

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.

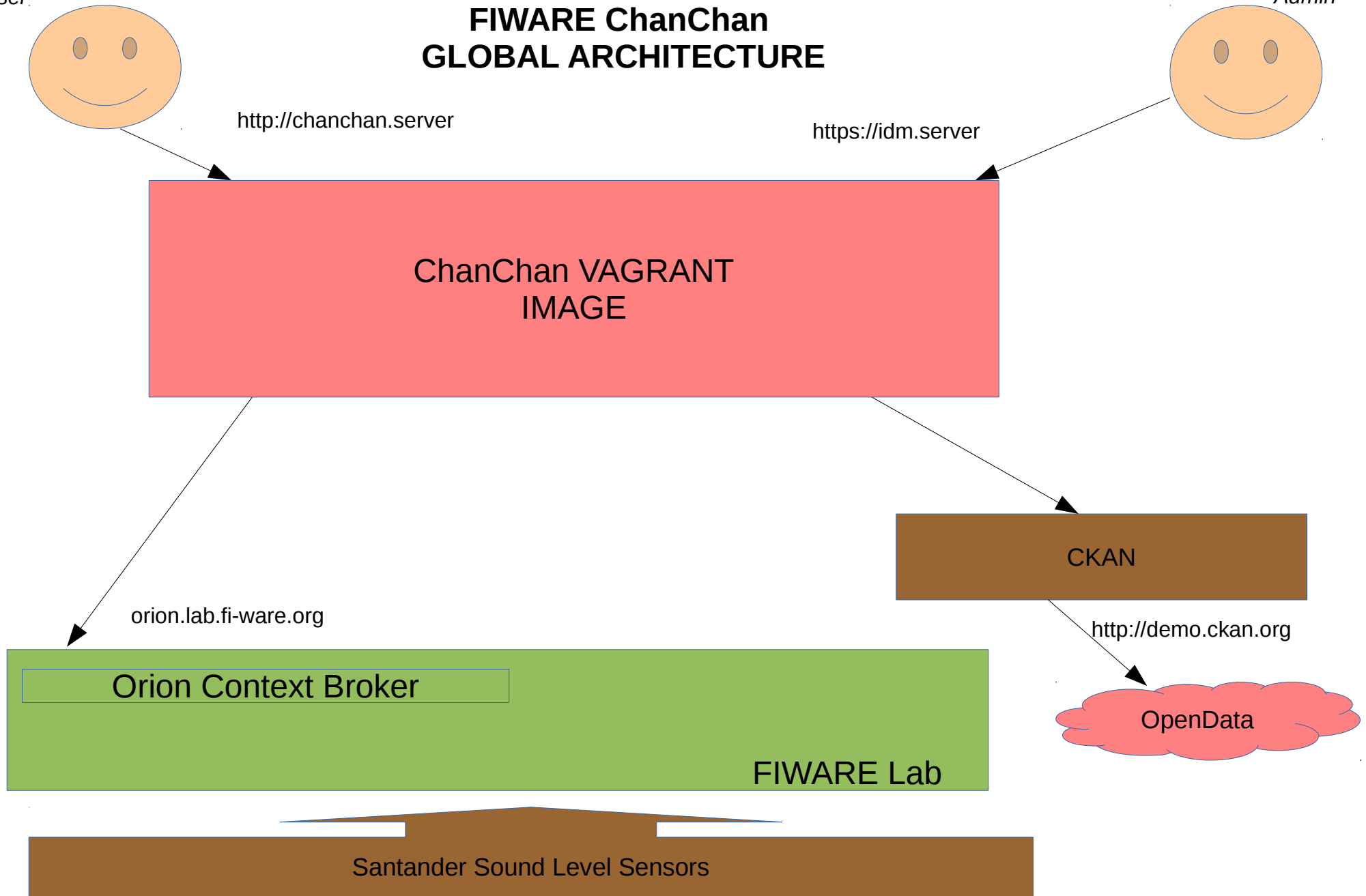
Results

- 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.

