

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.

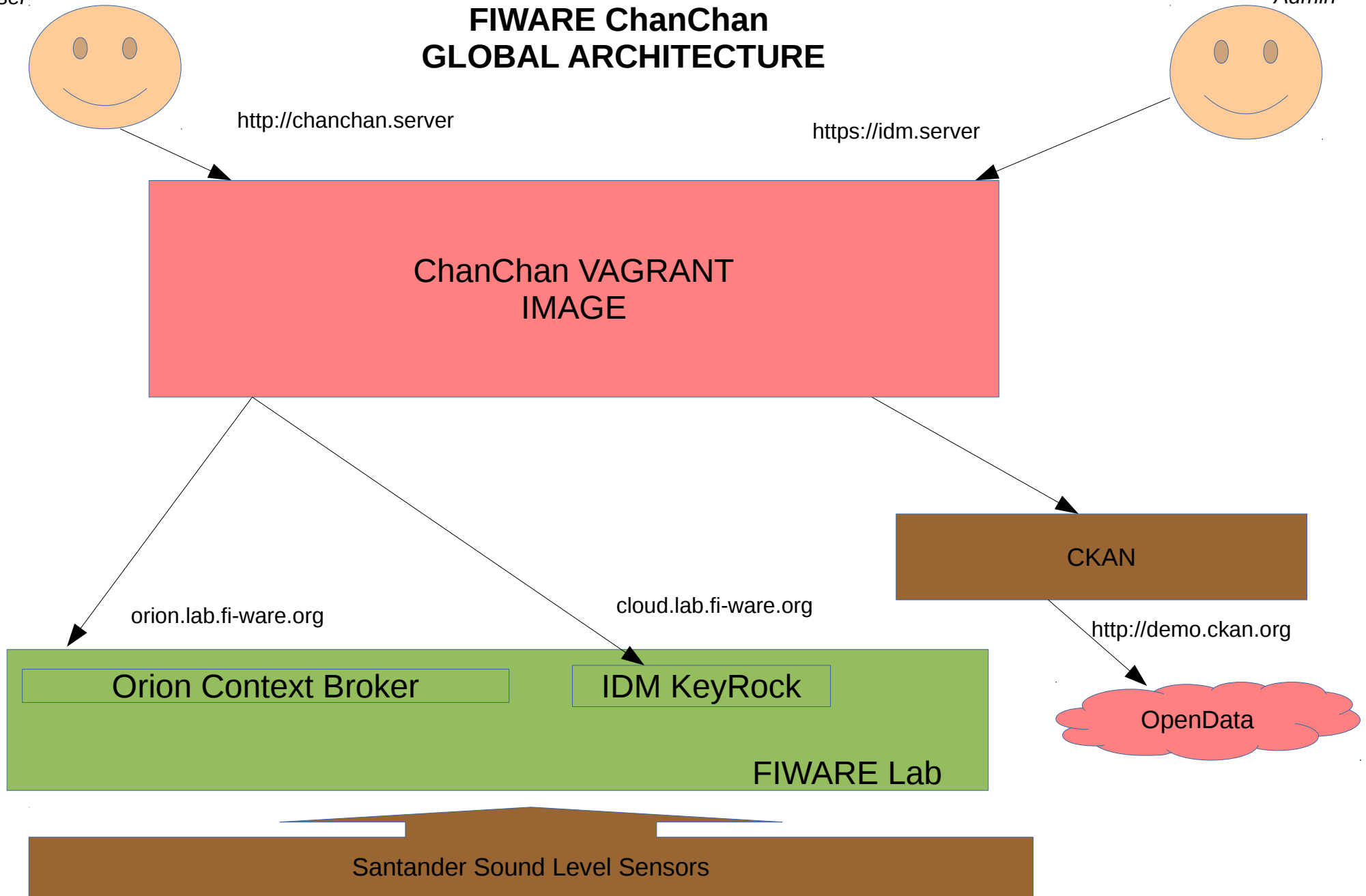
Results

- 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.

