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Activity 2: Business Common Cross-Activities

WP 2.6: Legal Issues

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1. Executive summary

Following the work performed so far, especially in D.2.6.6, this Deliverable contains a further set of questions from and for the BEs. We will in particular focus on two aspects: SLAs and patent infringements. As regards SLAs, it will be assessed which potential risks Grid and Grid-based service providers have to face, but above all we will provide for some tips for the BEs. First of all, BEs should use a written form for their SLAs, in order to have an evidence of the existence of the agreement and of its content. The written document can be in paper-based or in electronic form, as far as it assures a durable record of the contract.

Regarding the content of the SLA, we will assess that SLAs in Grid environments are supposed to be different from 'traditional' agreements, given the fact that the customer is expected to require a better QoS and an enhanced level of availability of the services. This is in line with the 'missions' and the nature of Grid technology. Special attention will be paid to the clauses on the applicable law governing the SLA and to the provisions on the competent court in case of disputes, according to the applicable European legal framework. These provisions are very important in order to avoid troubles and assure a good business relation between the parties involved, and should be included in all SLAs even when they are electronically negotiated (within the limits of the possibilities to electronically negotiate a contract).

Applicable law and jurisdiction shall be assessed in different ways depending on the other party of the SLA, in other words in case of B2B SLA the parties are basically free to set what they want in the contract while in B2C there are some rules of strict application that are aimed to protect the weakest party, i.e. the consumer. Those provisions must be taken into account by the BEs if and when selling e-services to private customers in order to avoid that some clauses in the SLA are declared void or unenforceable.

The last question will be devoted to patent infringements. So far only BE25 may be affected by this issue and therefore we will focus on the prior art research performed by this BE. The results will show that no major risks for the BE exist, although the topic is very sensitive and further analysis will be required when the BE will finally sell its solutions.

2. Introduction and Purposes

This Deliverable is the follow up of D.2.6.6 which was dedicated to the legal analysis of the second and first waves of BEs. To be more precise, that paper contained a set of legal questions proposed by the BEs to which a concrete solution was provided, together with an analysis of potential patent infringements regarding BE15. This Deliverable follows a similar structure, as it will be showed below. First of all, it is necessary to point out that a detailed analysis of the BEs has been provided in another document, precisely in D.2.3.3, where we carried on an analysis of the exploitation plans of the second wave of the BEs. The scope of D.2.6.8 is different: we want to address some specific legal topics that are likely to arise during the BEs' life and that will potentially affect their business operability. These issues come from the analysis of their exploitation plans and, especially, from the phone and face-to-face consultancy performed with them in the last months. Only from a direct and effective interaction with the BEs it is in fact possible to understand what they need and what must be addressed in this document.

At the same time, the role of the author is not purely passive. Our goal is also that of exploring new fields of research and not of simply copying analysis carried on in the past. With this regard the BEs have at their disposal a conspicuous amount of material and a great number of Deliverables, apart from the documents published in Gridipedia and in other sources (publications). In other words, we wanted that the BEs pose their attention on some specific issues that have been analysed in other WPs of the project but not yet from the legal point of view. The biggest gap in this sense was about Service Level Agreements (SLAs). For the very fact that they are contracts, WP 2.6 claims its competence to say something about the issue, with a twofold goal: provide concrete guidance for the BEs (and avoid that they receive information of legal nature from non-qualified sources) and assure consistency and completeness to BEinGRID as a whole.

SLAs are absolutely pivotal, and affect all BEs: they need suggestions and they asked for tips in order to avoid mistakes that can require time and money to be solved. The objective of WP 2.6 is that of preventing problems rather than solving them, and this Deliverable must be read in the light of this consideration. Having said that, the analysis of SLAs for the BEs will focus on the following issues:

1. The content of SLAs in Grid environments: in other words, we will address whether or not an SLA in a Grid scenario is likely to be different from the agreements entered into by the parties in a non-Grid environment.
2. The legal assessment of e-negotiations of SLAs: are they allowed? Are the contracts automatically negotiated valid and enforceable? Which concrete tips can be given to the BEs?
3. The form of the SLA: is it necessary to draft it in a written form? Which value do e-documents have and how is it possible to sign them?
4. The law applicable to SLAs involving partners from different countries from the point of view of private international law and both in case of B2B and B2C agreements: simply stated, which law will govern the contract?
5. Issues of jurisdiction in case of B2C and B2B SLA: which court will be competent to solve the dispute with a consumer if the parties are established in different countries?

The above questions will be provided with solutions according to the applicable European legal framework, as usually done in all previous Deliverables. Furthermore, the style adopted

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will be practical rather than academic, although some of the issues above will be the object of academic publications aimed at promoting and disseminating the research carried on within BEinGRID.

The last question will have a different focus and scope: instead of SLAs, it will regard patent infringements, as requested by the reviewers. The analysis provided will be dedicated to the only BE that is in the potential situation to face the problem of violation of existing patents and/or patent applications: BE25. As far as we are aware, and as far as the BEs are aware, BE25 is the only one that needs this assessment, and therefore BE25 is the only one that performed a prior art research about existing and pending patents. BE25 is also considering about addressing non-European markets, and for this reason it is affected by the topic under analysis. What they do and develop, in fact, is not patentable in Europe, but the solution may be different if we take into account the state of the art in the United States. As said in other documents, especially in the long section dedicated to patents in the Activity 2 Meta-deliverable, software and methods in principle are not patentable according to the European legislation and the case law of the EPO. This means that, as far as the BEs sell their solutions only in Europe, no patent infringements may, in principle, arise. The situation can be dramatically different if other markets are addressed.

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2.2 Glossary of Acronyms

Acronym	**Definition**
Art.	Article
B2B	Business to Business
B2C	Business to Consumer
BE	Business Experiment
BEinGRID	Business Experiments in Grid
CNIPA	Centro Nazionale per Informatica nella Pubblica Amministrazione
D	Deliverable
EC	European Communities
ECJ	European Court of Justice
EPC	European Patent Convention
EPO	European Patent Office
EU	European Union
FAQ	Frequently Asked Questions

ICT	Information Communication Technology
IPR	Intellectual Property Right
QoS	Quality of Services
SaaS	Software as a Service
SLA	Service Level Agreement
US	United States
WIPO	World Intellectual Property Organisation
WP	Work Package

3. F.A.Q. section: the questions of the BEs and the corresponding legal analysis

3.1 SLA: the content in a Grid environment

Question: is it possible to expect that the content of SLA(s) in a Grid environment is different from those entered into in a non-Grid environment? How should the BEs behave?

We start the list of questions and corresponding analyses with a doubt that we, acting as legal and business consultants, proposed to the BEs. We asked, in fact, whether or not they do believe that the content of the SLAs that they see, apply and draft in a Grid environment is different, or is expected to be different, from those currently adopted in non-Grid scenarios. This question may seem to be purely theoretical and academic, but in reality it has a great practical impact. First of all, SLAs, as pointed out in the introduction, are agreements that play a pivotal role in Grid scenarios: they regulate, in fact, the provision of Grid services and/or of the services based on the Grid and set the most important elements of the relationships between the parties in a Grid value chain, or at least in a section of such value chain, like the quality of services (QoS), the security measures, the fees, etc. In other words, a SLA is a contract between a user and a provider of a service specifying the conditions under which a service may be used and it describes the provider's commitments and specifies the penalties if those commitments are not met.