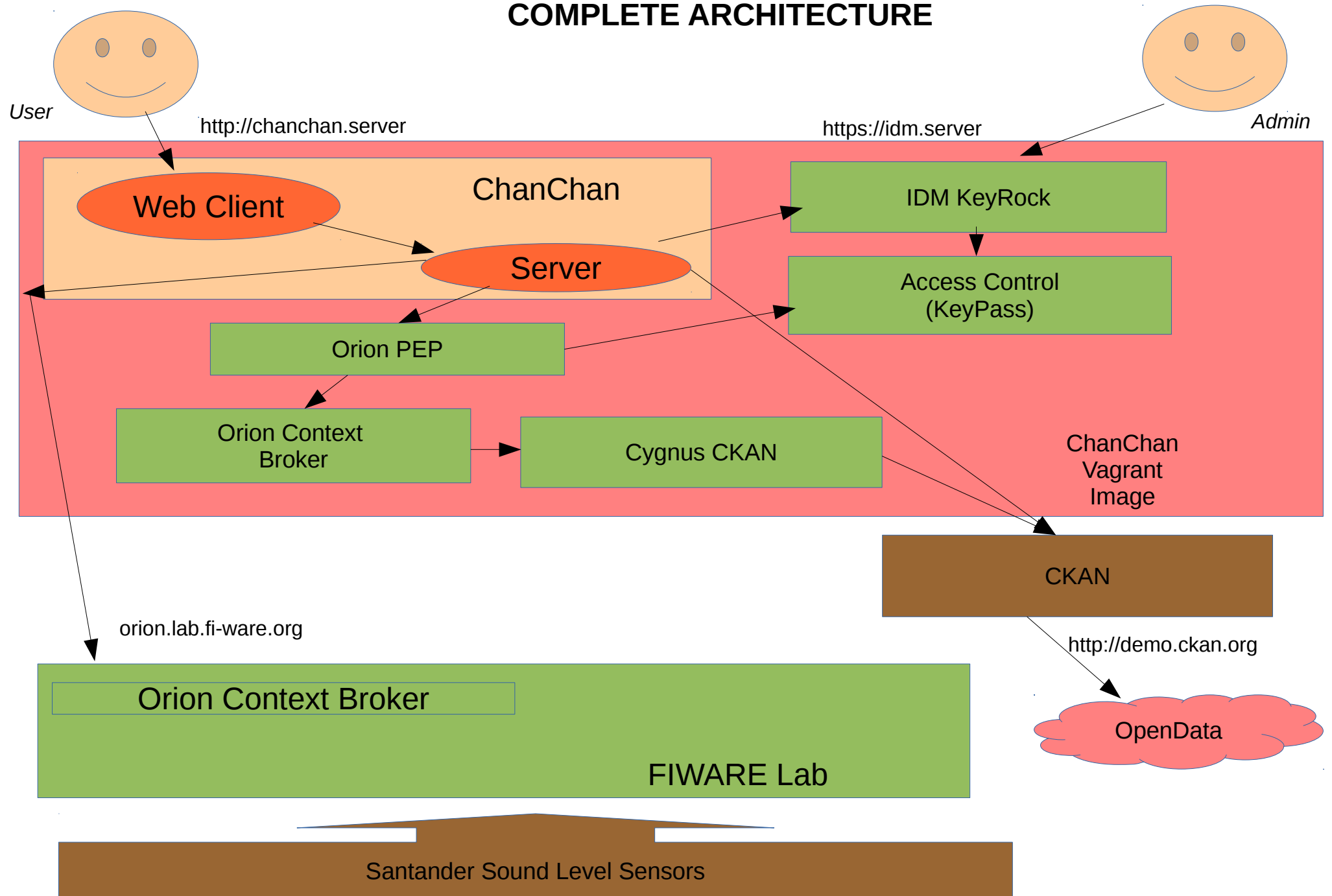
User

Admin

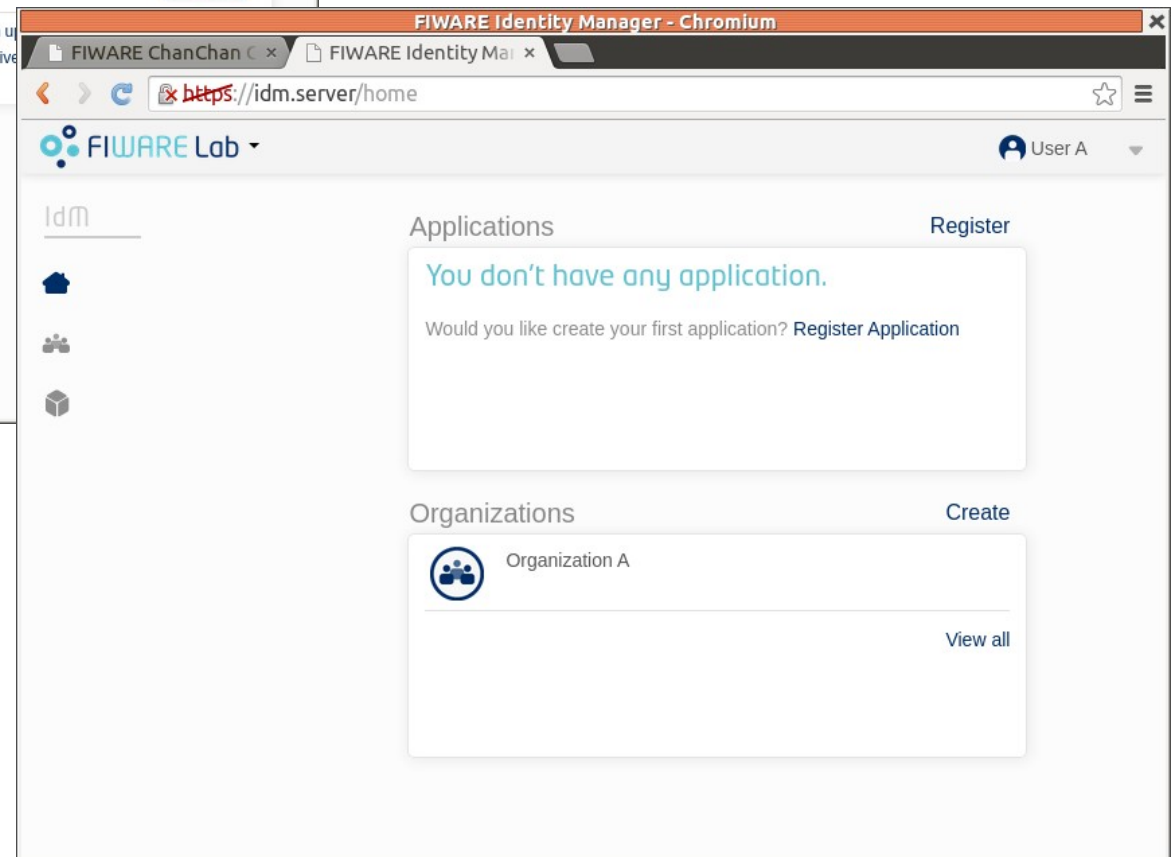
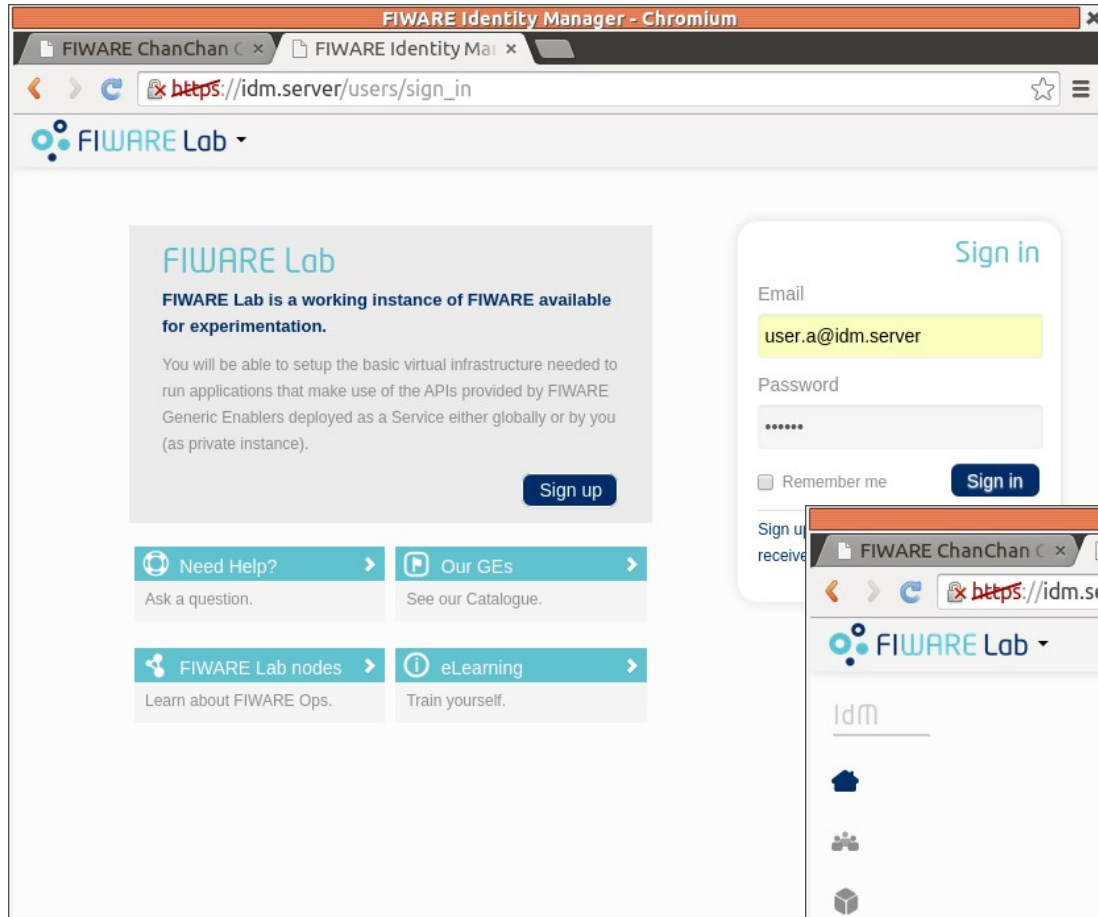
FIWARE ChanChan GLOBAL ARCHITECTURE