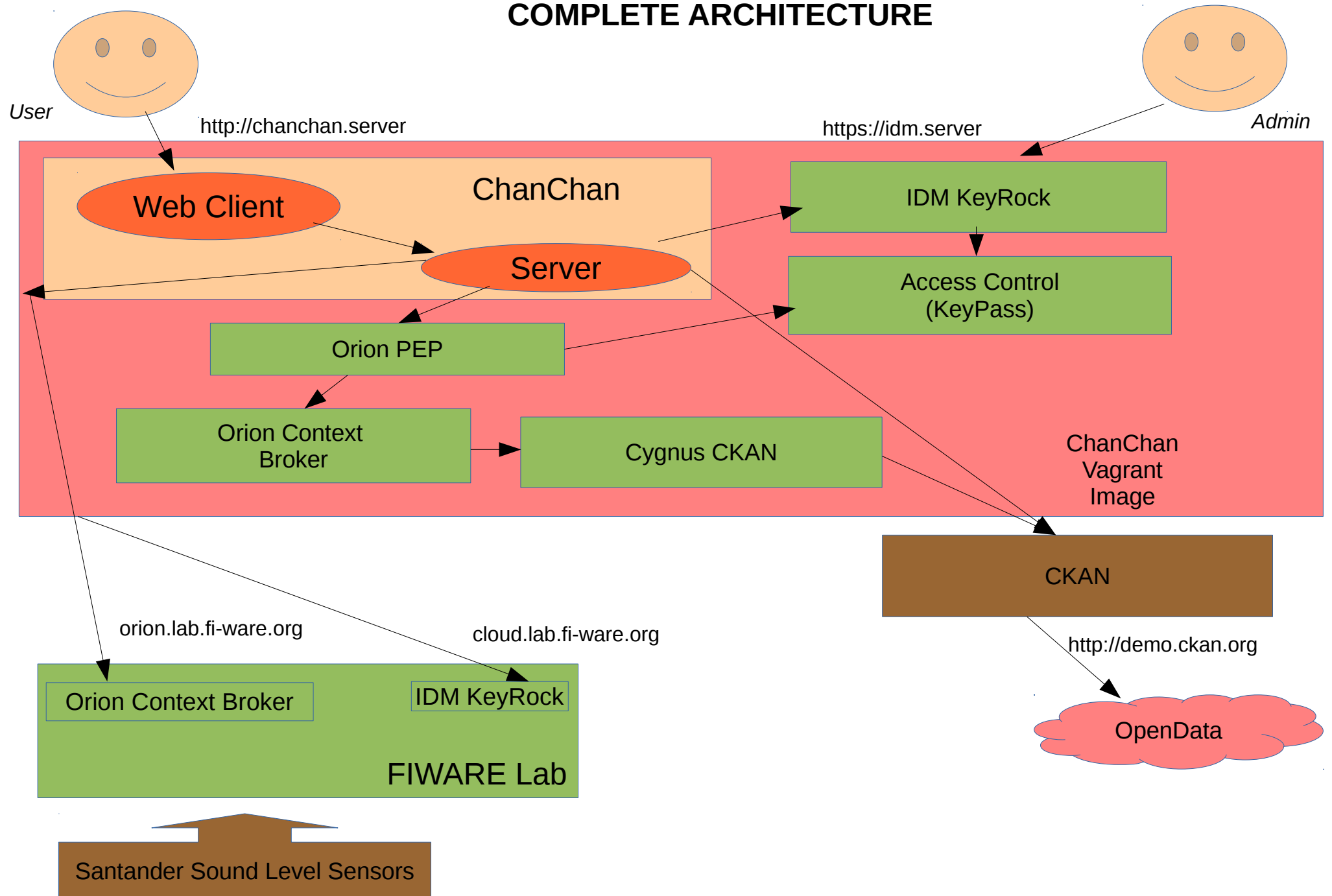
User

Admin

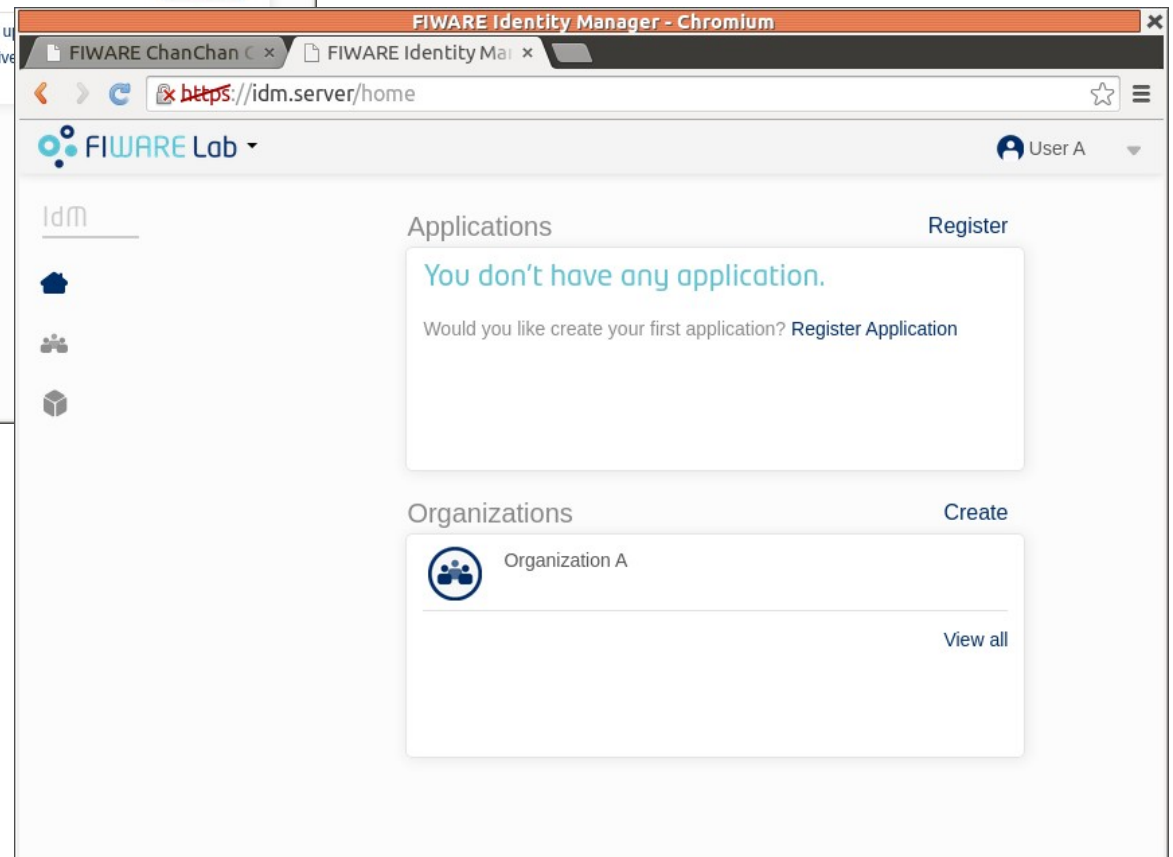
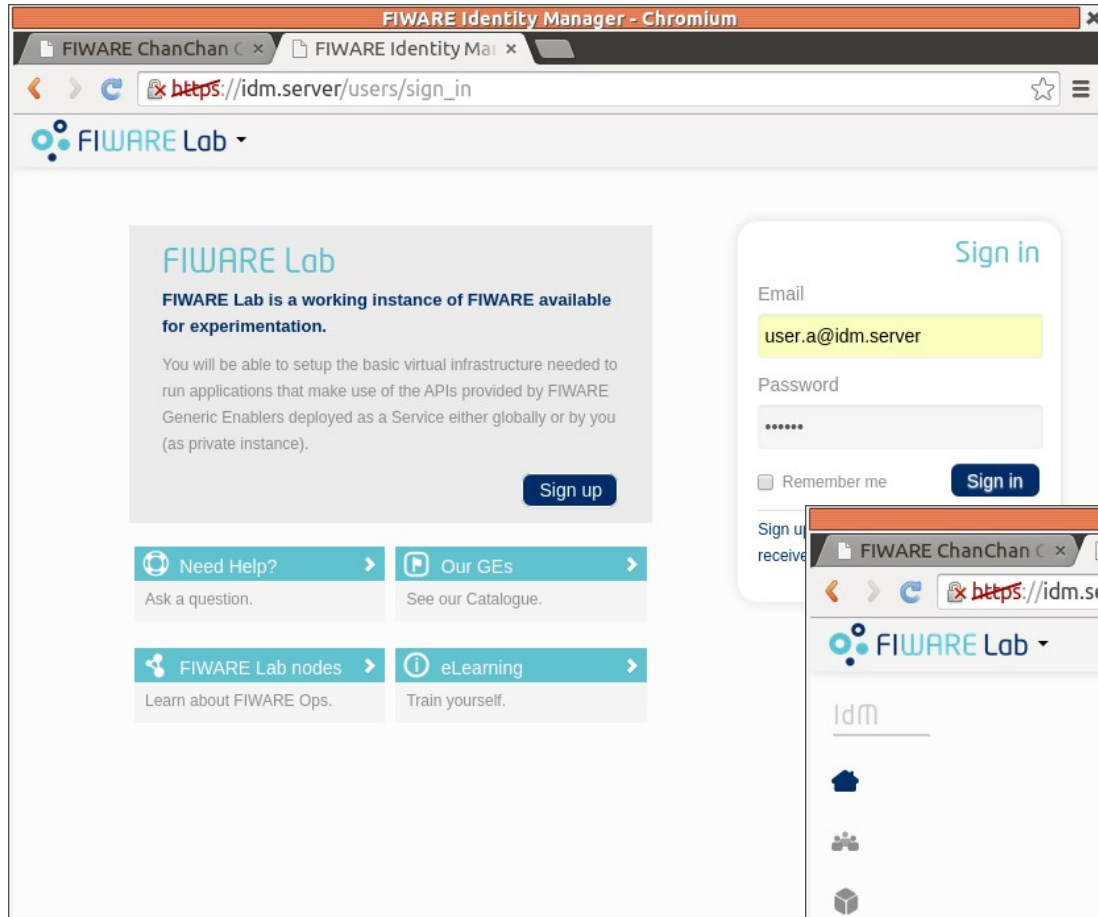
FIWARE ChanChan GLOBAL ARCHITECTURE



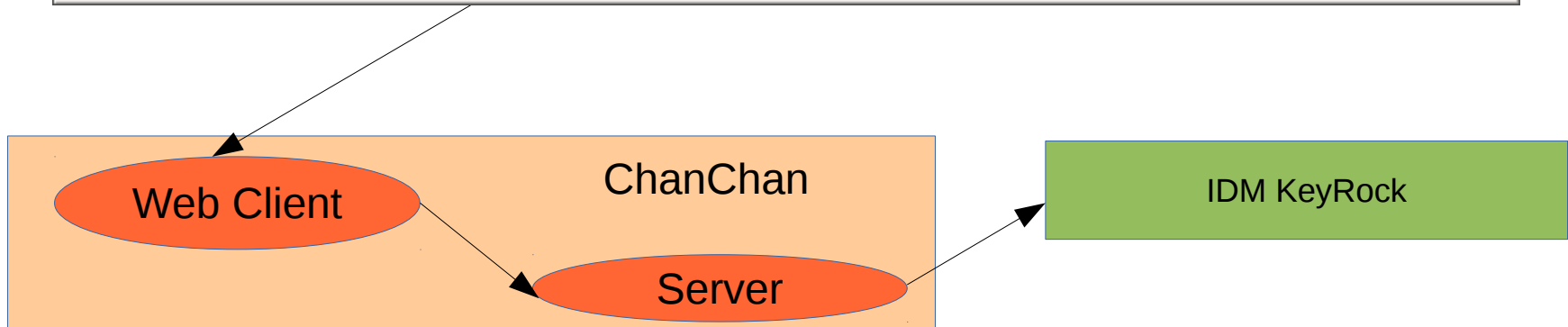
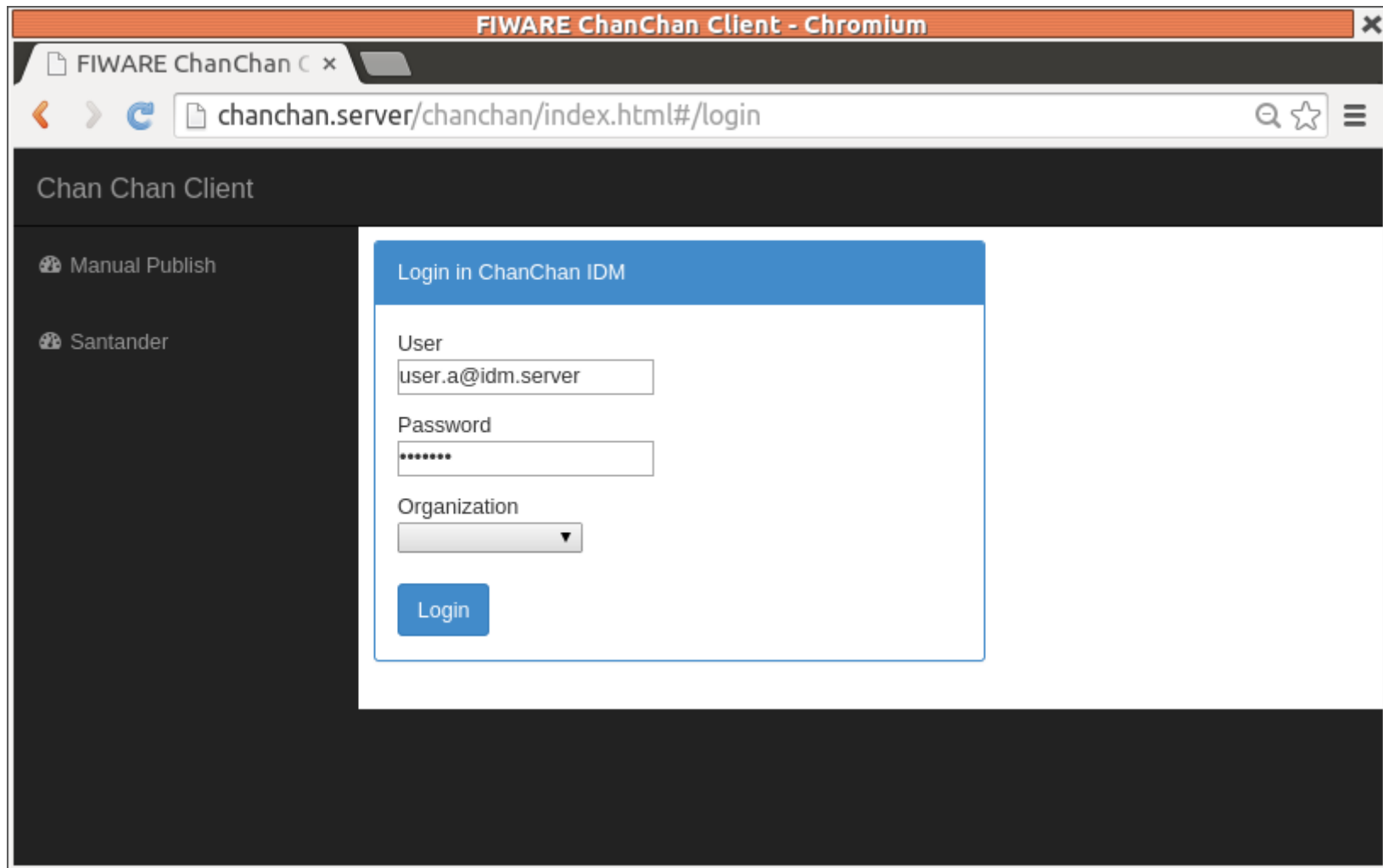
FIWARE ChanChan COMPLETE ARCHITECTURE



