

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

<http://chanchan.server>

<https://idm.server>

ChanChan VAGRANT
IMAGE

CKAN

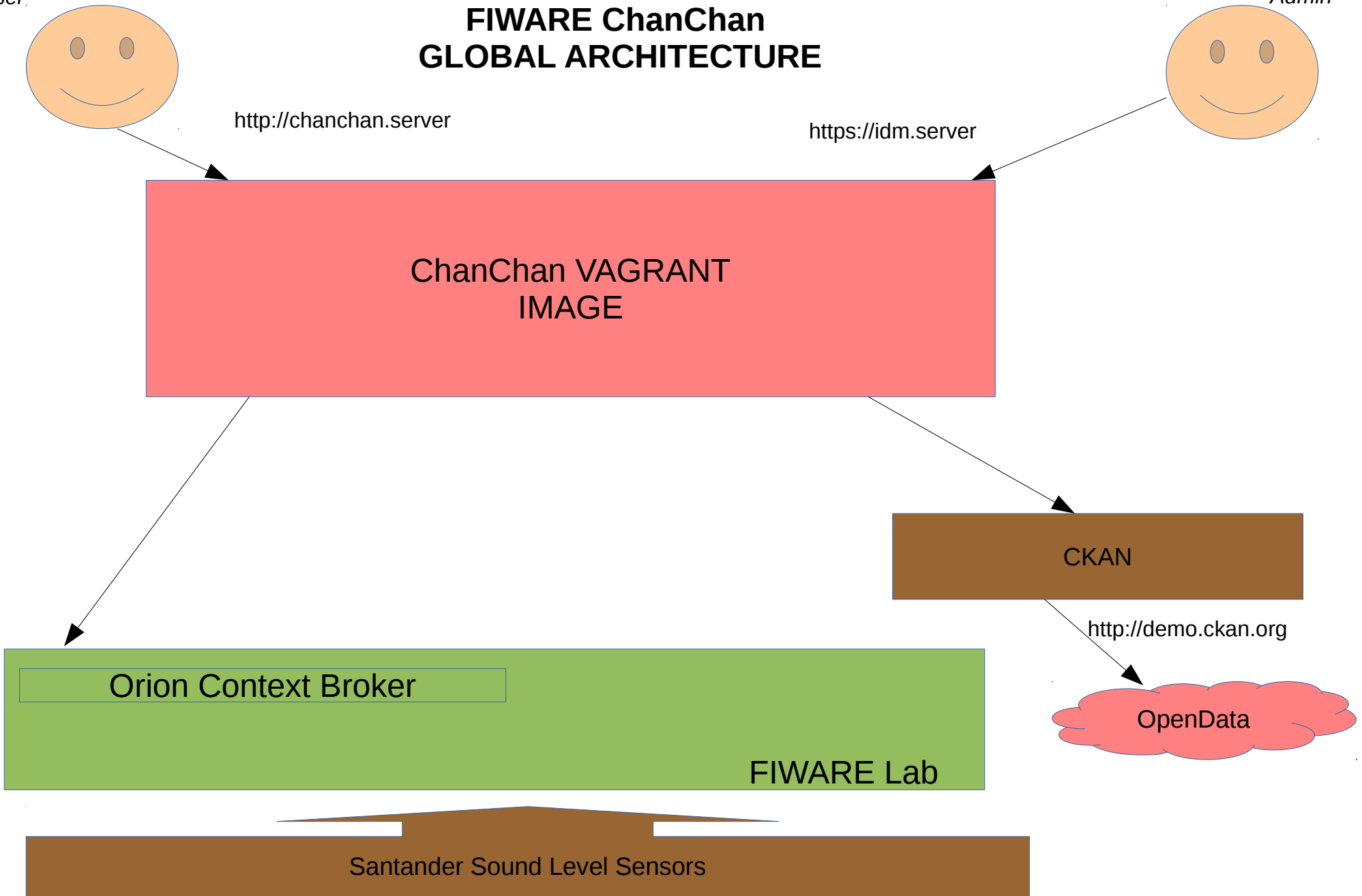
<http://demo.ckan.org>

