

FIWARE ChanChan

<https://github.com/Bitergia/fiware-chanchan>



Sample application using Authentication and Authorization
for publish CKAN contents using Orion Context Broker

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FIWARE Friendly Testing

Goals

- Create a sample application integrating FIWARE GEs for publish Internet of Things (IoT) content in CKAN.
- Use Authentication (IDM Key Rock) and Authorization (Thales Access Control) for user permissions management using organizations.
- Use Orion Context Broker (through Cygnus CKAN) to publish content in CKAN.

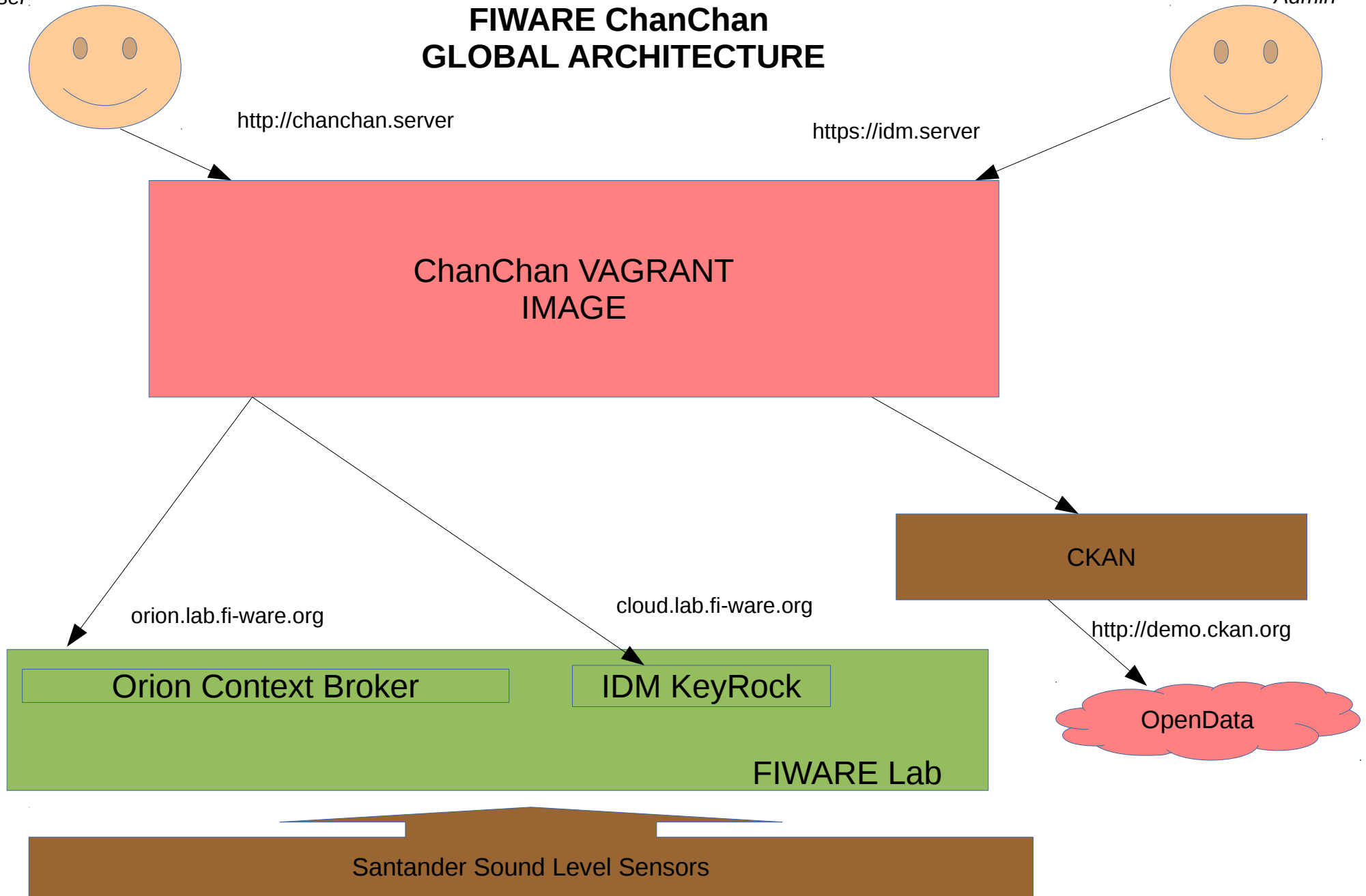
Results

- Web based (SPA) application with two panels:
 - Manual publishing of data in CKAN.
 - Santander Sound Level Meters sensors publishing in CKAN.
- Provision system for deploying automatically all platform using VAGRANT or a FIWARE Image based in Ubuntu 14.04.