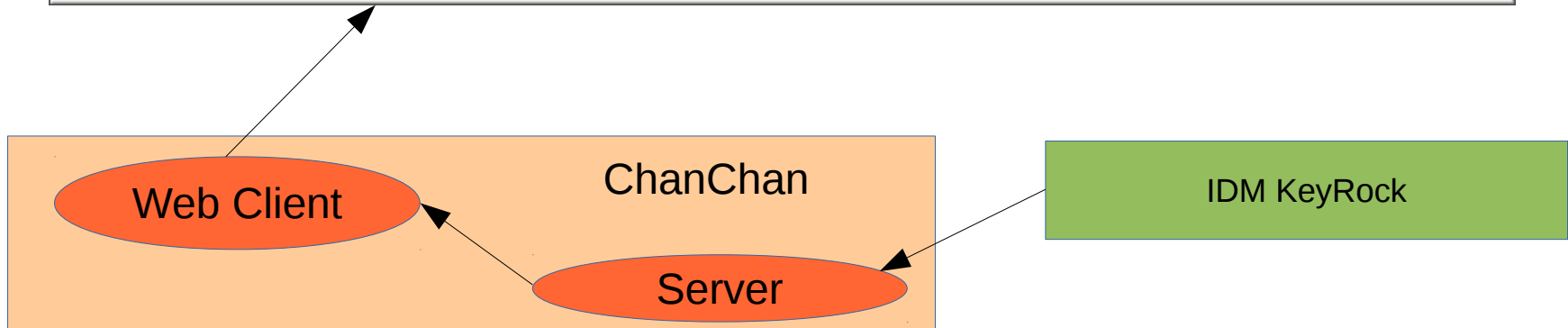
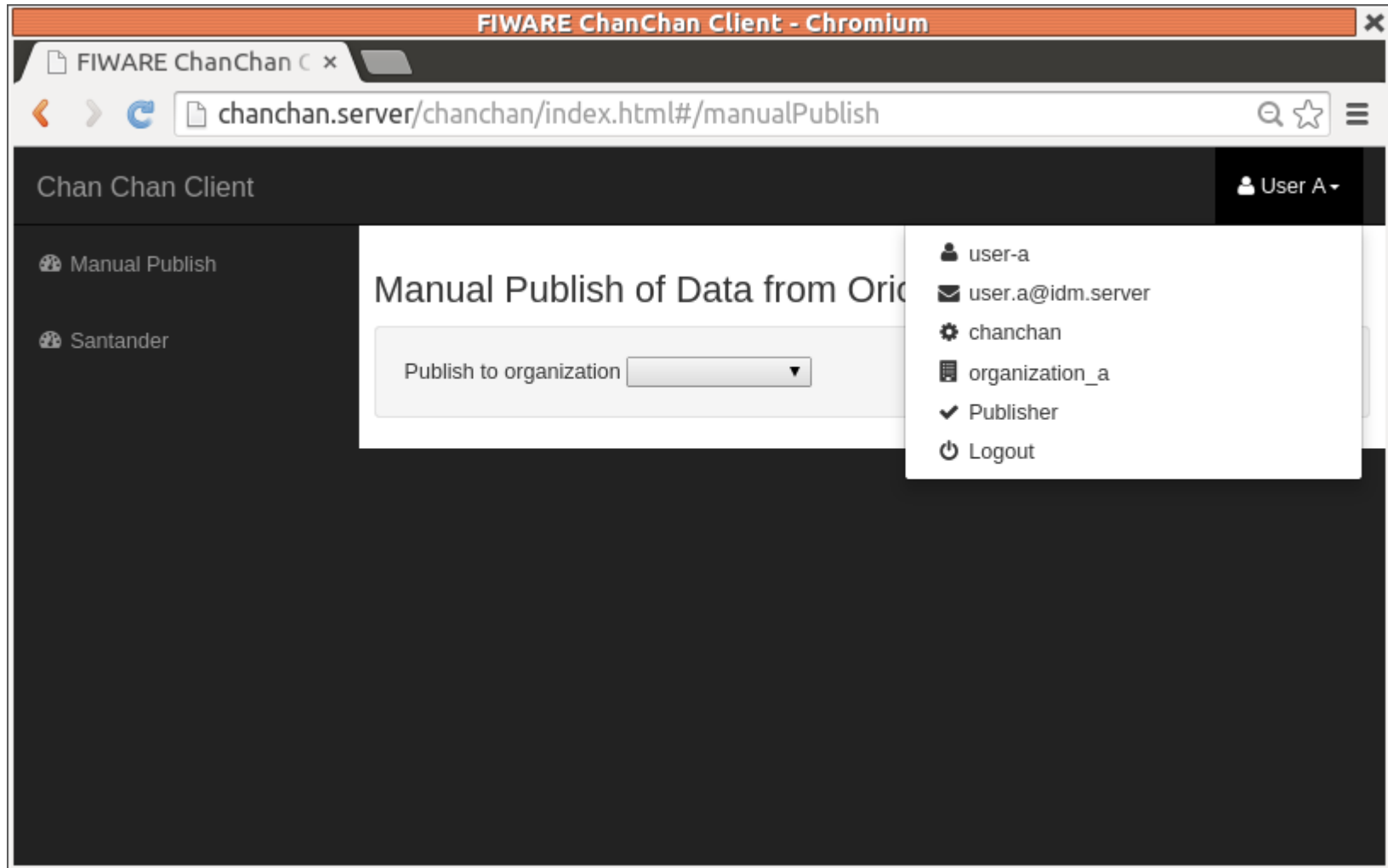
Authentication (I)



Authentication (II)

