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Deliverable D11.2 (DS7.5.1,1): Review of Y1, Task 5: Mobile Data Service Activities and Achievements

Deliverable D11.2 (DS7.5.1,1)

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Abstract

This report presents an update of the work carried out and achievements made during Y1 work of GN3plus SA7 T5, which provides the NRENs with the opportunity to aggregate demand and engage effectively with mobile providers to procure mobile telephony and data for end users at significantly lower costs.

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Executive Summary

This report presents an update of the work carried out and achievements made during the first year of GN3plus SA7 T5.

Task 5 provides NRENs with the opportunity to aggregate demand and effectively engage with mobile providers to procure mobile telephony and data for end users at significantly lower costs. Current mobile services provided by commercial providers in many countries do not offer sufficient value for Research and Education (R&E).

NRENs are facing increasing demands to provide mobile services that comply with nomadic R&E users' expanding mobile needs. To provide these services in a cross-border context, and in an integrated way, NRENs are working together and aggregate scale and expertise to deliver these services in a timely and cohesive manner.

GN3plus participants saw the need for a step-by-step approach for the provision of mobile services, but acknowledged that it is was not feasible to provide a mobile data service to all NRENs within the GN3plus timeframe. Participants opted for a phased approach, via a first wave of five countries.

In December, five NRENs, (those in the Czech Republic, Netherlands, Portugal, Spain, and Sweden) signed up for the mobile data procurement.

Together, they solicited interest from providers, issued a Prior Information Notice in December, and a Request for Information at the end of March, which at the time of writing (March 2014) led to 18 registrations of interest by providers. The team expects additional interest, as the RFI is open until May 2014.

In addition to developing the support packs for the mobile service procurement, this report D11.2 (DS7.5.1,1), and two Milestones: MS93 (MS7.5.1) "Mobile Data Service Requirements and Capabilities" and MS95 (MS7.5.2) "Mobile Data Service; Advice for Procurement and Exploitation Roadmap" were also delivered.

In summary, the first year of this Task focussed on:

- Defining the approach for the Task and Procurement.
- Gathering a first wave of participating NRENs.
- Preparing the procurement.
- Soliciting interest from providers.

In Year 2 the procurement process will be completed and aims to make services available to end users in all five countries.

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1 Introduction

The research and education community is increasingly "cutting the cord" and making choices that favour wireless technology. Research and education users are rapidly adopting mobile devices and a nomadic work style, both on and off campus. Such users want to be online anytime and anyplace. However, the current mobile services (3GP; 3G and 4G services) provided by commercial providers in many countries do not offer sufficient value: subscription costs are too high, data bundles (i.e. the data traffic permitted) are too low, and the mobile services are not connected to the research and education IT infrastructure. Vendors struggle to cope with the rise in data traffic and to make the required investments in next-generation infrastructures. Regulatory bodies find it difficult to create a more competitive market and drive innovation forward. This limited and fragmented experience impedes the research and education community in its work.

To meet the users' needs and push the boundaries of technology, NRENs are working together to remove these barriers and provide an attractive and seamless mobile experience to the research and education community. The shift to more nomadic working by staff and students is increasing demand for mobile connectivity.

The work of GN3plus SA7 Task 5 provides the NRENs with the opportunity to aggregate this demand and engage effectively with mobile providers to procure mobile telephony and data for end users at significantly lower costs. Within the GN3plus timeframe, SA7 Task 5 is facilitating the procurement of mobile services for a first wave of five participating NRENs (Czech Republic, Netherlands, Portugal, Spain and Sweden), representing a joint user base of 3.2 million users.

This document (Deliverable) provides a snapshot of progress of this new Activity and Task, at the end of its first year of the GN3plus project. It outlines the achievements and states the objectives in the year ahead.

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2 Mobile in GN3plus: Building on Previous Efforts

2.1 Financial Aspects

Recently, three reports have been published that demonstrated the range in pricing for mobile services between European countries. They signalled a 774% difference in costs-per-minute for voice and a 600% difference in costs for voice/data packages. The "Mobile Connectivity Feasibility Study Business Case", as commissioned by GÉANT in 2012, (Analysys Mason findings) concluded:

- The size of the combined NREN community warrants a significant discount on 3GPP (ITU terminology for voice and 3G/4G) services).
- The expected procurement costs are negligible in comparison to expected savings.

The recommendations of the report included the following:

- Procure a community-wide mobility solution based on 3GPP basic services.
- Where possible, NRENs should consider the deployment of an integrated solution.