Orion Context Broker

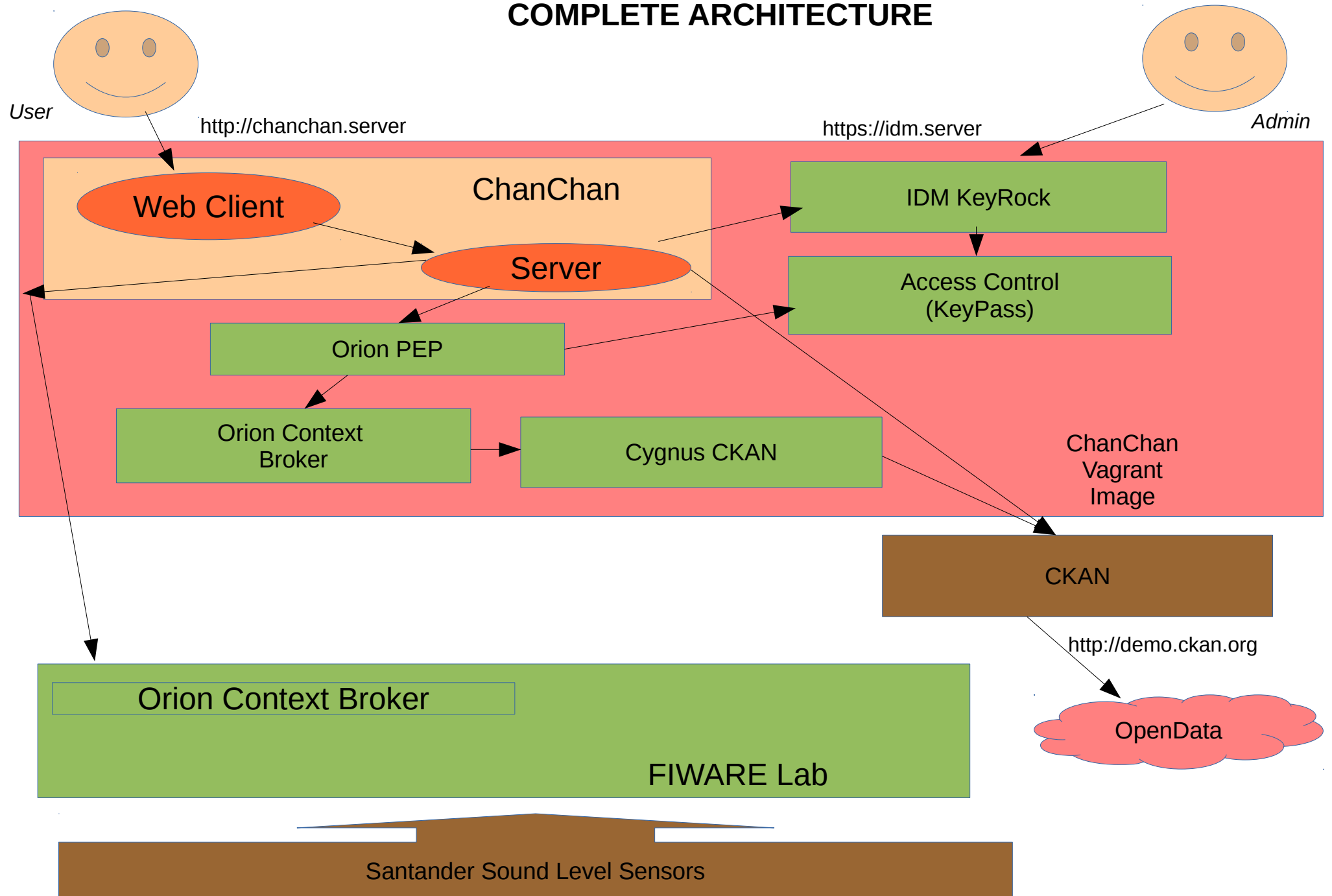
OpenData

FIWARE Lab

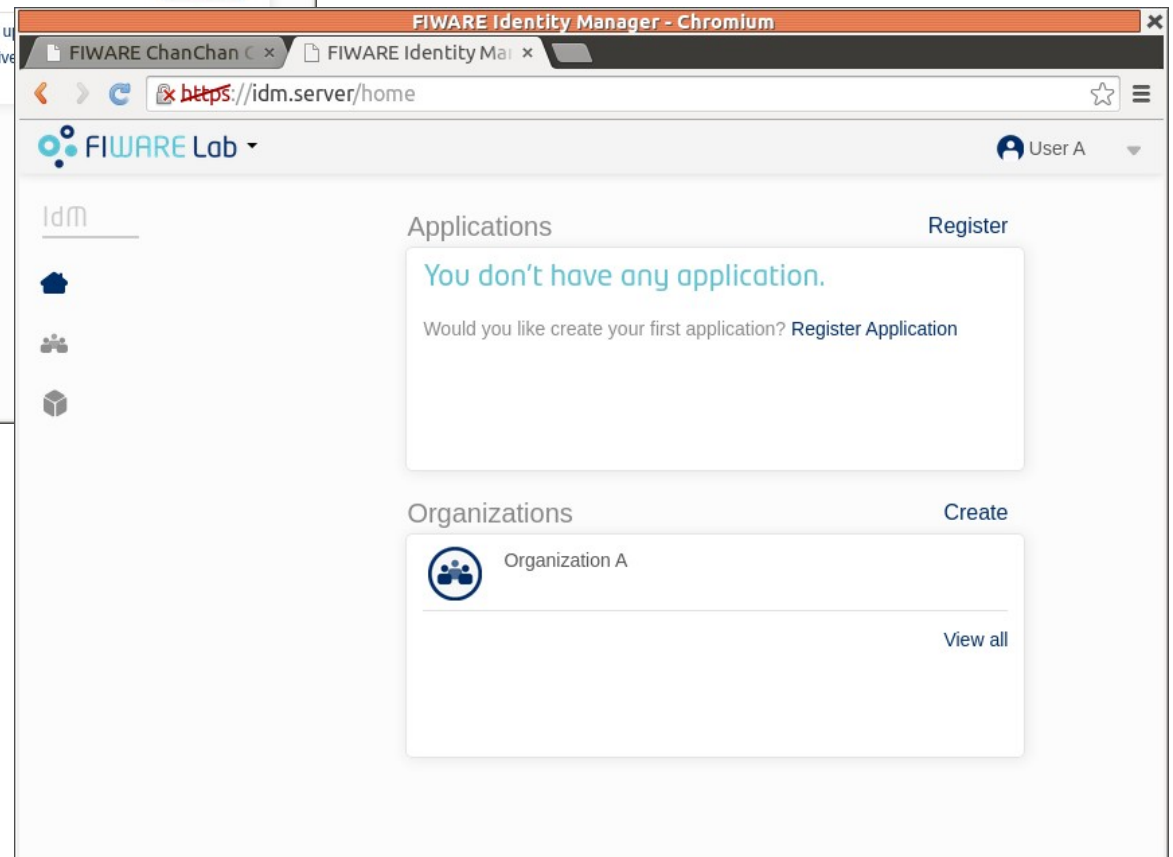
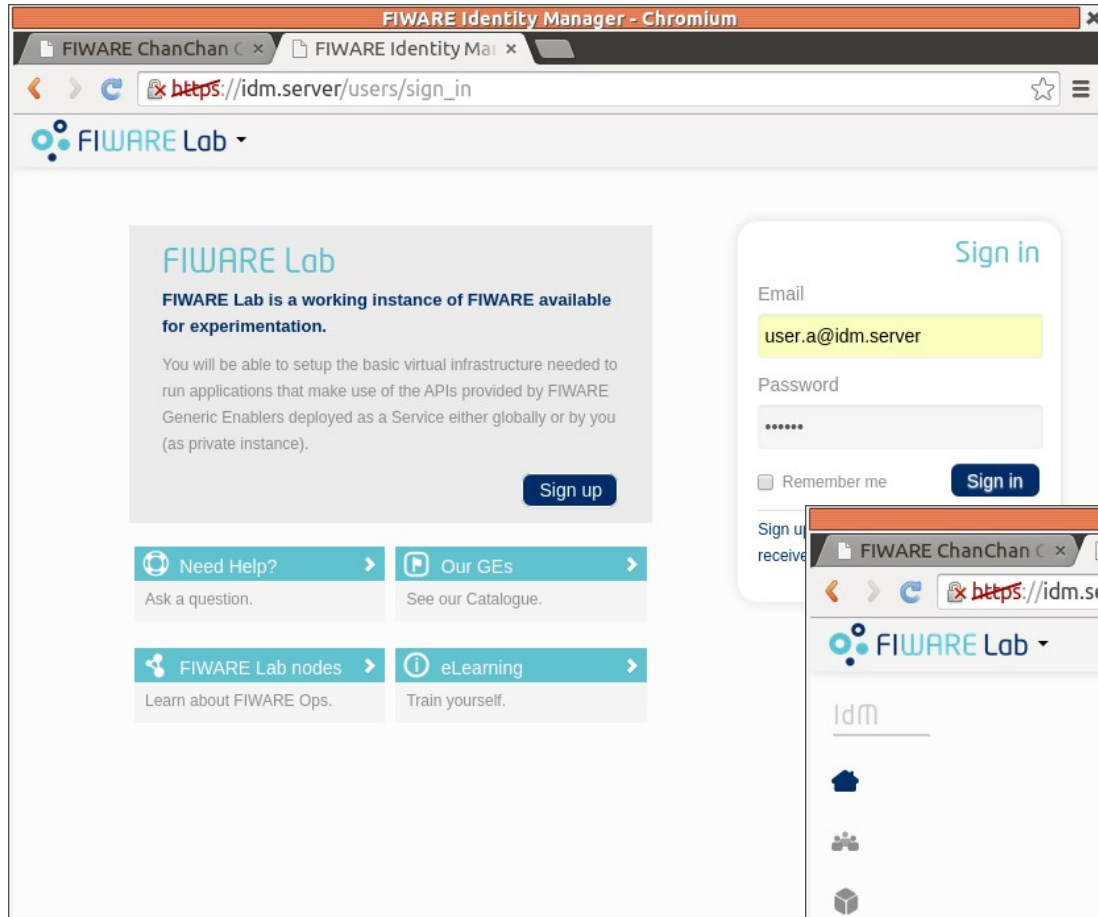
Santander Sound Level Sensors