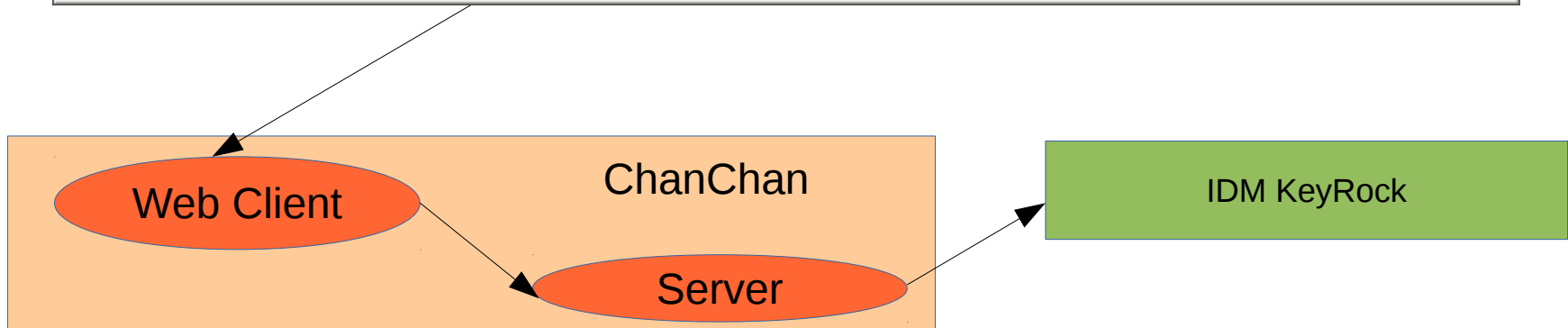
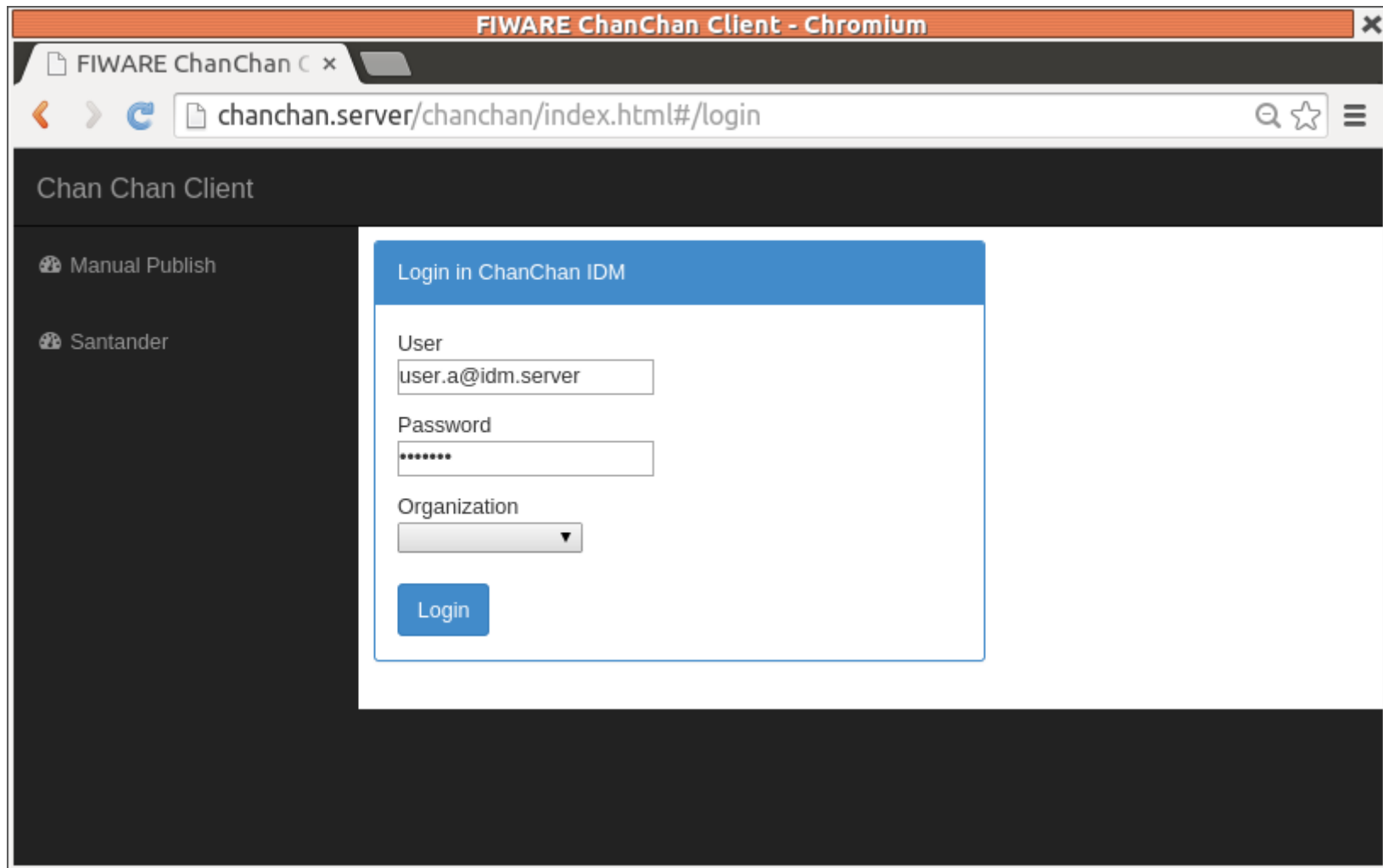
FIWARE ChanChan COMPLETE ARCHITECTURE



