

Online Dispute Resolution for Cloud Computing Services

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Abstract.

The traditional concepts of practicing the law do not follow the pace of the development of the new technologies. Development of cloud computing services last decade raised new issues of applicable law, jurisdiction, access to justice, the legal nature of the disputes, consumer protection etc. At the same time, we are witnessing parallel attempts from several public bodies and international organisation to introduce (on national and global level) the legal framework for the application of the online dispute resolutions. EU parliament has recently voted in favour of the proposal on the ADR and ODR regulations for consumer disputes. These proposals in principle are focusing on e-commerce aspects of dealing with low-cost consumer/seller disputes. This research answers under which circumstances ODR mechanisms are the most suitable means to resolve conflict coming out of provision of cloud computing services in the EU and globally. Building on existing knowledge of ODR, it goes beyond and provide applicable proposals for redress in growing industry of cloud services.

Keywords: Online dispute resolution, ODR, ADR, Cloud computing, cloud services

1 Introduction.

Poles on usage of cloud computing services display constant increase in adoption of this technologies and steady growth of industries providing this kind of services [3][25]. Most of the leading cloud service providers are US-based and even though the nature of cloud computing is to provide service globally, contracts framing these services tend to be in the favor of providers. Cloud contracts usually contain provi-

sions stating exclusive jurisdiction of certain US state or specific US courts (where is the corporate seat of the company) and law of the same state as applicable law[2]. It indicates misbalance in negotiation power between cloud providers and users on global level and immaturity of cloud market.

European Union recognized the importance of the cloud technology in its strategic document – “Unleashing the Potential of Cloud Computing in Europe”[4]. The strategy points to the key issues and necessary steps that should be taken in order to remove the barriers and increase economic benefits of cloud computing. As one of the key actions, European commission recognized the importance of safe and fair terms and conditions in cloud contracts. Further elaborating this key action, commission plans to develop model contract for cloud services where it will propose “fair” mechanisms for dispute resolution in case of conflict between provider and user of cloud services [5]. Online dispute resolutions (ODR)¹ are one of the possible mechanisms for redress in case of cloud provider-user disputes. However there are some regulative inconsistencies as we will see in following pages.

In the first part-introduction of the paper we state principal research question. The second part illustrates the problem of redress for cloud computing service disputes from the aspect of contracting. We introduce ODR as potential solution in third chapter, discuss some initial findings in forth part and methodology of research is discussed in fifth. In conclusion we initiate the discussion about research. Although we do not intend to answer all research questions within this paper, as this is much wider research that could not fit in the limits of the paper, we will indicate some preliminary findings to further the discussion on the topic. We will primarily focus on some legal aspects of cloud computing services here and some regulatory responses of the EU. At this point, we will not discuss technical aspects of cloud or ODR as this will come in later phases of research. Even though the research is from a global point of view in this paper we will discuss some preliminary findings related to the EU law, since EU has made some regulatory advancement in ODR field.

1.1 Research question.

The principle research question that guides this research is stated as follows:

- Under which circumstances ODR mechanisms are the most suitable means to resolve conflicts coming out of provision of cloud computing services?

The research also aims to answers following set of questions that are subject of particular focus/chapter:

1. What are legal protection issues in cloud environment? What is the current way users seek redress in this types of conflicts? What are the alternatives?

¹ ODR as a term has been accepted by practitioners, although many names have been used to describe the same concept: Electronic Dispute Resolution, Online Alternative Dispute Resolution, Internet Dispute Resolution...

2. What kind of legal framework is most appropriate for developing online dispute resolution for cloud services in the EU and globally?
3. What conditions led to the successful ODRs in the past? What are the factors for adoption of these models? Which kind of ODR model has proven to be efficient in comparable services?
4. What ODR supporting technologies are most appropriate for resolving cloud conflicts?
5. Under which conditions ODR could lead to successful online resolution of selected typical issues/use cases for cloud services?

2 Redress for cloud services in contracts.

Cloud computing legal issues illustrate clearly the mismatch between technological advances and the laws regulating society. Certain legal institutions, with long tradition, that were developed over the course of years seemed to be challenged by the technological advancements of last 20 years. Simple fact that in these days it is possible to provide highly specialized on-demand service on global market with low-cost, scalable and easily accessible computing power (for which there is no need high infrastructural investment), changes the markets significantly.

Defining cloud computing is not the easiest task[12]. Cloud computing in simplified terms could be understood as the storing, processing and use of data on remotely located computers accessed over the internet.[4]. More commonly as a starting point authors take broad NIST definition: cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction[17]. In the same NIST document cloud definition is described with five essential characteristics: on-demand self-service (automatic provisioning of computing), broad network access (capabilities are available over a networked infrastructure), resource pooling (resources are pooled together to serve multiple consumers using a multi-tenant model), rapid elasticity (rapid and elastic provisioning of capabilities to quickly scale up or down as required) and measured service (automatic control and optimization of resources utilizing a pay-per-use model)[12]. NIST also recognizes four deployment types (private, public, community and hybrid cloud) and three service models[17]:

- Infrastructure-as-a-Service (access to remote physical or virtual machines model of service) or IaaS
- Platform-as-a-Service (typically including operating system programming language execution environment, database, and web server) or PaaS
- Software-as-a-Service (access to application software and databases) or SaaS

One of more prominent characteristic of cloud services is a shift in payment model to pay-per-use, which compared to similar IT infrastructure investments and software licensing brings significant savings to enterprises and consumers. It also cuts the costs of upgrading needs of hardware and software. Based on previous lowering of prices of some of the biggest cloud providers[24] coupled with influence of Moore’s law² and Kryder’s law³, we also point to the likelihood of increase in offer of low cost services and high utilization of free model(or freemium⁴) for certain cloud services. The connection to this observation will be explained in fourth chapter.