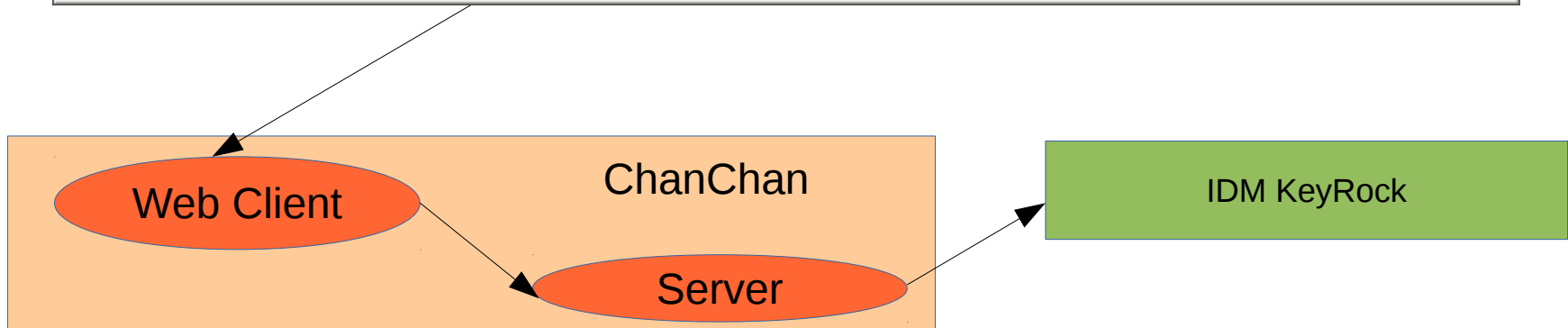
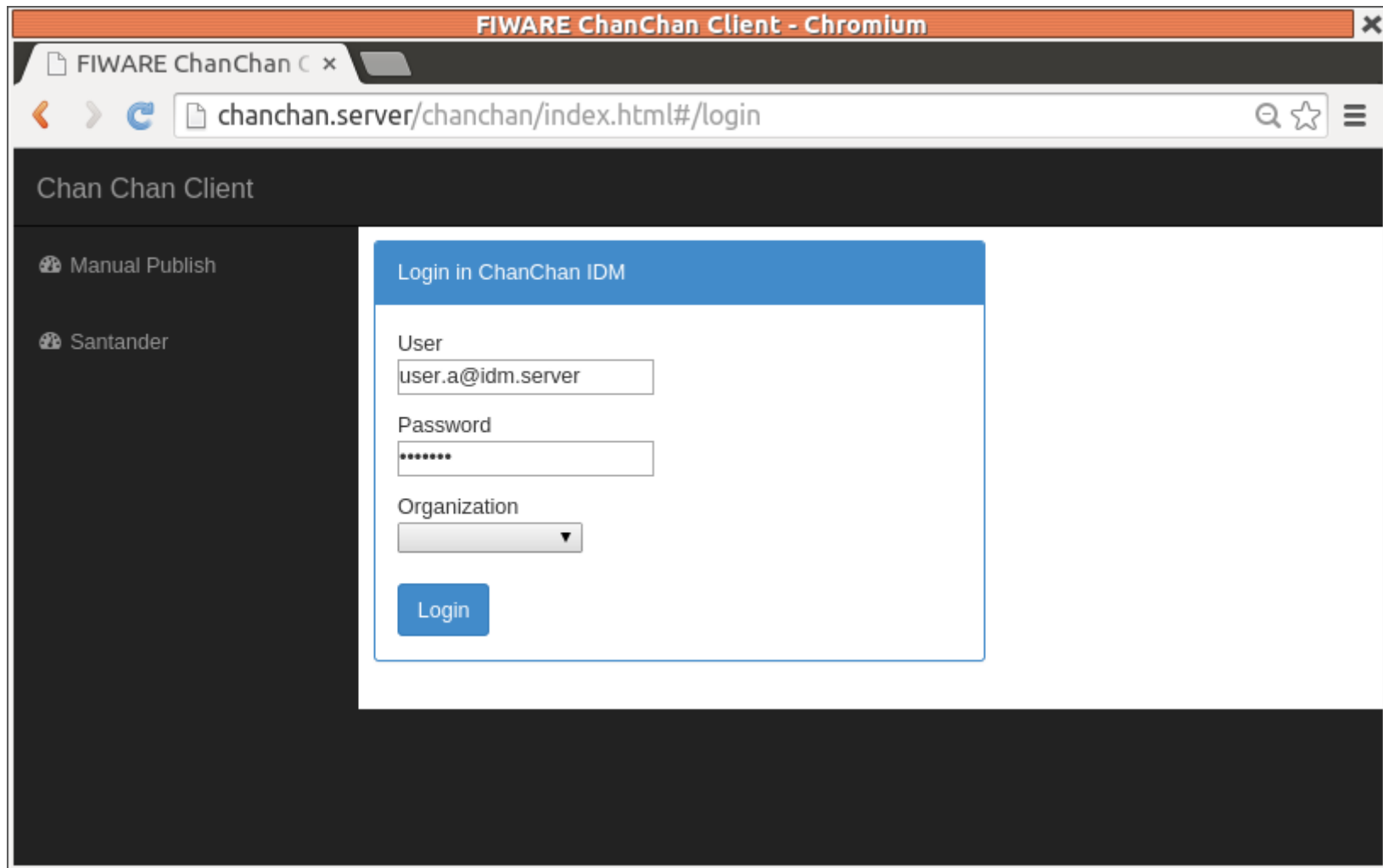
FIWARE ChanChan COMPLETE ARCHITECTURE