Having said that, it is extremely important to assess which effect (if any, and to what extent) Grid technology has on the SLAs, and the same applies for other technologies that adopt dispersed resources like Cloud computing. The BEs took our question into account and, from informal talks during the legal consultancy phase, came out that around 20 % of the BEs (2nd wave) do believe that Grid technology has impacts on the SLAs entered into, in other words the SLAs in Grid scenarios are expected to be different from those drafted in a non-Grid environment. The other BEs, then, did not provide a negative assessment but they are still not able to give an answer.

This section of the Deliverable has the aim to help them to give an answer, and therefore to draft SLAs that are consistent with the technology they adopt and that can fully satisfy the customers and respect applicable legal provisions. This shows clearly that the analysis performed here has practical impacts and it can be used in the everyday business life of the BEs. In order to help the BEs to give an answer we do first take into account the business practice of big international Grid providers and, at the same time, we try to be in the shoes of a typical client of Grid services. Before entering into a detailed analysis, we have to say that it can be applied to all the SLAs that are entered into in a Grid or SaaS value chain. To give a concrete example, following the typical SaaS paradigm, there is a technology (Grid) provider, a service (SaaS) provider and an end user. There will be therefore two SLAs: one between the Grid provider and the SaaS provider and one between the SLA provider and the end user. Both SLAs are affected by the considerations that are the object of these pages, thus both of them may have a different content from the SLA that are drafted in an hypothetical SaaS provision in a non-Grid environment.

To the ends of our analysis, the core of the SLA is the definition of the QoS, more specifically the level of availability and system performance, i.e. the management on top of the allocated resources: availability (compute resources, storage etc), network performance (latency, throughput), etc. For simplicity we will use only the expression availability.

Apart from this, being in the shoes of the customer means trying to give an answer to the following question: why should the SLA in a Grid environment (and the same applies to Cloud computing) be the same as in non-Grid scenarios? If, in fact, the services provided are expected and promised to be better, the SLA should be more favorable for the customer. Every vendor of Grid services or Grid-based services, in fact, is supposed to promote, directly or indirectly, his products and say that they are better and cheaper than those of his competitors that do not adopt Grid technologies. Without entering into further details and discussions, this is supposed to be sure.

What about the business practice? In reality it shows that the SLAs, as regards at least the promised availability level, are better for the customers than before the advent of the Grid. First of all, customers are aware of the benefits of Grid (not always, of course, but sometimes or often) and, for instance, most clients of Xignite (financial Web service provider that delivers market data from the Cloud) are fine with 99.5 to 99.9 % availability and some want as high as 99.99 %[1]. Gary Slater (of LiveOps), then, declared that clients want their system to work all the time[2]. These statements come from business cases involving Cloud technology, but the same may be applied to the Grid, at least to the ends of the drafting of SLAs.

The answer of the informed and rational customer, thus, is expected to be the following: if the client pays for a service that is expected to be better than that he was used to, he wants to see this in the SLA he signs. In this sense there is, and there should be, an influence of technology on legal agreements, namely the SLAs. Thus the availability level promised by the Grid provider in the SLA should be very high and favorable for the customer. The business practice shows that this statement is true and adopted by big international technology providers. We provide some examples from Grid/Cloud vendors: as regards Amazon, the service availability for S3 Simple Storage Service (storage of the customer's data in 1 bucket) is 99.9 %, while the service availability for EC2 Elastic Compute Cloud, based on Cloud technology, is 99.95 %[3]. In the latter case, the SLA is more favorable for the client given the fact that the service availability promised by Amazon is higher.

For what concerns the Grid, Joyent offers an accelerator hosting SLA (Grid container hosting account services), thus based on Grid technology, and the SLA states that the service availability is 100 % for all users[4]. This is a very good example of how Grid technology may increase the quality of the services offered to the customers and of the need to reflect this improvement in the contracts signed with the clients. The SLAs drafted and entered into by the BEs should follow the same rationale, and should have written in clear letters that the client will benefit from a better service than that offered by companies that do not adopt Grid technologies.

3.2 E-negotiations from the legal point of view

Question: to what extent e-negotiation mechanisms are legally valid and acceptable? Is there the risk that the contract will be declared invalid or void?

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[1] http://www.linuxinsider.com/story/must-read/65137.html?wlc=1241790805 (retrieved 8/5/09).

[2] Id.

[3] See http://aws.amazon.com/ (retrieved 8/5/09).

[4] http://www.joyent.com/accelerator (retrieved 12/12/08).

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Negotiations play a pivotal role in the life of any SLA. In this phase, in fact, the parties decide the respective obligations, in particular which services, and at which level, the Grid provider will supply and which price the customer will pay. Typically, the negotiations follow the so-called SLA contract definition, which consist of the proposal by one of the parties and the definition of a template. After the negotiations there will be the 'signing' of the contract, i.e. the agreement will enter into force and will deploy all its effects. The question proposed by many BEs regards the possibility to have electronic negotiations, so that the contract will be drafted by humans and computers together and, in a more advanced scenario, only by computers. In both cases, the BEs wants to know whether or not there is, legally speaking, a contract, and whether or not this contract will be valid and enforceable.

We provide a solution to this question starting from the former situation (human and computer-generated negotiations, in other words human intervention combined with computer-generated process). There are already examples of common types of this kind of negotiations, like the g-Forge SLA-negotiation (which is supposed to be adopted and used by some BEs). In g-Forge, in fact, there is a plug-in that is used to decide whether an offer shall be refused or accepted: the final decision is in any case taken by a human being. Another example, probably adopted by some BEs, is the Web Services Agreement Specification (WS-Agreement): in this case the protocol is based on a simple round "offer, accept" message exchange. It is evident that in both cases the relation between the computer and the human operator is of complementarity, so that the computer controls some aspects of the negotiations while a human being takes the final decision. This is different from negotiations entirely controlled by machines but, at the same time, it is also different from traditional negotiations entirely directed and controlled by persons.

The most important aspect to point out is that as far as the parties can manage the negotiations and the agreement reflects their will, no legal contractual barriers will arise. This means that if the parties have an active role and take the most important decisions during the negotiations, like accept/refuse, there will be a valid SLA. The behavior of the parties, of course, must be assessed on a case-by-case basis, but in principle we can say that the computers (with this word we mean generally ICT components, both hardware and software) should only assist the human operators. Allowing the matching of the different offers, in fact, does not mean accepting an offer.

The second scenario is that of negotiations that are entirely controlled and directed by computers. Provided that we are not so sure that this is a feasible and viable solution, and we doubt that it can be realistic, at least in the near future, it is not possible to exclude it from the spectrum of the possibilities, and the BEs, in fact, show interest about it. In this scenario the human intervention is limited to an initial input, but nothing more. The 'decision' about acceptance/refuse, price of the services, etc is taken by computers. With this regard, we are not so sure that it is possible to talk about decision: this requires the active intervention of a man who acts on the basis of his will. A conscious will is therefore required.

This means that there are doubts concerning the validity and enforceability of the contract: in particular, it is not so sure that there is a real contract from the legal point of view. A general principle of contract law, accepted by all countries, is that the will of the parties is one of the necessary requisites to have an agreement. The parties must want to agree on something. Provided the existing principles and laws in the area of contract law, it is probably impossible to say that a contract entirely generated by computers is a valid agreement. Different opinions are of course possible, and not all the laws in the world follow the same principles. Our solution is based on the most commonly accepted ideas at European level.