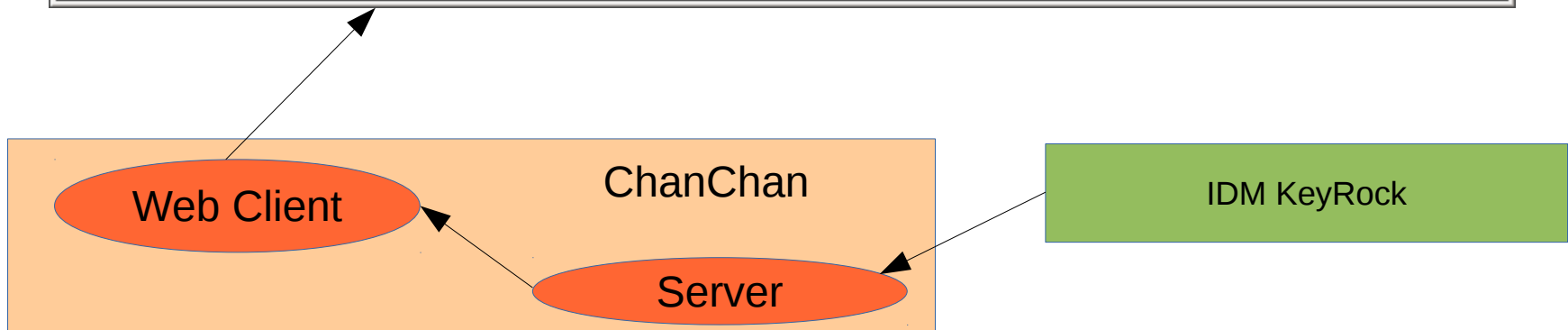
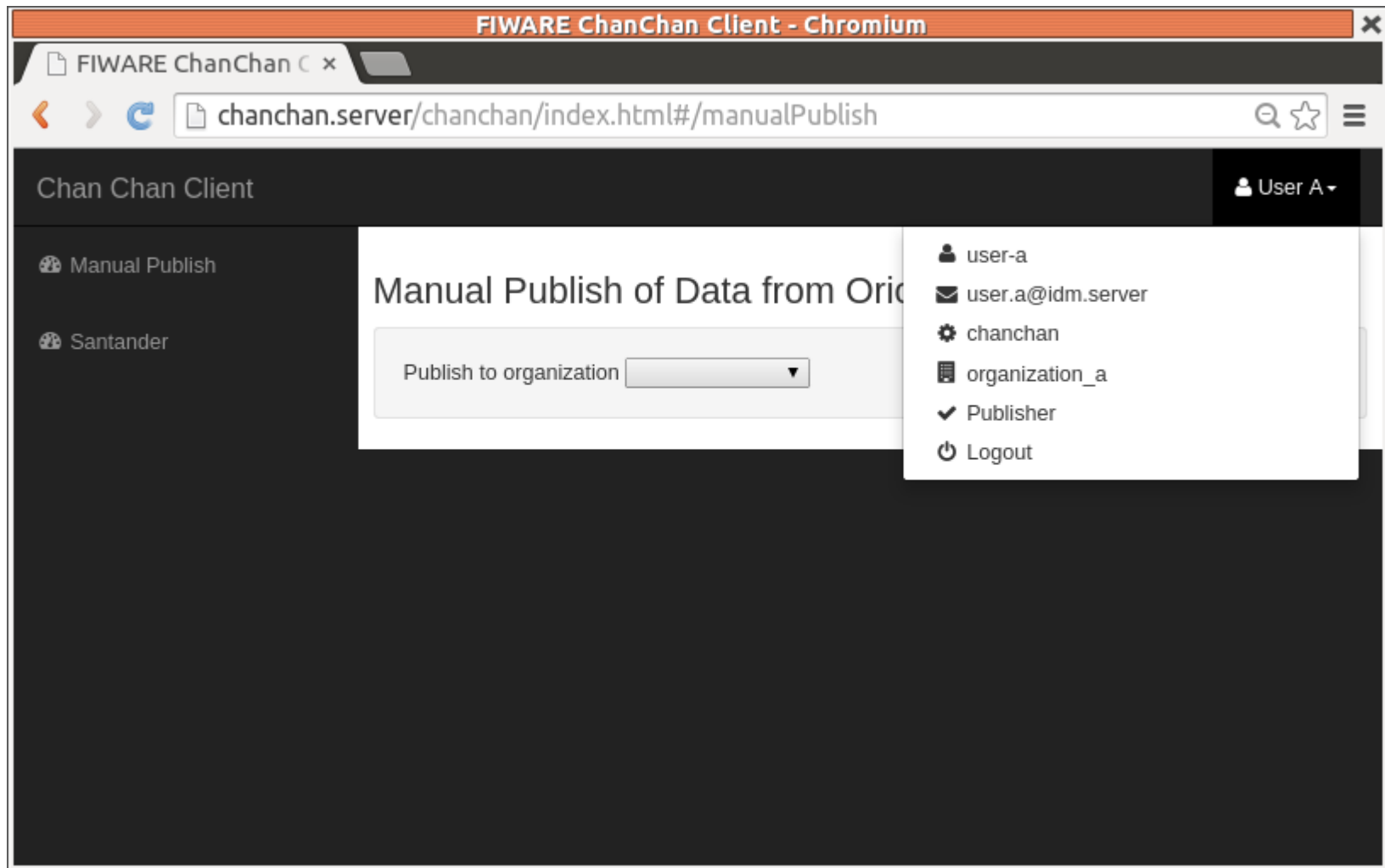
Authentication (I)



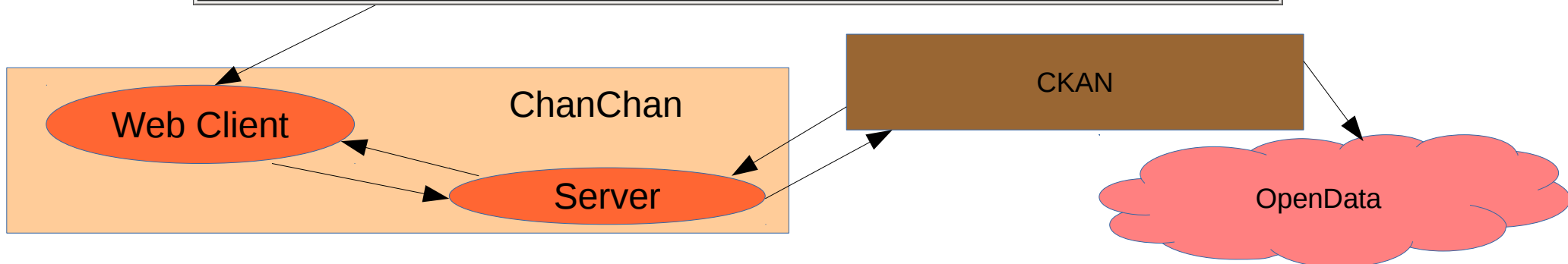
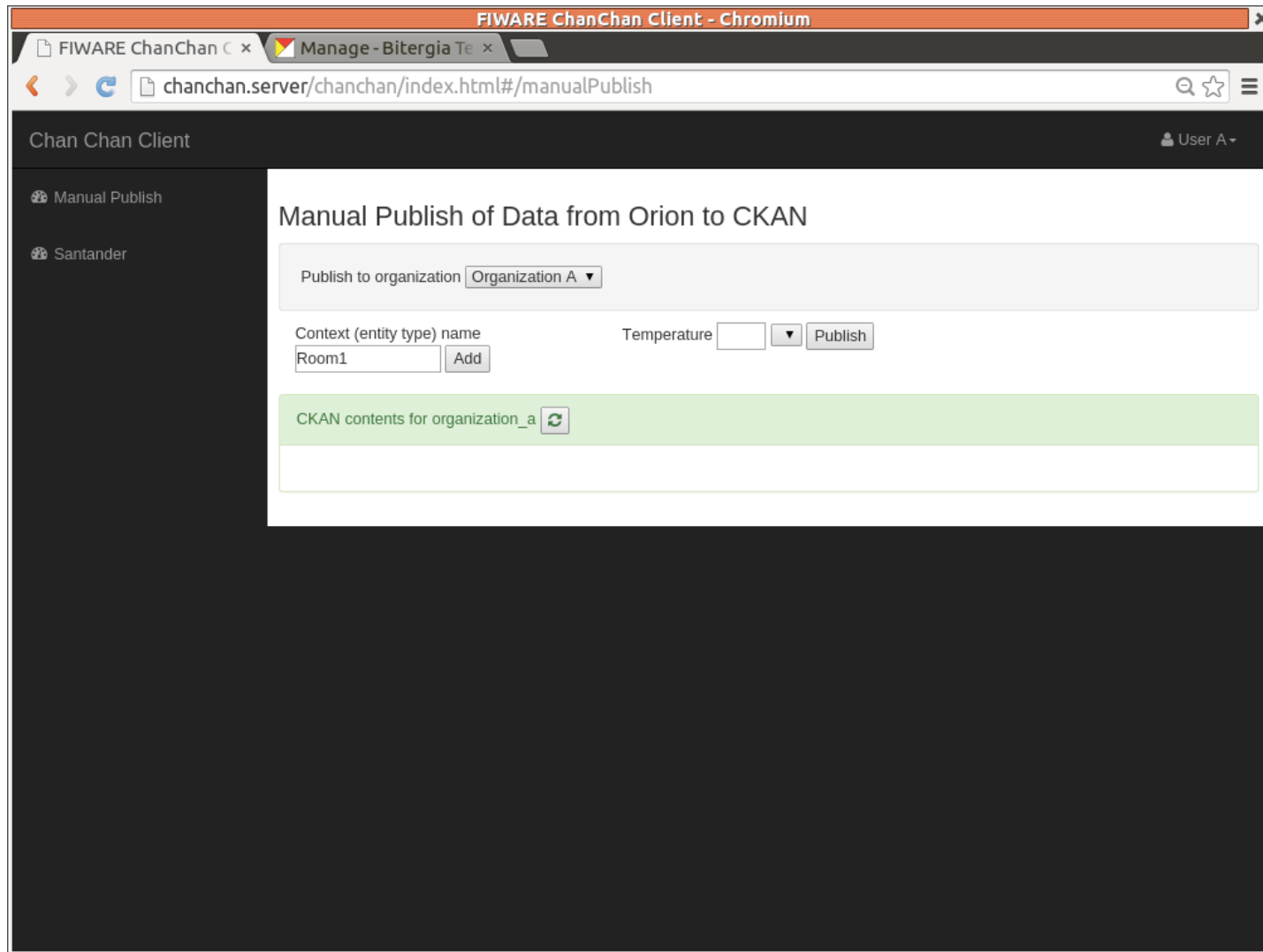
Authentication (II)