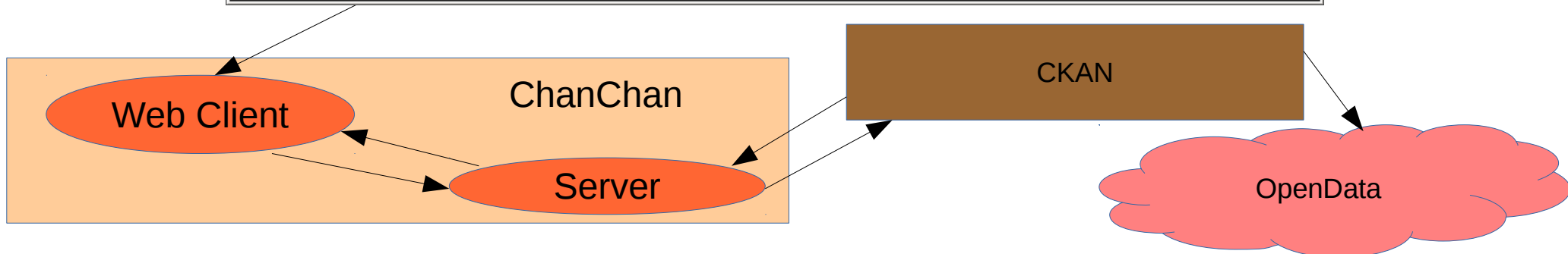


Authentication (II)

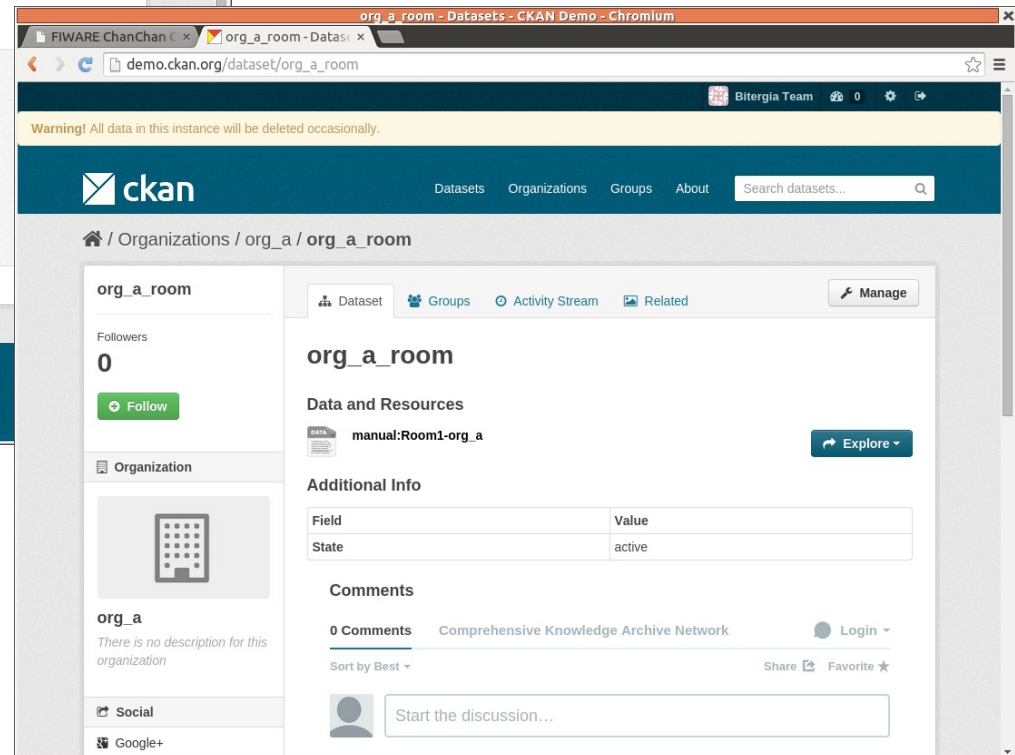
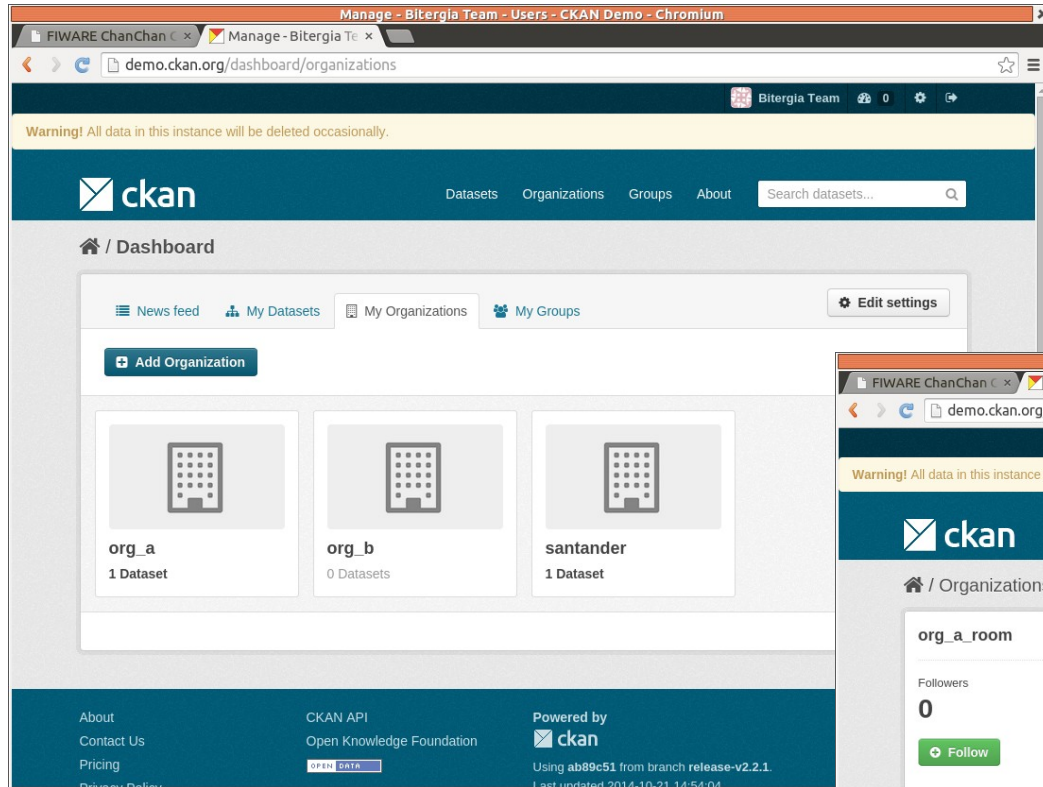


Manual Publish (Data from CKAN)

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 'User A'. The left sidebar has 'Manual Publish' and 'Santander' links. 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 dropdown menu shows 'manual:Room1-org_a org_a org_a_room' with a 'Publish' button. A green box labeled 'CKAN contents for org_a' contains a tree structure: 'org_a_room' (parent) and 'manual:Room1-org_a' (child), with a timestamp '23 2014-12-16T11:26:35.385000' under the child.



Manual Publish (Data in CKAN)



Manual Publish (Data to CKAN)