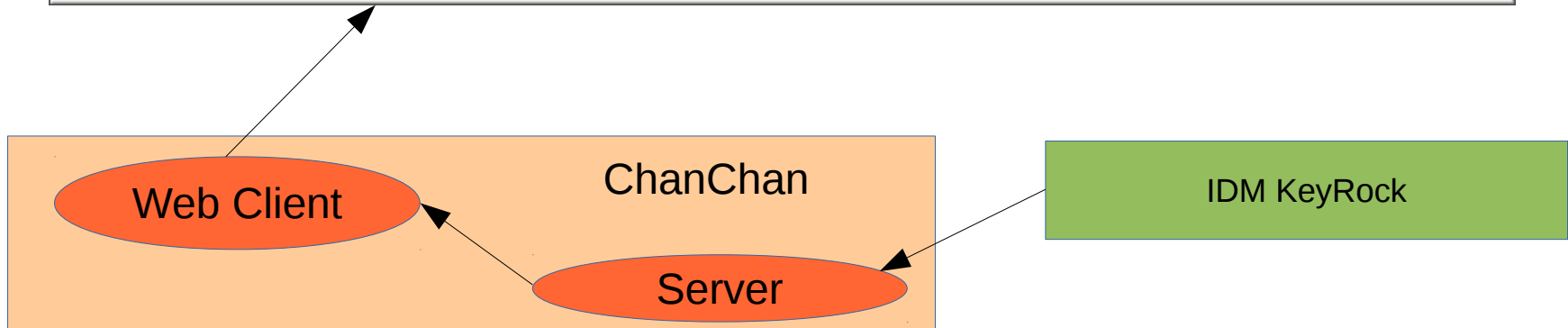
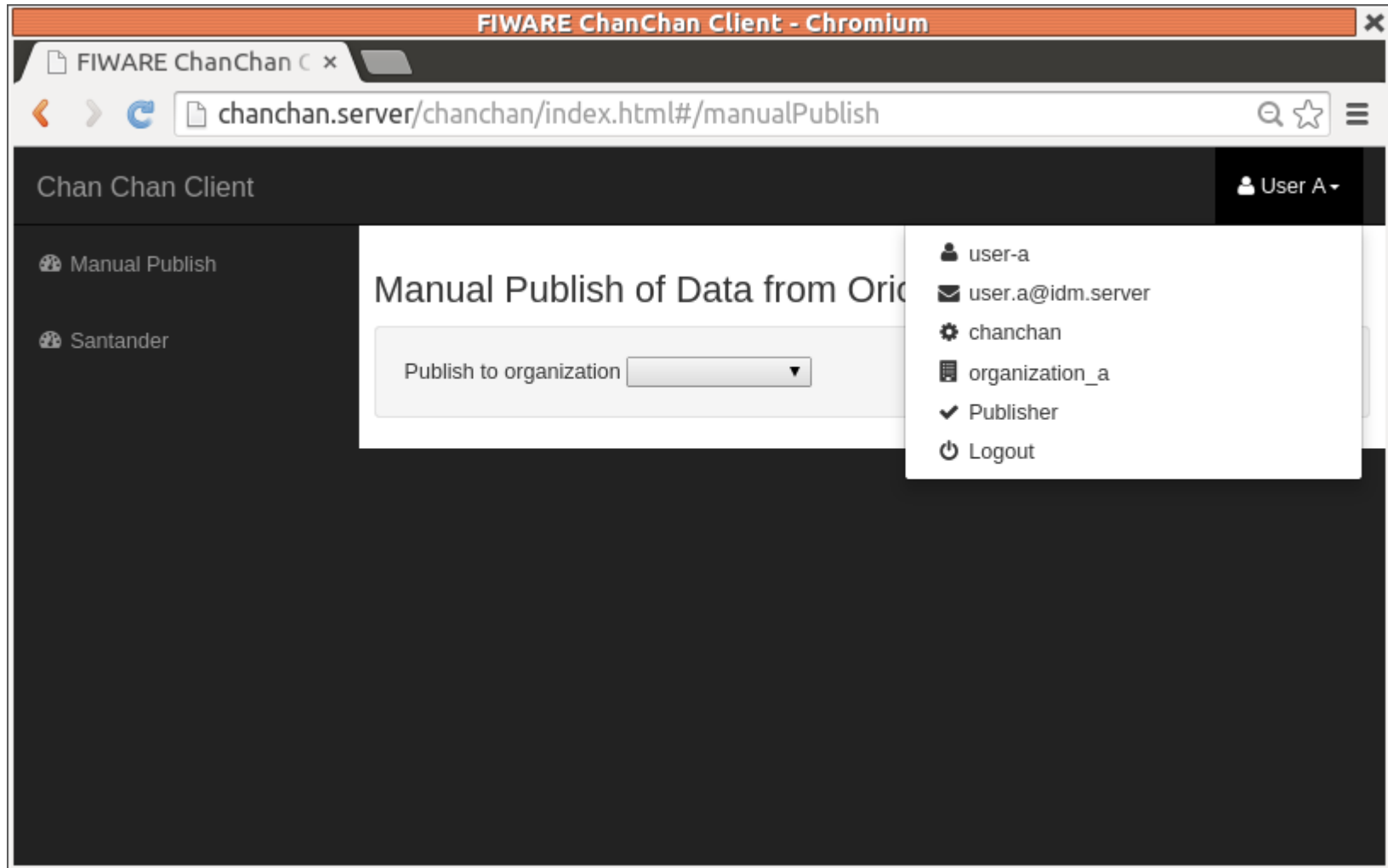
Authentication (I)



Authentication (II)



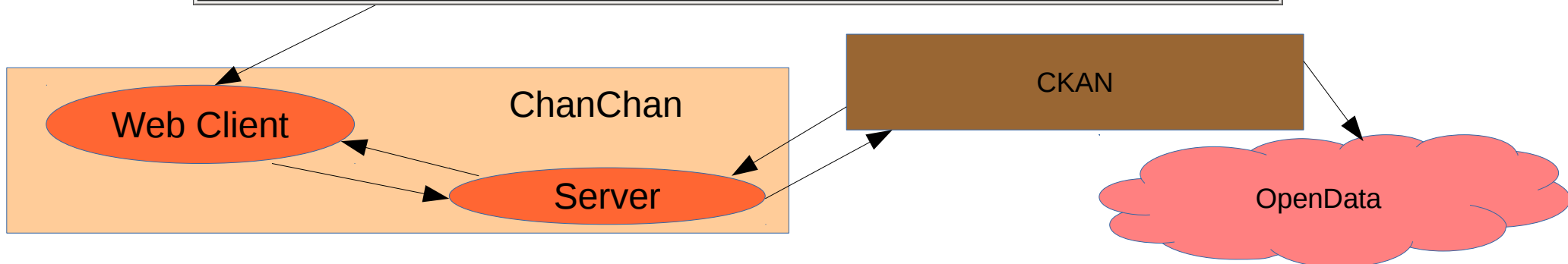
Authentication (II)



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:

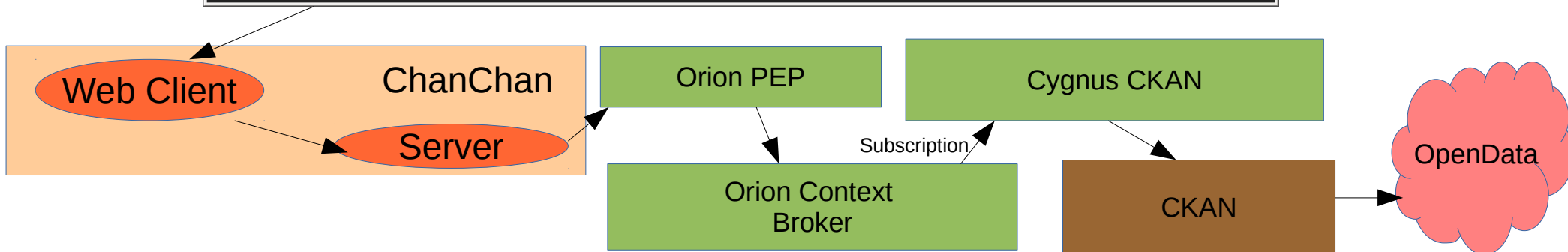
- A dropdown menu for "Publish to organization" set to "Organization A".
- A section for "Context (entity type) name" with a text input "Room1" and an "Add" button.
- A "Temperature" input field with a dropdown arrow and a "Publish" button.
- A green bar indicating "CKAN contents for organization_a"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



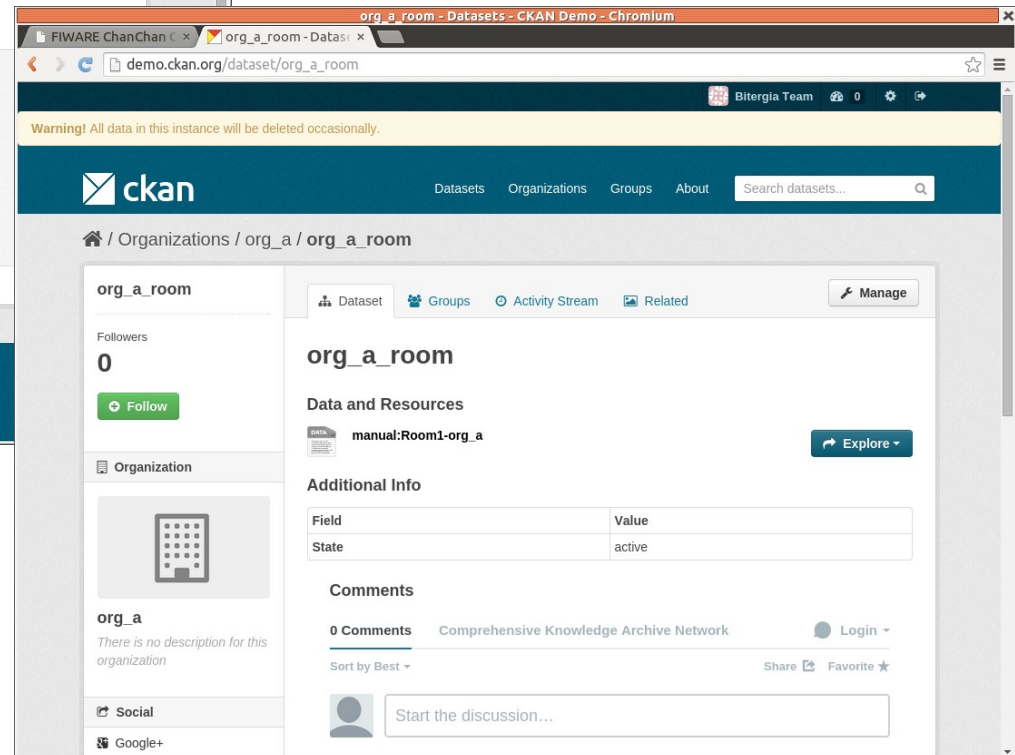
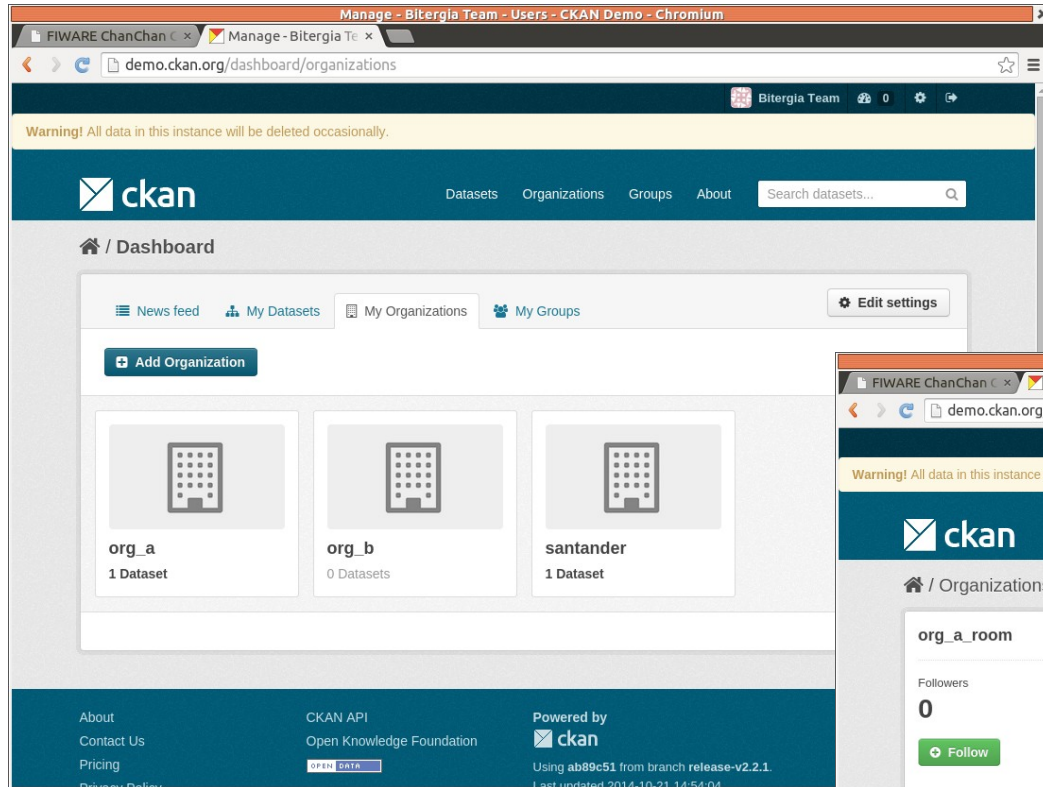
Manual Publish (Data to CKAN)

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". The left sidebar contains "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 "Room1" and an "Add" button.
- "Temperature" input field with a dropdown arrow and a "Publish" button.
- A green box labeled "CKAN contents for organization_a" with a refresh icon.