Provided that an entirely computer-generated SLA (or, in general, contract) is invalid, there is

a possibility to avoid problems, and it is the adoption of a (not extremely complex) contractual architecture. To be more precise, the parties may enter into a framework agreement, drafted by the parties (i.e. a human-generated contract), that states that they will be bound to the results of the electronic negotiations. Therefore, they give a sort of proxy to the computers that will negotiate and decide on their behalf. This solution seems to be safe from the legal point of view and reduces (or, as we believe, eliminates) the risks of invalidity of the SLA. The source of the validity of this agreement, in fact, is the first contract made by the parties.

3.3 The form of the SLA

Question: how should a SLA entered into by the parties be from the point of view of the form? Is it necessary to draft a written contract? Which possibilities do the BEs have?

The form of the SLA is an aspect that has to be duly taken into account by the parties. First of all, it is necessary to point out that the form of a contract is a matter of national law, so that basically there are no general rules that apply to all agreements on a European scale. Having said that, there are principles followed by all jurisdictions, one of those being the creation of the contract. As a general rule, in fact, a contract is deemed to come into existence when acceptance of an offer has been communicated to the offeror by the offeree or when the offeror knows that the offeree accepted.

Another principle is the freedom of form, which means that the parties are free to choose whatever form for a SLA. This principle is usually mitigated by national laws as regards some particular contracts, like those who transfer the ownership of real estate properties, marriages, donations, etc. SLAs are expected to fall outside the scope of those exceptions, so that in principle it can be entered into by the parties in written or in oral form. Two considerations have to be done: first of all, the parties should check whether or not there are indeed exceptions that do apply (regarding, for instance, the written form required for contracts exceeding a certain amount of money). In case of international agreements, i.e. SLAs involving parties established in more countries, the European and international rules that apply tend to recognise the validity of contracts in as many cases as possible (see *infra* for further details). In some particular cases, then, a written form may be required for some particular provisions in the SLA, like that specifying the competent court (see *infra*).

Secondly, it is always advisable to have a written SLA, even if not requested by the law. A written record of the contract can be obviously useful to have an evidence of the existence of the agreement and of its content. It is hardly imaginable, in fact, to set litigation about, for instance, the enforcement of an SLA if the parties cannot prove that a SLA exists between them. Having said that, which possibilities do the parties have when they want to draft a written SLA? What does it mean the expression 'written form' in the era of ICT?

In the past, in fact, it was very clear that written form means on a paper-based support. Now things are not anymore so obvious and many doubts may arise. Legally speaking, at European level there is a principle, set forth by Directive 1999/93/EC[5], pursuant to which all Member States shall allow the conclusion of e-contracts signed with an electronic signature. The use of electronic signature comes into play when the written form is requested by the law: if such requirement does not apply, but the parties want in any case a written record, a

[5] Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures [OJ L13, 19.1.2000, p. 12-20].

simple written text is enough (e.g. an email, or any other document on a durable support).

When a written form is requested, thus, the signature comes into play. In some cases the applicable laws and regulations set a written form, for instance when the parties, in B2B contracts, want to set a choice of court provision. The choice of court, in fact, must respect some formal requirements, so that it must be, pursuant to art. 23(1) second part of Regulation 44/2001 (see *infra*), either: "(a) in writing or evidenced in writing; or (b) in a form which accords which practices which the parties have established between themselves; or (c) in international trade or commerce, in a form which accords with a usage of which the parties are or ought to have been aware and which in such trade or commerce is widely known to, and regularly observed by, parties to contracts of the type involved in the particular trade or commerce concerned." As regards this last requisite, it is necessary to perform a case-by-case analysis in every business and commercial sector in order to evaluate the most used practices. Nevertheless, the lawmaker of the Regulation introduced a useful specification, so that, according to art. 23(2), "any communication by electronic means which provides a durable record of the agreement shall be equivalent to 'writing'". The key factor is thus the durable record of the electronic agreement, i.e. of the provision in the SLA that contains the choice of court provision.

It is important to say, then, that the e-signature can be attached also to an e-mail (also in this case we have a valid electronic document that respects the requisite of the written form) and that, of course, the parties can prefer to sign a 'real' paper-based contract with a 'real' signature. The applicable laws provide for many possibilities, but the parties should also verify the level of acceptance of electronic documents in practice by public authorities and courts. Another aspect to highlight regards the procurement agreements with public institutions: in principle they will allow the signing of e-SLAs (i.e. on electronic form) but in some cases the problem that arises is linked to the standards and specifications of the electronic signature of the Grid or Grid-based service provider. Some European countries, in fact, apply higher standards than others, so that an e-signature which is perfectly valid in one Member State is not accepted by the public authorities of another country. This is what has been recently disclosed to the author by a manager of the Italian government authority competent for the adoption of ICT by national and local public administrations (CNIPA). The solution to these problems must be found on a case-by-case basis.

3.4 SLA: the applicable law (I)

Question: in case of B2B SLA, which law will govern the contract and will be applicable to the contractual obligations arising from the SLA?

We said above that the SLA is a contract. A contract must be governed by a national law, which will regulate its life, the way it can be terminated, how potential problematic issues can be solved, how it shall be interpreted, etc. A contract exists because the law states that it can exist but the role of the law does not end at the 'genetic' moment. The law follows an agreement during its entire life.

It is obvious that if a contract is entered into by two parties that are located in the same country there are no particular problems as regards the applicable law: a contract signed in Brussels by two companies or persons established, resident or based in Belgium, Belgian law will regulate the contract (unless the parties decide otherwise). The problems arise if and when parties are established in different countries. In a Grid scenario, and particularly in the BEs, it is possible to have a Grid provider located in a country and a group of customers who live or are based in other countries. In this case, a problem arises: which law will govern the

contract? In order to provide a solution to this question, the legal source to apply is the Convention on the Law Applicable to Contractual Obligations of 1980[6], commonly called Rome Convention. This convention applies to contractual obligations, i.e. obligations arising from contracts, with some exceptions that are not relevant to the ends of our analysis. A typical SLA for the provision of Grid services or Grid-based services will fall under the scope of application of the Rome Convention.

The first principle that allows us to provide a solution to the above question is Article 3(1), which states that "a contract shall be governed by the law chosen by the parties". Furthermore, "the choice must be expressed or demonstrated with reasonable certainty by the terms of the contract or the circumstances of the case. By their choice the parties can select the law applicable to the whole or a part only of the contract." Therefore the parties can and should state clearly, without ambiguous expressions, in the SLA which law will be applicable to govern the contract.

But what does it mean exactly 'governing' the contract? The answer is provided by art. 10(1) that list the topics that shall be governed by the applicable law as individuated by art. 3(1) and by other provisions that will be analysed *infra*:

"(a) interpretation;

(b) performance;

(c) within the limits of the powers conferred on the court by its procedural law, the consequences of breach, including the assessment of damages in so far as it is governed by rules of law;

(d) the various ways of extinguishing obligations, and prescription and limitation of actions;

(e) the consequences of nullity of the contract."