Authentication (II)



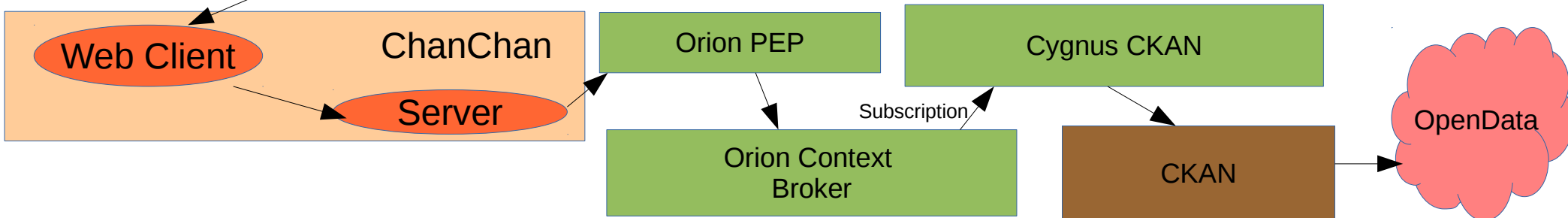
Manual Publish (Data from CKAN)



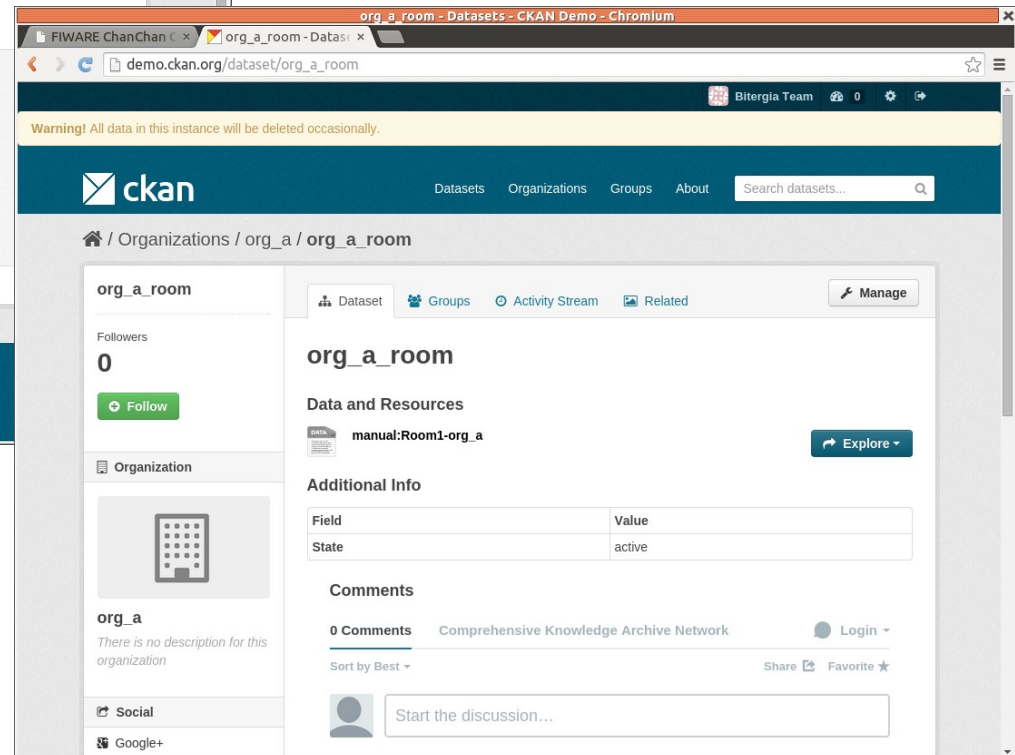
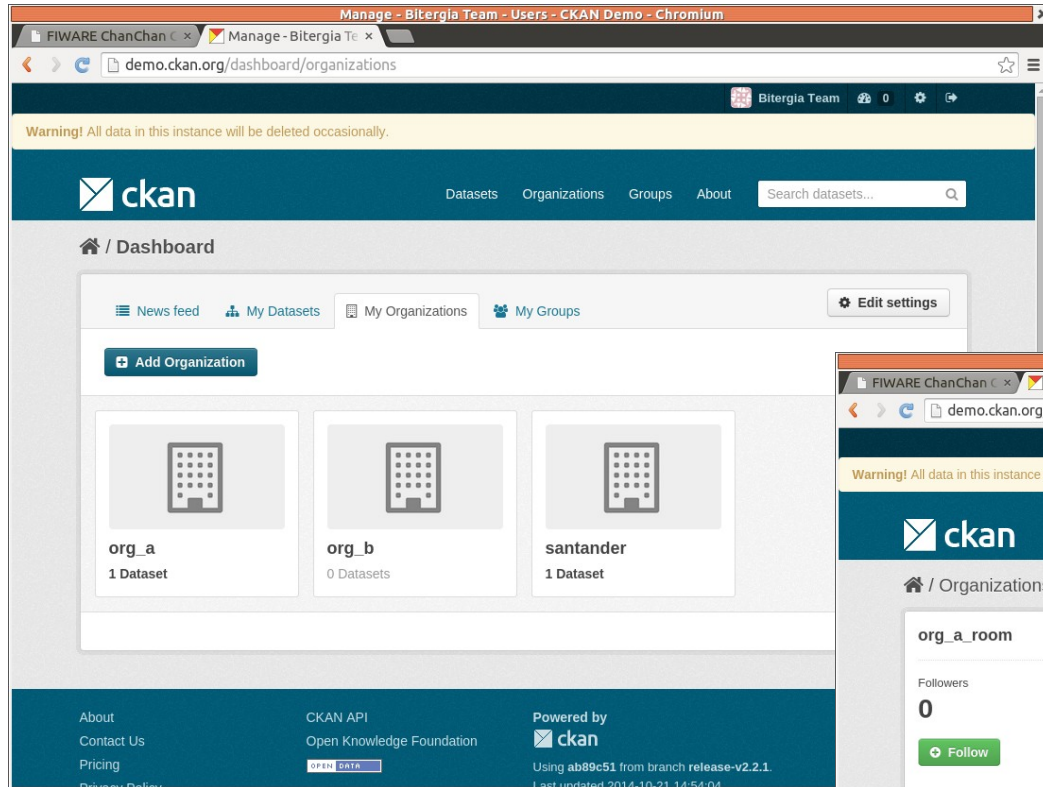
Manual Publish (Data to CKAN)

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". The left sidebar contains a "Manual Publish" menu item and a "Santander" logo. 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.