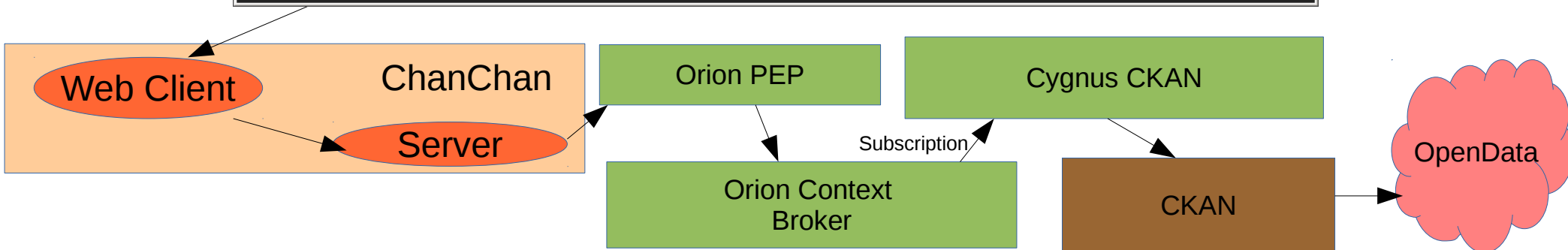


Manual Publish (Data in CKAN)

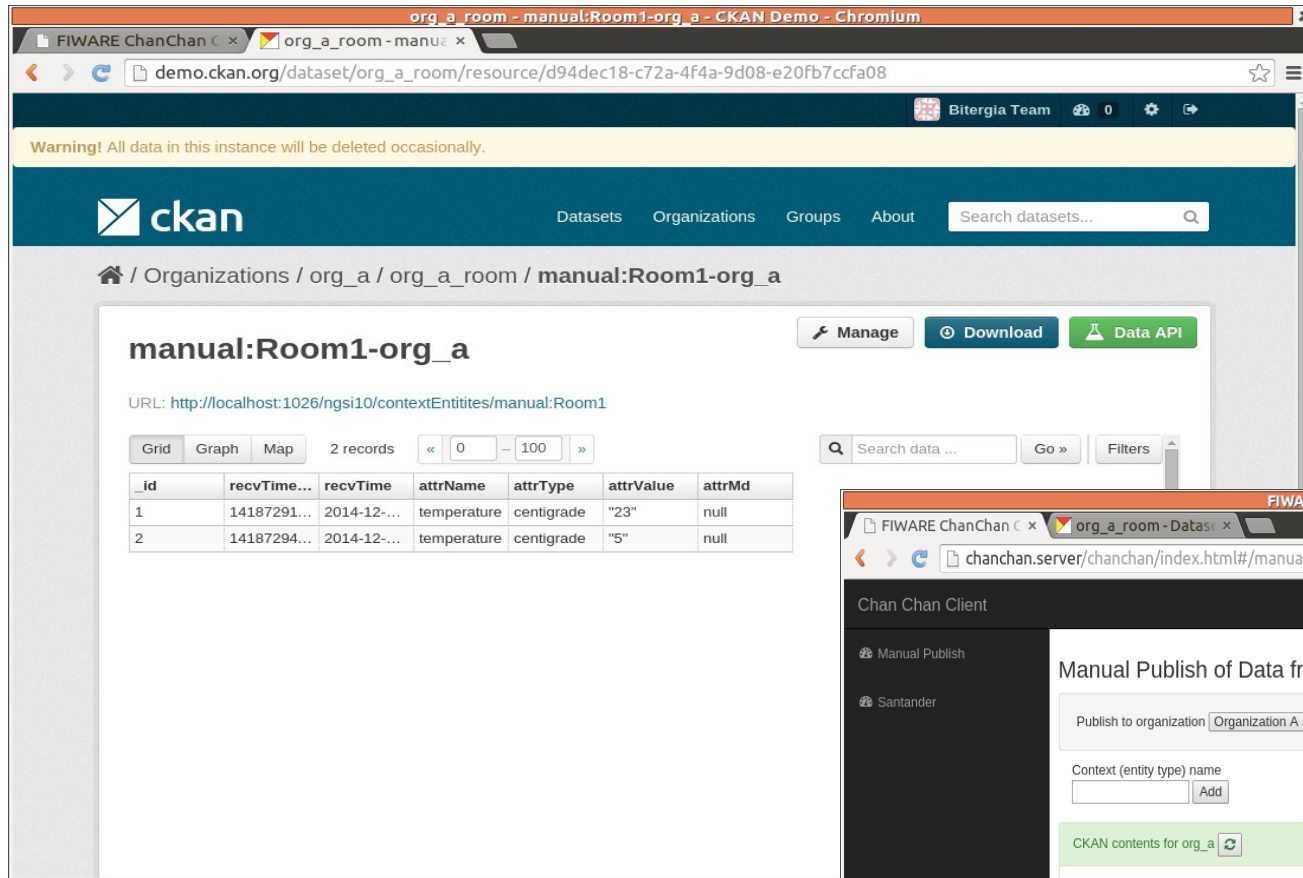


Manual Publish (Data to CKAN)

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) and "manual:Room1-org_a" (child). The "manual:Room1-org_a" node has a timestamp "23 2014-12-16T11:26:35.385000".