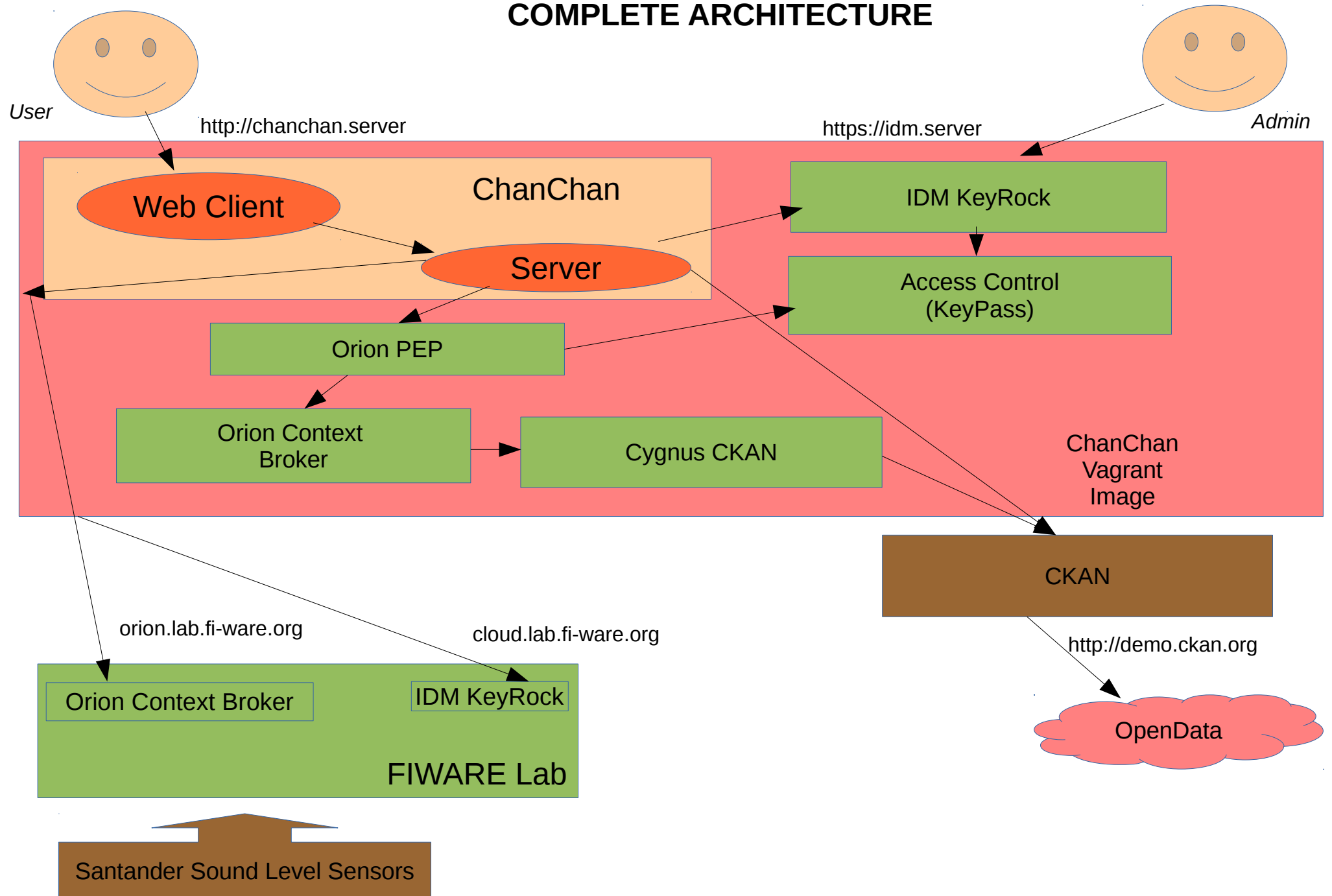
User

Admin

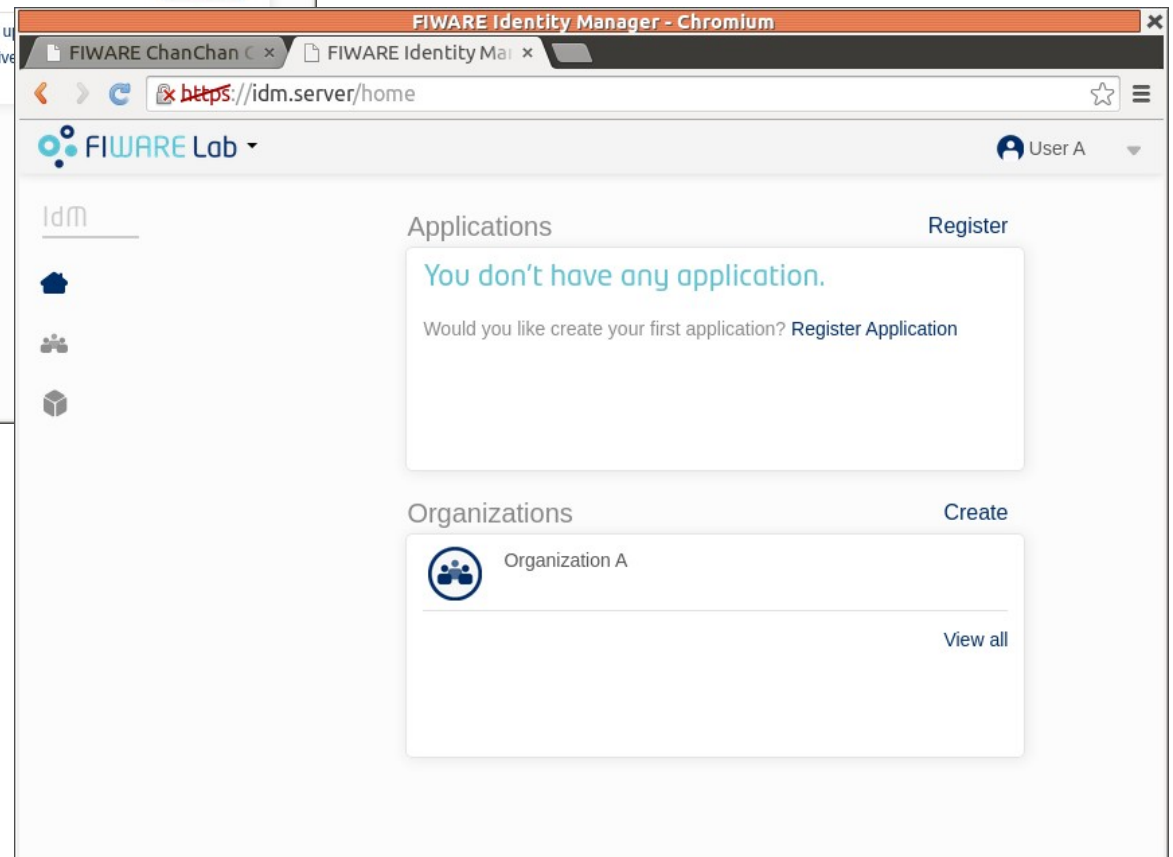
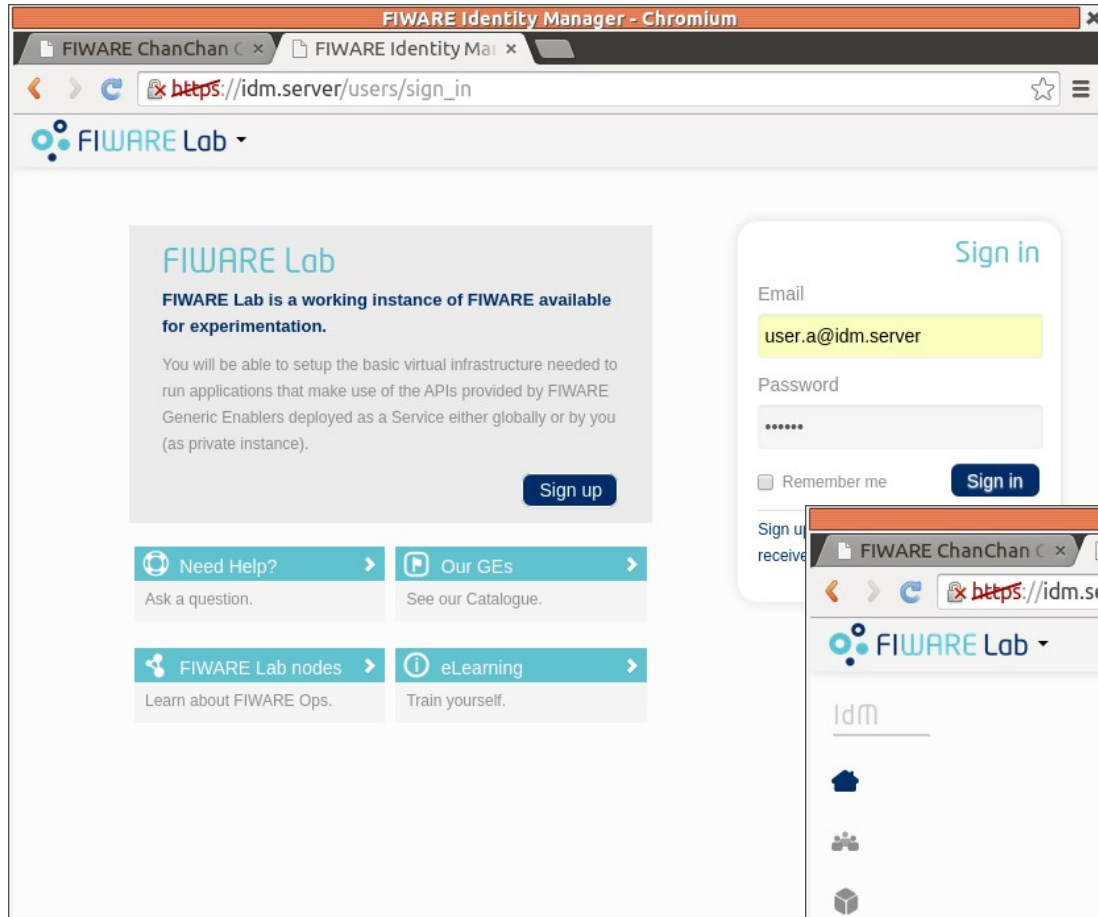
FIWARE ChanChan GLOBAL ARCHITECTURE