The Analysys Mason report concluded that the result of the tender may not be as favourable to NRENs due to the rapidly changing market.

There are also vast price differences between countries, which cannot be solely attributed to the procurement costs for vendors to obtain frequencies. In spite of a recent reduction in roaming charges across the EC, the SA7 Task 5 team believes that there are still a number of factors that can lead to such variation including:

- The cost difference of network investment (including auctions of 4G frequencies).
- The cost difference in operations in countries with different population density.
- Country-by-country variation in market growth.
- Protected vs progressive markets: are new MNOs allowed or is the market fixed?

Taking into account these differences in costs, and the number of users the NRENs represent, a procurement process resulting in a significant end-user saving, is feasible.

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2.2   Use Cases

The two NREN use cases, listed below, further support the feasibility of the collaborative procurement which GN3plus SA7 undertakes. Both NRENs were able to use the combined procurement power of the students they represent to negotiate significantly better deals than those available to students prior to their involvement. The take-up is the combination of three factors:

a.   The discount offered.
b.   The marketing effort undertaken to inform students about the availability of the discount.
c.   The necessity of the service to the student.

HEAnet and GRNET have realised that, as students are now primarily using smartphones, the take-up of their current deals are hampered by the deals' limitation to data-only offers. Both NRENs indicated that they would expect greater uptake if combined voice and data propositions are available and HEAnet has indicated future procurements will centre on voice+data propositions.

SA7 will award contracts primarily on voice+data discounts.

2.2.1   HEAnet (Ireland)

HEAnet managed to negotiate a data-only deal with O2, offering a 50% discount for students and staff. About 12 000 (13%) of the eligible users have signed up, resulting in savings of €1.4 million per year.

Specifics

- 3G data-only package.
- 15GB per month and a free modem at €9.99 per month.
- For students and staff of Irish third level education.
- Provider: O2.
- Selection process: competitive dialogue.

2.2.2   GRNET (Greece)

GRNET negotiated a data-only deal with Vodafone where students pay €4.74 per month for 4GB, representing a discount of nearly 50% compared to previous rates. About 20 000 (8%) of the eligible students subscribed to this offer in 2013, leading to an annual saving of €1.3 million per year. Vodafone ran radio ads as part of its marketing campaign, which promoted the deal in a format that appealed to students.

Specifics

- 3G data-only package.
- 4GB at €4.74 per month.
- For students and staff of Greek Universities.
- Provider: Vodafone.

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- Selection process: open tender.

These use cases show that:

- The combined procurement power of students can be used to obtain significant discounts.
- Providers can be motivated to offer these services.
- These services are appreciated and used.
- Uptake is likely to be much higher when attractive voice+data offers are included.

The SA7 team is actively using the expertise gained by these two NRENs. HEAnet is part of SA7 Task 5, and GRNET is regularly consulted.

2.3 Activity Goal

SA7 envisions and strives for a world where students have worldwide, flat-fee mobile voice and data capabilities at lower prices and with more features than commercial offerings, as this will enable and create new possibilities for education and research.

However, this long-term goal is not something NRENs can achieve at this moment. This is because:

- It has never been done before. There are no precedents for reaching agreements with operators in multiple countries, let alone for securing flat-fee data offers or no roaming charges.
- NRENs do not have a track record in procuring these agreements.
- NRENs still have to prove that they can mobilise a significant proportion of end users for this type of service. On the other hand, if advertised properly, a significant discount will mobilise a significant portion of end users.

As the long-term goal is not immediately achievable, the short-term objective of SA7 T5 during the GN3plus timeframe is to provide mobile network capabilities that suit the needs of education and research to end users of an initial or pilot group of NRENs, by procuring such service(s) from vendors at a significant discount.

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3 NREN Collaboration on Mobile Services

3.1 Progress in Year 1

In the first quarter of GN3plus, the SA7 team scoped the work and wrote a "Requirements and Capabilities Report". [MS7.5.1]

This was followed up by active discussions, within the team and the GN3plus project management, product management and Services Advisory Board, about the Task direction and topic approach. Also, in October, the team hosted a discussion session about mobile services at the GN3plus Symposium. The outcomes of these discussions are reflected in Milestone MS7.5.2, "Advice for Procurement and Exploitation Roadmap" [MS7.5.2].

GN3plus participants saw the need for a step-by-step approach for the provision of mobile services, but acknowledged that it is was not feasible to provide a mobile data service to all NRENs within the GN3plus timeframe. Participants opted for a phased approach, via a first wave of five countries, to procure mobile services for end users: education staff and students.