FIWARE ChanChan Client - Chromium

FIWARE ChanChan C x org_a_room - DataS x

chanchan.server/chanchan/index.html#/manualPublish

Chan Chan Client

User A

Manual Publish

Santander

Manual Publish of Data from Orion to CKAN

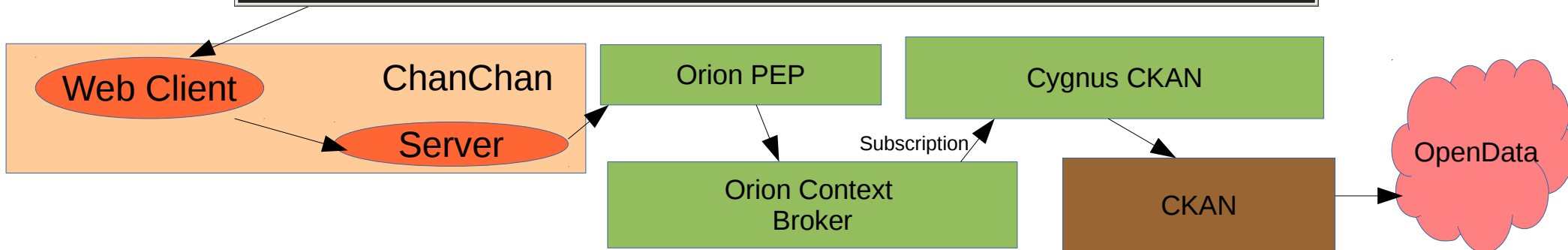
Publish to organization Organization A

Context (entity type) name Add

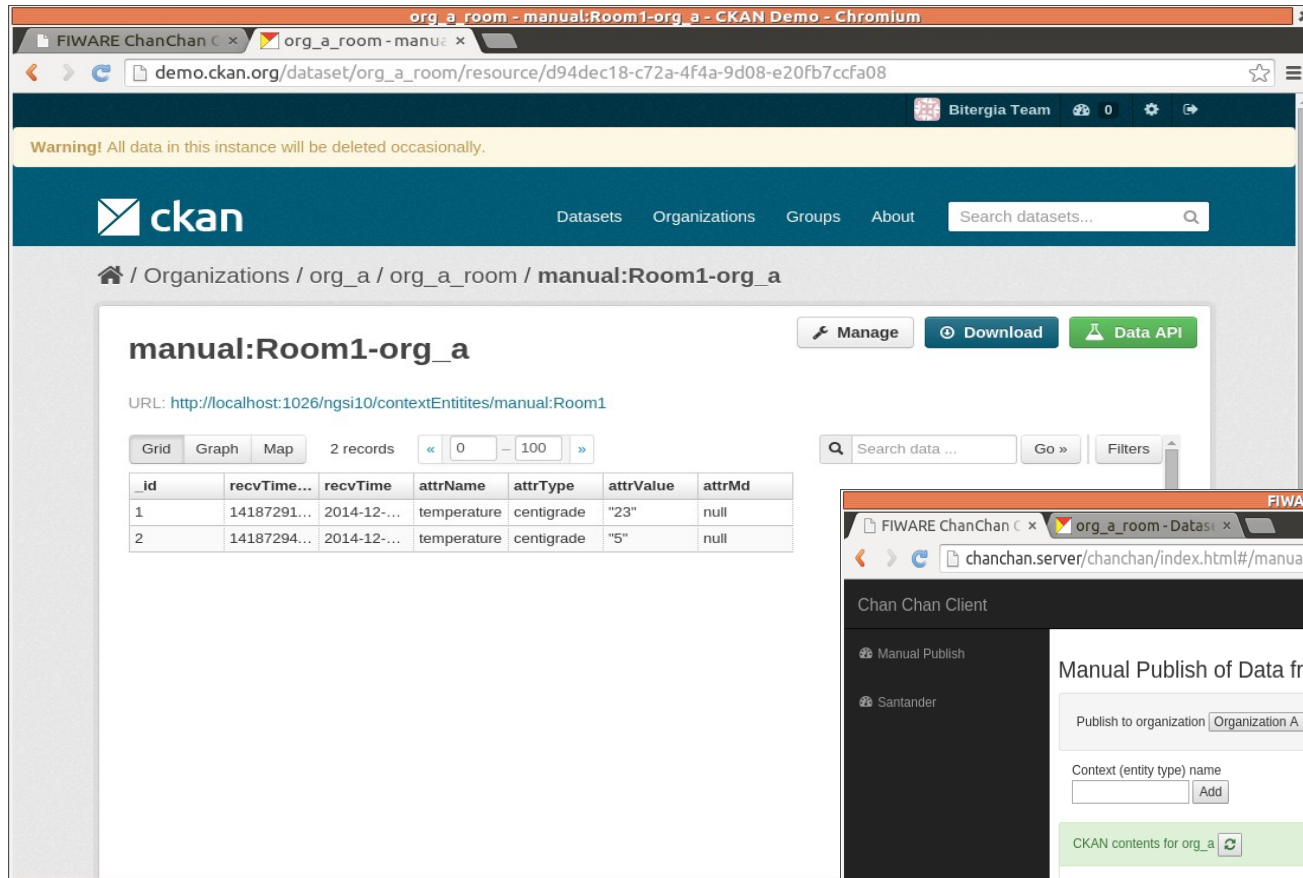
Temperature manual:Room1-org_a org_a org_a_room Publish

CKAN contents for org_a

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

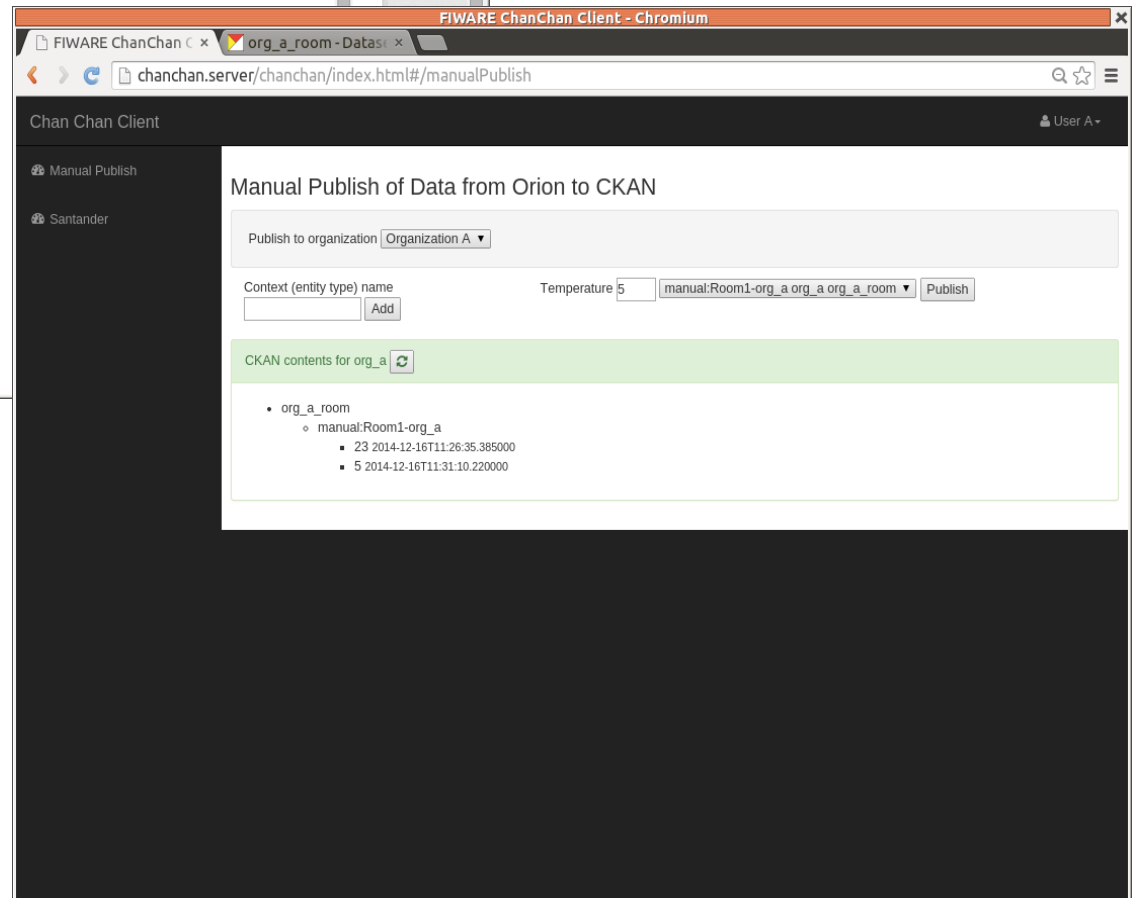


Manual Publish (Data in CKAN)



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 CKAN logo is visible in the top left, and the navigation bar includes links for Datasets, Organizations, Groups, and About. A search bar is present in the top right. The main content area shows the dataset `manual:Room1-org_a` with a URL: `http://localhost:1026/ngsi10/contextEntities/manual:Room1`. Below the dataset name, there are tabs for Grid, Graph, and Map, and a note indicating 2 records. A table displays the data records:

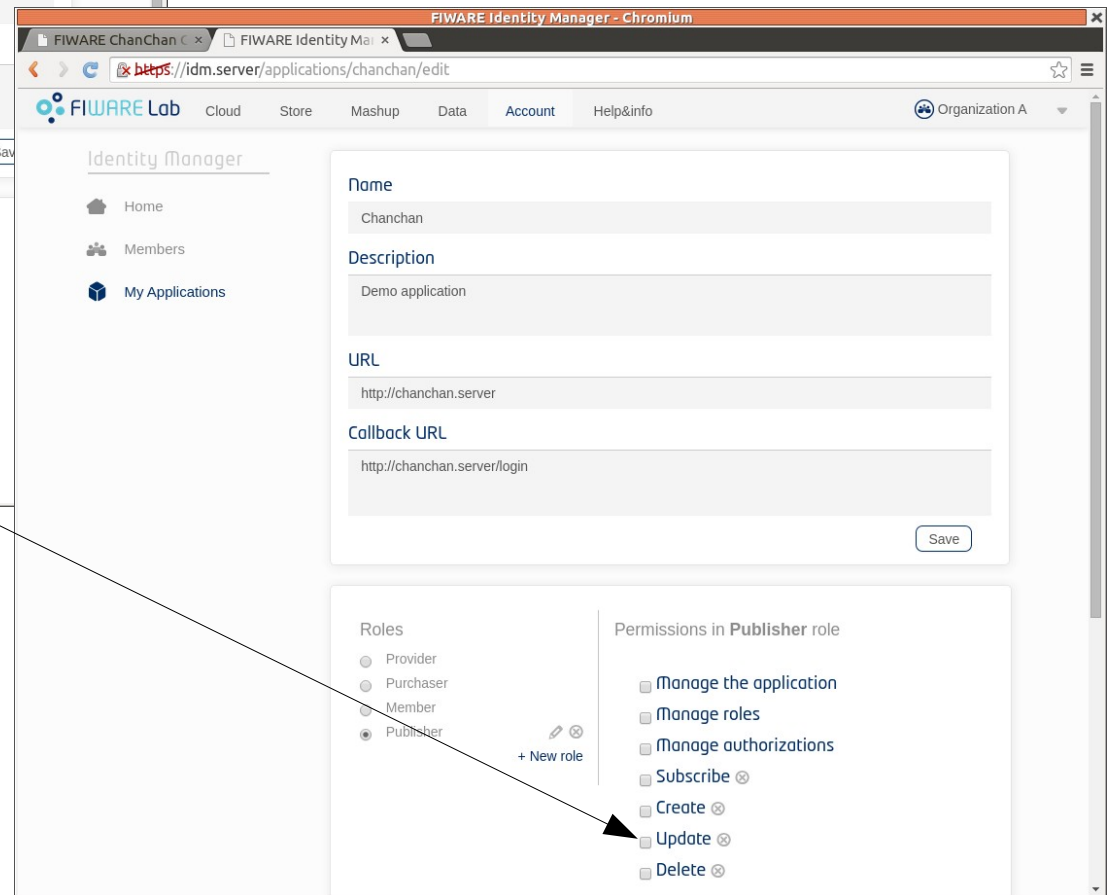
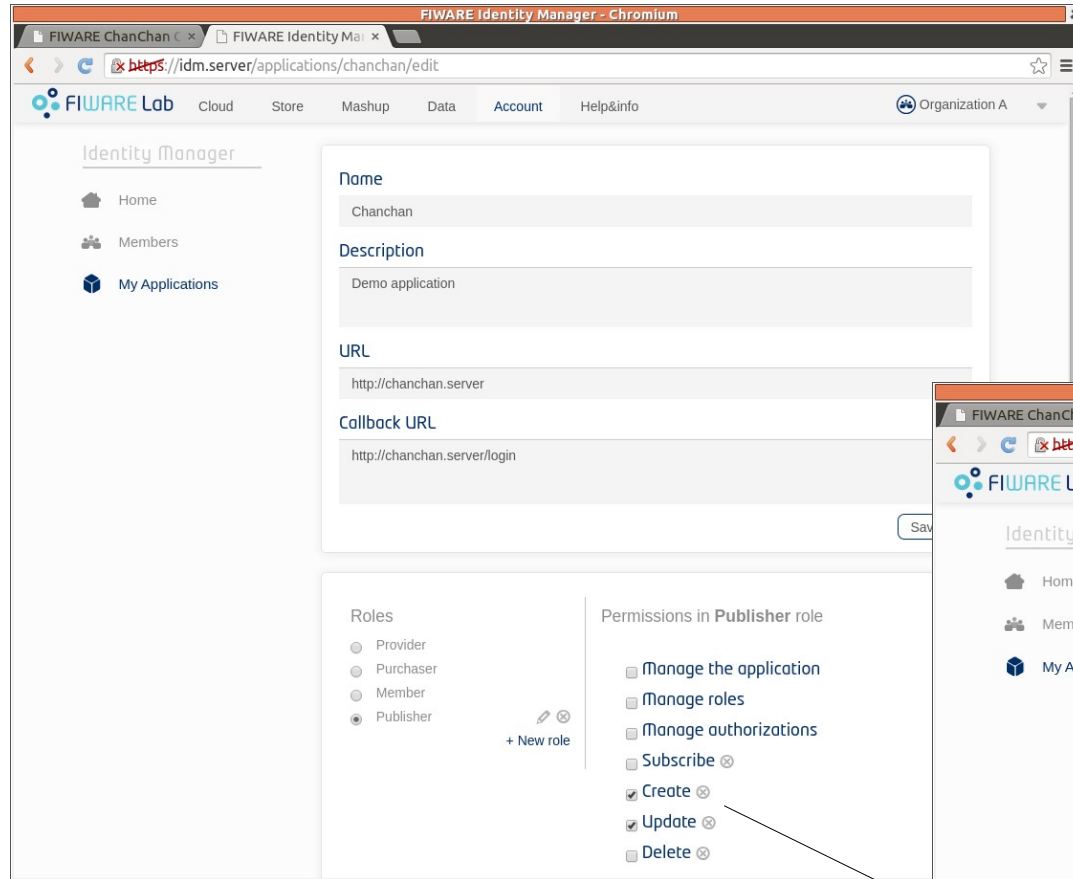
_id	recvTime...	recvTime	attrName	attrType	attrValue	attrMd
1	14187291...	2014-12-...	temperature	centigrade	"23"	null
2	14187294...	2014-12-...	temperature	centigrade	"5"	null



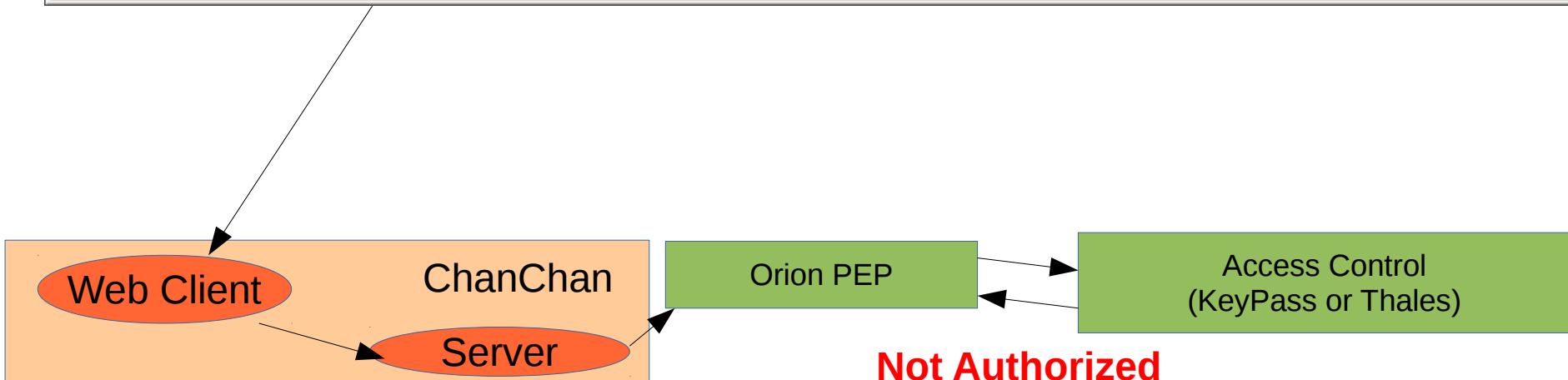
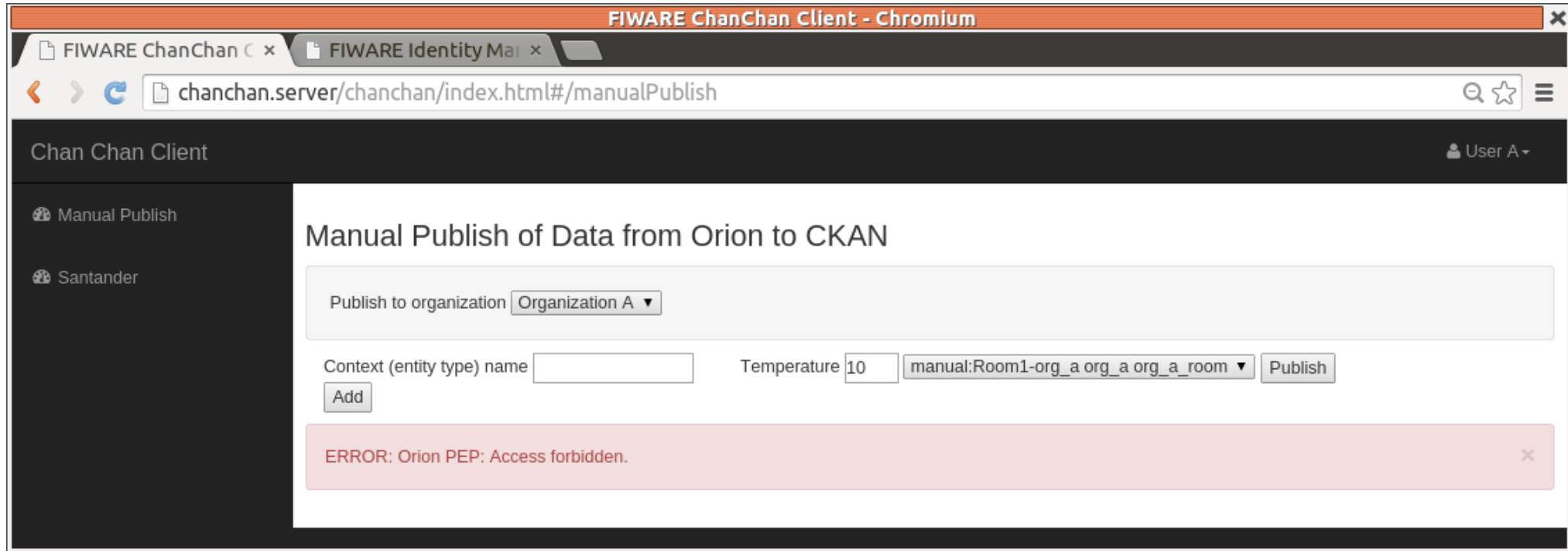
The screenshot shows the FIWARE ChanChan Client interface in a Chromium browser. The address bar displays the URL: `chanchan.server/chanchan/index.html#/manualPublish`. The interface is titled "Manual Publish of Data from Orion to CKAN". It features a form for publishing data to a specific organization. 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. A "Publish" button is visible. Below the form, a section titled "CKAN contents for org_a" displays 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)