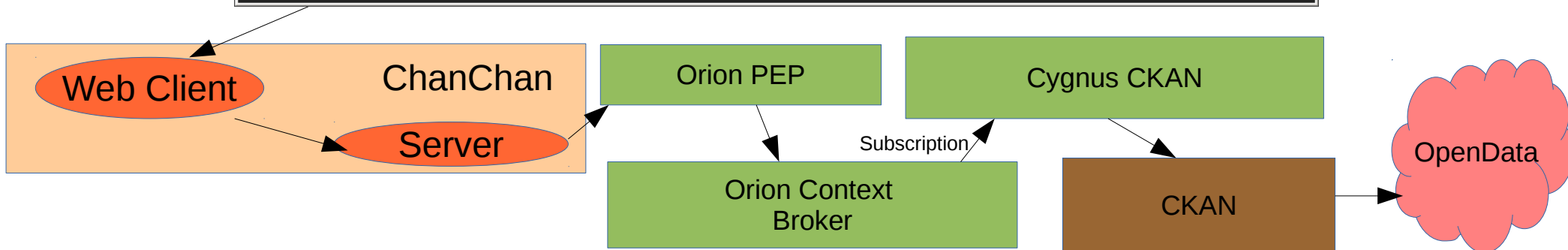


Manual Publish (Data in CKAN)

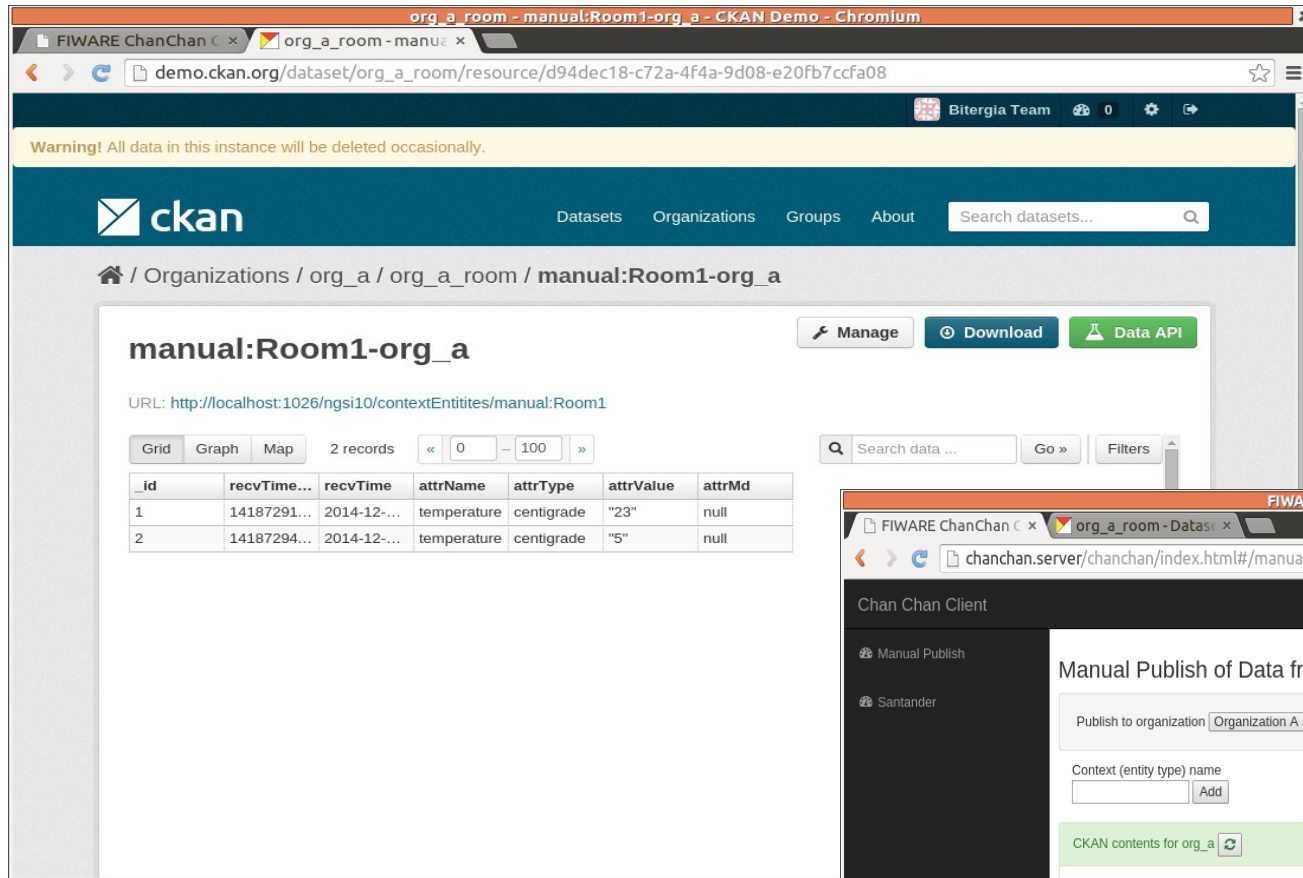


Manual Publish (Data to CKAN)

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". The left sidebar has a "Manual Publish" menu item. The main content area is titled "Manual Publish of Data from Orion to CKAN". It features a "Publish to organization" dropdown set to "Organization A". Below this, there are input fields for "Context (entity type) name" (with an "Add" button) and "Temperature" (set to 5). A "manual:Room1-org_a org_a org_a org_a room" dropdown is also present, followed by a "Publish" button. A green box labeled "CKAN contents for org_a" contains a tree structure: "org_a_room" (parent) containing "manual:Room1-org_a" (child), which in turn contains a timestamp "23 2014-12-16T11:26:35.385000".