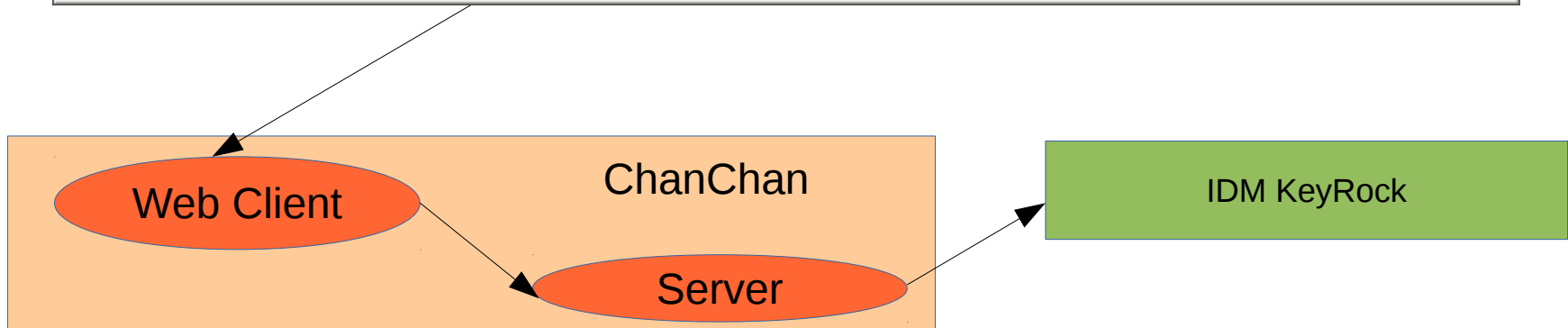
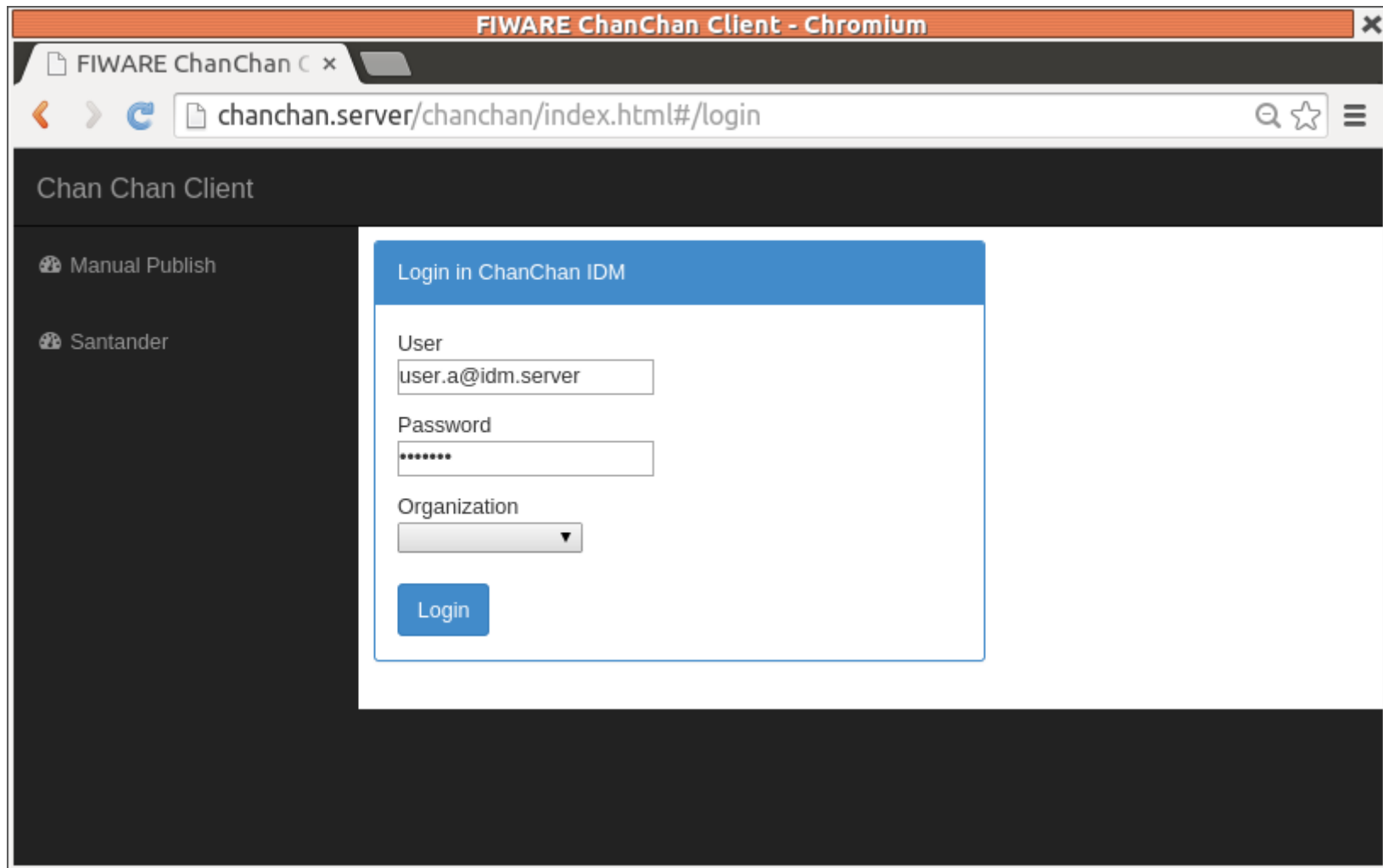
FIWARE ChanChan COMPLETE ARCHITECTURE



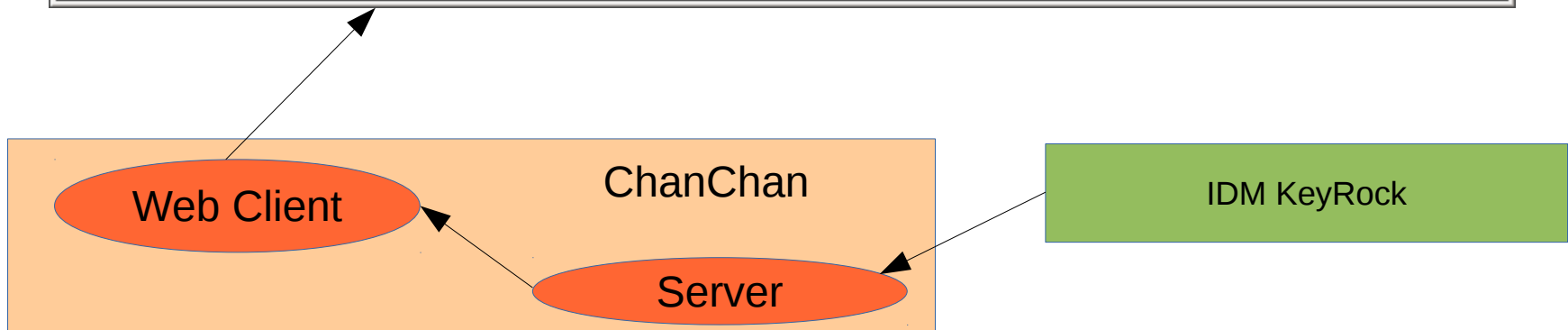
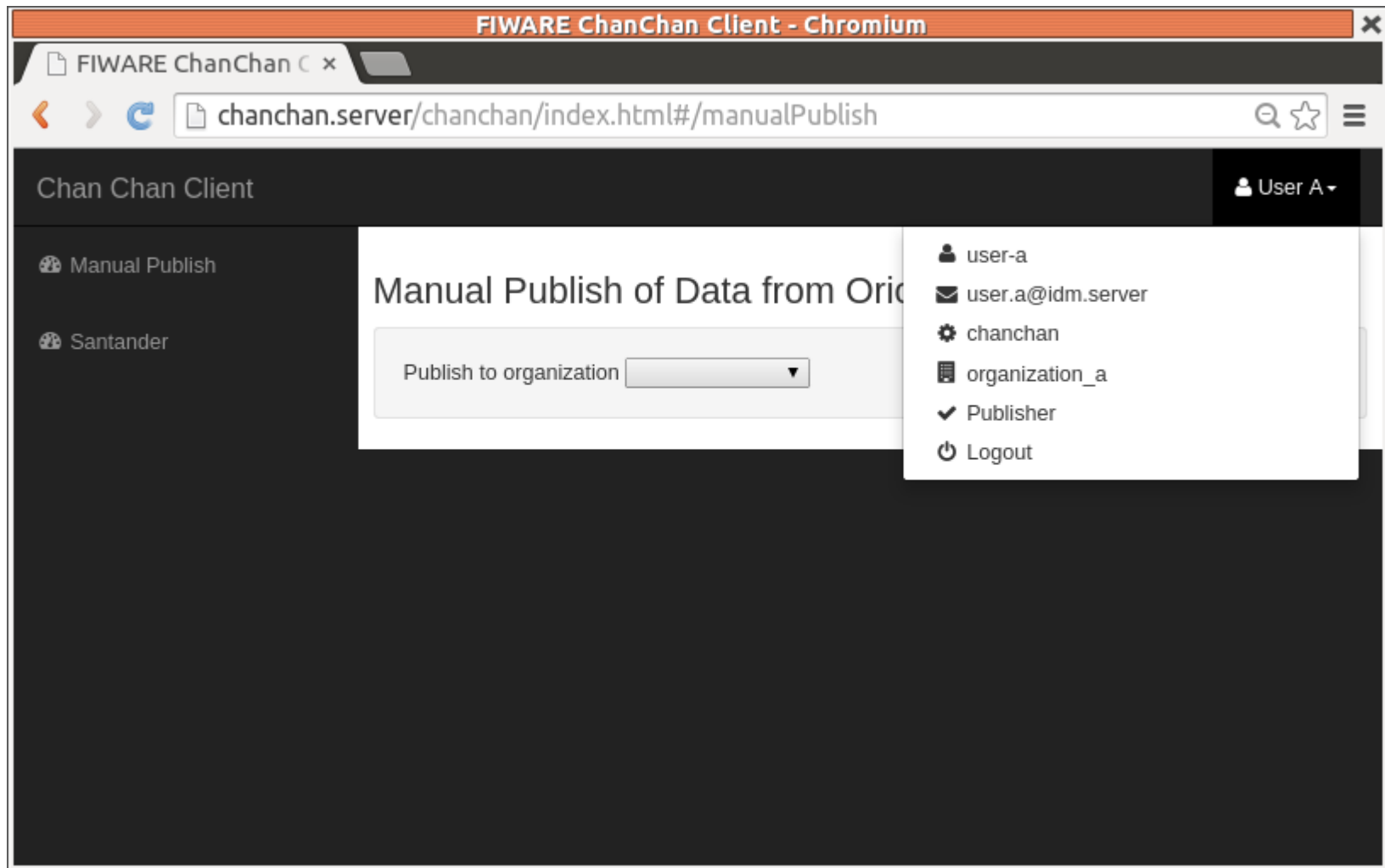
Authentication (I)