This list is pretty clear and does not require particular explanations: the law applicable will govern basically the entire life of the SLA, including its interpretation, the consequences of its invalidity and nullity if and when necessary, the performance of the obligations set forth by the agreement, the damages linked to the non-fulfillment of these obligations, etc.

Having said that, we have to assess which law will govern the contract if the parties do not select an applicable law in the SLA. In this case, pursuant to art. 4(1), "the contract shall be governed by the law of the country with which it is most closely connected." Furthermore, "nevertheless, a severable part of the contract which has a closer connection with another country may by way of exception be governed by the law of that other country." We focus here on the simplest case, where the entire contract is governed by one law (and this will be probably the case in point with the BEs). But how is it possible to assess with which country the contract is most closely connected? What does it mean in practice?

According to art. 4(2) "it shall be presumed that the contract is most closely connected with the country where the party who is to effect the performance which is characteristic of the contract has, at the time of conclusion of the contract, his habitual residence, or, in the case of a body corporate or unincorporated, its central administration." The performance which is characteristic of the contract is normally the provision of the service, thus, to make some examples, the supply of Grid services or of Grid-based services (in case of SaaS, the

[6] 1980 Rome Convention on the law applicable to contractual obligations (consolidated version) [OJ C 27, 26/01/1998, p. 34-46]. For contracts concluded after 17 December 2009, Regulation (EC) 593/2008 of 17 June 2008 on the law applicable to contractual obligations (Rome I) [OJ L 177, 4/7/2008, p. 6-16] will apply.

provision of the software; in case of Grid storage or computing capacity, the provision of this capacity). In more general terms, the literature pointed out that "the characteristic performance of a contract is usually the act for which payment is made. This may be the supply of goods or services or the provision of information. The effect of this is that the courts will usually apply the law of the country where the person who has to provide/supply the required goods or services maintains their principal place of business or is habitually resident." [Murray]

In light of the principle stated by the second part of art. 4(2) ("if the contract is entered into in the course of that party's trade or profession, that country shall be the country in which the principal place of business is situated or, where under the terms of the contract the performance is to be effected through a place of business other than the principal place of business, the country in which that other place of business is situated"), we can reach the conclusion that the law of the country of the technology (Grid) provider or of the service provider will be applicable.

Some examples will clarify the point:

1. In case of Grid provider established in the US (e.g. in California, where the principal place of business is located) that sells Grid services to a Spanish customer/service provider (e.g. a SaaS provider), American (Californian) law will be applicable by virtue of the application of the Rome Convention. Art. 2, in fact, states that "any law specified by this Convention shall be applied whether or not it is the law of a Contracting State", thus the convention is universal and does not limit to indicate applicable laws within the borders of the EU;
2. In case of Spanish service provider (e.g. SaaS provider) that sells Grid-based services to a Brazilian customer, Spanish law will be applicable, provided that the principal place of business of the company is located in Spain.

Another important point to assess regards the formal validity of the contract. So far, in fact, we took into account the more 'substantial' aspects of the contract, but also validity is very important. An invalid contract, in fact, often cannot be performed and is source of problems for the parties. Art. 9(1) and (2) set forth two main principles:

1. "A contract concluded between persons who are in the same country is formally valid if it satisfies the formal requirements of the law which governs it", as specified thanks to the application of art. 3 and 4, "or of the law of the country where it is concluded";
2. "A contract concluded between persons who are in different countries is formally valid if it satisfies the formal requirements of the law which governs it", as specified thanks to the application of Art. 3 and 4, "or of the law of one of those countries."

These criteria are pretty flexible in the sense that favor the validity of the contract as often as possible, in order to avoid troubles arising from the invalidity or nullity of agreements and of contractual relations.

3.5 SLA: the applicable law (II)

Question: what about in case of B2C SLA?

In case of B2C SLAs, the solution is dramatically different, and the applicable provisions are aimed to protect the consumer. As highlighted in the literature "the Rome Convention ensures that consumers can rely on their usual consumer protection measures when

contracting with overseas traders" [Murray]. First of all, it is necessary to assess who is the consumer. Art. 5 of the Rome Convention provides for a sort of definition, and it specifies that "this article applies to a contract the object of which is the supply of goods or services to a person ("the consumer") for a purpose which can be regarded as being outside his trade or profession, or a contract for the provision of credit for that object." The provision of credit lies beyond the scope of this part, so we focus our attention only on the first part of the provision. The above definition is apparently very clear, so that a person is a consumer every time he buys a good or a service for purposes not linked to his activity, profession, or business. Therefore, for instance, a lawyer who requires Grid storage resources to host his professional file is not a consumer and, as a consequence, the special rules set forth by the Convention (see *infra*) do not apply. If, on the other side, the same lawyer buys storage capacity for his personal files, e.g. music, videos or pictures, he is deemed to be a consumer.

Part of the literature proposes a different approach, and some authors wonder whether or not it is possible to include in the notion of consumers also small businesses or professionals that are not very familiar (they are "profane") with the products or services they buy. [Wild] Following this interpretation, the abovementioned lawyer should be considered as a consumer even if he buys Grid storage capacity for professional purposes, given the fact that he is supposed to be 'ignorant' in the field. It is possible to agree with this approach but only to a limited extent. To be more precise, we agree that the definition of consumer is not satisfactory, provided that it is not able to protect, in many cases, the weak party. In other words, a lawyer or a small company that buys computing capacity or services from big multinational companies like, for instance, Amazon or Sun are not consumers, based on the literary interpretation of the above definition, but they are certainly the weak party in the contractual relationship. They are not in the position to negotiate with the provider the specific terms of the provision of the service ('take it or leave it') and they do not have, very often, the resources to enforce the SLA if the technology provider does not fulfil his obligations.

Therefore, it would be extremely useful to have a modification of the definition of consumer by the European lawmaker with the aim to include in such a definition also small businesses and professionals that, in practice, are like 'traditional' consumers (this need is even more urgent if we consider that, in the above example, the lawyer can use Grid computing resources to store professional and private files at the same time[7], and in these cases it is cumbersome to establish which regime will be applicable). The problem, then, is the definition of small business. In other words it may be rather difficult to indicate clear borders to which the special protections for consumers apply. This is mainly a political problem and it would go beyond the scope of this paper to provide or suggest solutions. Having said that, given the actual definition of consumer, it is extremely difficult to enlarge it and therefore small businesses and professionals, when buying Grid resources (or Grid-based services), cannot be considered to be consumers.[8]

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[7] The European Court of Justice pointed out, in a similar case, that a person who concludes a contracts for the supply of services intended for purposes which are in part within and in part outside his trade or profession may not rely on the special rules of jurisdiction directed to protect the consumer, unless the trade or professional purpose is so limited as to be negligible in the overall context of the provision of the services (and the fact that the private element is predominant is irrelevant in that respect): case C-464/01 Johann Gruber v. Bay Wa AG [OJ C57, 5.3.2005, p. 1].