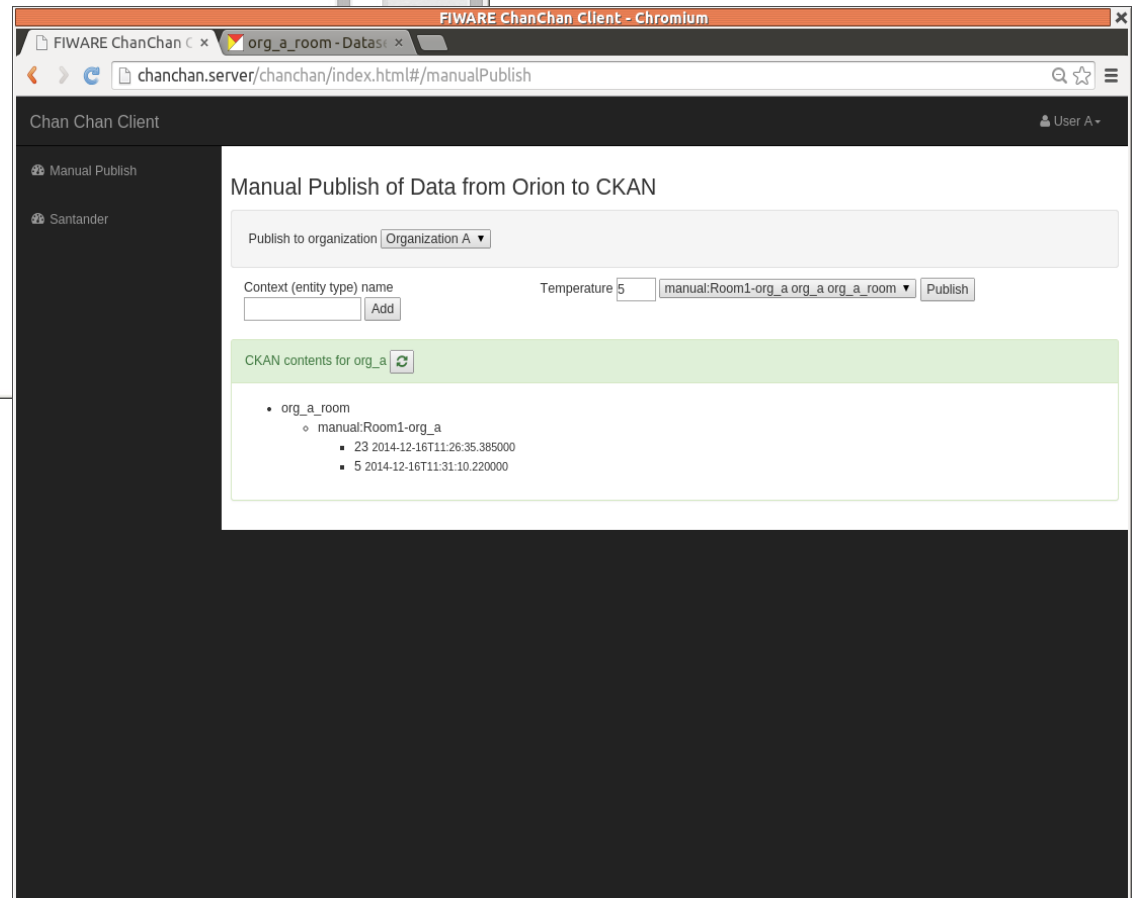


Manual Publish (Data in CKAN)



The screenshot shows the CKAN demo 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 features a dark blue header with the CKAN logo and navigation links for Datasets, Organizations, Groups, and About. A search bar is also present. Below the header, a breadcrumb trail indicates the path: `/ Organizations / org_a / org_a_room / manual:Room1-org_a`. The main content area displays the dataset name `manual:Room1-org_a` and its URL: `http://localhost:1026/ngsi10/contextEntities/manual:Room1`. A table with 2 records is shown, containing temperature data. The table has columns for `_id`, `recvTime...`, `recvTime`, `attrName`, `attrType`, `attrValue`, and `attrMd`.

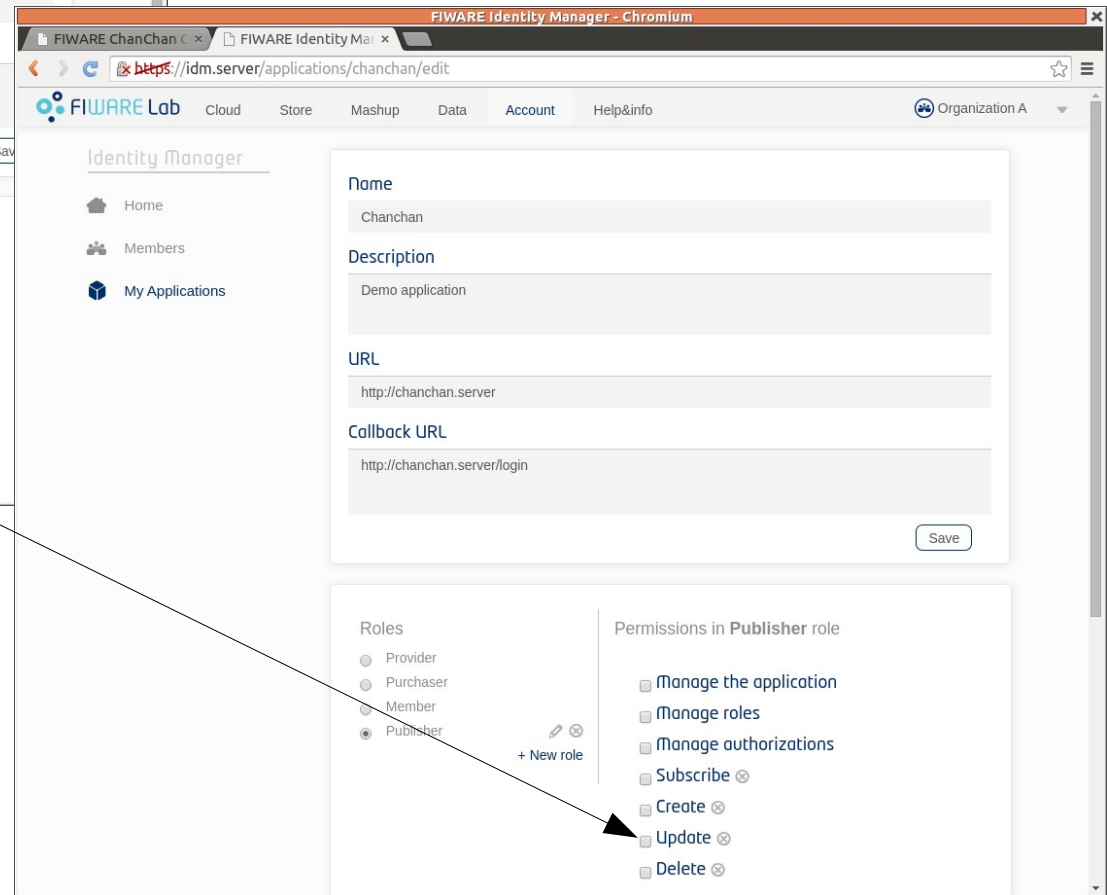
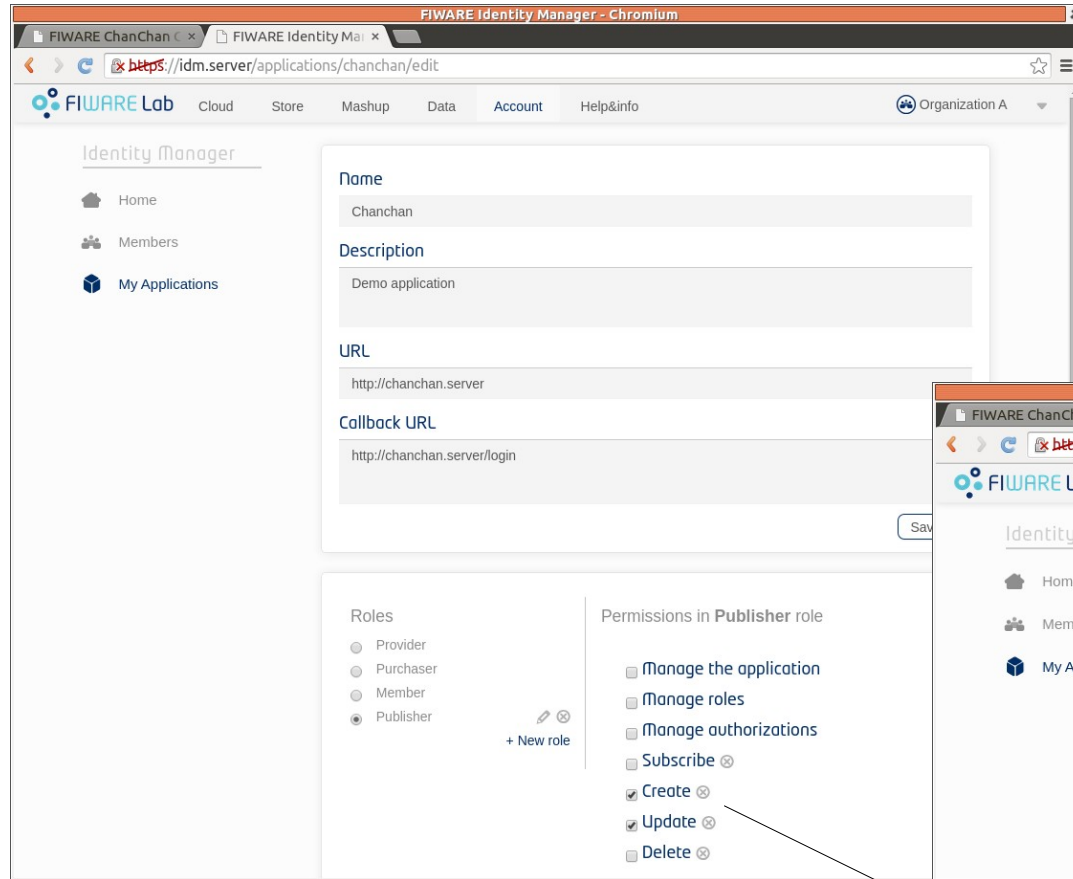
_id	recvTime...	recvTime	attrName	attrType	attrValue	attrMd
1	14187291...	2014-12-...	temperature	centigrade	"23"	null
2	14187294...	2014-12-...	temperature	centigrade	"5"	null