Authentication (II)



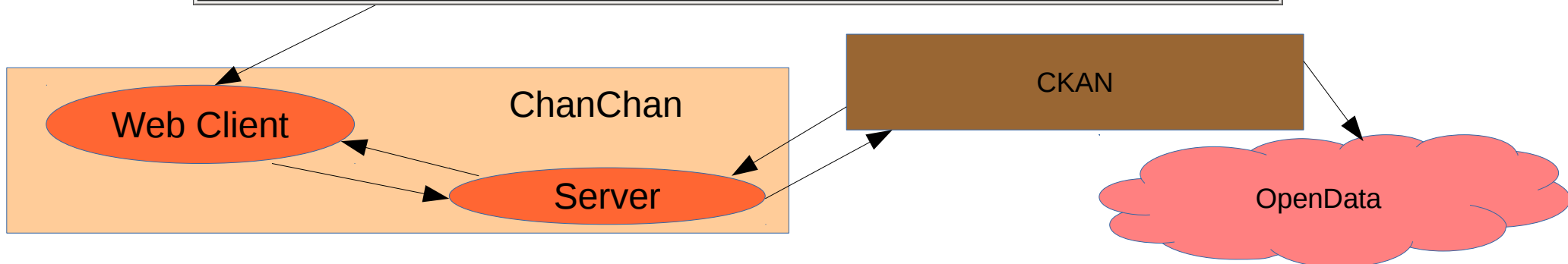
Authentication (II)



Manual Publish (Data from CKAN)

The screenshot shows a web browser window titled "FIWARE ChanChan Client - Chromium". The address bar displays "chanchan.server/chanchan/index.html#/manualPublish". The page header includes "Chan Chan Client" and a user profile "User A". The left sidebar has a "Manual Publish" menu item. The main content area is titled "Manual Publish of Data from Orion to CKAN". It contains a form with the following elements:

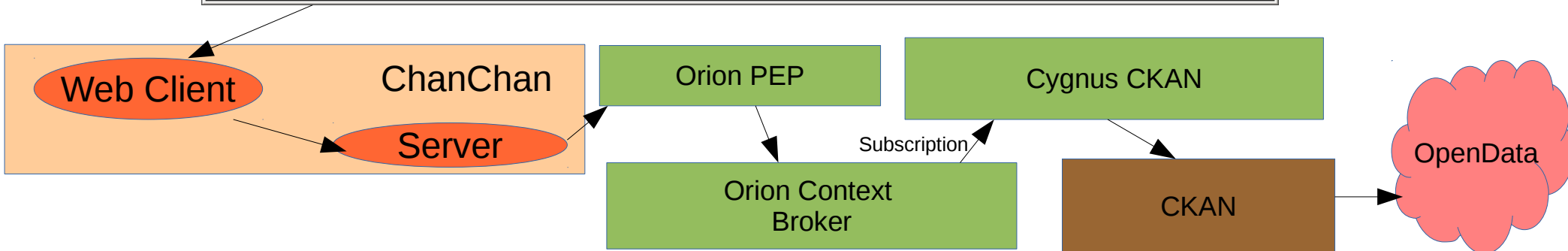
- A dropdown menu for "Publish to organization" set to "Organization A".
- A section for "Context (entity type) name" with a text input "Room1" and an "Add" button.
- A "Temperature" input field with a dropdown arrow and a "Publish" button.
- A green bar labeled "CKAN contents for organization_a" with a refresh icon.



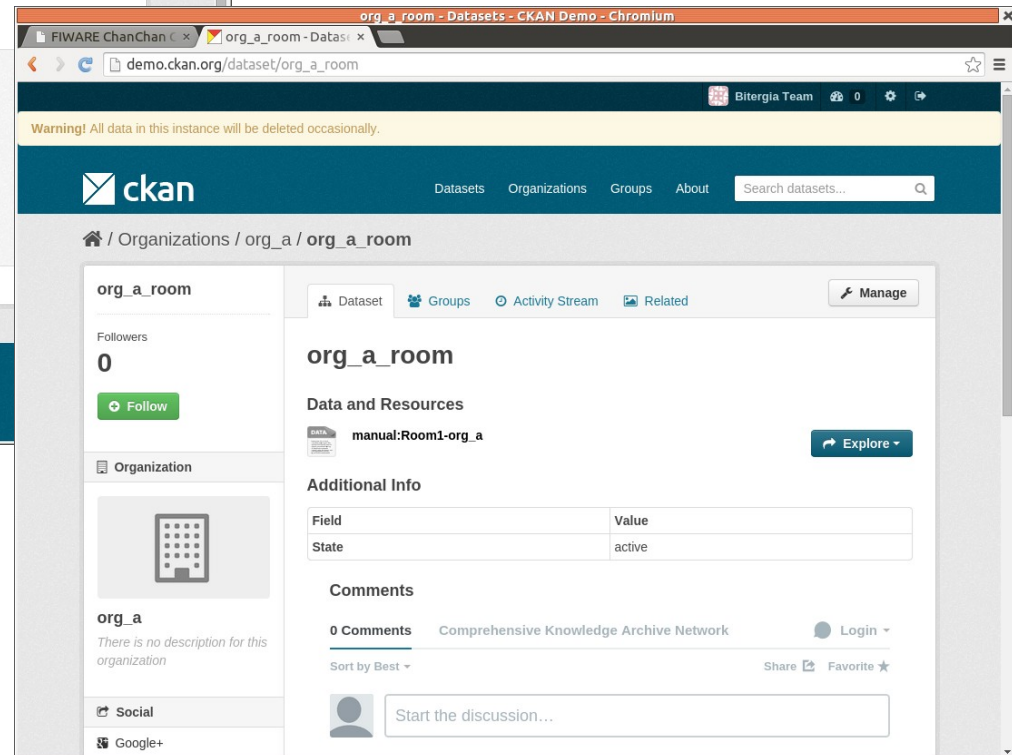
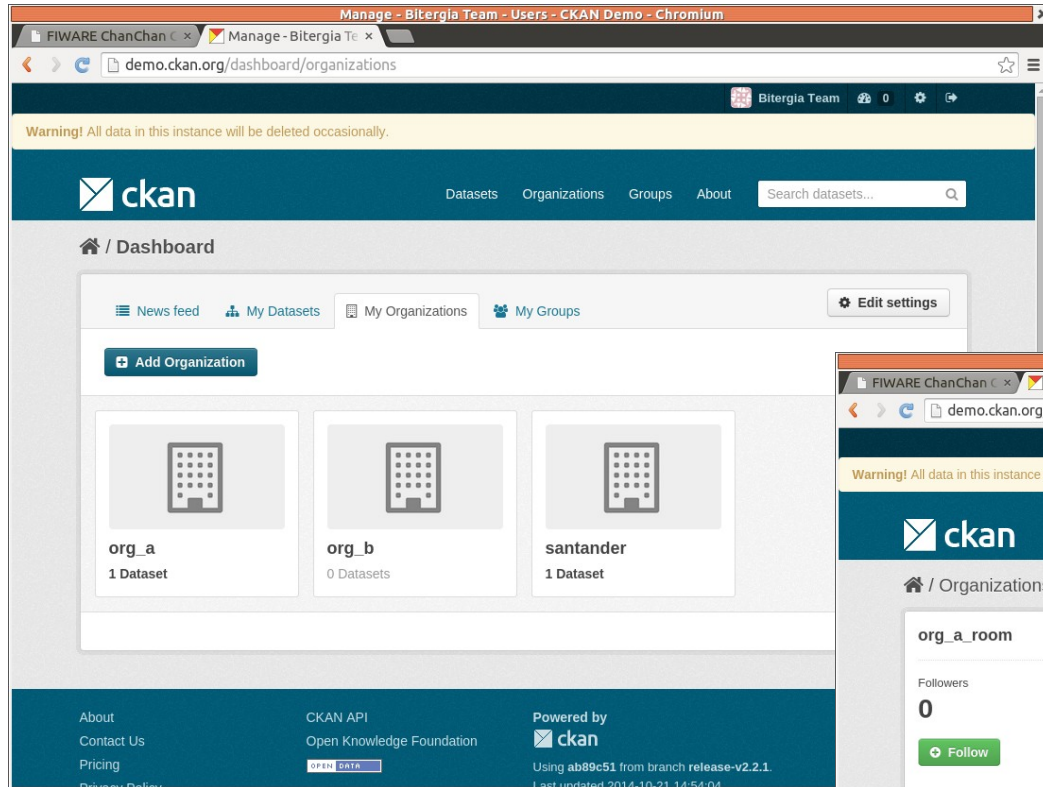
Manual Publish (Data to CKAN)

