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**Geo-Cloud**

**Experiment Status**

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| Work package | WP10 |
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| Report Lead | Félix Pedrera (DEIMOS) |
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| Abstract | This document provides the actual status of Geo-Cloud experiment in the implementation stage. |
| Keywords | Report |

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| Nature of the document | R | Report | X |
| P | Prototype |  |
| D | Demonstrator |  |
| O | Other |  |
| Dissemination level | PU | Public |  |
| PP | Restricted to other programme participants (including the Commission) |  |
| RE | Restricted to a group specified by the consortium (including the Commission) |  |
| CO | Confidential, only for members of the consortium (including the Commission) | X |

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**Executive Summary**

In this document the Geo-Cloud experiment status at the date 20/03/2014 will be explained. The level of completeness and the status of the implementation stage will be described. Finally, the problems encountered to go on with the implementation will be included.

**Acronyms and Abbreviations**

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# Introduction

This document describes the current status of Geo-Cloud project. The design stage has been completed successfully and now, the implementation is being realizing. In order to solve the current problems to go on with the implementation of the project some requirements for Fed4FIRE are assessed.

# Design stage

This step was successfully carried out. In this stage the next partial tasks of the experiment were developed:

* Satellite system design.
* Scenarios and users ‘models
* Imagery distribution and visualization
* Data processing and storage in BonFIRE
* Topology network in Virtual Wall
* Network design in PlanetLab Europe
* Feedback to the Fed4FIRE consortium

The deliverables created are listed as follows:

* GEO-Cloud-D10.2-Problem statement and requirements
* GEO-Cloud-D10.3-Web and social media presence
* GEO-Cloud-D10.4-Feedback report on detailed design
* GEO-Cloud-D10.8-Detailed design report
* GEO-Cloud-D10.9-Experiment procedures

They can be found in the wiki and in the SVN in the next links:

**Link to the wiki:** https://fed4fire.intec.ugent.be/index.php/GEO-Cloud

**Link to the SVN:** https://svn.fed4fire.eu/svn/fed4fire/WP10 Experiments/10\_1\_1\_GEOCloud/

https://svn.fed4fire.eu/svn/fed4fire/WP10 Experiments/deliverable\_10\_1

# Implementation stage

The GEO-Cloud project is currently being implemented. At this point, the Orchestrator´s first version has been developed together with the Archive and Catalogue services and the Image Distribution and Visualization modules for BonFIRE. In addition, the scripts simulating the satellites and ground stations behaviours for Virtual Wall are completed. We already have adapted the Elecnor Deimos’ processors to be executed in cloud. We are now implementing the models in the test beds.

We still have to develop the scripts to be implemented in PlanetLab Europe because of login and the privileges problems that this week appears to be solved. We have to evaluate them and start the scripts.

However we have been advancing in the implementation of the software implementation in the cloud

We still have to develop the scripts to be implemented

We already started some experiment trials in Fed4FIRE. The problems encountered and that have to be solved to go on with the implementation of the GEO-Cloud experiment are listed as follows:

* In BonFIRE:
  + It is necessary to create an experiment before interacting with it through the Ruby API. An advantage would be to have the possibility of creating the experiment when the ruby script is executed.
  + Adding network resources from ibbt and storage resources from INRIA to a compute resource cannot be possible. Only a network resource and a storage resource from ibbt can build a compute resource, so this is a limitation.
* In PlanetLab Europe:
  + The main problem in this test bed is the connectivity with the PlanetLab Central nodes. As users of PlanetLab Europe, only European nodes can be accessed. For example, the Chinese’s nodes can not to be connected, but is necessary to access those nodes for simulating the geographical distribution of the Geo-Cloud experimen. This week Timur Friedman created an account for us to facilitate us connectivity with PlanetLab Central. But we have not still tested it.
* In Virtuall Wall:
  + When creating a network topology in BonFIRE-Virtual Wall, automatically the IP directions are assigned. It would be interesting if we could do it manually.

Throught the BonFIRE platform, the Virtual Wall nodes have some limitations as the bandwidth (which only provides between 0-100 Mbps but for this experiment will be needed 160Mbps) or the loss rate (whose values only can be integers).