



The open source solution for IT Asset Management: CMDB, workflow, interoperability  
[www.cmdbuild.org](http://www.cmdbuild.org)

**Tecnoteca Srl**

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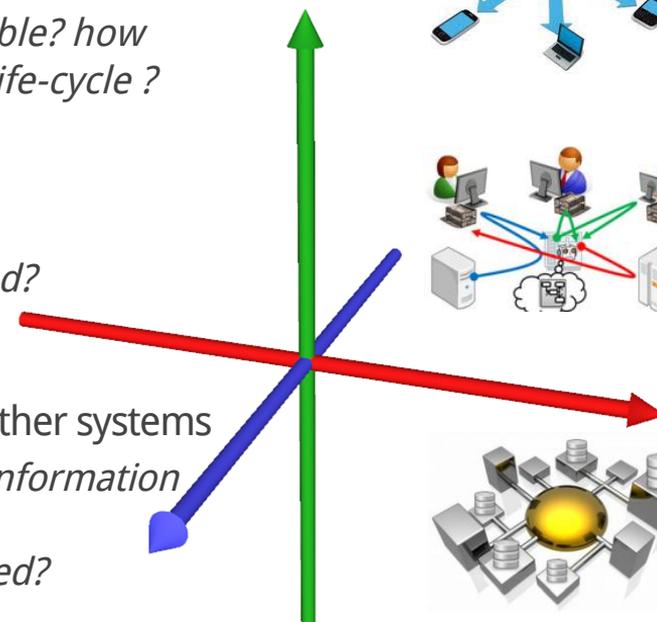
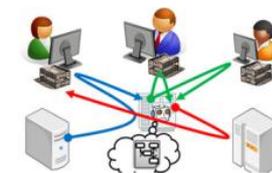
# The CMDBuild project

- **CMDBuild** was **born in 2005**, initially as a project for the Municipality of Udine
- **CMDBuild** was projected and developed by **Tecnoteca Srl**, that is now the official maintainer
- **CMDBuild** is managed by a **team of specialized IT people** which ensure the continued growth of the project
- **CMDBuild** "core" code includes **thirty man-years** of work



# What is CMDBuild

- CMDBuild** answers questions about asset **configurations, relations** and **history**  
*Who uses an asset? where? what is it like? who is responsible? how does it impact on other assets? what has happened in its life-cycle ?*
- CMDBuild** monitors the **workflows**  
*Who is responsible for a user request? who authorized it? are SLA met? which change operations have to be performed? which activities can be scheduled and automated?*
- CMDBuild** manages the **information interchange** with other systems  
*Are there any changes to the employees' data? does asset information coincide with those data derived by the inventory tools? which applications have to be warned when a ticket is opened?*



# License and support services

- **CMDBuild** is released under **AGPL open source license** (Affero GPL): anyone has the possibility to freely download, install and use it
- Tecnoteca supplies **certified support services** on **CMDBuild** with the assistance of **skilled technicians**, who work remotely or at the Customer's offices



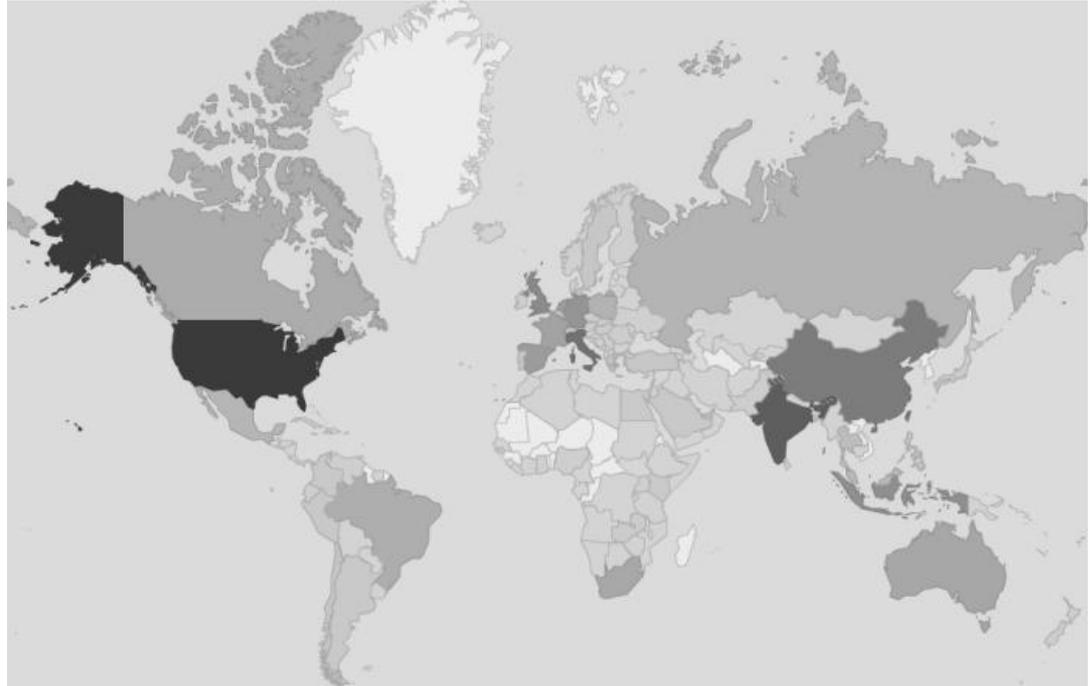
# Who needs CMDBuild

**CMDBuild** is useful for anyone who has to keep efficient complex IT infrastructures which include a large number of hardware, software and services:

- Central and local **Public Administrations**
- **Banks and Insurance companies**
- **Hospitals** and public and private **healthcare systems**
- **Universities and research centers**
- **Services companies**
- **Industrial companies**

# Its popularity

- About **30,000 downloads / year** (certified through the site **SourceForge**)
- Localized in **19 languages**: Italian, English, German, Spanish, French, Dutch, Russian, Chinese, Persian (Farsi), Arabic, Japanese, Serbian, Croatian, European Portuguese, Brazilian Portuguese, Vietnamese, Hungarian, Czech, Greek