The screenshot shows a web browser window titled "FIWARE ChanChan Client - Chromium". The address bar displays "chanchan.server/chanchan/index.html#/manualPublish". The page header includes "Chan Chan Client" and a user profile "User A". A left sidebar contains links for "Manual Publish" and "Santander". The main content area is titled "Manual Publish of Data from Orion to CKAN". It features a form with the following elements:

- A dropdown menu for "Publish to organization" set to "Organization A".
- A section for "Context (entity type) name" with a text input "Room1" and an "Add" button.
- A "Temperature" input field with a dropdown arrow and a "Publish" button.
- A green box labeled "CKAN contents for organization_a" with a refresh icon.



Manual Publish (Data in CKAN)



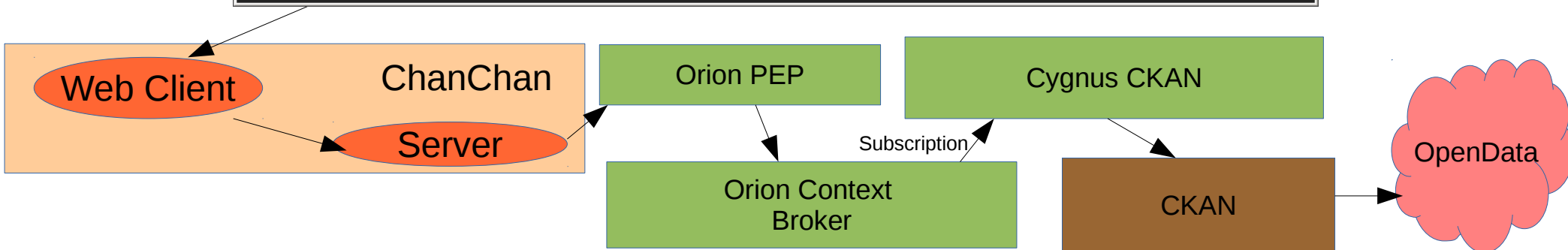
Manual Publish (Data to CKAN)

The screenshot shows a web browser window titled "FIWARE ChanChan Client - Chromium". The address bar displays "chanchan.server/chanchan/index.html#/manualPublish". The page header includes "Chan Chan Client" and a user profile "User A". A sidebar on the left contains links for "Manual Publish" and "Santander". The main content area is titled "Manual Publish of Data from Orion to CKAN". It features a form with the following elements:

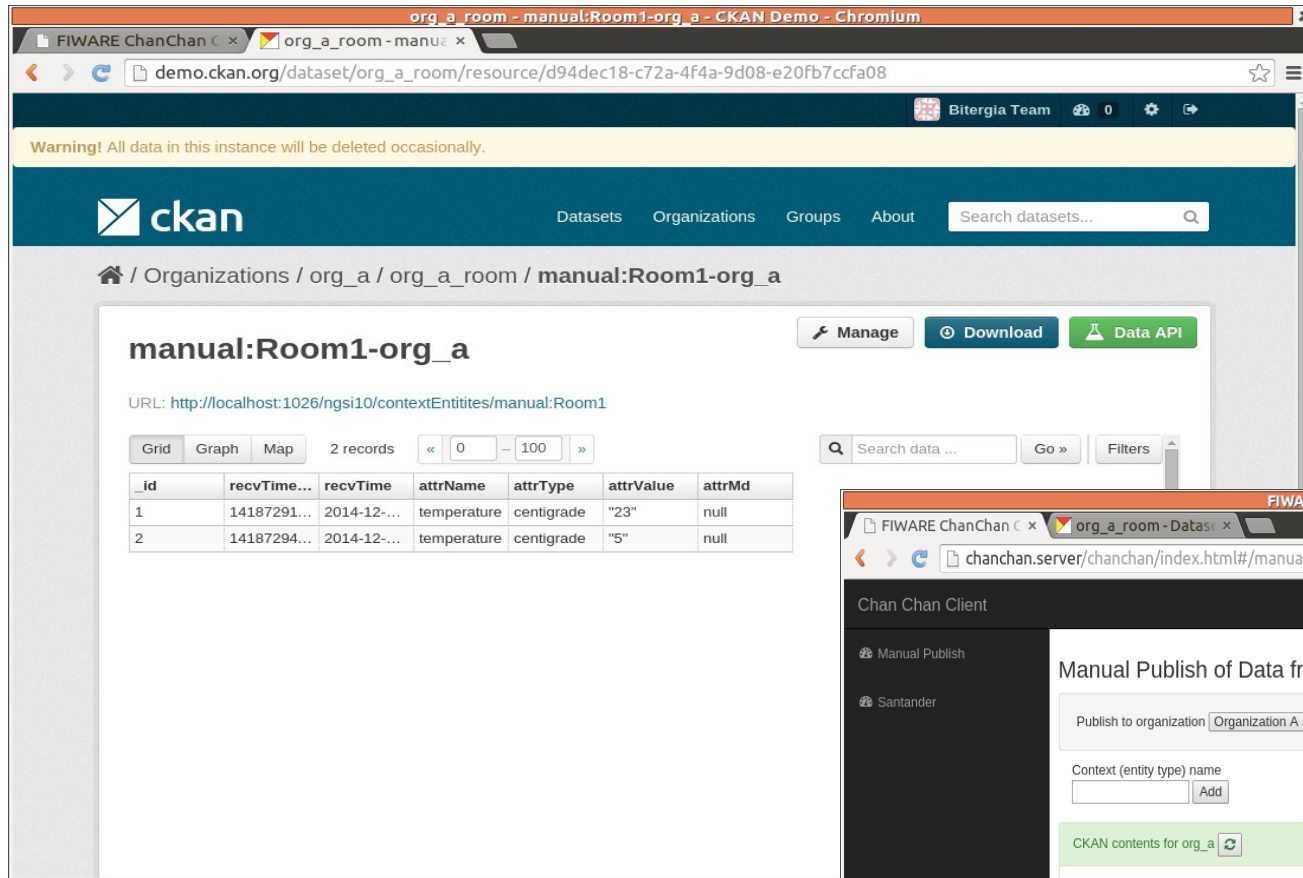
- "Publish to organization" dropdown menu set to "Organization A".
- "Context (entity type) name" input field with an "Add" button.
- "Temperature" input field with the value "5".
- "manual:Room1-org_a org_a org_a room" dropdown menu.
- "Publish" button.

