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eInfrastructure

Middleware for collaborative Applications
and Global vIrtual Communities

Deliverable 2.4

AAI Preparation: Assess the Identity Management of participating institutions

Periodical Progress Report

MAGIC Deliverable: D2.4 -   AAI Preparation (Assess the Identity Management of participating institutions)

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Abstract: This Document contain all the necessary information required for AAI Implementation at the two NRENs per region participating in the project. This document contain implementation strategy to be used by NREN Focal Points

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1. INTRODUCTION

1.1. PURPOSE OF THE DOCUMENT

The purpose of this document is to explain and detail all actions required for AAI implementation by at least two NRENs per region participating in the project, excluding Europe and Latin America. This document contains the implementation strategy to be used by NREN Focal Points.

2. DOCUMENT AMENDMENT PROCEDURE

All changes should be send to the author, with a copy to WP2 mailing list. The revisions shall be send to WP2 and MAGIC ALL mailing list, in order to allow to all members review the entire document, mainly their region chapter.

3. GLOSSARY

MAGIC	Middleware for collaborative Applications and Global vIrtual Communities
EC	European Commission
EU	European Union
EU-LAC	Europe, Latin America and the Caribbean
IdP	Identity Provider
SP	Service Provider
NREN	National research and education network
AAI	Authentication and Authorization Infrastructure

4. EXECUTIVE SUMMARY

This document shows how, where and when actions aiming AAI and eduroam implantation will occur in all MAGIC project regions.

This document was produced by WP leader and Project Coordinator form RNP, and all focal points and some partners, showing a very good level of integration between all regions.

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5. FOCAL POINTS AND PARTNERS REPORT

5.1. MEXICO

5.1.1. AAI Activities

Since the beginning of the project until the first quarter of 2016, CUDI has carried out the following activities:

1. **Initial analysis of the project**

   The project scope was determined including hosting requirements, connectivity, hardware and software as well as the technical resources needed to carry out the NREN activities under WP2.

   CUDI member institutions were invited to become beneficiaries of MAGIC WP2 activities.

2. **Development of the base platform**

   A platform to support the deployment of the Mexican Identity Federation by participating institutions was implemented.

   The activities for this included:

   a) The purchase, installation and configuration of servers for the CUDI Identity Provider (IdP);

   b) The development of Federation policies relating to the IdPs and Service Providers (SP) that will be integrated into the Federation;

   c) The planning of the Identity Federation website

3. **Training**

   CUDI technical staff attended a workshop run by MAGIC on AAI and eduroam which was held on 7, 8 and 9 October at UWI Mona Jamaica.

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The preparation of training materials to be used in training the technical staff of the institutions participating in the project was also started.

In the second quarter of 2016, CUDI is implementing a SP to federate services, which has and wants to make available to the federation, likewise, it is implementing a Discovery Service (DS) for the Federation. In addition, it is developing the Identity Federation website.

Work is currently ongoing to define the metadata to be used by the Identify Federation. The corresponding final document is expected to be ready at the end of the second quarter.

The documents setting the policies of the Identify Federation, the IdP and the SP were sent to participating institutions and are awaiting their signature. Equally, each institution was asked to define a service they want to make available to the Identity Federation.

It is expected that by the end of June 2016, the first service will be implemented within the Identity Federation as a pilot AAI.

In addition to this, training of technical staff at Mexican institutions will start at the end of June 2016, to enable them to install and configure an IdP and an SP. This training will be continuous throughout the third quarter of 2016 through in-person workshops and online training.

Once the training of technical staff has been completed, work for the development of a pilot AAI at each institution will begin. It is estimated that this work will be completed by the end of the first quarter of 2017.

5.1.2. eduroam Activities:

CUDI currently has eduroam service for local users and is working to integrate into eduroam the eight Mexican institutions supported by MAGIC. Universidad Nacional Autónoma de Mexico (UNAM) and Universidad Autónoma Metropolitana (UAM) have both already made significant progress, and we expect them to have an operational eduroam service in the near future.

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5.1.3. AAI and eduroam Activities

In May 2016 a workshop open to academic institutions on eduroam and Identity Federations will be held alongside the CUDI Spring Meeting 2016. The workshop will be further complemented with an online course.

5.2. ARAB REGION

5.2.1. Countries committed in the project

ASREN presented MAGIC to its member NRENs at regional meetings, by videoconference calls and by providing project material to them. ASREN also reviewed the status of readiness and willingness of NRENs in the Arab region to join MAGIC and to implement the services expected to be made available via the project.