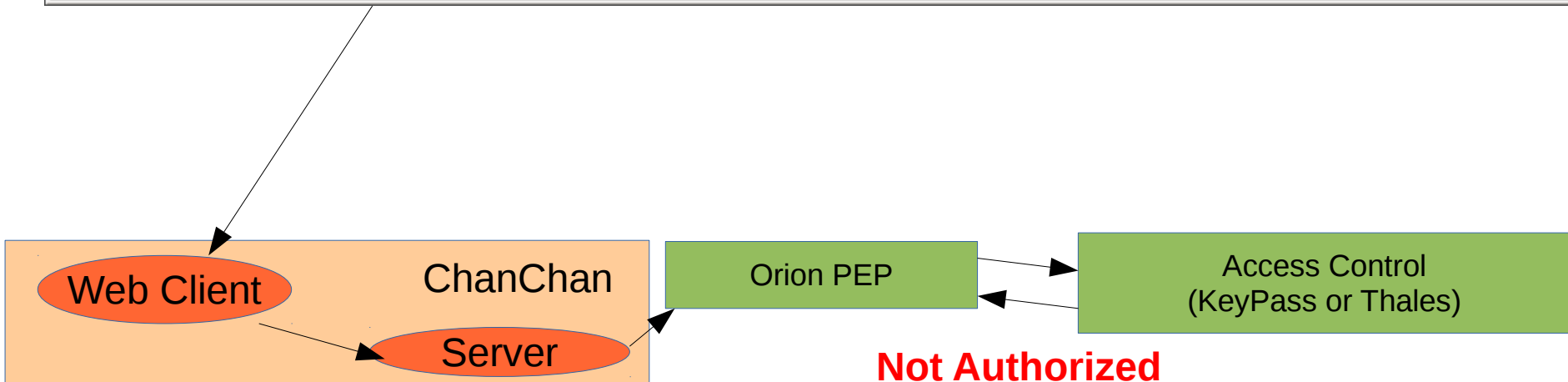
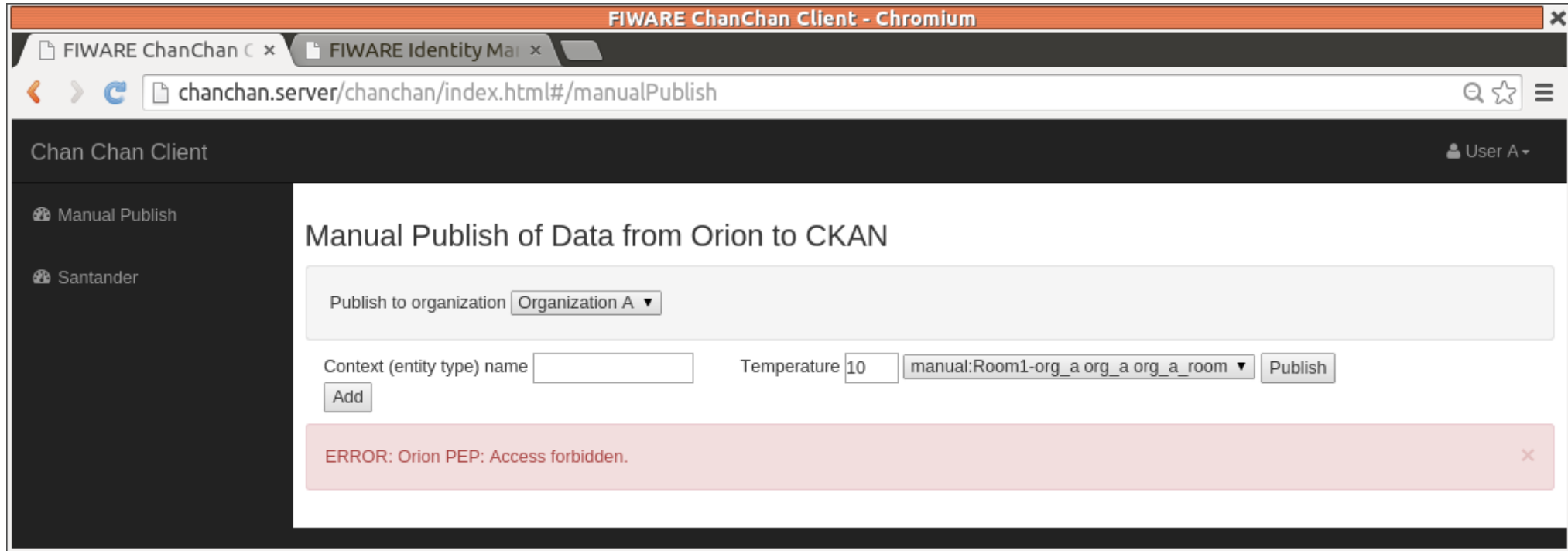
The screenshot shows the FIWARE ChanChan Client interface in a Chromium browser. The address bar displays the URL: `chanchan.server/chanchan/index.html#/manualPublish`. The page features a dark blue header with the Chan Chan Client logo and a user profile dropdown for User A. The main content area displays the title `Manual Publish of Data from Orion to CKAN`. Below the title, there is a form for publishing data. The form includes a dropdown for `Publish to organization` set to `Organization A`. There is a section for `Context (entity type) name` with a text input and an `Add` button. A `Temperature` input field is set to `5`. A `Publish` button is visible. Below the form, a green box displays the `CKAN contents for org_a` with a refresh icon. The contents are listed as follows:

- 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)



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 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.

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