Below the form, a green box labeled "CKAN contents for org_a" displays a tree structure:

- org_a_room
 - manual:Room1-org_a
 - 23 2014-12-16T11:26:35.385000

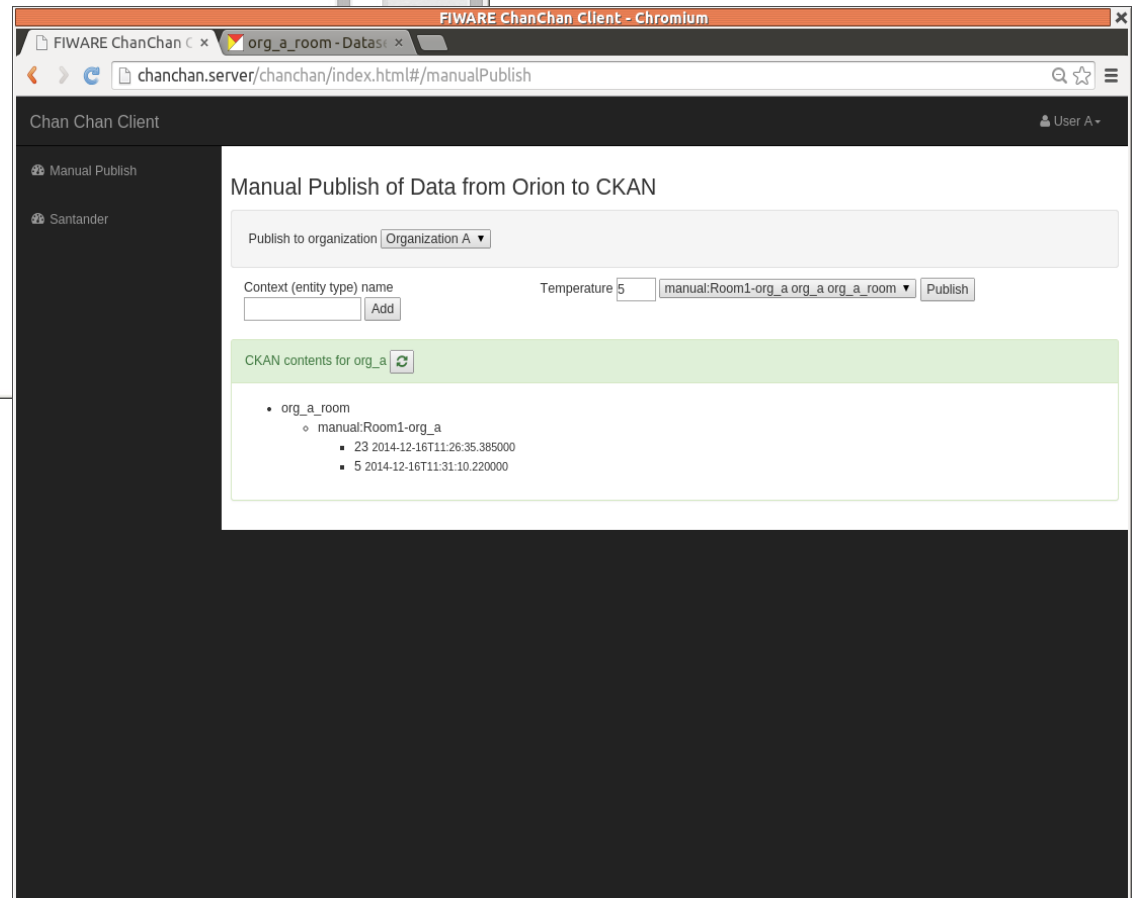


Manual Publish (Data in CKAN)



The screenshot shows the CKAN web interface in a Chromium browser. The address bar displays the URL: `demo.ckan.org/dataset/org_a_room/resource/d94dec18-c72a-4f4a-9d08-e20fb7ccfa08`. The page title is "org_a_room - manual:Room1-org_a - CKAN Demo - Chromium". A warning banner at the top states: "Warning! All data in this instance will be deleted occasionally." The CKAN logo and navigation menu are visible. The breadcrumb trail is: `/ Organizations / org_a / org_a_room / manual:Room1-org_a`. The dataset page for "manual:Room1-org_a" is shown, with a URL: `http://localhost:1026/ngsi10/contextEntities/manual:Room1`. There are buttons for "Manage", "Download", and "Data API". Below the dataset name, there are tabs for "Grid", "Graph", and "Map", and a note "2 records". A table displays the data records:

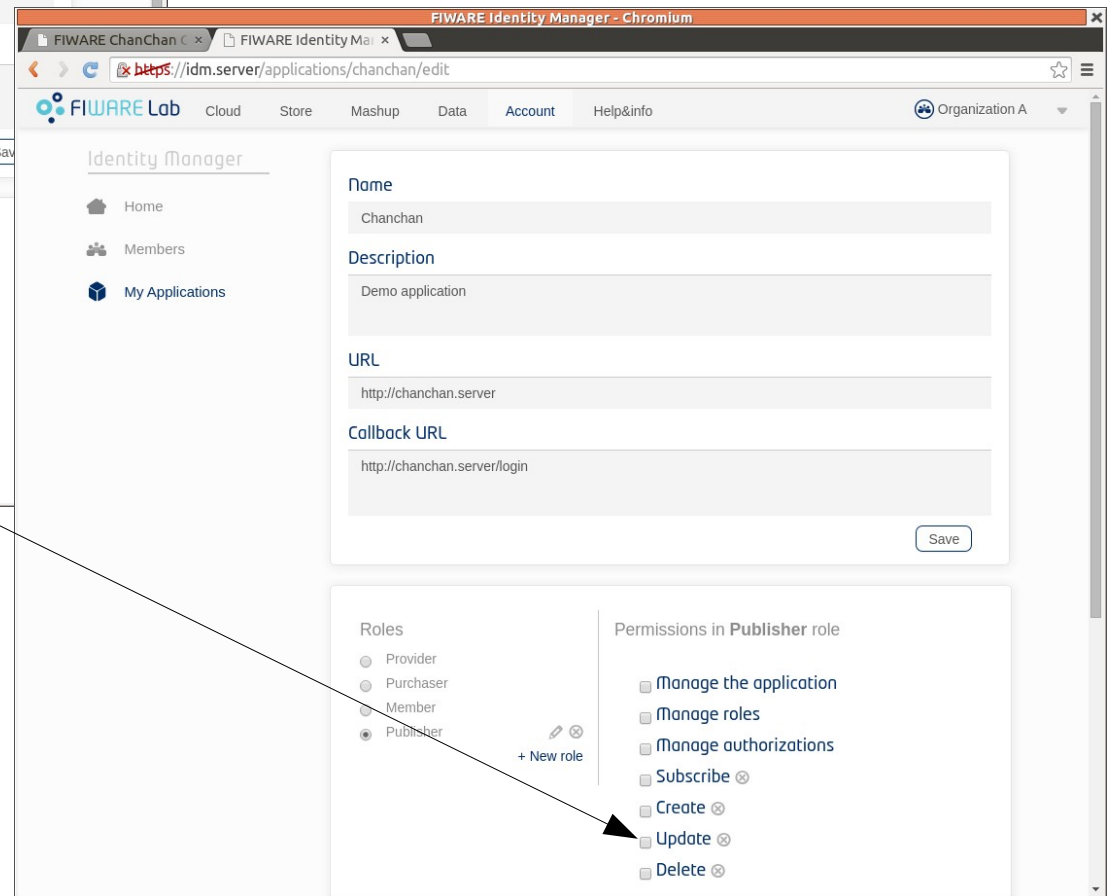
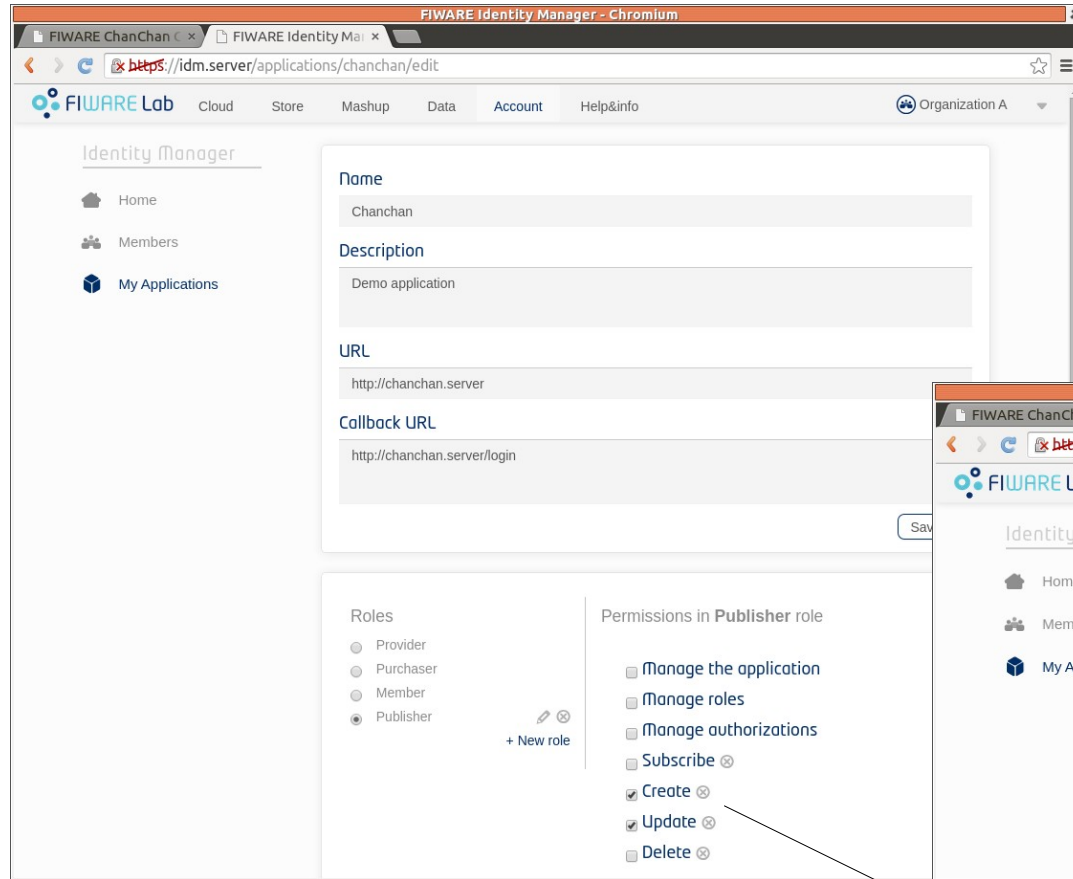
_id	recvTime...	recvTime	attrName	attrType	attrValue	attrMd
1	14187291...	2014-12-...	temperature	centigrade	"23"	null
2	14187294...	2014-12-...	temperature	centigrade	"5"	null