In November 2013, the team sent out an Information package to the NRENs, to provide further details about the upcoming procurement and the underlying rationale for this project, and invited them to participate.

In December, five NRENs signed up for the mobile data procurement. The five NRENs in this first wave are:

- Czech Republic, representing 440 000 end-users.
- Netherlands, representing 550 000 end-users.
- Portugal, representing 300 000 end-users.
- Spain, representing 1 500 000 end-users.
- Sweden, representing 440 000 end-users.

This group of NRENs covers a wide geographical area, and together, they represent a substantial user base of approximately 3.2 million end users (higher education students and institution staff). As the countries involved have rolled out slightly different mobile technology and have different mobile operators in place, the active award will be given to a single mobile operator for each country. The procurement process required for this Task is actively seeking providers that are willing to offer deals in more than one country, as this has the potential to yield higher discounts, free roaming, and enables more opportunities for NRENs to collaborate. To encourage these multi-country proposals, around 90% of the requirements are identical for all five countries.

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The five participating NRENs collectively offered 1 FTE of additional manpower (funded by the NRENs), to be used in the project. The team has also been able to add internal legal expertise to the team in the form of a legal officer from one of the NRENs. When needed, external legal expertise will be hired to resolve issues on a case-by-case basis.

In December, the SA7 team sent out a Prior Information Notice (PIN) to inform providers about the plans [PIN].

As a follow up, the team created a Request For Information (RFI), which was discussed with the participating NRENs during a meeting in Prague in January 2014. By Q1 of 2014, the team had contacted providers, raised interest and issued the RFI on 21 March 2014.

By the end of March, there were 18 registrations of interest (bidders accessing the RFI document). The team expects additional interest, as the RFI is open until May 2014.

3.2　**Example Benefit Case**

The example case below shows a calculation of the potential savings that could result from the GN3plus SA7 T5 mobile services procurement.

Assumptions	Savings (per year)		
	Per Student	Per Country	Total
Students normally pay €15 a month The procurement secures a 30% discount 30% students per country use the offer Five countries in the first wave	€54	Czech rep: €7.1m Netherlands: €8.9m Portugal: €4.9m Spain: €24.3m Sweden: €7.1m	€52.3m

Table 3.1: Potential savings that could be derived from mobile service procurement

Note that these savings could be realised onwards from the second year of the contract between the service provider and the NREN. It is not to be expected that these savings will be realisable in the first year that the discounted subscriptions become available due to:

- The fact that many students will have ongoing mobile subscriptions, which prohibit them from taking advantage of these deals until their current subscription has run out.

- The amount of time that it will take for the marketing efforts to reach the students.

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3.2.1 Process

The procurement of the mobile data service for the first wave of five NRENs will take place during the GN3plus timeframe following the European tendering principles, leading up to the award of one concession agreement per country.

- With an agreement between the selected service provider and the NREN, describing the conditions under which the provider may deliver the services to the individual end users.

- Individual agreements between the service provider and the individual end user, incorporating these conditions.

3.2.2 Principles

There are a number of drivers used to ensure the procurement process seeks the highest, total end-user saving available.

- The minimum discount to be offered to NRENs will be set at 20%. This will send a strong signal to the service providers, and ensure that NRENs do not have to invest in promotional effort for less-attractive deals.
- The aim is for a 40% uptake of eligible end-users during the contract period. Evidently, this percentage cannot be guaranteed. However, this emphasises the goal and commitment to maximising its impact.
- End-user savings should be significant, as the participating NRENs are all more expensive than the EU average.
- Maximising the offer uptake by focusing on marketing commitment from providers, and promotional effort from the NREN.
- Ensure sustainability by negotiation of a fixed percentage discount on all current and future provider propositions.
- Use existing federative authentication mechanisms in place within the NREN community to check end-user eligibility.
- Seek network integration to offload data. Offloading data brings cost savings to providers (which can be transferred to lower subscription costs for end-users) and would enable a VPN-less access to home institutions networks (a more direct technical connection).

3.3 Risks

The team identified a number of risks to the procurement process. These risks are described below, including the measures to mitigate them. (Note that these have been assigned a level of probable risk on a scale of 1 to 5, with 1 being unlikely and 5 being most likely to occur.)