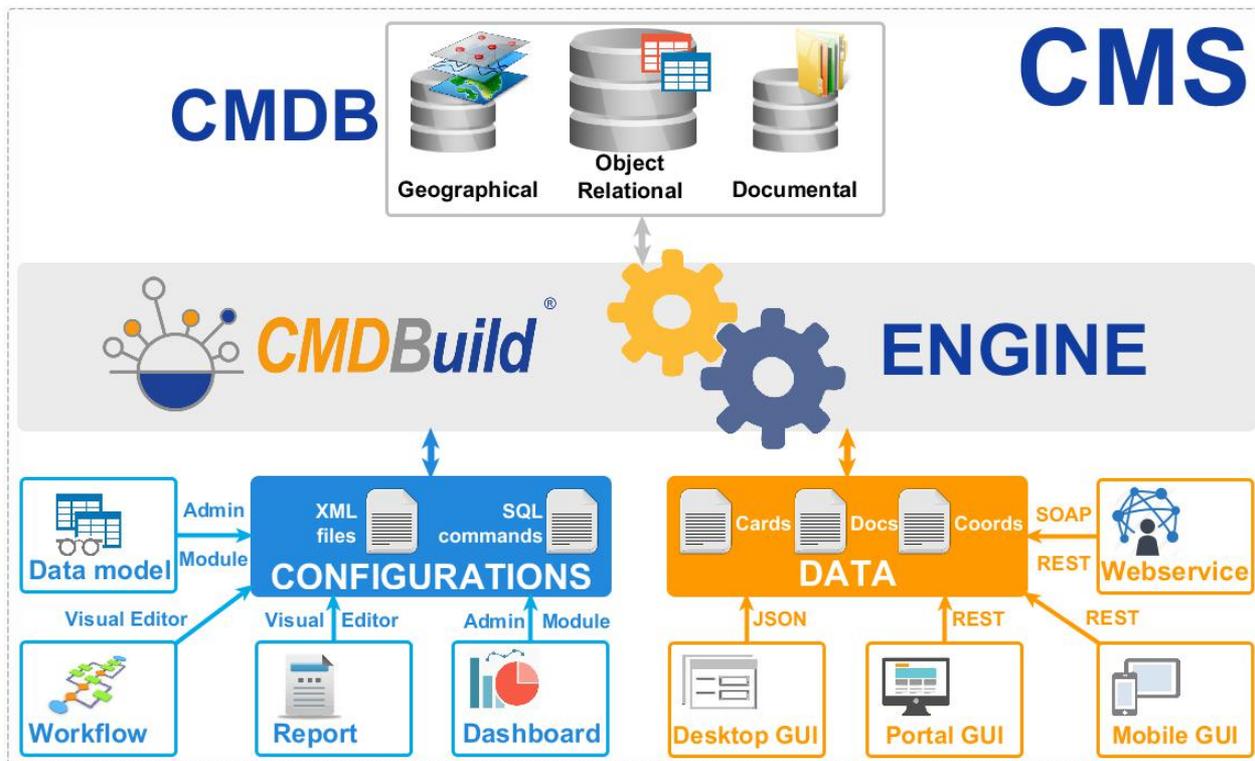


# Fully configurable environment



# Philosophy of the project

**CMDBuild** is the winning choice for **configuring** your **asset management** environment



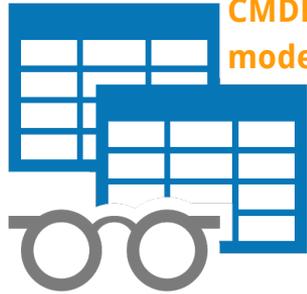
# 360 degree configurable

Philosophy adopted by **CMDBuild** to manage complex situations in a custom way: **360 degree configurable**



# Configuration possibilities

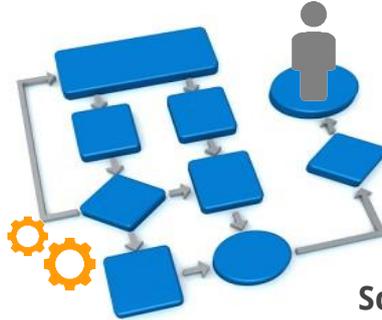
**CMDB web modeling**



**Document management**



**visual editor and workflow engine**



**Visual editor and report engine**

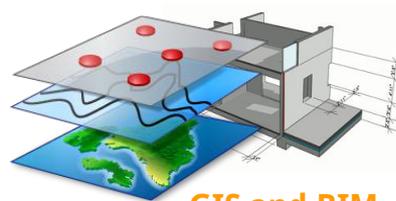


**Dashboard**

**Scheduler**



**Webservice and interoperability**



**GIS and BIM georeferences**

**External interfaces:  
GUI Framework and "mobile app"**



# Configurability: advantages

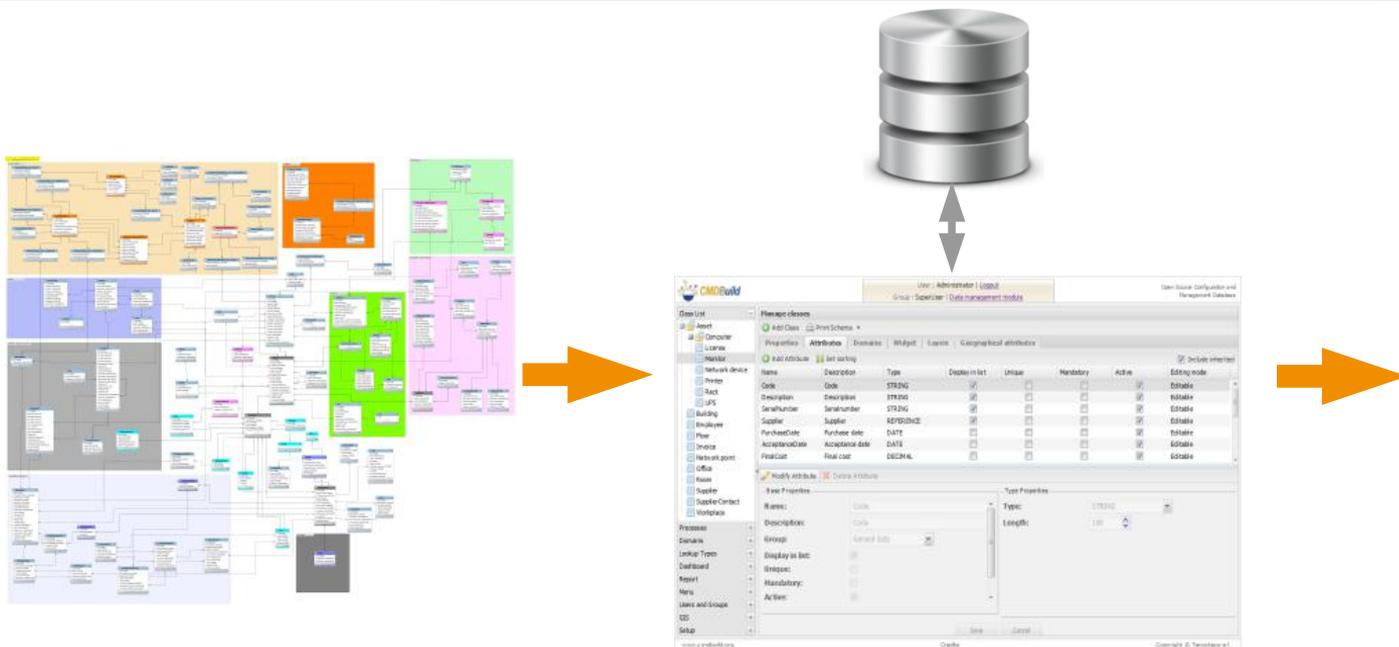
## Advantages of the configurability system:

- through a **custom analysis**, it can **adapt to your organisation** and work procedures (as ITIL suggests: “Adopt and Adapt”)
- possibility of a **gradual** activation of the system, reducing the organisational impact
- **easy response to** organisational and technologic **changes**
- **more independence** for users
- **same “core” code** (managed “per product”) but completely custom instances

# CMDB design and management



# CMDB design and management



... you draw the formal model with an Entity Relationship editor ...

... you configure it in CMDBuild with the Administration Module ...