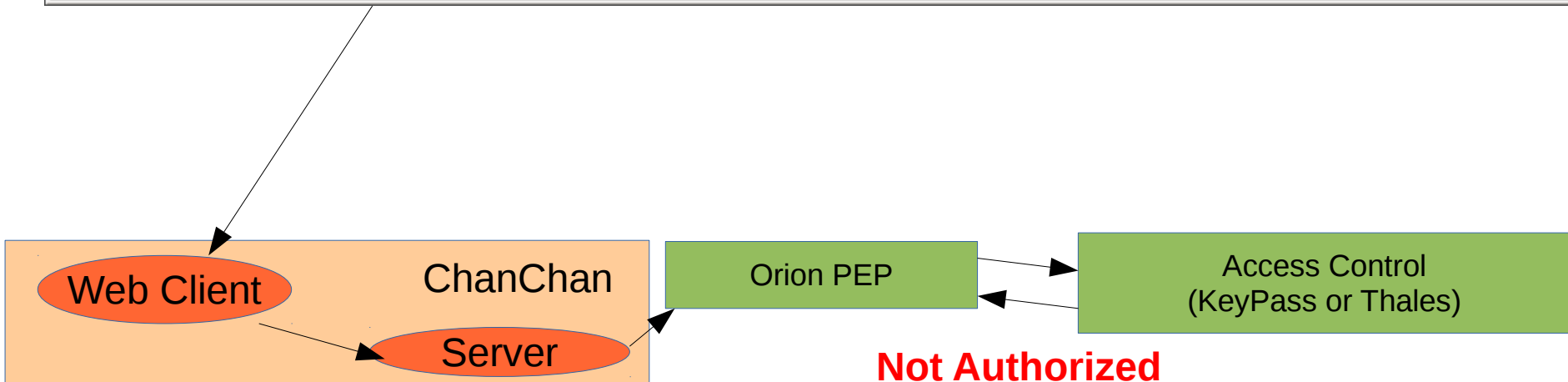
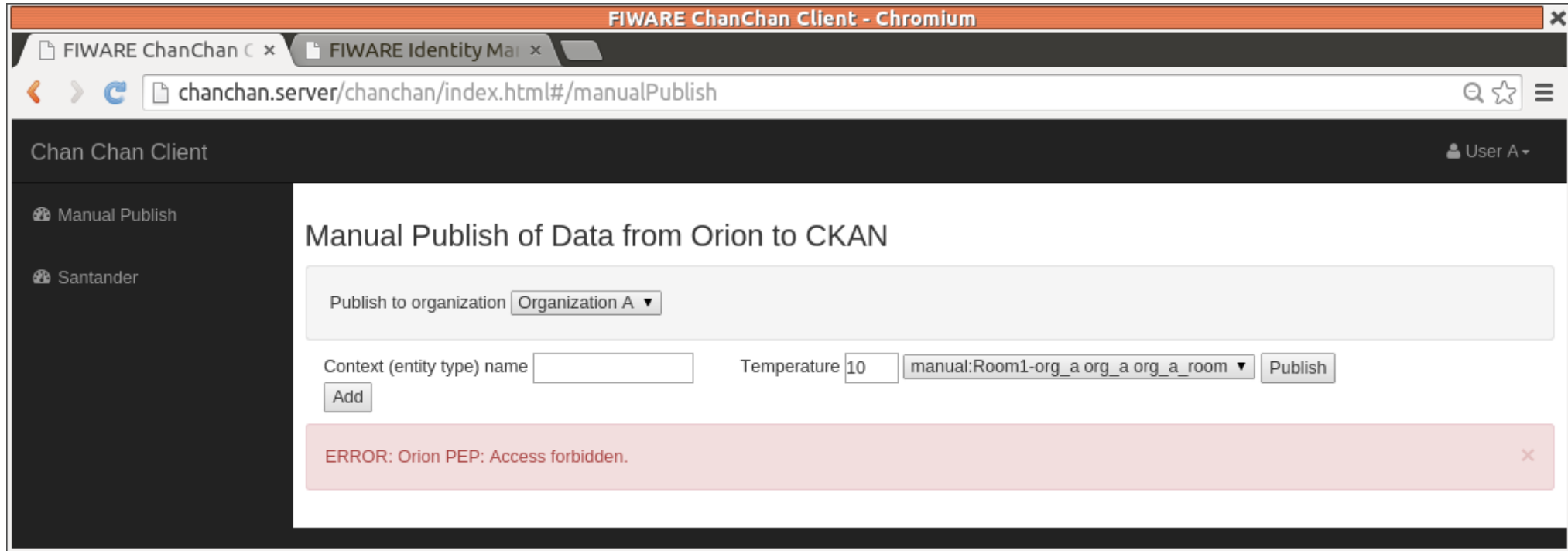
The screenshot shows the FIWARE ChanChan Client web interface in a Chromium browser. The address bar displays the URL: `chanchan.server/chanchan/index.html#/manualPublish`. The page title is "Manual Publish of Data from Orion to CKAN". The interface includes a sidebar with "Manual Publish" and "Santander" options. The main content area has a form for publishing data. The "Publish to organization" dropdown is set to "Organization A". The "Context (entity type) name" field is empty, and the "Temperature" field is set to "5". The "manual:Room1-org_a org_a org_a_room" dropdown is selected. The "Publish" button is visible. Below the form, a section titled "CKAN contents for org_a" shows a tree structure of the data:

- org_a_room
 - manual:Room1-org_a
 - 23 2014-12-16T11:26:35.385000
 - 5 2014-12-16T11:31:10.220000

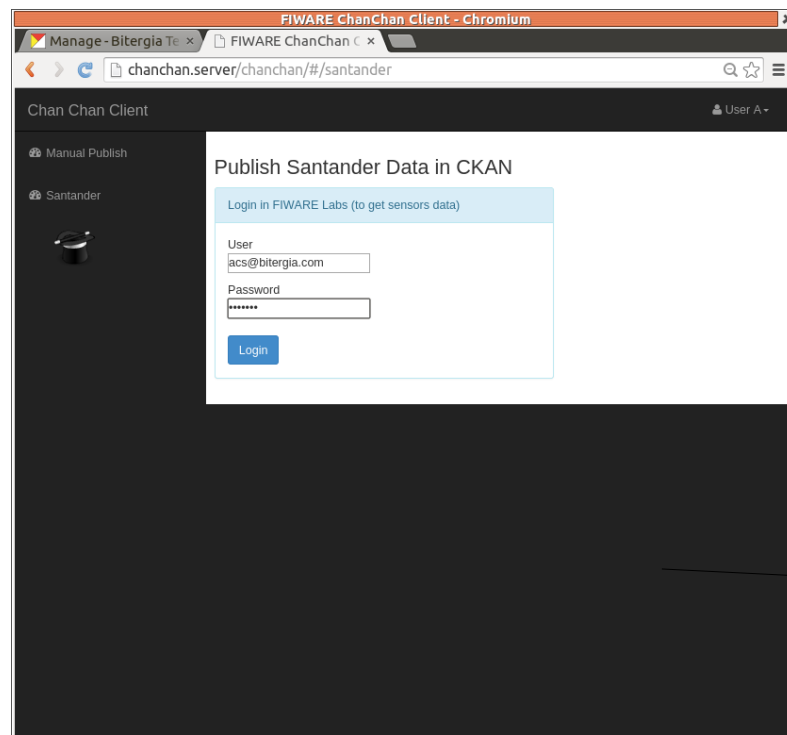
Manual Publish (Access Control)