[8] The European Court of Justice, in the case C-269/05 *Francesco Beniscasa v. Dentalkit S.r.l.* [ECR 1997, I-3767], decided that consumer contracts concern only agreements whose aim is to satisfy the private consumption needs of an individual, supposed to be the weakest party. Furthermore, the Court (joint cases C-541/99 and C-

Article 5 of the Rome Convention, then, in regulating the law governing consumer contracts, makes a distinction, so that a set of rules are applicable in case the parties agree on the choice of an applicable law, and a different set of rules do apply in absence of choice. In the former situation, the Convention specifies that the consumer cannot be deprived of at least a minimum level of protection, so that the ICT provider can not, in practice, unilaterally decide that a law that is favourable only to him will govern the SLA. To be more precise, art. 5(2) states that "a choice of law made by the parties shall not have the result of depriving the consumer of the protection afforded to him by the mandatory rules of the law of the country in which he has his habitual residence:

- if in that country the conclusion of the contract was preceded by a specific invitation addressed to him or by advertising, and he had taken in that country all the steps necessary on his part for the conclusion of the contract, or

- if the other party or his agent received the consumer's order in that country, or

- if the contract is for the sale of goods and the consumer travelled from that country to another country and there gave his order, provided that the consumer's journey was arranged by the seller for the purpose of inducing the consumer to buy."

The last indent of the provision is not really relevant to the ends of our analysis. The first one, to the contrary, is pivotal and needs to be carefully addressed. It may be cumbersome to assess whether or not the criteria set by the Convention have been met by the supplier (specific invitation, advertisement, steps necessary to the conclusion of the contract). In practice, it is useful to make a distinction between active websites and passive websites. The latter case exists if the Grid provider, SaaS provider, etc has a website whose only function is to advertise the solutions offered, without giving any possibility to the consumer to enter into the contract. Therefore, if there is no online form to request the services, or there is no phone number of a sale representative for the country concerned, or any other means to stipulate contracts with the consumers in that country, the special rule does not apply. The same applies if the provider did not send an email advertising the solutions and inviting the targeted consumers to buy the services. Our interpretation of the provision, therefore, relies basically on the possibilities offered to the consumer to enter into a contract (SLA or other) with the provider in the country where he is resident. One could wonder: what if the consumer is travelling? Do the mandatory rules of the country where he is resident apply? As it will better explained in the following paragraph, probably they do, provided that the consumer did have the possibility to enter into the agreement also in the country where he is resident. If an ICT provider wants to avoid all troubles, therefore, he should make clear that he does not want to sell his services to consumers living in other countries (from the business point of view, of course, this statement sounds like an 'invitation to commit suicide', and we are aware of this – at the same time, businesses should be aware of the risks they potentially have to face when dealing with foreign consumers). This may be done through a disclaimer ('service not intended to be supplied outside the country X'), through a GeoIP system that blocks foreign visitors, by accepting only credit cards issued by banks of country X or other states, etc.

The second indent of art. 5(2) is also relevant ("if the other party or his agent received the consumer's order in that country") and may pose problems that are difficult or impossible to

542/99 [ECR 2001, I-9049]) said very clearly (although in a case regarding another legal source, i.e. Directive 93/13/EC on uniform terms in consumer contracts) that the term 'consumer' must be interpreted as referring only to natural persons, so that companies and enterprises are excluded.

be solved. The question that can arise is linked to the previous analysis, in better terms: let us imagine that company A does not want to deal with many jurisdictions and applicable laws and declares that it sells the Grid services only to consumers resident in Germany. To be sure, they accept payments only with credit cards issued by German banks, so that German consumers can fill in an online form and buy the desired services. The website of company A is hosted on a server, or servers, established in Italy. Provided that the consumers' orders are physically received in Italy, can a customer (e.g. an Italian domiciled in Italy who has a credit card issued by a German bank) claim the application of Italian mandatory rules? This case is not really likely to happen in real life, but real life is often more complicated than even the best imagination of academics. In principle, we would say that the answer to be provided in this case is no. The location of the server that hosts the website is irrelevant, as it is irrelevant, to other purposes, the location of Grid components (servers, nodes, clusters, etc) that physically render possible the provision of the services.

The third paragraph of art. 5 regulates the situation in absence of choice about the applicable law governing the contract. The agreement shall be governed by the law of the country in which the consumer has his habitual residence if it is entered into in the circumstances described in paragraph 2 of this Article, i.e. if the three abovementioned criteria are met. No further considerations about these criteria are needed, but it is useful to point out that, provided the universal applicability of the Convention, the applicable law can be also one of a non-EU Member State. The practical suggestion that we feel to give is that of indicating the applicable law in the SLA, notwithstanding the possibility, explained above, that other rules (the mandatory rules of the country where the consumer has his habitual residence) may find application anyhow.

Some final considerations about the fourth paragraph of art. 5. This provision states that the article does not apply to "a contract for the supply of services where the services are to be supplied to the consumer exclusively in a country other than that in which he has his habitual residence." In the ICT domain this clause probably will be rarely applied, especially if we take into account the fact that the provision of Grid and Grid-based services is international in its nature. To be more precise, a consumer can use a SaaS or can store files in the Grid everywhere in the world, and then, from a different perspective, the word 'exclusively' brings us to exclude that the special rules of protection for the consumers are not applicable to 'Grid consumers.' This would mean that, basically, all customers of ICT services are excluded from the protection, which would be limited to buyers of hardware components (usually supplied to the country where the consumer lives).

3.6 SLA: issues of jurisdiction (I)

Question: in case of B2C SLA, what if there is no clause about jurisdiction and the competent judge? How is it possible to assess which court will be competent?

Basically when the parties do not include a choice of court clause in their contract, it is necessary to determine the competent court with reference to the applicable ordinary rules on jurisdiction. In EU Member States the first question to be asked is whether Council Regulation 44/2001[9], which is the most important legal source in the field, is applicable and consequently if the defendant (i.e. the person/company sued) is domiciled within the European territory. It is first of all necessary to separate B2C from B2B scenarios, provided

[9] Council Regulation (EC) 44/2001 of 22 December 2000 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters [OJ L12, 16.1.2001, p. 1-23].

that in the former cases the contractual freedom of the parties to choose the competent court is limited by legal rules.

Regulation 44/2001, in fact, provides for specific rules applicable to consumer contracts, i.e. agreements concluded with a person "for a purpose which can be regarded as being outside his trade or profession", as specified by art. 15(1). The first problem to analyse regards the notion of 'consumer', and the solutions provided before apply also to this topic. The definition provided by the above legal provision is (also in this case) apparently very clear, so that a person is a consumer every time he buys a good or a service for purposes not linked to his activity, profession, or business. Therefore, in the above example, a lawyer who requires Grid storage resources to host his professional file is not a consumer and, as a consequence, the special rules set forth by the Regulation (see *infra*) do not apply. If, on the other side, the same lawyer buys storage capacity for his personal files, e.g. music, videos or pictures, he is deemed to be a consumer.

The special rule for the determination of the competent court can be found in art. 16 of the Regulation. This provision is applicable if the criterion set forth by art. 15(1)(c) is met, i.e. if and when "the contract has been concluded with a person who pursues commercial or professional activities in the Member State of the consumer's domicile or, by any means, directs such activities to that Member State or to several Member States including that Member State, and the contract falls within the scope of such activities." It may problematic, in an e-commerce scenario[10], to assess whether or not this criterion is met. The indent 'by any means' refers, as pointed out in the literature [Rowe] [Berliri] and by the European Commission [Proposal 1998], to business activities carried on through the Internet, and an example will clarify the point. Let us assume that a Grid provider, established in the Netherlands, has a website through which customers located all around the world, including in the Member States of the EU, can buy services. The question that arises is whether or not such a website can constitute a way to direct activities to those Member States: to provide an answer to this question, some criteria must be taken into account. First of all, we could assume that the language of the website is a key factor. [Graham] Can we say that a website that is, for instance, only in English is directed only to English-speaking countries, so that if a German consumer buys services there the special protection set forth by Regulation 44/2001 does not apply? We would say that this solution is not satisfying and may lead to unfair treatments: provided that the majority of the websites of ICT vendors is in English, only customers domiciled in the United Kingdom or in Ireland will be protected, although these websites are accessible also by other countries and sell services to customers located all around Europe. On the other way, we can assume that a website translated in many languages is a clear indicator of the will of the company to address some specific national markets.