# CMDB design and management

The screenshot displays the CMDBuild interface with the following annotated features:

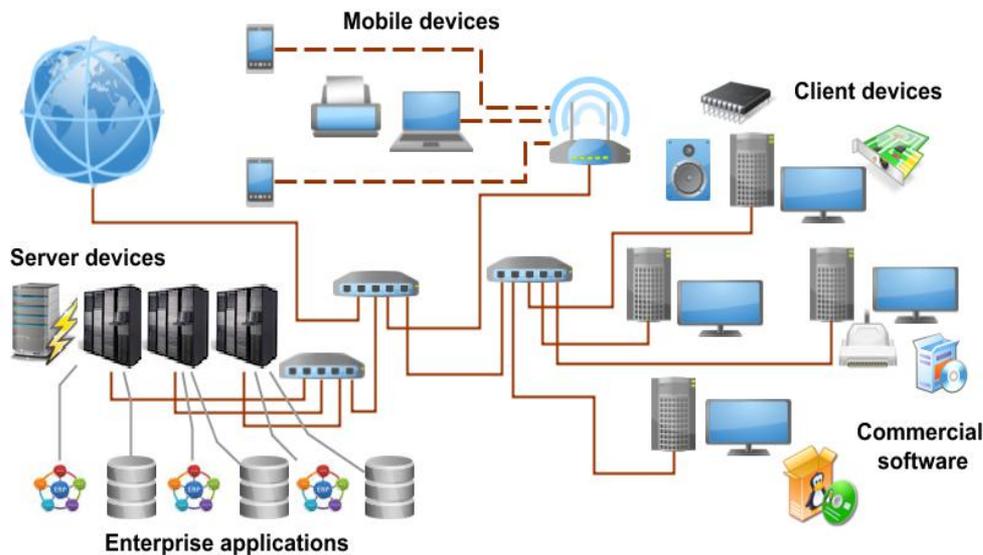
- complete list of correlations:** Points to the left-hand navigation menu.
- "history": complete data versioning:** Points to the 'History' tab in the card view.
- attachments are managed in Alfresco:** Points to the 'Attachments' tab in the card view.
- configurable widgets:** Points to the 'Ping' and 'Warranty calendar' widgets in the card view.
- relations graph:** Points to the graph view on the right side of the interface.
- multipage cards:** Points to the 'General data', 'Administrative data', and 'Technical data' tabs at the bottom of the card view.

... and a custom CMDBuild instance is automatically ready to manage your own entities, with different menu and permissions for each user group

# CMDB design and management - In-depth analysis

## Hardware and software CI modeling

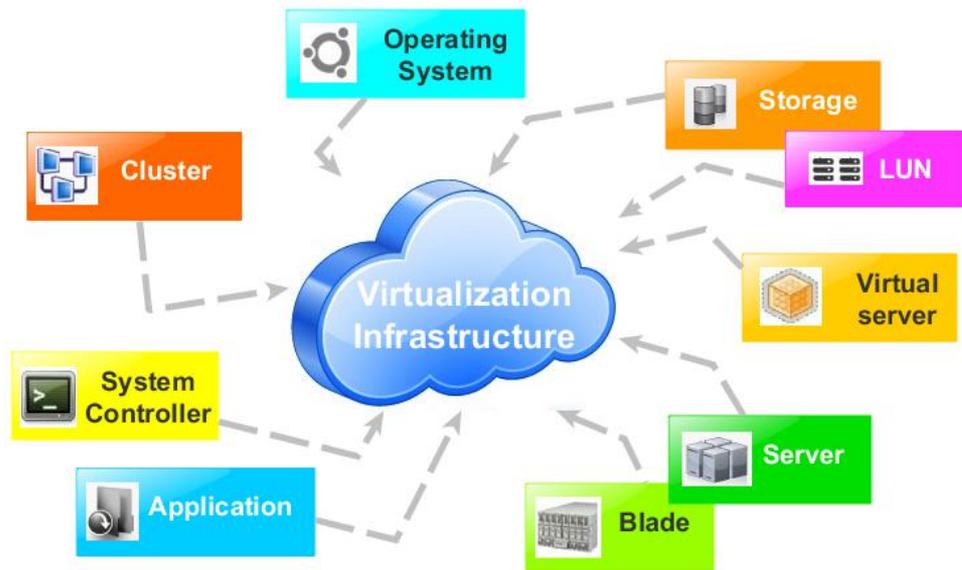
Desktops, Monitors, Printers,  
Servers, Storages,  
Network equipments,  
Racks, UPS,  
Commercial software,  
Enterprise applications, etc



# CMDB design and management - In-depth analysis

## Modeling of virtualization environments

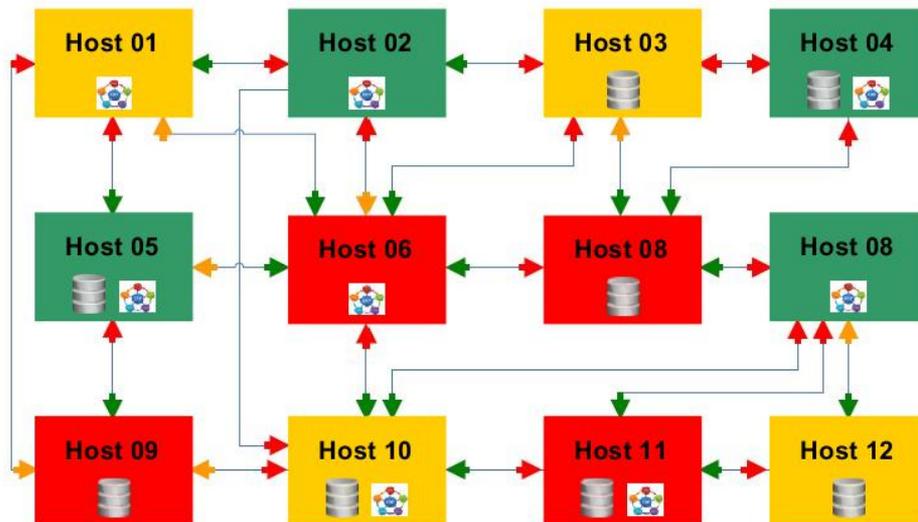
Hardware Server, Blade,  
virtual Host / Server, Cluster,  
System Controller,  
SAN, LUN, etc



# CMDB design and management - In-depth analysis

## Modeling of hosts / applications / services impacts

Host, Application,  
Scheduler, Batch,  
Data flow, Webservice, File,  
Database, DB connection,  
Service, SLA, KPI, etc



# CMDB design and management - In-depth analysis

## Modeling of purchase / warehouse management

Supplier, Supplier's staff,  
Purchase Order, Invoice,  
Delivery Note,  
Goods entrance, Inspection,  
Warehouse, etc