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Risk	Probability (1-5)	Mitigation
1 No Bids (no Operator is interested)	2	Ensure providers understand the advantages by learning from NRENs who procured comparable services in the past, collaborating with other SA7 tasks and creating an elevator pitch to communicate with providers in their language.
2 Low bids (only minimal discounts offered) resulting in low value to end-users and low uptake	1	By defining (and communicating) a minimum discount (in %) on regular offerings to be offered on voice+data, low bids are unacceptable and will not lead to awarding contracts, saving NRENs' time.
3 NRENs could be considered public operators by legislative bodies	1	Allowing students to buy mobile telephony services at a discount does not differ from allowing students to buy software licences at a discount. Use of an existing federated authentication mechanism to check eligibility of end-users will ensure NRENs are not being considered public providers.
4 If network integration is procured, NRENs may have to comply with EU regulation for the area, such as the Data Storage Directive	2	As NRENs serve a closed group, and this offer is not available outside the closed group, NRENs should not have to comply with these EU regulations. In case this is not the case, it can be specified in the RFP that the service provider is responsible for complying with these regulations before transporting the traffic to the NREN's network.

3.4 Documentation Delivered For Year 1

In summary, in addition to developing the support packs for the mobile service procurement, at the end of Year 1, Task 5 delivered this report D11.2 (DS7.5.1,1), and two Milestones: MS93 (MS7.5.1) "Mobile Data Service Requirements and Capabilities" and MS95 (MS7.5.2) "Mobile Data Service; Advice for Procurement and Exploitation Roadmap".

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4 Communication

Considering mobile services are a new topic, the team has actively communicated with the NREN community about the opportunities offered by SA7 Task 5.

During the first year of GN3plus, the SA7 team:

- Held regular update meetings with the DANTE Partner Relations team to establish a good information exchange with the NRENs about the developments.
- Presented information about mobile services at the **GN3plus Symposium** in Vienna [SYMPOSIUM].
- Issued an Information Pack to inform the NRENs about the upcoming procurement and the underlying reasoning for this project, and invited them to participate.
- Held two webinars to explain the project in more detail and answered questions from interested NRENs.
- Presented at the FCCN Users' Conference in Evora, Portugal.
- Carried out preparations to attend the TERENA Networking Conference 2014. TNC 2014 is an opportunity to inform senior management (of participating and other interested NRENs) on the Task principles and progress.

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5 Planning for GN3plus Year 2

The first year focussed on:

- Defining the approach for the Task and procurement.
- Gathering a first wave of participating NRENs.
- Preparing the procurement.
- Soliciting interest from providers.

In Year 2 of the GN3plus project, the Task will enter the execution stage, and through the procurement process, award contracts and prepare for the operational stage of the mobile data service. Task 5 plans to complete this execution phase by the end of GN3plus, and aims to have the services available for end-users in all five countries before the end of March 2015.

The main planning phases for Task 5 are as follows:

- Q2 2014: Team meets to discuss RFI responses and generate draft RFP, discuss draft RFP with participating NRENs.
- Q3 2014: Issue draft RFP and conduct dialogue sessions.
- Q4 2014: Issue final RFP and award contracts.
- Q1 2015: Services become available to end-users in all five countries.

At the end of the GN3plus project period, the team will report on the outcomes of the work through a new annual review report D11.4 (DS7.5,1,2).

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References

[GRNET]	https://www.grnet.gr/en
[HEAnet]	http://www.heanet.ie/
[MS7.5.1]	https://intranet.geant.net/SA7/T5/SitePages/Requirements%20and%20capabilities%20report.aspx
[MS7.5.2]	https://intranet.geant.net/SA7/T5/SA7%20Task%205%20documents/Mobile%20services%20for%20the%20research%20and%20education%20community.docx?Web=1
[PIN]	http://ted.europa.eu/udl?uri=TED:NOTICE:434742-2013:TEXT:EN:HTML
[SYMPOSIUM]	
	https://intranet.geant.net/NA1/T8/gn3plus_symposium13/Lists/Parallel%20Sessions%20Planning/DispForm.aspx?ID=33&ContentTypeId=0x01000BA5B37D1F5748448EC8030339D6B9D3

Glossary

3G	Third generation mobile communications technology
3GPP	File format defined by the Third Generation Partnership Project (3GPP) for 3G UMTS multimedia services
4G	Fourth generation mobile communications technology
End-users	Higher education students and academic / institution staff
GN3plus	(GÉANT Network 3 plus), a project part-funded from the EC's Seventh Framework Programme under Grant Agreement No.605243
ITU	International Telecommunication Union
MOOC	Massive Open Online Courses
NREN	National Research and Education Network
PIN	Prior Information Notice
RFI	Request For Information
RFP	Request For Proposal
SA	Service Activity
T	Task
TNC2014	TERENA Networking Conference

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