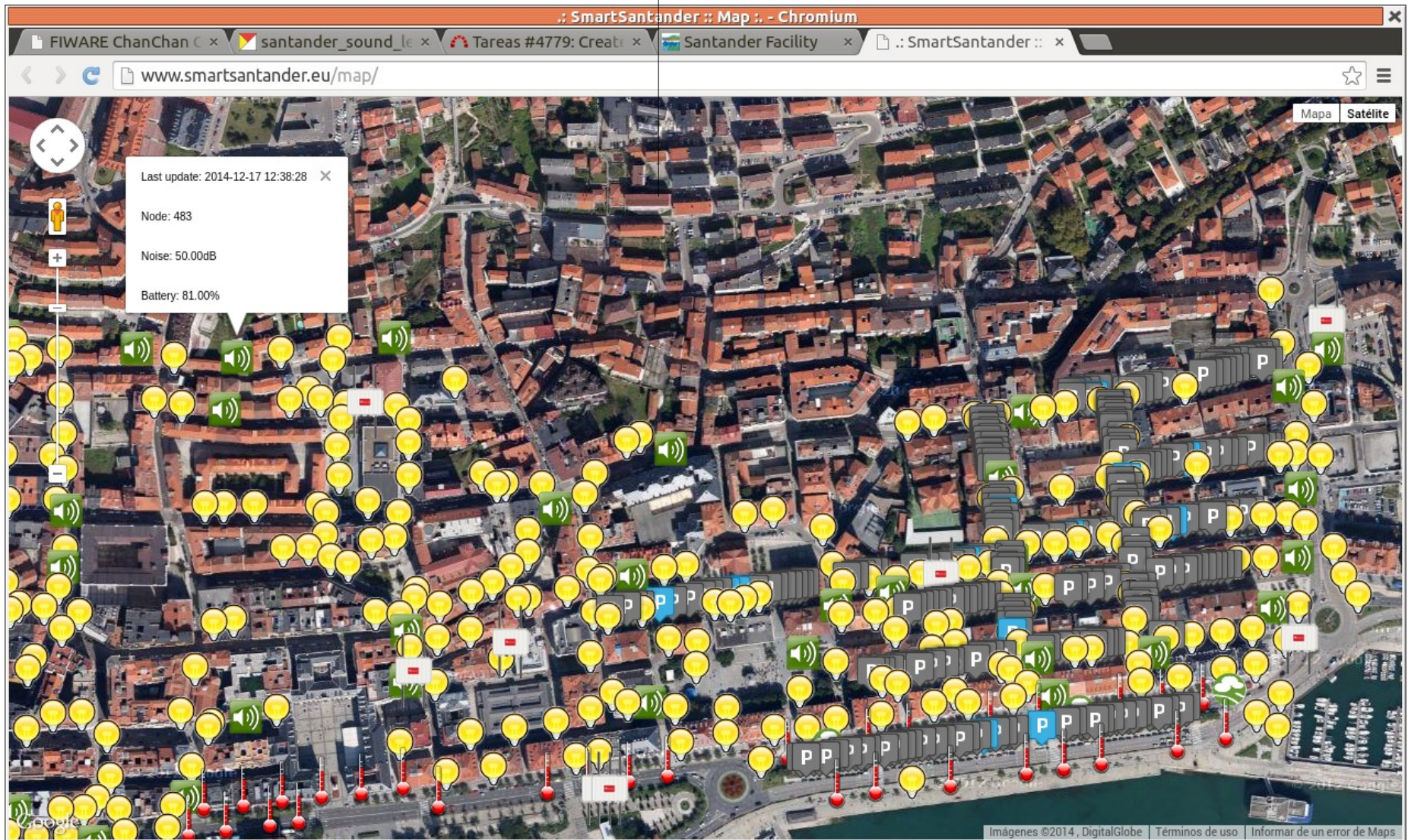


Manual Publish (Access Control)

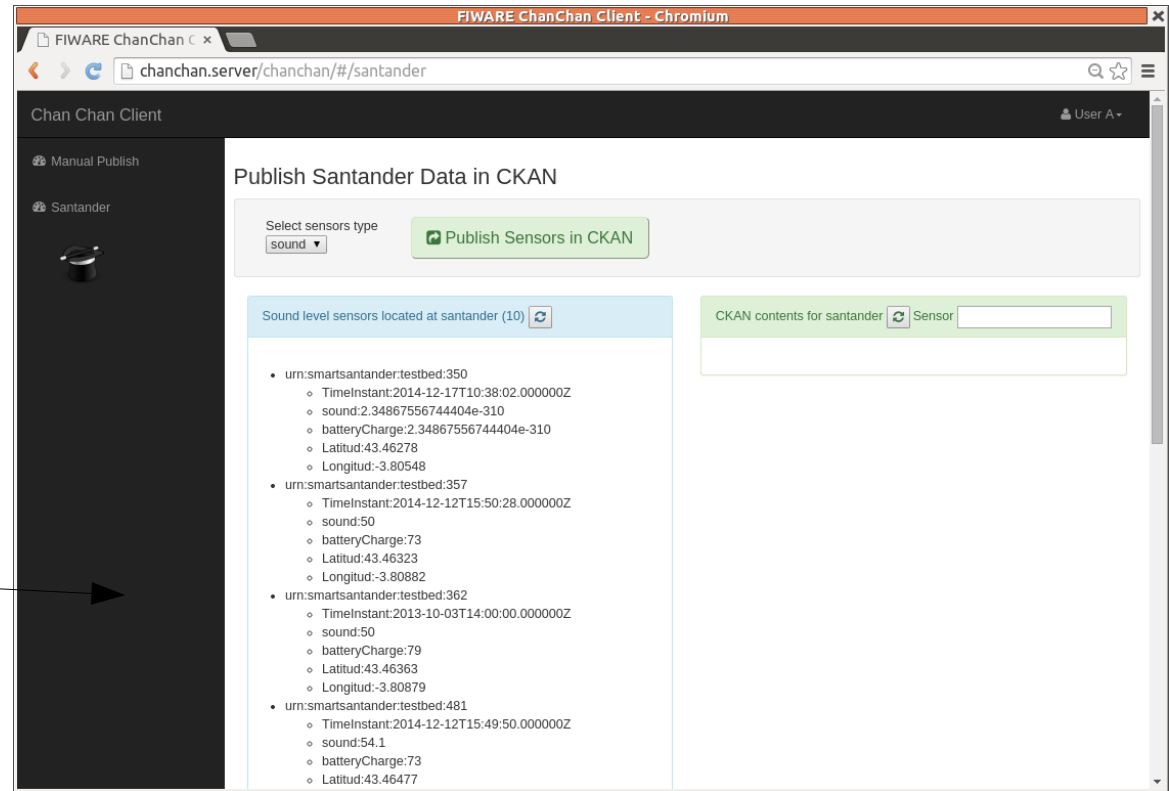
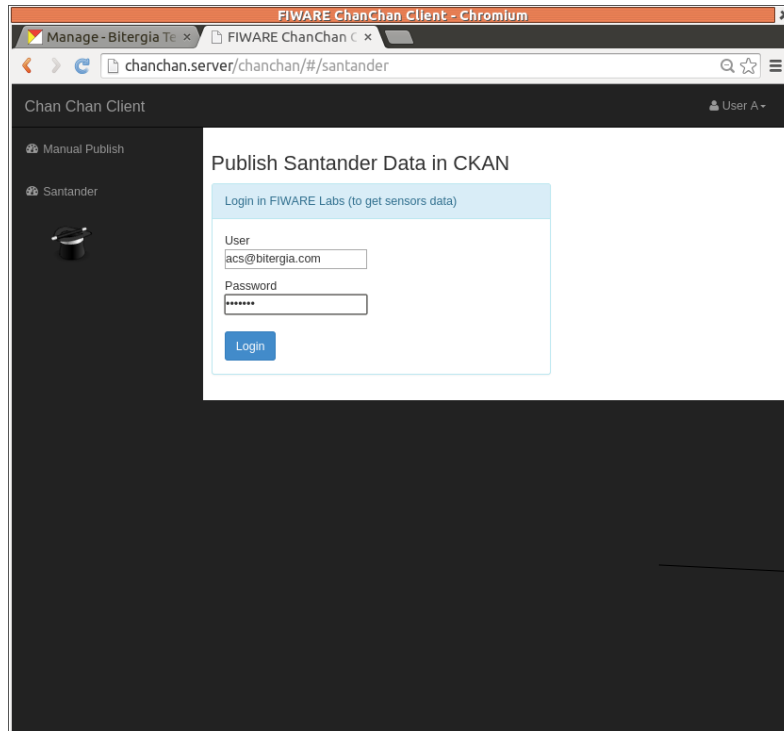