From a different perspective, it is necessary to assess the nature and the characteristics of the website in order to establish whether or not it is directed to sell products or services in one or more Member States. The literature [Wild][11] and the European Commission itself [Proposal 1998] rely on the distinction between passive and active website: the former is a

[10] We assume, in fact, that the provisions of Grid computing resources and of Grid-based services are e-commerce activities.

[11] This author points out, then, that "a consumer's knowledge of the existence of an interactive website in a particular Member State will not give rise to jurisdiction…unless the consumer actually has concluded his contract through actual use of the website's interactive capability."

website that contains only advertising material and that provides mere information, while the latter allows the client to enter into an agreement with the supplier and therefore buy Grid services or Grid-based services. It is necessary to perform a case-by-case analysis in order to assess whether a website is passive or active: in principle, if the technology or service provider has a website with information in several European languages and it is possible for the customers to buy the offered services, i.e. 'signing' a contract, providing his credit card number, etc there are few doubts that the provider wanted to target those national market and therefore customers domiciled there will enjoy from the protection offered by Regulation 44/2001.[12] This happens unless the provider expressly states in the website that the offered products and services are not intended for a certain market, [Rosner] or if payment is expressed only in one currency and no other currencies are accepted (this criterion is not very effective after the adoption of the Euro) or it is possible to pay for the services only with credit cards issued in one or more specific countries (if, for instance, only credit cards issued by German banks are accepted it is pretty clear that the services are not intended to be sold in Belgium).

Having said that, art. 16 specifies which courts will be competent if the above requisites are met. Pursuant to paragraph 1, "a consumer may bring proceedings against the other party to a contract either in the courts of the Member States in which that party is domiciled or in the courts for the place where the consumer is domiciled." This means that a customer, when acting as plaintiff i.e. when bringing an action against a technology or service provider, can choose the court of the place where he is domiciled or the court of the place where the provider is domiciled. Art. 16(2) provides a solution for the opposite case, when the provider brings an action against the consumer (who is thus the defendant): "proceedings may be brought against a consumer by the other party to the contract only in the courts of the Member State in which the consumer is domiciled." The protection for the consumer is here evident.

The above provisions, especially paragraph 1, make also clear that these special rules are applicable only if the defendant is domiciled in a Member State. If, pursuant to art. 4, this is not the case in point, the national jurisdictional rules will apply. In other words, if a consumer, domiciled in France, wants to sue a Grid provider domiciled in the United States the jurisdiction will be assessed in light of the national rules of civil procedure of France. If, on the other side, the Grid provider is domiciled in a Member State, *nulla quaestio* and the rule of the Regulation will be applicable. It is, then, necessary to establish when a person is domiciled in a Member State. First of all, pursuant to art. 59(1), the court seised of a dispute will decide whether or not the party is domiciled in that State applying its national law.[13] For what concerns "a company or other legal person or association of natural or legal persons" (i.e. Grid providers and providers of Grid-based services), art. 60 specifies that the domicile will be determined by the place where the company etc has its (i) statutory seat, or (ii) central administration, or (iii) principal place of business. It is often cumbersome to establish these

[12] The European Commission and the Council "stress that the mere fact that an Internet site is accessible is not sufficient for Article 15 to be applicable, although a factor will be that this Internet site solicits the conclusion of distance contracts and that a contracts has actually been concluded at a distance, by whatever means. In this respect, the language or currency which a website uses does not constitute a relevant factor." [Council and Commission]

[13] With this regard there is the risk that, for instance, a court of State A will decide that the party is domiciled in country B and the judges of this State will assess, applying the internal law, that the party is domiciled in State C or…in country A. It should be therefore desirable that the Regulation sets clear criteria that are valid in all Member States.

coordinates and "sometimes the principal place of business of such a company, especially if it sells electronic materials, is rather difficult, if not impossible, to be established" [Rosner]. In case of Grid providers, we would exclude that the place where the Grid components (i.e. servers, routers, nodes, etc) are located corresponds to the principal place of business of the company, which is a business fact rather than a technical one.[14]

A further issue related to the domicile of the consumer is the consideration that must be paid to the place from where the consumer buys the services. In other words, does it matter if a consumer, who lives (i.e. is domiciled) in Germany, buys online services while on business or leisure trip to Spain? Does this prevent the competence of the German courts, as indicated by art. 16? The literature did not reach a univocal position on this point, but the majority of the authors say, in the above example, that German courts will be competent as far as the website targets also Germany.[15] If, for instance, the German consumer buys Grid-based services while he is in Spain from a website that allows sales only to users located in Spain (e.g. thanks to the adoption of GeoIP-based filtering systems), the consumer could not sue the company in Germany.[16] [Riefa] [Rosner]

3.7 SLA: issues of jurisdiction (II)

Question: what in case of B2B SLA?

B2B scenarios are regulated in a different way as regards jurisdiction, provided the freedom of the parties to regulate their relationship as they want. In a B2B contract both the parties are companies or other legal persons, so, according to Article 60, they are domiciled where they have alternatively their statutory seat, their central administration, or their principal place of business. It must be pointed out that it is rather difficult to determine the principal place of business of a party that (like typically the technology provider and the supplier of Grid-based services) carries on its business exclusively on the Internet and therefore it may be cumbersome if not impossible to locate the business in any specific geographical point. Neither it is important to consider the location of the technology supporting the website, since

[14] The literature points out, as regards the special rules introduced by the Regulation, that "far from harmonization of approaches and protection for consumers there is a potential for not only, systematic inequalities, but also for the more legally aware and financially buoyant consumers to attempt forum shopping…Whilst in theory the consumer can act outside of the box and choose a most convenient jurisdiction, he is in fact limited to thinking in the box and go to his local judge." [Wild]

[15] "One could reasonably expect that, as long as a consumer has his or her permanent domicile on the territory of a Contracting state, the e-commerce contract can be concluded not only from this domicile in one of the Union states, but also while the person in question is on a business trip to, let us presume, Japan. Of course, in such a case one condition is that the web-site where the goods or material are being advertised would be available in the Contracting State where the consumer has his or her domicile." [Rosner]

[16] *Contra*, *inter alia*, [Foss, Bygrave]. Further problems may arise if the provider uses banners in websites to attract customers. We can imagine the case of a technology provider that advertise its services in an international website of an ICT magazine with a banner especially dedicated to customers domiciled in one specific country, thanks to a GeoIP tracking system. The customer sees the banner is his language and then clicks it with the result of being redirected to the website of the technology provider. If also this website is in the customer's language (or other elements clearly indicate that it is directed to one Member State) no particular problems arise. But what if the website does not allow determining the targeted market? Are all the Member States deemed to be targeted also if the banner was only directed to potential clients domiciled in one specific country? Let us imagine that a German customer goes on business trip to Spain, clicks on a banner dedicated to Spanish costumers and then he buys the services from the 'international' website of the technology provider. Are German courts still competent? We would say no, but the issue is surely open to discussion.

article 19 of the Electronic Commerce Directive[17] provides that it is irrelevant in determining the place of establishment of "a company providing services via an Internet website".