NRENs and Universities in Morocco, Algeria, UAE, Qatar, Jordan, Lebanon, Tunisia, Oman, Egypt and Palestine showed interest.

5.2.2. AAI Activities

I.   **Initial analysis of the project**

ASREN implemented an AAI project under the CHAIN-REDS[1] project and this is currently operational. As regards other countries, Oman started work before the start of MAGIC.

It was very important for NRENs to become informed about AAI and how to implement the service. The first step was therefore to conduct awareness and training sessions for the NRENs.

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[1] https://www.chain-project.eu/

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II.   Development of the base platform

At the end of Year 1 of MAGIC, the status of AAI in the ASREN region is as follows:

–   AAI is now successfully implemented at:

-   ASREN, Jordan (launched mid-2015);
-   TRC, Oman (ready before MAGIC start);
-   MARWAN, Morocco (launched during MAGIC project);
-   ARN, Algeria (launched and implemented during MAGIC).

–   AAI is in pilot status in:
-   AUB, Lebanon,
-   JUNet, Jordan.

–   Planning to implement AAI: Palestine and Egypt.

III.   Training

ASREN conducted the first workshop "First workshop on Joining eduroam and Identity Federation" in Amman, 8-10 September 2015 at ASREN headquarters. The workshop was organised in cooperation with the MAGIC and EUMEDCONNECT3[2] projects, and was designed for staff of National Research and Education Networks (NRENs) and Universities.

The workshop mainly discussed the technical and policy issues related to implementing eduroam, AAI and joining eduGAIN. There were eleven (11) participants from six (6) countries: Algeria, Jordan, Lebanon, Morocco, Palestine and Tunisia.

ASREN is planning for another workshop during its annual conference e-AGE2016 in Beirut in December 2016.

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[2] www.eumedconnect3.net

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5.2.3. eduroam Activities:

I. **Initial analysis of the project**

Before MAGIC, eduroam was implemented in the United Arab Emirates, at one university in Qatar and at pilot level at ASREN. It was necessary to disseminate and promote eduroam to the respective NRENs in the region. Therefore, eduroam was on the agenda of all regional meetings of ASREN members and it was discussed in most of the monthly conference calls.

II. **Development of the base platform**

At the end of Year 1 of MAGIC, the status of eduroam in the ASREN region is as follows:

– eduroam is successfully implemented in Saudi Arabia, United Arab Emirates, Lebanon, Algeria, Morocco and ASREN. It should be noted that it was in operation in Saudi Arabia and the United Arab Emirates, as well as in Morocco, before the start of MAGIC;
– eduroam is successfully at pilot level in Jordan, Tunisia and Oman;
– Egypt and Palestine are starting.

III. **Training**

ASREN conducted the first workshop "First workshop on Joining eduroam and Identity Federation" in Amman, 8-10 September 2015 at ASREN headquarters. The workshop was organised in cooperation with the MAGIC and EUMEDCONNECT3 projects, and was designed for staff of National Research and Education Networks (NRENs) and Universities.

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ASREN is planning for another workshop during its annual conference e-AGE2016 in Beirut in December 2016.

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5.2.4. Schedule of implementation

ASREN, with the support of experienced project partners, continues to promote the eduroam and AAI to its member NRENs and will provide the necessary help and technical support. More NRENs are expected to join both eduroam and eduGAIN in the second year of the project.

5.2.5. Major Obstacles and Concerns

I.   Allocating resources: most NRENs lack the resources to work on additional activities such as eduroam or IdPs as most of the team works on network implementation, management and security monitoring as they count this as the main function of NRENs;

II. Capacity building: NRENs do not have the technical capacity and at the same time do not have funds to send their staff for training. Therefore, most of the staff are working on remote training or online reading material and following up with colleagues at GÉANT and other NRENs to get technical support and assistance.

5.3. AFRICA REGION (EASTERN & SOUTHERN AFRICA)

Eastern and Southern Africa is at infrastructure level coordinated by UbuntuNet Alliance. The region includes some 26 countries, 15 of which are members of the Alliance, while discussions for NREN development are at various stages in Botswana, Comoros, Lesotho, Madagascar, Mauritius and Zimbabwe. Further details at www.ubuntunet.net.