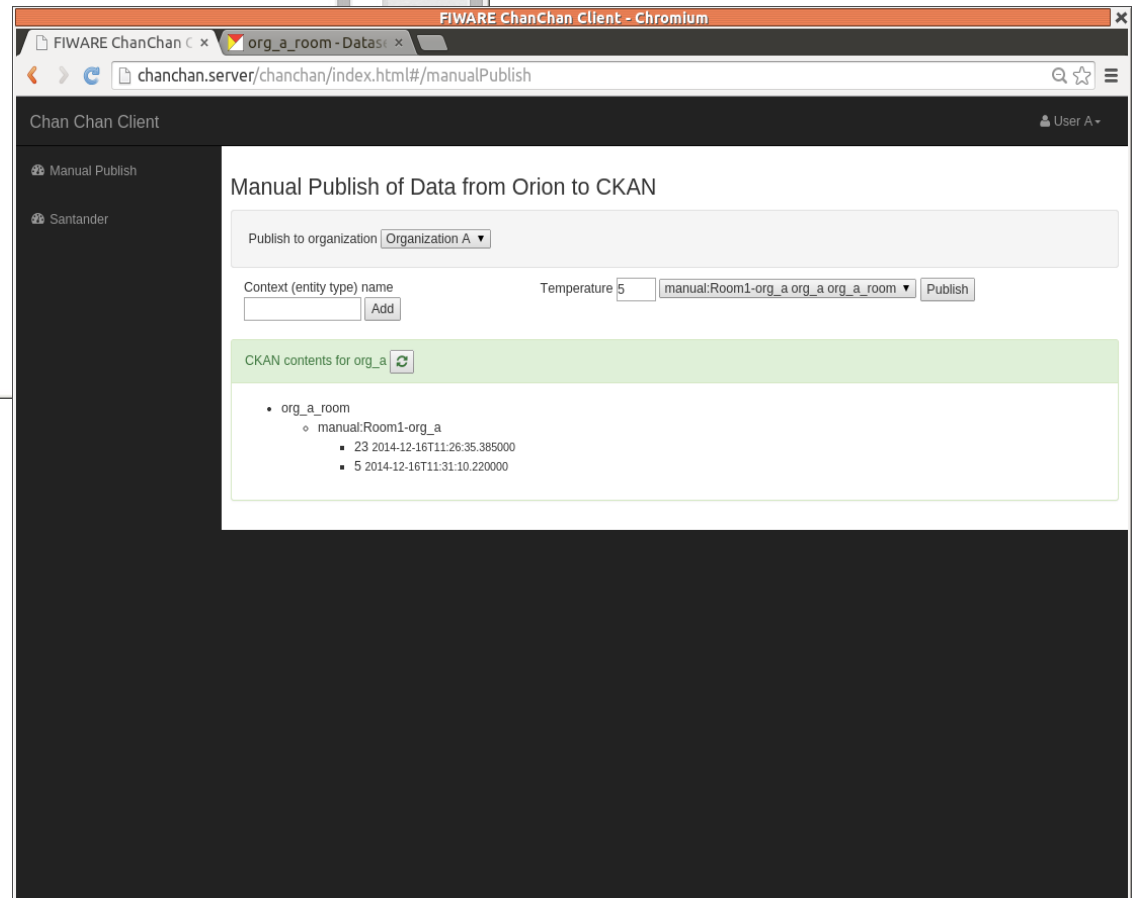


Manual Publish (Data in CKAN)



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 current location: `/ 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 for two different times.

_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. 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 to an organization. The form includes a dropdown menu for the organization (set to `Organization A`), a text input for the context (entity type) name, and a text input for the temperature (set to `5`). A `Publish` button is also present. Below the form, a section titled `CKAN contents for org_a` displays a list of data records.

Manual Publish of Data from Orion to CKAN

Publish to organization: `Organization A`

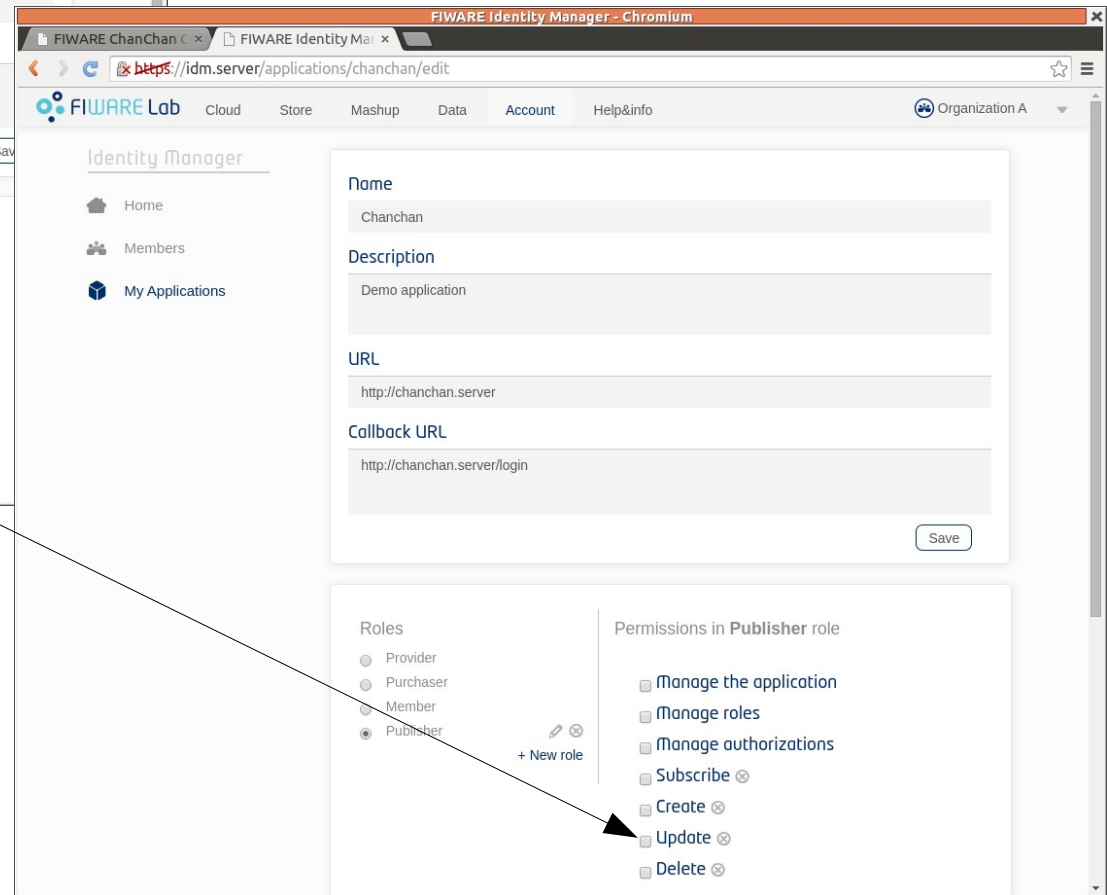
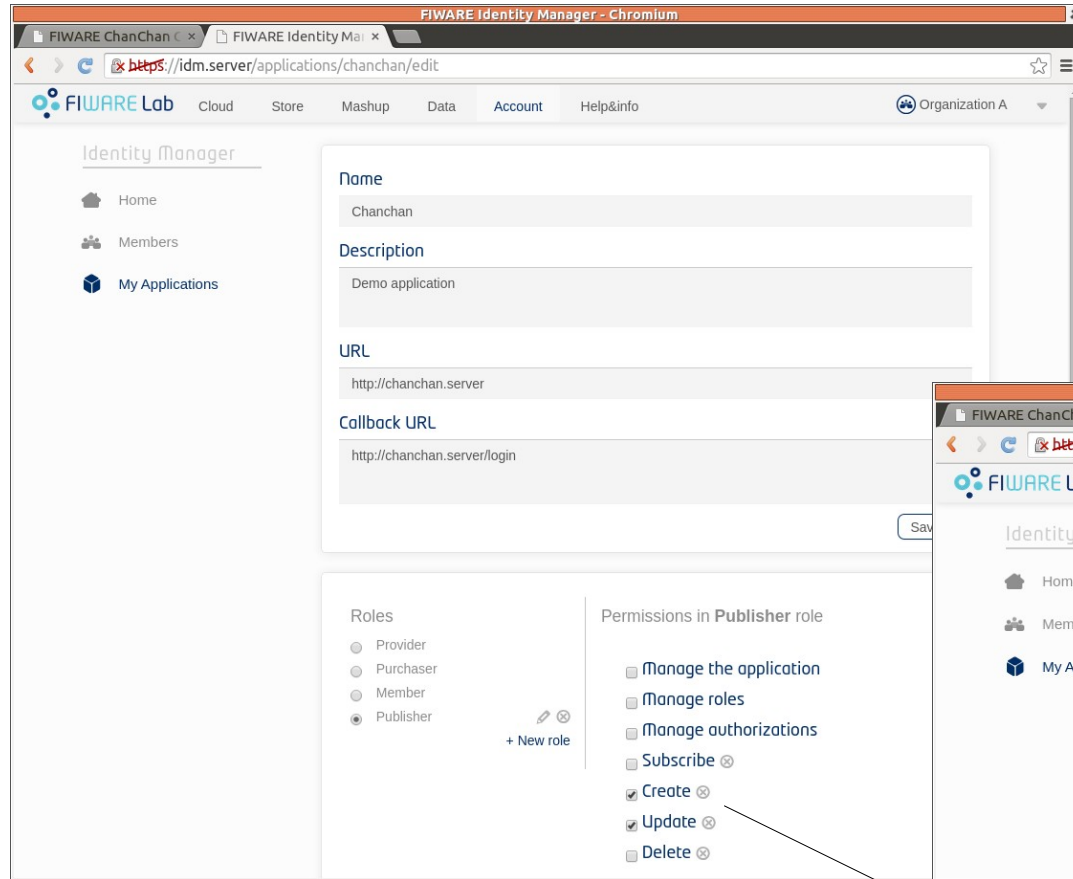
Context (entity type) name: Add