For these purposes, also the reference to the top level domain is unhelpful: the fact that the domain name of a company ends, very often, with ".com" or ".net" is not a clear indication of the location of the place of establishment of the company itself. We can conclude that if the defendant is the Grid service provider, it is not generally possible to determine the domicile having regard to the principal place of business and so Regulation 44/2001 will apply only if the supplier has its statutory seat or central administration within the EU; when, on the contrary, the other party of the SLA is sued all the criteria set out in article 60 to determine the domicile will be applicable, unless such a party carries on its business on the Internet too.

When the Regulation applies, the general rule set out in Article 2 provides for the jurisdiction of the court of the State where the defendant is domiciled. In contractual disputes however Article 5(1) of Regulation 44/2001 confers jurisdiction also to the courts of a Member State different from that of the domicile of the defendant.

Article 5 provides that "[A] person domiciled in a Member State may, in another Member State, be sued:
"(a) in matters relating to a contract, in the courts for the place of performance of the obligation in question;
(b) for the purpose of this provision and unless otherwise agreed, the place of performance of the obligation in question shall be:
- in the case of the sale of goods, the place in a Member State where, under the contract, the goods were delivered or should have been delivered,
- in the case of the provision of services, the place in a Member State where, under the contract, the services were provided or should have been provided,
(c) if subparagraph (b) does not apply then subparagraph (a) applies".

It is then necessary to consider whether a SLA can be considered a "contract of provision of services" within the meaning of article 5(1)(b). If the answer is positive, the competent court to adjudicate all the disputes concerning the SLA will be that of the country where the service is provided or shall be provided; otherwise the competent court will be determined taking into consideration (i) the specific obligation upon which the claimant founds his action and (ii) the place of performance of such an obligation, according to the rules about conflict of laws of the seized court.

We can fortunately answer the question with the authoritative guidance of the European Court of Justice (ECJ). In the recent judgement *Falco Privatstiftung*[18] it was held that a licence agreement could not be included in the notion of "contract for the provision of services" employed by article 5(1)(b), since "the concept of service implies, at the least, that the party who provides the service carries out a particular activity in return for remuneration"[19]. Then an agreement can be defined as a contract for the provision of services only if it creates on the supplier an obligation to perform an activity or active

[17] Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on electronic commerce) [OJ L178, 17.7.2000, p. 1-16].

[18] European Court of Justice, *Falco Privatstiftung*, *Thomas Rabitsch* v *Gisela Weller-Lindhorst* [C-533/07].

[19] Id., n. 29.

conduct[20].

The solution provided by the ECJ may be read together with one of the opinions expressed in the literature. It was argued that the notions set out in article 5(1)(b) have to be interpreted in the light of the principle of proximity: so a contract can be regarded as one for the provision of services only if a significant aspect of it takes place where the conduct of one of the parties is expected to occur and thus only if, at least, such a conduct is an active one, possible to be localized in a specific geographical point [Franzina]. Moreover this interpretation is consistent with the objective of the reform of article 5, n. 1, that is to provide a "pragmatic determination of the place of performance"[21]: when the service supplier's obligation does not imply any positive conduct, there is no place where the performance can be "pragmatically" located and then article 5(1)(b) must be held inapplicable [De Cristofaro].

It is then possible to argue that SLAs are not contracts for the provision of services for the purposes of the Regulation, since no active conduct is required to the technology provider or to the Grid-based service supplier, under the contract. Consequently Article 5(1)(a), instead of Article 5(1)(b) will apply. This is surely the case in point for the provision of Grid capacity (e.g. in the field of storage, where no specific activity is required by the provider) and the same conclusion can be reached as regards the supply of Grid-based services. To make an example, the provision of SaaS to a plurality of customers does not basically require any specific activity directed to any particular client, in other words the SaaS supplier does only upload the software in his servers and does not physically deliver it to every customer.

As confirmed by the ECJ[22], the obligation in question is that upon which the claimant founds his action. When, e. g., the supplier sues the other party for payment of the sum due under the contract, the relevant obligation is that of payment; when, on the contrary, the supplier is sued for damages for alleged breach of a contractual obligation related, for instance, to the quality of the service, we must have regard to such an obligation. After having identified the relevant obligation, we have to consider where it has to be performed. In the light of *Tessili* case[23], the question should be answered having regard to the law governing the contract under the private international law rules of the court seized. The reference to the law governing the contract allows determining the place of performance also of obligations not implying an active conduct, since such a law will generally provide "default rules" establishing the place of performance even if it is not possible to identify it on a factual basis[24]. In other words, thanks to *Tessili* approach, it is possible to determine where the performance of obligations is legally due, like those of the technology provider or of the Grid-based service supplier, which are expected to be performed only in the virtual space of the Internet.

In conclusion, as far as SLA disputes are concerned, Regulation 44/2001 confers special jurisdiction to the court of the place, where the obligation upon which the claimant founds his action has to be performed, under the law governing the contract. Therefore the criteria described and analysed *supra* about the law governing the agreement do apply.

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[20] See in the same sense the Opinion of Advocate General Trstenjak in *Falco* case, delivered on 27 January 2009.

[21] See the Explanatory Memorandum to the Proposal of the Commission COM (99) 348.

[22] See the case *Falco Privatstiftung* and C-14/76, *De Bloos Sprl* v *Bouyer SA* [1976] [ECR I-1497].

[23] ECJ, C-12/76, *Industrie Tessili Italiana Como* v *Dunlop* [1976] [ECR I-1473].

[24] See, e. g., in Italian law Article 1182 of the Civil Code that provides that, in absence of other relevant elements, the performance has to take place at the creditor's domicile, as regards pecuniary obligations and at the debtor's domicile, as regards all other obligations.

3.8 Patent infringements

Question [BE25]: is there any risk of patent infringement arising from the BE?

The possibility to infringe existing patents, or pending patent applications, is an aspect that must be taken into serious consideration by the BEs. BEinGRID already has an exhaustive set of documents and a lot of information about patent issues and patentability of software and items in Grid environments, and therefore we refer to what has been produced in the Activity 2 Meta-deliverable and in D.2.6.6. In this paragraph we will focus on the risk of patent infringements by the second wave of BEs, taking into account, as a starting point, that the methods, software, applications etc. that the BEs produce are not, as a rule, patentable in Europe. This means, at the same time, that also the methods etc developed by potential competitors are not patentable and therefore, as a consequence, that no major patent infringements can be done by the BEs.

This does not mean, of course, that the topic can be neglected, and so far it has been never neglected (to the contrary, it is probably one of the issues that received more attention by WP 2.6). The BEs have been requested to assess, in their exploitation plans, whether they are aware of potential patent infringements and the absolute majority of them answered that they are not affected by the topic. In the light of the above considerations about the legal situation in Europe, these statements make sense, and therefore the BEs basically did not have to perform a prior art research about pending applications or existing patents.