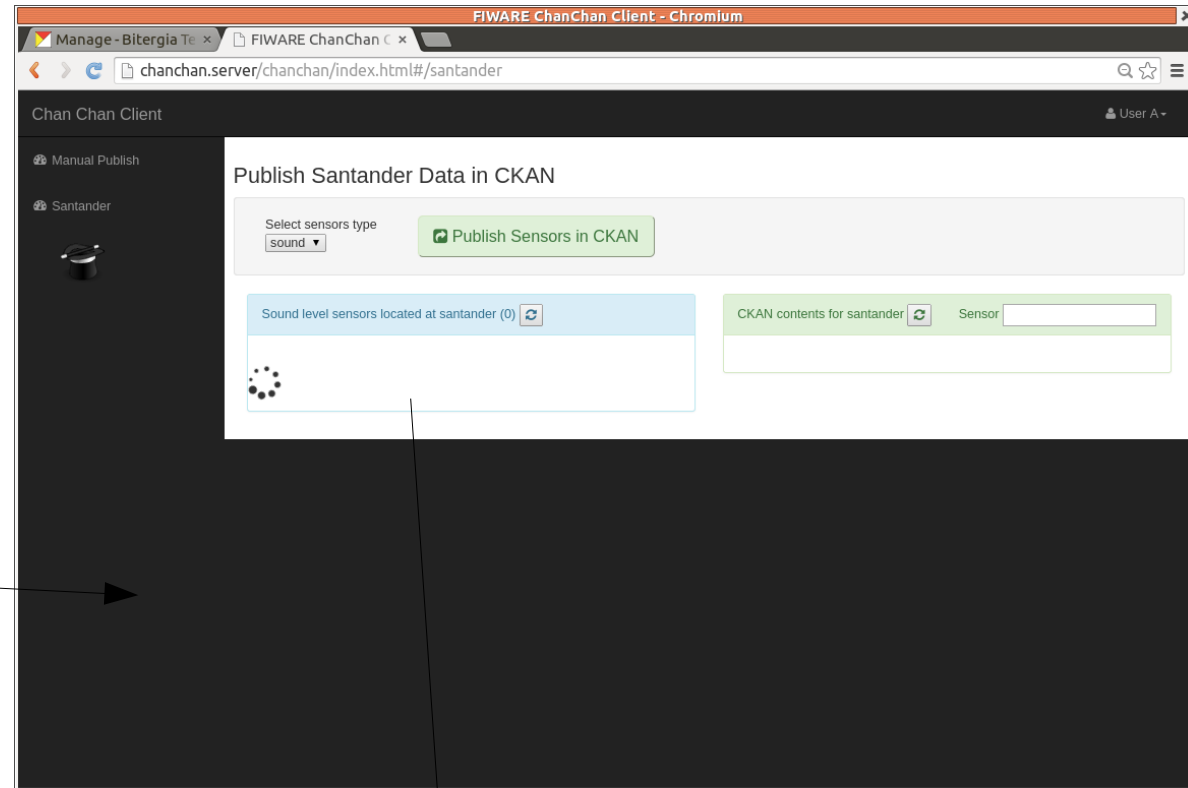
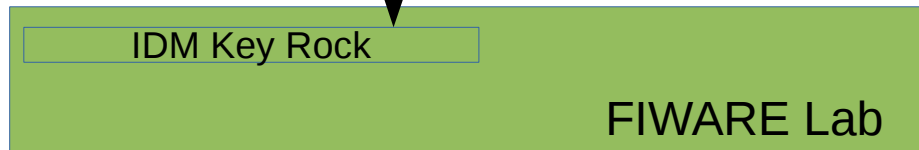
Manual Publish (Access Control)



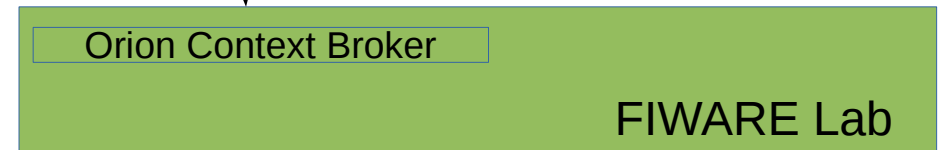
Santander Sound Sensors



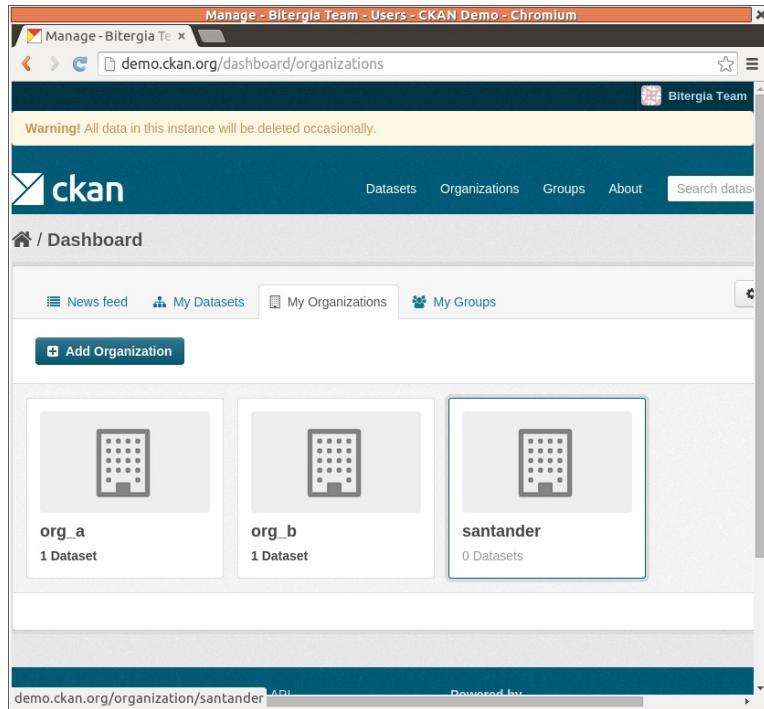
cloud.lab.fi-ware.org



orion.lab.fi-ware.org



Santander Sound Sensors



Work Done: Provision

- All ChanChan platform is installed automatically using VAGRANT or an Ubuntu 14.04 image. All components are Open Source (KeyPass substitutes Access Control).
- Provision (download, compile, install, configure, integration and initial deploy) has been done for:
 - ChanChan client and server
 - KeyRock IDM
 - Orion
 - Orion PEP
 - Cygnus CKAN
 - KeyPass

<https://github.com/Bitergia/fiware-chanchan/tree/master/vagrant/scripts>

Work Done: ChanChan

- ChanChan client is a Single Page Application Web using AngularJS. It uses the REST interfaces offered by ChanChan server.
- ChanChan server is a Node.js based gateway that offers a REST interface for access CKAN, IDM Key Rock, Orion and Orion PEP REST interfaces.

Work Done: Santander Sensors

- Access to Santander Sensors for Sound Level Meter is done using Orion in FIWARE Labs.
- Current approach is “pull” in order ChanChan app does not need a public end point for “push”.
- Adding new sensors should be pretty easy.

Work Done: IDM KeyRock and KeyPass

- IDM KeyRock does not support KeyPass. This support has been developed and contributed upstream.

Conclusions

- ChanChan platform could be used to bootstrap systems than needs authentication, authorization and context broker, the basic FIWARE GEs. So it could be seen as a FIWARE SDK.
- ChanChan platform could be used to track the development of KeyRock, Orion, Orion PEP, Cygnus and KeyPass and test quickly all of them and its integration. It is an efficient testbed that is “cheap” to maintain.
- ChanChan platform shows a complete platform and a SPA web app that uses them, lowering the entry barrier for new developers to FIWARE.

<https://github.com/Bitergia/fiware-chanchan>
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