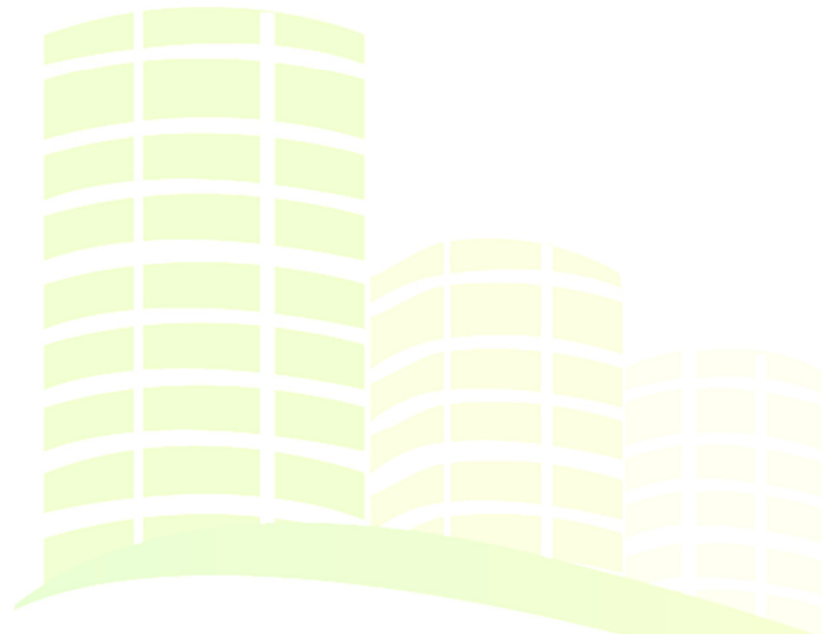
(5) transfer set-points (set)