From a different perspective, then, it is important to highlight that, even if the solutions developed by the BEs would be theoretically patentable in Europe, in practice this would be excluded given the fact that they are not secret but that they have been disclosed by the BEs themselves. So the only thing that the BEs should take care of is whether or not they infringe patents and/or applications of other inventors.

The only BE that had the need to perform a prior art research is BE25, given the fact that they take into consideration the possibility to sell their solutions in the future also in non-European markets, namely in the US. BE25, thus, made an analysis of existing patents/applications and this paragraph is based on their prior art research implemented with our legal comments. BE25 intends to provide new compute intensive services for radiotherapy remotely, basically (i) verification of treatment plans and (ii) search treatment using optimisation.

The following patent applications (i.e. still pending before the competent authorities) have been identified by BE25 and analysed. Please be aware that the analysis performed required technical skills that only the people involved in the BE have, so this paragraph is limited to the legal analysis of the research performed directly by the BE and communicated to us.

1. Method and system for optimising dose delivery of radiation: US 2007/0201614 A1 (May 2007), later assigned from the original inventors to a research centre in Canada. Pending also under the code WO2008134869 at international level, it includes all member states of the EPC, i.e. many European countries, in the list of designated countries. Until now the international publication has been made but there is no European publication yet.
2. Methods and systems for delivering radiation therapy to treat disorders in patients: WO 2007/098377 A2 (August 2007), pending in Europe under the code EP1984078. This is an international application that includes, between the designated states, also the members of the EPC. The application has entered into the national phase in

Japan and Australia and in Europe the request for examination has been filled. In February 2009 the first examination has been issued, and this report assesses in a preliminary way whether or not the invention is patentable (the examination is still in progress). According to the author of the report, the invention does not meet the requirements set by the EPC mainly because the subject matter of the claim is not new.

3. Method and system for optimising dose delivery of radiation: US 2007/0127623 A1 (June 2007), later assigned from the original inventors to a research centre in Canada. Pending in Europe under the code EP1704502, where examination is still in progress. According to the first examination issued in January 2009 the invention has lack of unity and of novelty. Furthermore, it contains only abstract algorithmic rules or mathematical steps without any specific technical content and description of technical means adopted to implement the methods. In June 2009 there will be oral proceedings that are part of the examination process.
4. System and method for global optimisation of treatment planning for external beam radiation therapy: CA 2568343 A1 (July 2005), from 2006 in the national phase of examination in Canada. Pending in Europe under the code EP1708788, a request for examination has been made by the applicants. Until now it has been issued only an international searching report by the International Bureau of WIPO (in 2006) according to which the invention meets the requirements of novelty, inventive step and industrial applicability. This does not mean that the EPO will have the same judgement, especially considering that methods and systems are not patentable (as a principle) in Europe.

The analysis of the abovementioned applications shows that BE25 should not be too worried about the possibility to infringe existing patents, at least in Europe. In the field of methods, as the one developed by the BE, risks of infringing patents are not so high, but of course things are different if the BE wants to sell the services to another market. In that case (and this will happen after the end of the project), we strongly suggest to consult a qualified patent consultant which is familiar with the applicable legislation.

From a general perspective, then, we can see that all other BEs, including those of the first wave, did not encounter any problem with patent infringements. We are confident that the same will apply to BE25. Anyway, as a matter of precaution we also suggest that the companies involved carry on another prior art research after the end of the project, when they will enter into ‘real’ business, in order to evaluate whether the above described situation changed, and, if so, to what extent.

4. Conclusions

In the above pages we addressed some very important issues in the field of SLAs and patents. Now it is time to provide the reader with some general conclusions, given the fact that every question/solution is a sort of stand-alone section and the conclusions for each of them have been reported in the relevant entry. D.2.6.8 is the last document produced by WP 2.6 before the last report about legal issues in Grid environments in which we will provide the BEs (and in general Grid businesses) with a complete picture of the legal topics that affect their business.

Now the BEinGRID community has a set of legal Deliverables that range from IPRs to patents, from corporate law to taxation, including contract issues, privacy and SLAs. SLAs have been addressed only at the end of the project not because they are not interesting or important but because we wanted first to realise which direction the BEs and the Grid community were taking with this regard. SLAs lie in the crossroad between technology and the law, and both computer scientists and lawyers must express their views in order to have a complete and correct picture. The role of the lawyer is that of defining the SLA, for the very fact that it is a contract, and of providing a coherent contractual architecture. In other words, the computer scientists cannot design and produce systems that evaluate the compliance with a SLA if it is not clear which parties are bound by the agreement, who is liable in case of non-compliance, etc. This unless we are satisfied with partial and unreliable solutions, but this is not the case in point for BEinGRID.

Another message that lawyers can give is that SLAs do not have to be seen as a barrier, like all other legal issues that so far we analysed. They have to be carefully assessed and an intelligent contractual architecture must be drafted, i.e. a system of contracts that addresses the right issues, is flexible and efficient at the same time, and that allocates rationally the risks and liabilities between the parties. In this sense, both Grid and/or Grid service provider and, on the other side, the customer shall be stimulated to comply with the contractual obligations stated in the SLA.

Furthermore, more generally, it is advisable to draft the SLA in written form even if not required by law, and to indicate in it all elements that can be useful in case of litigation, like the applicable law, the competent court, the description of a system to solve disputes in a fast and efficient way, the period of validity of the contract, etc. Please be aware that the above sections must be read together with other documents produced so far, namely D.2.6.4 and the Meta-deliverable. Writing a good SLA is not particularly difficult, and the BEs (and the consortium as a whole) have all elements to do that without the need to ask for assistance outside the project.

A different aspect to highlight is the difficulty to apply (at least in many cases) existing laws and regulations to ICT environments. An example regards the notion of written form in the 21st century: what does it mean exactly now? To what extent an electronic document can be considered to be a written document? We attempted to provide a solution to these questions, by way of interpretation of the existing sources, but maybe some clarifications at European level would be useful. Therefore we suggest the European Commission to at least consider whether or not this need is urgent and, of course, if it is really a need. In general terms we do believe so, and maybe the last months of life of BEinGRID should also be employed for discussing and meditating about that. The dimension of the BEs is surely interesting but it can, and we think it must, be extended to the Grid (and Cloud) community as a whole and should include the analysis of the possibility and necessity for the European lawmaker to amend existing legislation and/or issue official documents (aimed to clarify the meaning of

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existing provisions).

Some notes finally about patents and patent infringements. BEs so far, as in the first wave, are not generally concerned and affected by this problem, and the only BE that may be potentially interested is BE25 if and when it will enter into the American marker. Pending patent applications in Europe, in fact, do not represent a serious treat unless the EPO will change all the positions and principles expressed so far.

In more general terms, it would go beyond the scope of this document to assess whether or not the policy regarding patents should be amended or dramatically changed at European level. Much more experience than that gained so far by BEinGRID would be needed. Nevertheless, we can suggest thinking about the actual value of patents, i.e. whether or not they are still a stimulus to innovation or they are rather useless. The BEs declare, in their absolute majority, that they are not interested about patenting their solutions (we assume that they are in principle against this possibility even if the European legal framework would allow that) but the trend, at global level, is different. Companies, also in the ICT domain, do want to be ‘protected’ by patents. Therefore we should wonder whether or not it would be a good idea to allow software patentability also in Europe. Discussions will, hopefully, be open soon.

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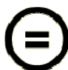

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