# Workflows design and management





# Workflows design and management

The screenshot shows the CMDBuild web interface. On the left is a navigation menu with items like Dashboard, Basic archives, Locations, Assets, Computer, PC, Notebook, Server, Printer, NetworkDevice, Rack, UPS, License, Request, and Workflow. The main area displays a 'List - Request for change' table with columns for Request number, Start date, Status, Documentation requested, Category, Final result, and Requester. Below the table is an 'Activity' section for a specific request (number 7), showing details like 'Requester: Brown Robert', 'Description: I need a new ERP account', and 'Formal evaluation: Accepted'. A red arrow points from the 'to do list' label to the table. Another red arrow points from the 'history' label to the 'Activity' section. A red arrow points from the 'attachments are managed in Alfresco' label to the 'Attachments' tab in the activity view. A red arrow points from the 'Group of users enabled to carry out the current activity' label to the 'Members' list. A red arrow points from the 'configurable widgets' label to the 'Formal evaluation' dropdown. A red arrow points from the 'contextual help' label to the 'Help' icon. A red arrow points from the 'execution from the Liferay portal' label to the Liferay logo and navigation bar.

to do list

“history”:  
previous steps  
of the workflow

Group of users enabled to carry  
out the current activity

configurable  
widgets

contextual  
help

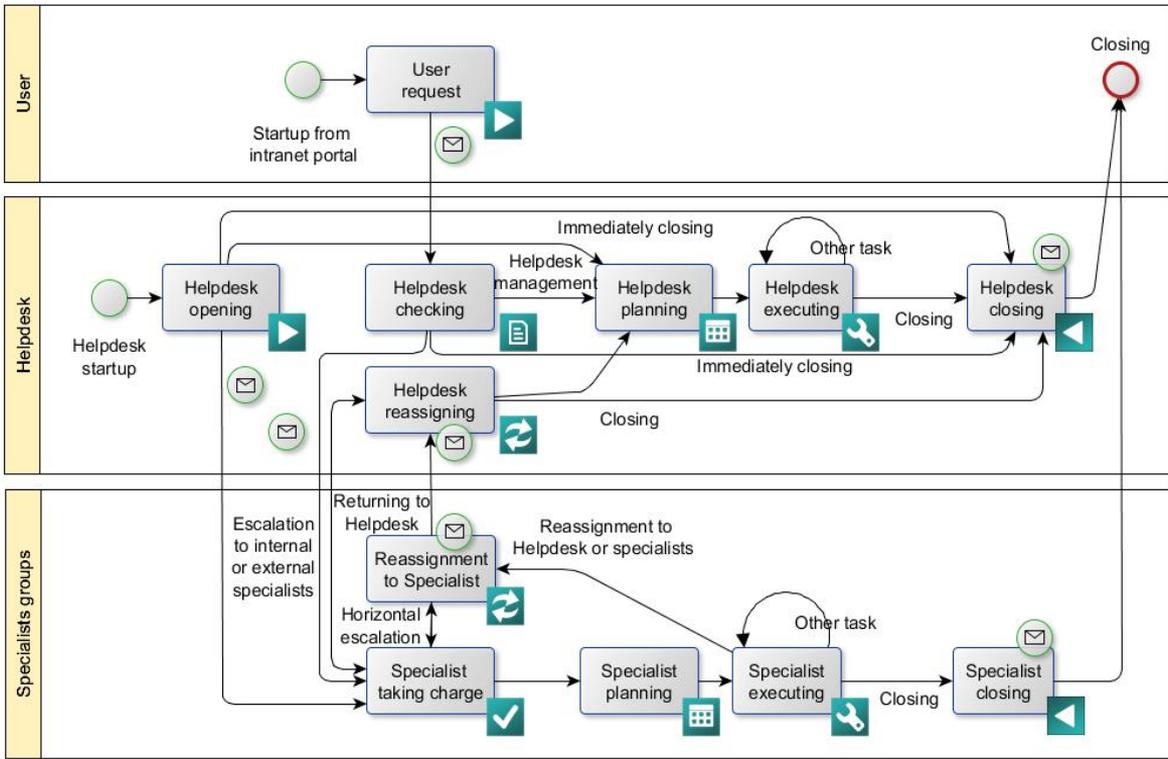
execution from  
the Liferay portal

attachments are managed in Alfresco

... and the user interface is automatically ready to start and advance your own workflows (ITIL workflows, other operational and / or authorization workflows, guided wizards, etc)

# Workflows management - In-depth analysis

Example of Incident Management workflow:



Mail / SMS notifications  

Notifications of delayed requests closing 

FAQ archive management 

Attached documents 

User satisfaction   

# Design and print of reports and dashboards



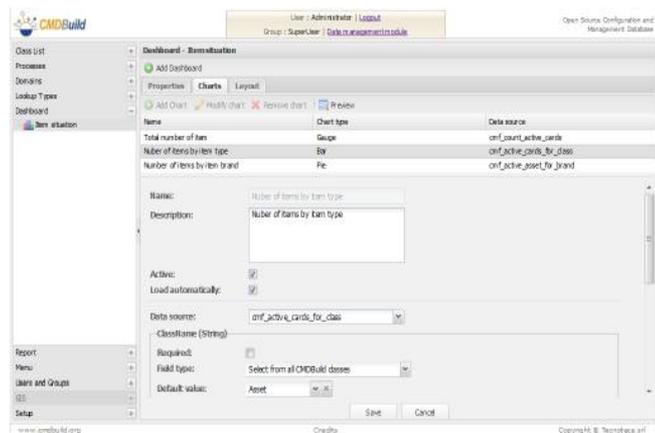




# Design of dashboards



... the functions for data extraction are defined - in the required format - in the PostgreSQL database ...



... graphs of each dashboard are configured by combining them with the PostgreSQL functions ...