5.3.1. Countries committed in the project

Much of Eastern and Southern Africa is a greenfield in as far as AAI is concerned. The subject of AAI in the region begun getting some tangible traction a few years ago with the EU FP7 ei4Africa project. The idea then was to raise awareness of the concept using demonstrators. Three NRENs (KENET – Kenya; TERNET – Tanzania; and SANREN – South Africa) participated in setting up Catch-All Identity Providers that soon became part of the Grid Identity Pool (GrIdP) Test Federation run by GARR, the Italian NREN.

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Zambia's ZAMREN later joined and set up its Catch-All IdP. The next step was to move towards establishing national federation, but this was only started later by South Africa as they initiated SAFIRE.

UbuntuNet Alliance has re-organised its deployment strategy, which started with a training session, held in Dar es Salaam on 26-28 April 2016 ahead of its Annual General Meeting. The training is reported in detail in section 2.3.2 III below. After the hands on training NRENs have been tasked with rolling out the service. As at the time of writing this report, starting with the initial NRENs that participated in eI4Africa, MAREN (Malawi) and RENU (Uganda) have made progress in rolling out the service. They are also working on the paper work for officially joining eduGAIN.

5.3.2. Activities in AAI

I. Initial analysis of the project

At this time in Eastern and Southern Africa, in addition to MAGIC, 2 other initiatives are promoting the development of AAI, these are: AfricaConnect project and the H2020 Sci-GaIA project. These three projects are complimenting each other, in that Sci-GaIA is promoting services that require federated access, such as Science Gateways; MAGIC project provides the training materials, whereas AfricaConnect had the budget to support the participation of trainees. UbuntuNet Alliance now has a dedicated office at its secretariat to oversee the deployment of AAI.

II. Development of the base platform

UbuntuNet Alliance is working towards a deal with a cloud provider, Wingu and already has access to its platform, where the infrastructure has been deployed in Johannesburg, South Africa. The same platform is being made available to those NRENs that do not have infrastructure.

III. Training

A Federated Applications (FedApps) Training session was held on 26-28 April 2016 in Dar es Salaam as part of UbuntuNet Alliance's strategy for deployment of AAI in the region. The training - supported by the MAGIC project - was facilitated by UbuntuNet Alliance and SANReN, South Africa. The training was attended by 22 engineers from 14 NRENs.

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The plan is that after the hands-on training session the engineers will work as a community in deploying the services. The NRENs will deploy national federations, while supporting universities and research centers in deployment of Identity Providers. The trainees were also exposed to the paper work required to incubate a federation and to join eduGAIN. While eduGAIN is not a top priority at the beginning, the federations will be constructed in a way that enables them to be eduGAIN compliant.

5.3.3. Activities in eduroam:

I.   Initial analysis of the project

The Research and Education Network for Uganda (RENU) in January 2016 became the 4th NREN in Eastern and Southern Africa to deploy and join eduroam after SANREN (South Africa), KENET (Kenya) and ZAMREN (Zambia). UbuntuNet Alliance continues to promote deployment of the service in the region. During the Federated Applications training in Dar es Salaam in April 2016, eduroam was not covered extensively, but it was teaser enough to spark the interest in additional training. With the eduroam experts from SANREN, UbuntuNet Alliance is currently looking into the possibility to provide this training in the coming months.

II.   Development of the base platform

As noted earlier eduroam exists in South Africa, Kenya, Uganda and Zambia. As at the time of writing this report, engineers from MAREN (Malawi) with the support from UbuntuNet Alliance just completed setting up the Federation Level Roaming Operator and a first eduroam Identity Provider for the College of Medicine in Blantyre. The next step is to assist other institutes in getting their own wireless roaming service up and running. This way the Malawian federation will hopefully soon reach the state where it can join the growing global eduroam community

III. Training

No training on eduroam has been conducted so far. This is still at planning stage to be done in the coming few months.

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5.3.4. Schedule of implementation

After Malawi is completed, Mozambique and Zimbabwe are next.

5.4. AFRICA REGION (WEST & CENTRAL AFRICA)

The West and Central Research and Education Network (WACREN) is the regional network. It has 10 established NRENs amongst the 22 countries in the region as members. There are on-going initiatives in another 4 countries to establish NRENs but the remaining are yet to start the dialogue towards establishing NRENs. The European Commission AfricaConnect2 project to deploy the WACREN network also has development of these NRENs as part of its objectives.