# IT Integration at Pinkafeld



# IT Integration at Pinkafeld

## DEMO I

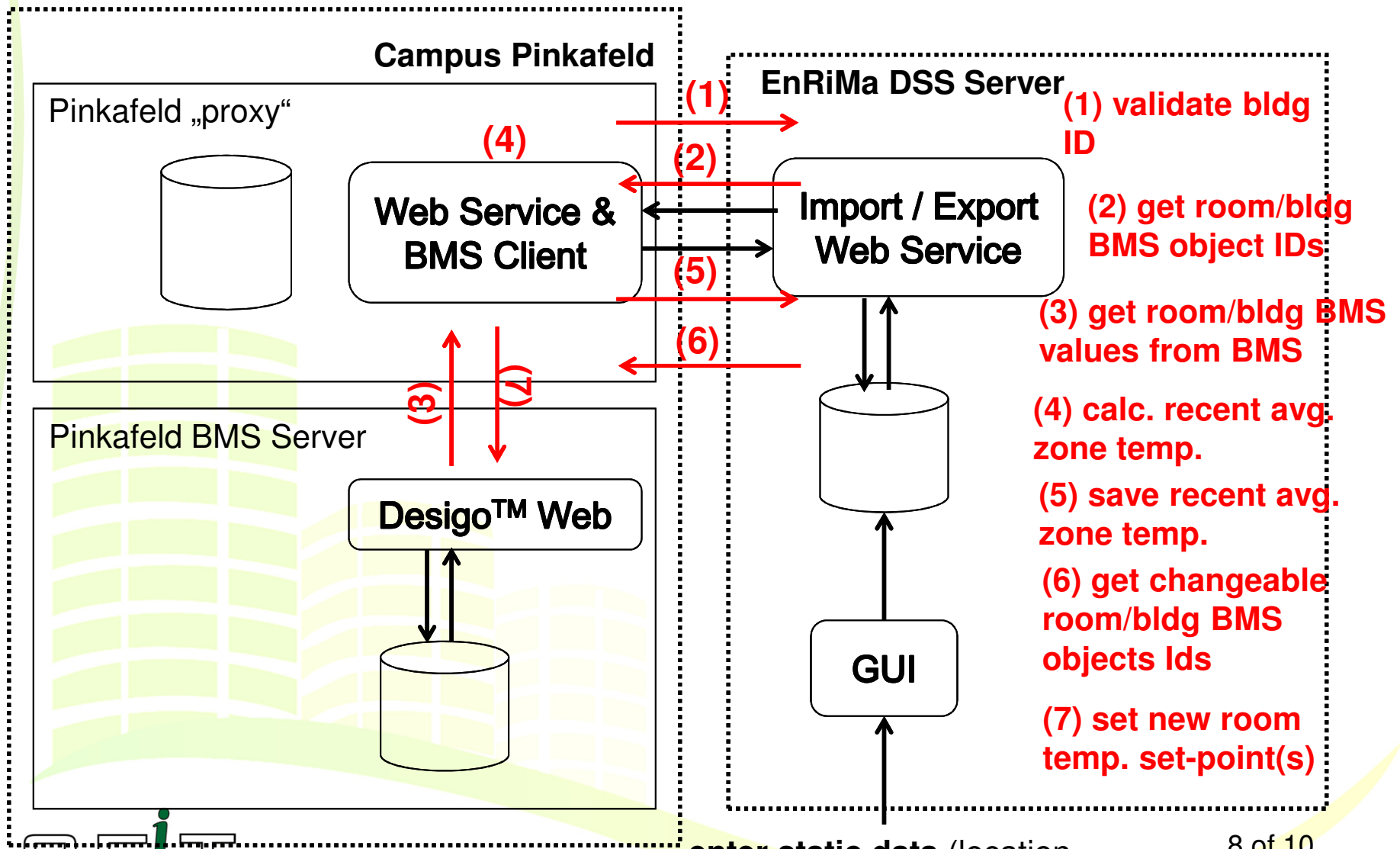




# DEMO @ Campus Pinkafeld

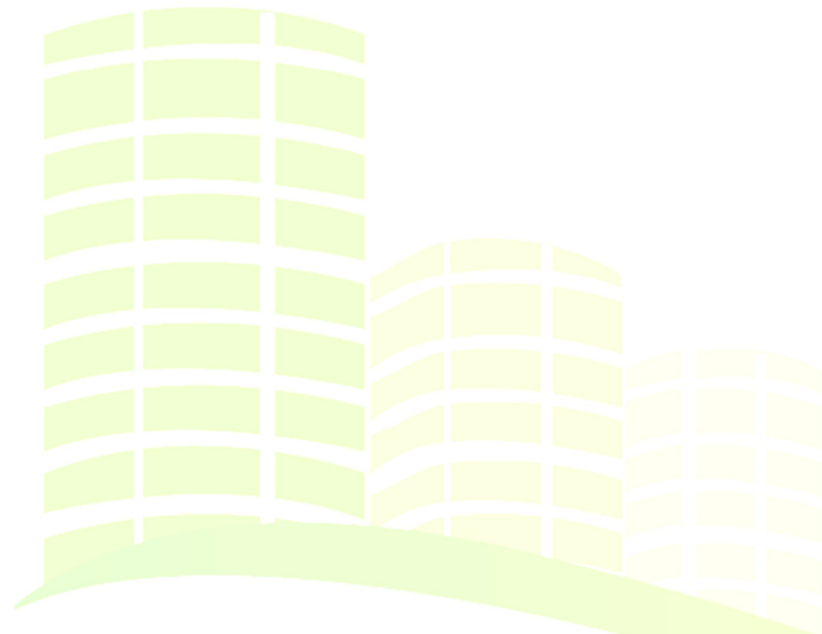
task		fully automated?	manual?
SU	weather import	X	X
GUI	adopt external air temp.	X	X
GUI	start optimisation	X	X
Pinkafeld	get optimisation settings	X	X
Pinkafeld	adopt temperature level	X	X

# Detailed IT Integration at Pinkafeld



# IT Integration at Pinkafeld

## DEMO II



# DEMO @ Campus Pinkafeld

- access SU Server
  - show import of Wunderground.com data (for Pinkafeld & ENERGYbase)
- access Pinkafeld Computer
  - show Web Insight (navigate to the room where we read the temperature by the command line tool)
  - use command line tool to read the recent temperature values for a given room
- access EnRiMa GUI (from Pinkafeld Computer)
  - show GUI for operational optimization (including the automation settings) (briefly)
  - start the operational optimization (talk about the GUI)

# DEMO @ Campus Pinkafeld

- access Pinkafeld Computer
  - show download of operational optimization results (stored in CSV file)
    - wsEnRiMa.jar => CSV file
    - bmsEnRiMa.jar => BMS communication (-get)
  - write (set) temperature set points for given rooms
    - bmsEnRiMa.jar => BMS communication (-set)
    - if desired full automatic EnRiMa integration at Campus Pinkafeld is possible
    - full automatic operational EnRiMa requires DESIGO™ to operate in manual mode for the rooms where an automatic temperature setting is allowed



**Thank you!**

Questions and comments are very  
welcome.