# Design of dashboards

*parametric value*

*it opens the list of the values below*

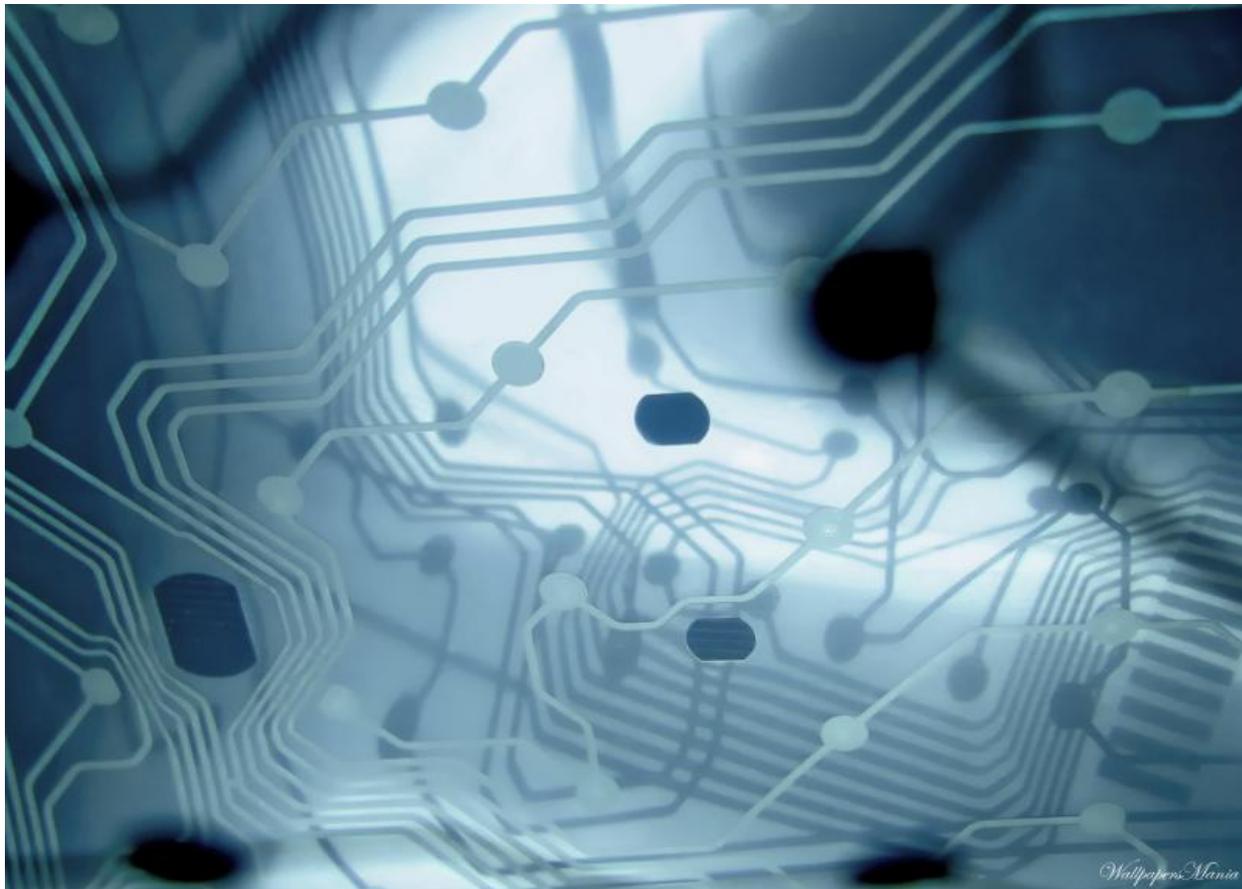
The screenshot shows the CMDBuild application interface. The top navigation bar includes the user name 'Administrator' and group 'SuperUser'. The dashboard is divided into three main sections:

- Total number of item:** A gauge chart showing a value of 20 out of 50. A dropdown menu is set to 'Asset'.
- Number of items by item brand:** A pie chart showing the distribution of items by brand: Canon, Cisco, Epson, HP, Sory, and Acer.
- Number of items by item type:** A bar chart showing the number of items for different asset types: Monitor (5), PC (4), and Printer (3). Below the chart is a table:

Class	Number
Monitor	5
Network device	2
PC	4
Printer	3

... and dashboards are available in the CMDBuild application with the possibility to consult and change the defined parameters

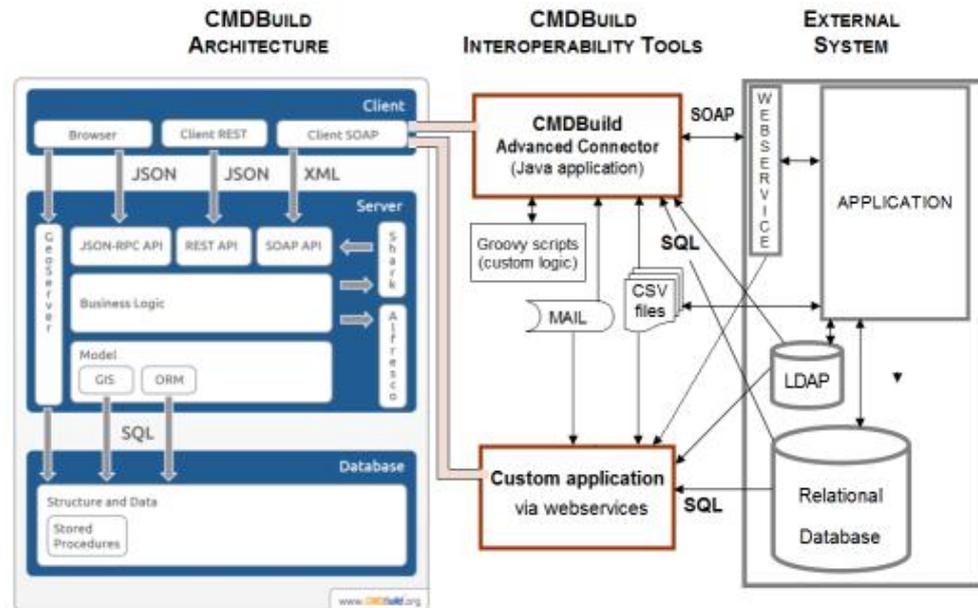
# Interoperability solutions



# Interoperability solutions



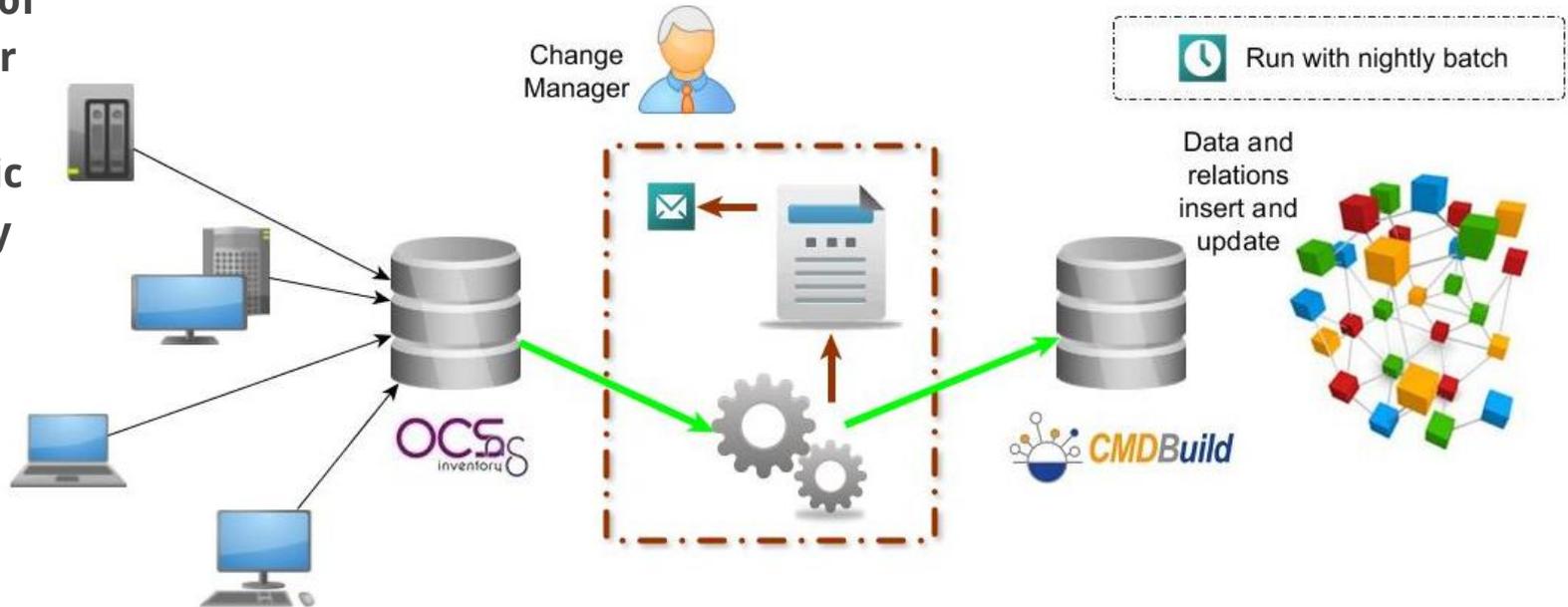
... interoperability logics are defined



... connectors (Basic Connector, Advanced Connector, Wizard Connector) are configured by defining roles and modalities