5.4.1. Countries committed in the project

In the absence of network infrastructure to interconnect its members, WACREN has been working to foster collaboration in the community by increasing awareness and developing activity to bootstrap the uptake of federated identity and deployment of AAI infrastructure.

Experience gained in deploying a production demonstration Identity Provider in Nigeria in ei4Africa, a previous FP7 project provided a good base to work with the MAGIC project and the training materials provided. The number of participating countries was boosted by WACREN involvement in the UNSECO and UEMOA supported PADTICE, a project to enhance the daily life of African students in 8 selected countries in the region that included deployment of AAI infrastructure.

The countries currently involved in various stages of AAI infrastructure development in addition to Nigeria include – Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo. Each of these countries now have reference Identity and Service Provider deployments and are engaged in developing the policy and practice statements required to establish Identity Federations and make them viable.

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5.4.2. Activities in AAI

IV.   Initial analysis of the project

After ei4Africa, WACREN had embarked on the development of a Federation-as-a-Service (FaaS) infrastructure for federated authentication   and authorization to promote the use and adoption of Identity Federations and shared e-Research services.

The pilot known as WACREN EduID is a fully functional production demonstration of web-based management of Identity Federations. It was deployed to complement training efforts with a registry, discovery service and easy to use tools that provide a comfortable entry point for the NRENs, enabling them to roll out Identity Federations in their countries based on current best practices.

Training is therefore targeted and offered in 2 streams

1. Policy and Practice
2. Technology Support

V.   Development of the base platform

WACREN EduID builds on similar activity in GÉANT and is based on JAGGER, an open source federation resource registry developed by HEAnet the Irish NREN and customized for WACREN. The goal in subsequent phases of its development is joint management with WACREN NREN members.

The pilot federation currently has 11 Identity Providers (IdP) and 6 Service Providers (SP) from campuses in the region including an Open Identity Provider service by WACREN for members of the community yet to deploy their own identity infrastructure but need immediate access to globally federated services.

As the NRENs now have a platform with which to manage their federations and uses-cases provided by complementary EU projects such as Sci-GaiA, effort is now focused on employing MAGIC training for the deployment of Identity and Service Providers as well as business models, governance and management.

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VI.   Training

Training was provided to WACREN engineers in November 2015 using content produced in the MAGIC project to enable the participants from the 8 countries involved in the PADTICE project to deploy their campus Identity Providers and a temporary catchall for the NREN. A total of 24 engineers and network administrators were trained.

A further training session targeted at decision and policy makers was co-located with the WACREN Annual Conference in March 2016. While the first was technical, the latter enlightened participants on the motivation, business case and management issues for the development of identity federations and services. Supported by a facilitator from the MAGIC project and other experienced practitioners, the participants explored governance, policies and technology requirements for identity federations, and defined a roadmap for kick-starting implementation in their respective NRENs and institutions. This workshop was attended by 62 participants from African NRENs

5.4.3. Activities in eduroam:

IV.   Initial analysis of the project

The Senegalese Research and Education Network (snRER) was the first full-blown eduroam pilot in the WACREN region. The pilot initiated in January 2016 is currently confined to the Université Cheikh Anta Diop de Dakar (UCAD), which is leading the training of engineers from other campuses in snRER. The deployment will transit to a full deployment when this is completed and other campuses join the federation. The eduroam pilot was also successfully extended to the WACREN Annual Conference, which was held in Dakar in March 2016 for the benefit of the international audience who participated.

The Ghanaian NREN, GARNET followed on quickly after its experience in the WACREN conference with its own pilot led by the University of Ghana. They are currently planning training activity for other members of the NREN. Aside from these two, there is little activity in other parts of WACREN. NgREN (Nigeria), which had deployed a Federation Level Router in 2013, has been energised by the activities in its peer NRENs and has recently convened a project team to follow suit.

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V.   Development of the base platform

WACREN is currently providing web-based support to these NRENs actively engaged in trialling out eduroam in their NRENs.. As campus identity systems are the basic building blocks of both Identity and eduroam federations, efforts are being made to exploit the common areas. Initial feedback suggests that this and remote assistance with setup may be sufficient for lead NREN technologists to leverage along with training content from the MAGIC project and eduroam wiki for localised training

VI.   Training

There have been a number of videoconferences and webinars but WACREN is yet to offer any face-to-face training

5.4.4. Schedule of implementation

After the deployments in Senegal, Ghana and Nigeria are completed and fully operational, advantage will be taken of the WACREN regional training scheduled to take place in Burkina Faso in July/August to add FasoREN to the list. It is also expected that NRENs with extensive wireless infrastructure such as RITER (Côte d'Ivoire) will quickly follow suit.