Santander Sound Level Sensors

Santander Sound Level Sensors



Santander Sound Level Sensors



cloud.lab.fi-ware.org

orion.lab.fi-ware.org

IDM Key Rock

Orion Context Broker

FIWARE Lab

FIWARE Lab

Santander Sound Level Sensors

Santander Sound Level Sensors

FIWARE ChanChan Client - Chromium

chanchan.server/chanchan/#/santander

Chan Chan Client

Manual Publish

Santander

Publish Santander Data in CKAN

Select sensors type: sound

Publish Sensors in CKAN

Sound level sensors located at santander (10)

- urn:smartsantander:testbed:350
 - Timestamp: 2014-12-17T10:38:02.000000Z
 - sound: 2.34867556744404e-310
 - batteryCharge: 2.34867556744404e-310
 - Latitude: 43.46278
 - Longitude: -3.80548
- urn:smartsantander:testbed:357
 - Timestamp: 2014-12-17T11:02:25.000000Z
 - sound: 2.34867556744404e-310
 - batteryCharge: 2.34867556744404e-310
 - Latitude: 43.46323
 - Longitude: -3.80882
- urn:smartsantander:testbed:362
 - Timestamp: 2013-10-03T14:00:00.000000Z
 - sound: 50
 - batteryCharge: 79
 - Latitude: 43.46363
 - Longitude: -3.80879
- urn:smartsantander:testbed:481
 - Timestamp: 2014-12-17T11:03:09.000000Z
 - sound: 2.34867556744404e-310
 - batteryCharge: 2.34867556744404e-310
 - Latitude: 43.46477
 - Longitude: -3.80881

CKAN contents for santander

- santander_sound_level_meter
 - urn:smartsantander:testbed:481-santander:soundacc
 - Timestamp: 2014-12-17T11:03:09.000000Z 2014-12-17T11:11:35.907000
 - sound: 2.34867556744404e-310 2014-12-17T11:11:35.907000
 - batteryCharge: 2.34867556744404e-310 2014-12-17T11:11:35.907000
 - Latitude: 43.46477 2014-12-17T11:11:35.907000
 - urn:smartsantander:testbed:357-santander:soundacc
 - Timestamp: 2014-12-17T11:02:25.000000Z 2014-12-17T11:11:35.875000
 - sound: 2.34867556744404e-310 2014-12-17T11:11:35.875000
 - batteryCharge: 2.34867556744404e-310 2014-12-17T11:11:35.875000
 - Latitude: 43.46323 2014-12-17T11:11:35.875000
 - urn:smartsantander:testbed:350-santander:soundacc
 - Timestamp: 2014-12-17T10:38:02.000000Z 2014-12-17T11:05:33.379000
 - sound: 2.34867556744404e-310 2014-12-17T11:05:33.379000
 - batteryCharge: 2.34867556744404e-310 2014-12-17T11:05:33.379000
 - Latitude: 43.46278 2014-12-17T11:05:33.379000

santander_sound_level_meter - Datasets - CKAN Demo - Chromium

demo.ckan.org/dataset/santander_sound_level_meter

Organizations / santander / santander_sound_level_meter

santander_sound_level_meter

Followers: 0

Follow

Data and Resources

- urn:smartsantander:testbed:350-santander:soundacc
- urn:smartsantander:testbed:357-santander:soundacc
- urn:smartsantander:testbed:481-santander:soundacc
- urn:smartsantander:testbed:483-santander:soundacc
- urn:smartsantander:testbed:498-santander:soundacc
- urn:smartsantander:testbed:486-santander:soundacc

Explore

Organization

santander

There is no description for this organization

Additional Info

Warning! All data in this instance will be deleted occasionally.

ckan

Datasets Organizations Groups About

Search datasets...

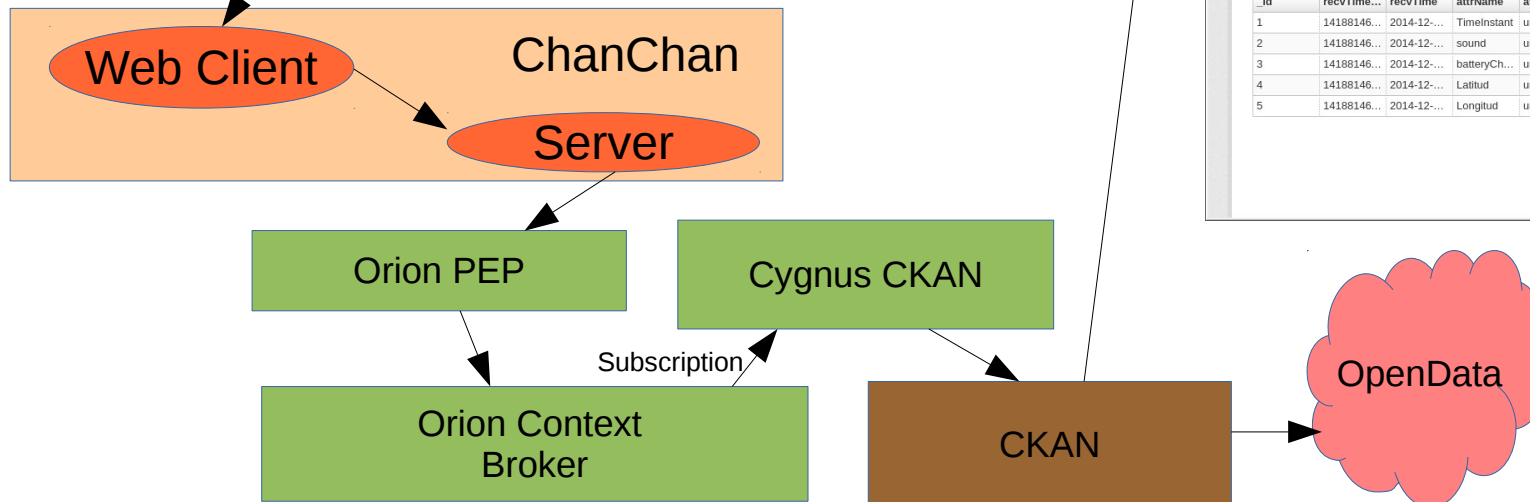
Organizations / santander / santander_sound_level_meter / urn:smartsantander:testbed:481-santander:soundacc

Manage Download Data API

URL: http://localhost:1026/ngsi10/contextEntities/urn:smartsantander:testbed:481

Grid Graph Map 5 records

_id	recvTime...	recvTime	attrName	attrType	attrValue	attrMd
1	14188146...	2014-12-...	Timestamp	urn:x-ogc:...	"2014-12-...	null
2	14188146...	2014-12-...	sound	urn:x-ogc:...	"2.34867...	null
3	14188146...	2014-12-...	batteryCh...	urn:x-ogc:...	"2.34867...	null
4	14188146...	2014-12-...	Latitude	urn:x-ogc:...	"43.46477"	null
5	14188146...	2014-12-...	Longitude	urn:x-ogc:...	"-3.8081"	null



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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Project funded by FICORE friendly testing program