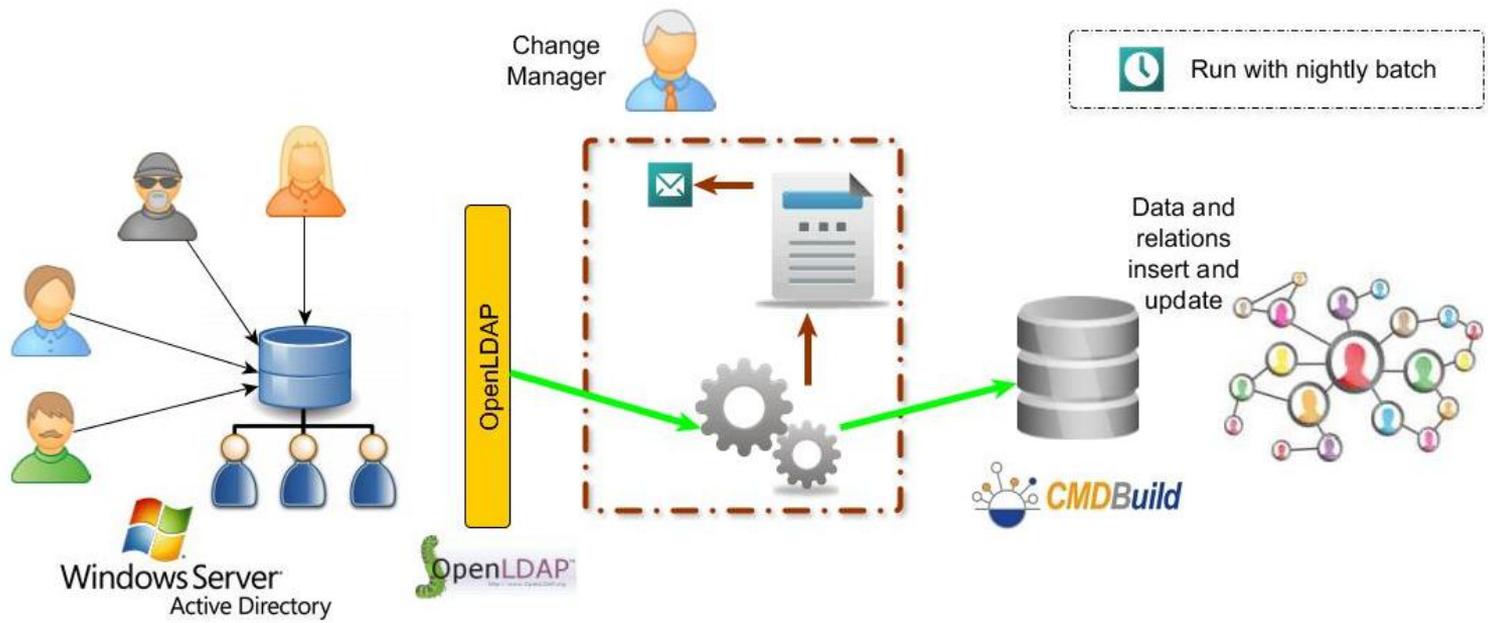
# Interoperability solutions - In-depth analysis

Example of connector with an Automatic Inventory tool:



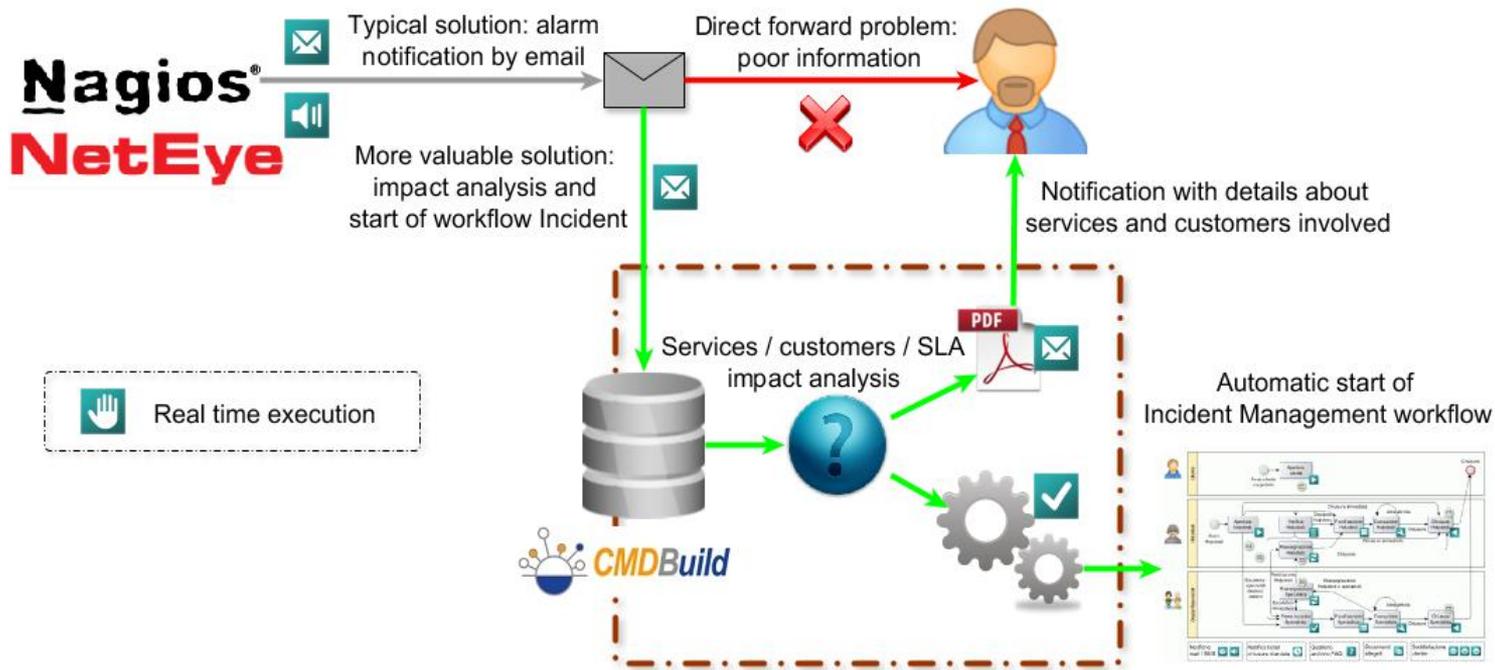
# Interoperability solutions - In-depth analysis

Example of connector with an LDAP tool:



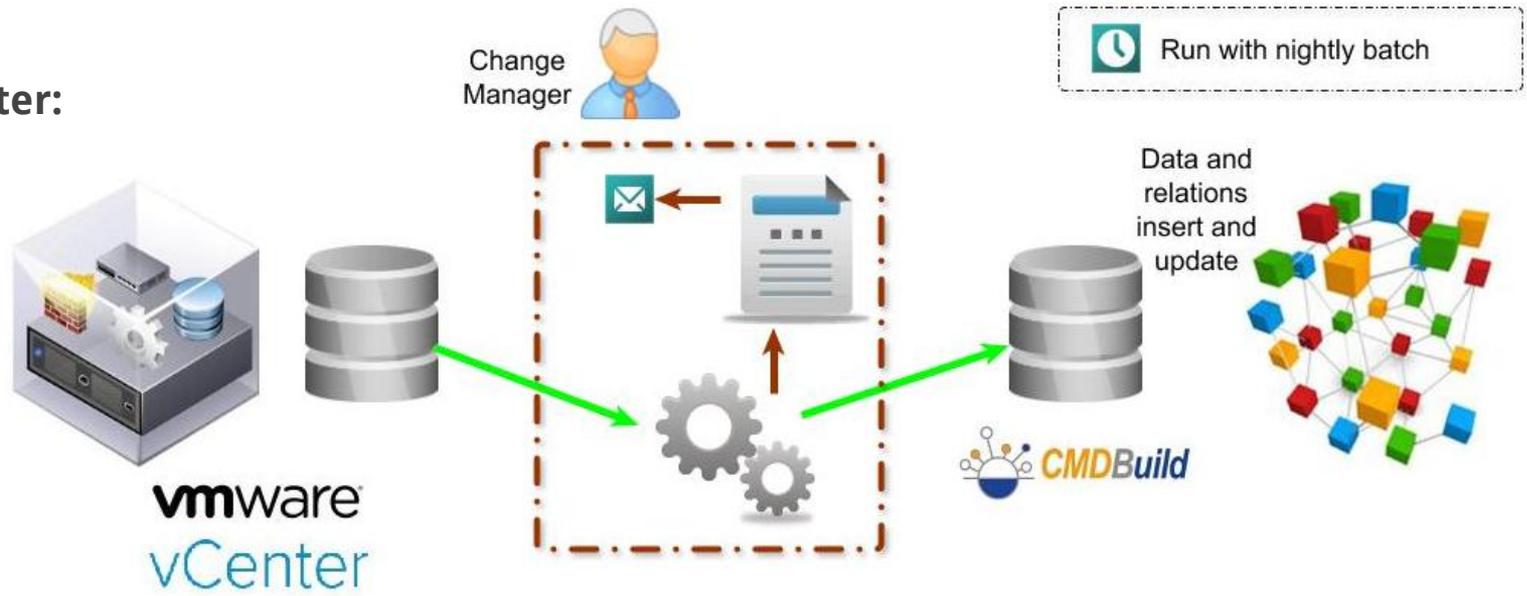
# Interoperability solutions - In-depth analysis

Example of connector with a monitoring tool:



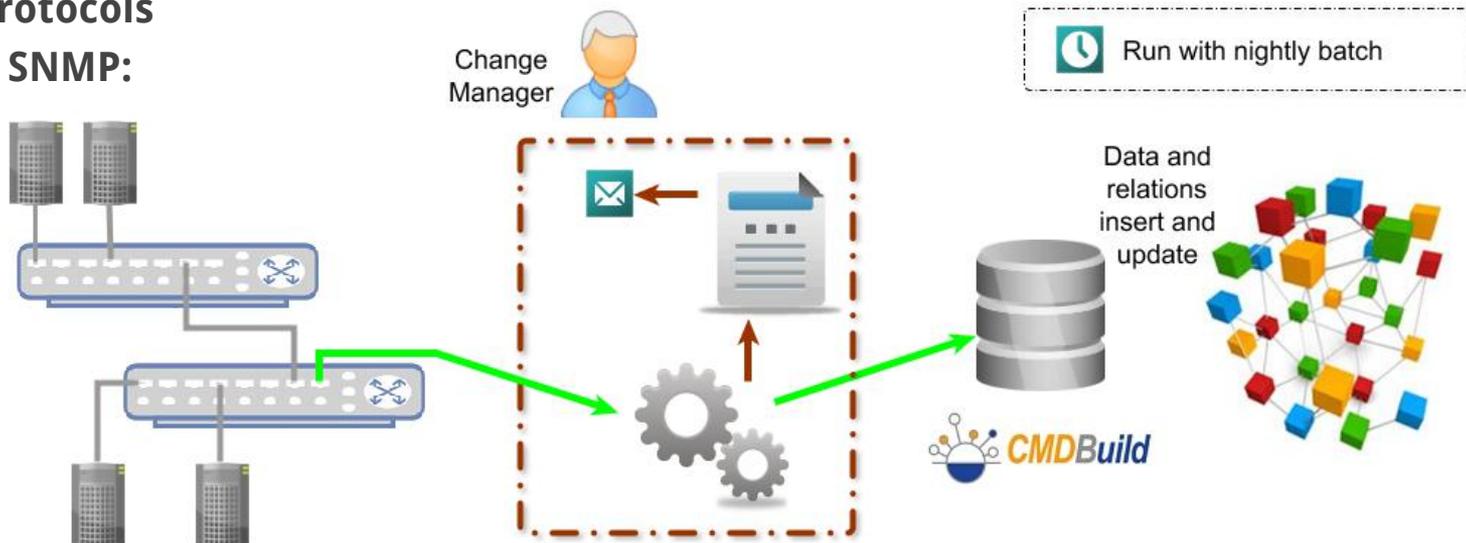
# Interoperability solutions - In-depth analysis

Example of connector with VCenter:



# Soluzioni di interoperabilità - Approfondimenti

## Example of connector with protocols LLDP / SNMP:

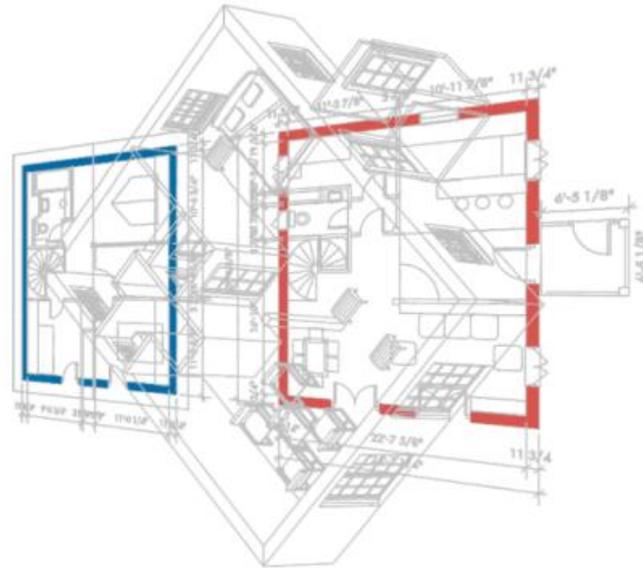


# Georeference ways



# Georeferences

**Objective:** allow each user to **georeference their assets with custom criteria** according to their management needs



# Georeferences - In-depth analysis

## Asset georeferences on the territory

The screenshot displays a web-based GIS application interface. On the left is a navigation tree with categories like Dashboard, Navigazione, Task, Anagrafica, Dotazioni, Software e licenze, Stampanti, Item, Computer, Modello item, Servizi, Accesso CED, Processi, and Report. The main area shows a map of Chievo, Italy, with numerous blue icons representing traffic lights. Below the map is a detailed view of a specific asset:

- Scheda** (selected): Modifica scheda, Cancella scheda, Clona scheda, Grafo relazioni, Stampa scheda
- Dettagli**: Codice (ID): 00024, Descrizione: Semaforo Bassini, Modello: RAD ETX-102, Matricola:
- Relazioni**, **Storia**, **Allegati**
- Dati generali** (selected), **Dati amministrativi**, **Dati tecnici**, **Allarmi**
- Buttons: Conferma, Annulla

# Georeferences - In-depth analysis

Asset georeferences  
onto buildings plans:

The screenshot displays the CMDBuild software interface. The main window shows a floor plan with a room highlighted in orange. The room is identified as 'Data Center - Floor 1 - Room 001'. The interface includes a navigation pane on the left, a top status bar, and a right-hand panel with a tree view of buildings and rooms. A detailed view of the selected room is shown at the bottom, listing various assets like monitors, PCs, printers, and UPS units.

**User:** Administrator | Logout  
**Group:** SuperUser | Administration module

**Navigation:** Dashboard, Basic archives, Purchases, Locations, Building, Room, Floor, Network point, Assets, Asset, Computer, PC, Notebook, Server, Monitor, Printer, NetworkDevice, Rack, License, Report, Workflow, Classes, Processes, Views, Dashboard, Report, Utility

**List - Room**

Code: DC01001  
Description: Data Center - Floor 1 - Room 001  
Floor: Data Center - Floor 1  
Usage type: Office  
Surface: 28  
Office: Office 03 - Legal Department

**GIS Navigation**

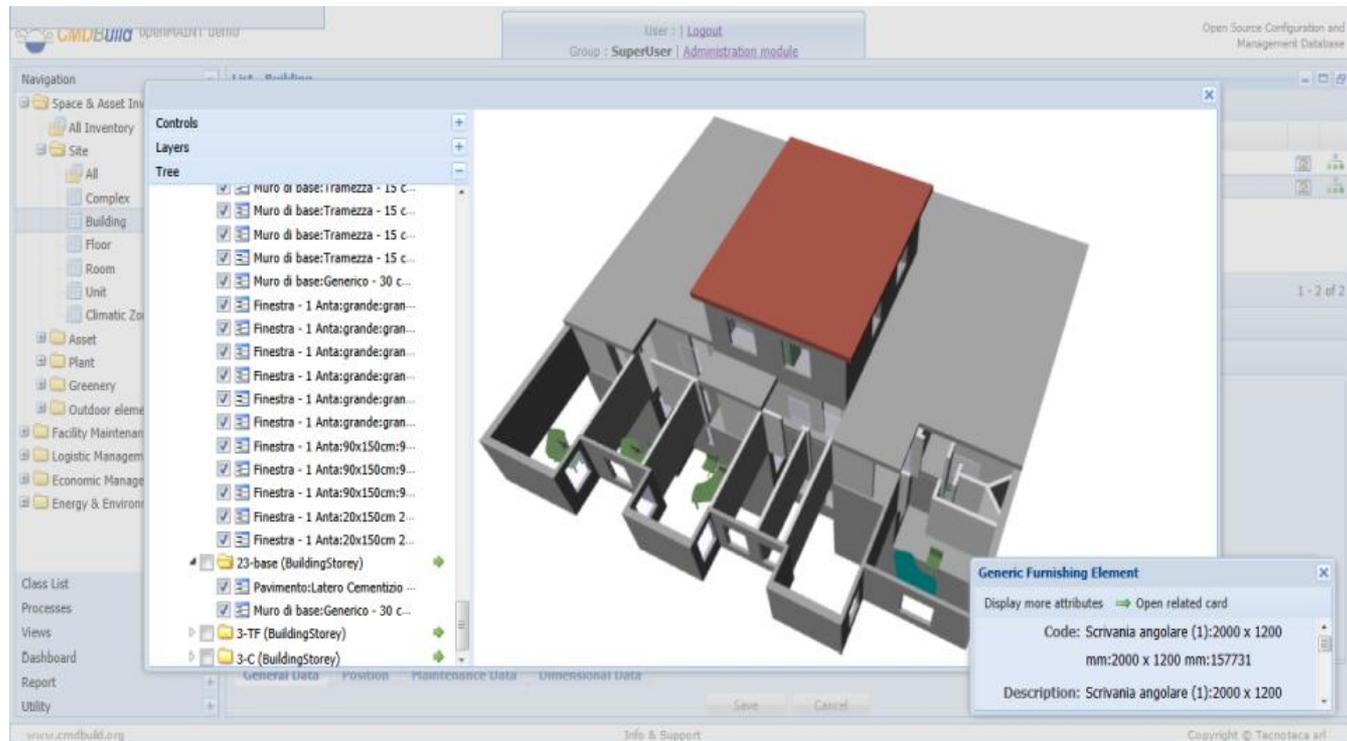
- Office Builder 1
- Office Builder 2
- Office Builder 3
- Office Builder A
  - B101 - Off. Builder A - 01
  - B102 - Off. Builder A - 02
  - B103 - Off. Builder A - 03
  - B104 - Off. Builder A - 04
  - B105 - Off. Builder A - 05
- Office Builder B

Class name	Code	Description
Monitor	MON0002	Acer - B243W Cydr
PC	PC0001	Acer - Netbook D...
Monitor	MON0003	Acer - V193HQb
Printer	PRT0001	Canon - IX 5000
Printer	PRT0002	Epson - ELP 6200L
Monitor	MON0004	Epson - W 19345-...

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# Georeferences - In-depth analysis

Assets georeferences  
onto 3D models  
(IFC standard):



# Technologies



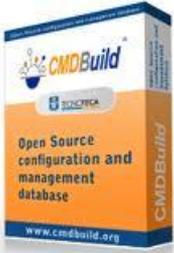
# Technical features – Architecture

**CMDBuild** is an **enterprise system** based on **open standards**:

- **Service Oriented Architecture (SOA)**, organized in components and services that cooperate with external applications through **webservices**
- **Ajax user interface** (Ext JS libraries) that grants an intuitive use of the application, an ergonomic interaction, fast response from the system
- server components developed in the **Java Enterprise Environment**, which is solid, scalable, widely used for the development of web enterprise applications
- **PostgreSQL database**: the most advanced, solid, safe and complete open source database

# Technical features – Components

All the CMDBuild components are open source



A central diagram consisting of several interlocking puzzle pieces in various colors (orange, blue, white, grey). Surrounding these pieces are logos for various open-source technologies: Apache Tomcat (cat logo), Ehydra SHARK (shark logo), JasperReports (stack of books), Alfresco (colorful flower), Ext JS (blue and green text), OCS inventory (purple and white), OpenLayers (blue cube), Quartz (blue and white circular logo), PostgreSQL (elephant logo), GeoServer (globe logo), and Liferay (blue and white grid logo). The URL "www.CMDBuild.org" is located in the bottom right corner of the diagram's frame.



Thank you for your attention

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