Temperature: `5` `manual:Room1-org_a org_a org_a room` `Publish`

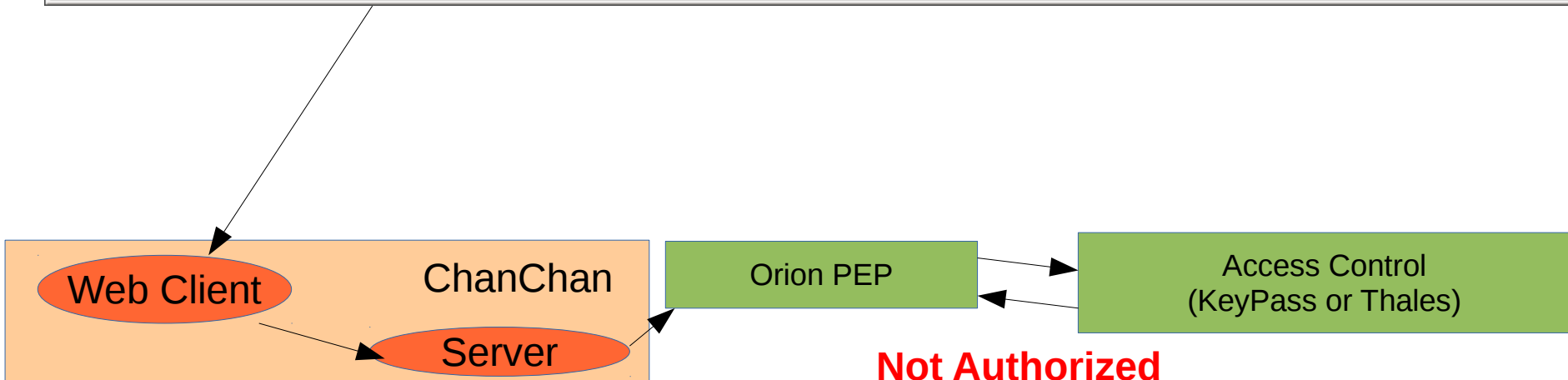
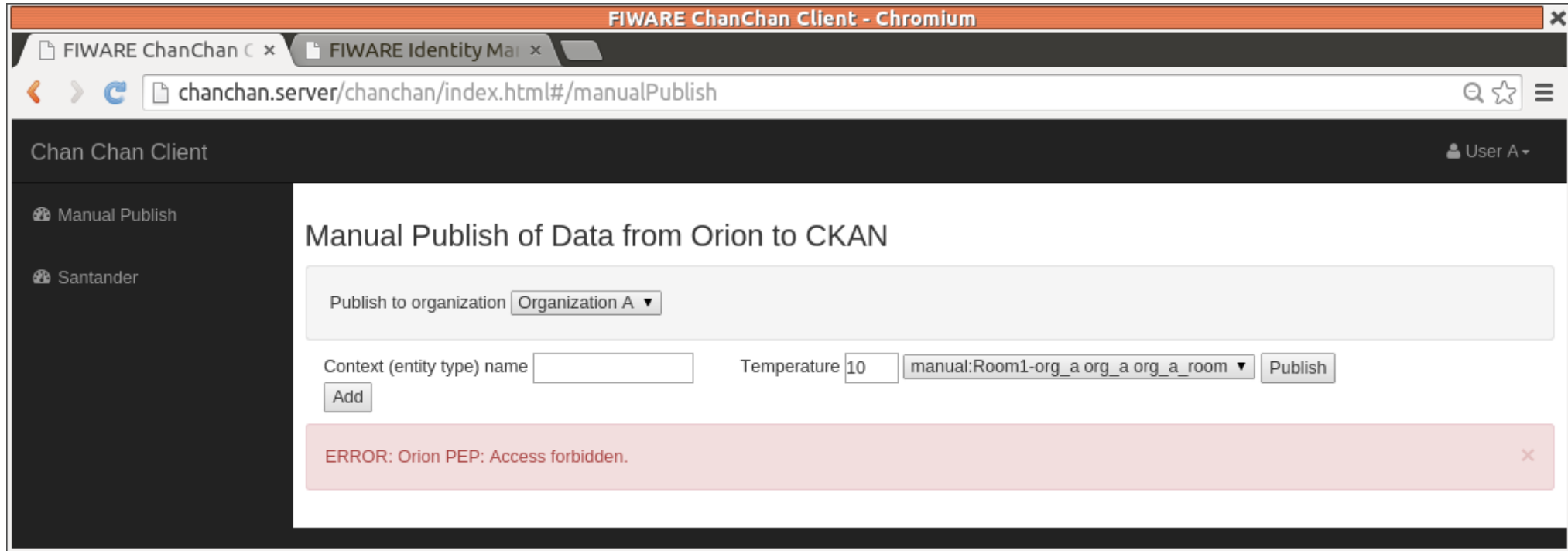
CKAN contents for org_a

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

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