5.5. ASIA REGION (CENTRAL ASIA)

5.5.1. Countries committed in the project

With start of the third phase of the EC-co-funded CAREN project, it is planned to develop services and applications to help achieve the sustainability of NRENs in the Central Asia region. The establishment and setup of eduroam and Identity Federation services will allow CAREN NRENs to participate and collaborate with other world regional networks in the area of Authorisation and Authentication and academic collaboration.

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NRENs and Universities in Kyrgyzstan (Kyrgyz Research and Education Network Association (KRENA)) and Tajikistan (Tajik Research and Education Network Association (TARENA)) are interested.

5.5.2. Activities in AAI and eduroam

I. Initial analysis of the project

Currently only the CAREN NOC offers eduroam for local users and there is no AAI presence in Central Asia region. It was very important for NRENs to be informed about eduroam and AAI and how to implement the services. The first step was therefore to conduct awareness and training sessions for the NRENs, and support the development of eduroam and AAI infrastructure in a pilot universities.

II. Development of the base platform

At this stage, a roadmap has been developed for the introduction and development of a platform that supports the deployment of the Identify Federations by KRENA and TARENA institutions, which are supported by MAGIC. The CAREN NOC with the support of MAGIC partners provides technical support and training for the Higher Education Institutions (HEI) behind the NRENs.
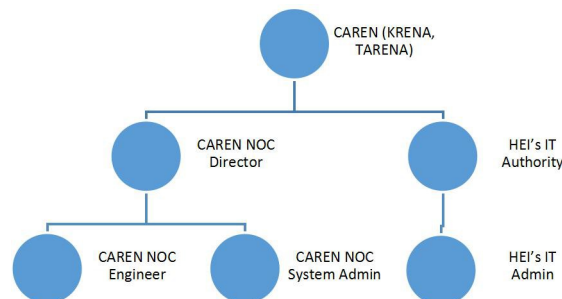
The following activities are planned:

June 2016:   agreement on collaboration between CAREN and MAGIC (RNP).

July 2016:   eduroam and AAI Pilot at Kyrgyz Turkish Manas University and Kyrgyz State Technical University (two universities)

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Sep 2016: eduroam/AAI preparation (access to Identity Management) and implementation

October 2016: Demo session at CAREN Regional Networking Conference, Bishkek, Kyrgyz Republic

October 2016: Training conducted by Latin American partners, Bishkek, Kyrgyz Republic

November 2016: Follow-up support and final progress report

December 2016: Dissemination of training materials to university technical staff

III. Training

For both areas, training on Identity Federations and eduroam will be held in a workshop for academic institutions, which will take place during the 2nd CAREN Conference 2016. This training workshop will be further complemented with an online course.

5.5.3. Schedule of implementation

CAREN, with the support of experienced MAGIC partners has started to promote eduroam and AAI to its member NRENs and will provide the necessary help and technical support. More NRENs are expected to join both eduroam and eduGAIN in the second year of the project.

5.6. CARIBBEAN

Jamaica
Institution: The University of the West Indies (UWI) - Mona Campus.

Activities:
- Training – delivered on the workshop of October/2015;
- eduroam preparation – currently in progress;
- eduroam pilot tests – July/2016;
- eduroam implementation – September/2016;
- AAI preparation – July/2016.

Barbados

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No institution committed yet;
Promoting session planned for June/2016.

Dominican Republic
No institution committed yet;
Promoting session planned for June/2016.

5.7. FURTHER INFORMATION

It was not possible to inform activities in some regions because the WP coordination did not receive all information needed on time by focal points. As soon as the WP coordination receive new information, a new version of deliverable 2.4 will be submitted.

6. CONCLUSION

After having the training material ready, translated, and available for all MAGIC members and partners the project will provide a very strong pillar to support federations and eduroam implementation. After providing this material, initially in English, all Magic members can capacitate their technical staff in order to raise federations in their regions.

Doing this it is expected to reach the WP2 milestones in federation, having at the end of the project, pilot federations deployed in at least 4 countries, although in some regions are informing that they are having been difficult to focus in this work package due a lack of work force internally in their regions.