To obtain cloud computing services users generally accept predefined contract of adhesion, where the terms should be accepted on “as is” basis [2] [20][22]. We have examined contracts offered by 40 big cloud providers (more than 60 cloud services) which indicated to certain regularities in their composition. They usually comprise: Terms of Service (and-or conditions), Acceptable Use Policies, Service Level Agreements and Privacy policies.

<i>Cloud providers - total 40</i>	<i>Applicable law(in con- tract)</i>	<i>Jurisdiction (con- tract)</i>
21	US-California	California courts
8	US-Others	US courts
7	UK and Wales	UK and Wales
5	EU (without UK)	Member state
1	Swiss, Canada	Swiss, Canadian
2	Brazil	Brazil
8	Mandatory Arbitration	AAA rules
4	Possible Arbitration	AAA (+ 1 other)

Table 1. Illustration of survey of cloud providers’ contracts⁵

In-depth surveys[2] has been conducted before with similar findings. The negotiations over contracts are more plausible for big corporations and public bodies, while service providers are less prone to offer negotiation for SMEs and consumers [10].

² Observation that processing power is doubling every 18 months accredited to Gordon Moore
³ Observation by Mark Kryder that storage capacity is doubling every 18 months or less, described in <http://www.scientificamerican.com/article.cfm?id=kryders-law>
⁴ Model where provider offers basic services at no cost and charger for upgrades or has alternative way for creating profit out of the usage of the free service[20]
⁵ Surveyed cloud providers: Google Cloud(Drive, Docs, Gmail...),Apple iCloud, Evernote, Dropbox, Box, Amazon, Skydrive (Microsoft),Microsoft Azure, SoundCloud, Spotify, Mendeley, CloudON, Zoho, SAP, MicrosoftOffice365, Salesforce, GoogleAppEngine, Coursera, Fuzbox, GoGrid, Rackspace, Joyent, Enomaly, Appistry, Engineyard, ThinkGrid, Opsource, HP cloud, Lunacloud, Nephoscale, Adrive, Mozy/Decho, Softlayer, Symantec, PayPal, Intycascade, Flipboard, Netflix, EDX, Prezi,Trustmarque, Servicemesh

Even though the nature of their service could be global, the terms in contracts are set favoring local jurisdiction and choice of law of provider. In practice, this means that for example SME⁶ from Indonesia, using SaaS paying 100 dollars per year, could have a dispute in front of California court and potentially pay approximately ten or twenty times more for fees and expenses, and then dependant on case backlog wait a while for the court deliberation on the issue.

Significant problem in the market is the legal uncertainty when it comes to certain cloud issues (about applicable law and possible enforcement) and lack of appropriate redress in disputes for consumers and SMEs. By appropriate redress we assume redress for smaller claims - fast, low cost dispute resolution and for high level claims - expert deliberation within appropriate time frame. Strategic documents of European Union confirmed this problem [5] and concluded that it leads to the lack of trust in cloud services.

3 The promise of ODR.

Online dispute resolution is a method of resolving disputes using technology as a facilitator or as a “fourth party”[14] in the dispute. While it resembles to be natural extension of ADR⁷, since it includes online negotiation, mediation arbitration, ODR has also developed innovative methods using technology such as double blind bidding, visual blind bidding and assisted negotiation. It has proven to be difficult to precisely define the characteristics and types of ODRs, but there is a consensus that we can divide them on adjudicative (i.e. online arbitration, UDRP) and consensual (i.e. mediation, assisted negotiation).

Proponents of ODR claim advantages such as: accessibility, speed of process, asynchronous communication, lower costs, flexibility, etc. However, regardless of corresponding disadvantages (confidentiality issues, higher privacy risks, lack of human “feel “...), after the initial rise of providers of ODR, following the dot-com bubble, the number of active providers has diminished and only a handful selected ODR providers can claim successful practice.[13]

Recently ODR development has entered into the new face with new public support on the horizon. EU has recognized the potential of ODR and chose to connect existing network of ADRs in member states through ODR platform on the EU level[8]. At the same time, UNCITRAL Working party III on ODR is trying to design, global redress

⁶ Small and medium enterprises

⁷ Alternative Dispute Resolution – all dispute resolution outside of judicial process

system for consumer complaints. Both of initiatives envisioned system for solving high-volume low-value buyer/seller disputes. Even though UN proposal is far from consensus on one model(or two), and the EU model is subject to certain criticism[11], we could claim public bestowing of trust in vision of ODR.

Having in mind advantages and characteristics of ODR relevant authors in the field distinguish ODR for its potential suitability for e-commerce fully-online disputes[19, 23], and consumer protection [7][6]. However, it has not been thoroughly researched from a legal point of view, or successful in practice on a global scale, except from notable cases of EBay, PayPal, Square trade and few other providers of ODR. Even in those cases, e-commerce giants EBay and PayPal have been the providers of ODR and not direct parties of the disputes.

We would argue, having in mind practices of ODR so far, usefulness for e-service disputes and that it had proven itself, especially with parties with equal or similar negotiation power. Nevertheless, serious research needs to be taken of cases where there is a huge discrepancy in negotiation power on the global scale, such as over providing cloud services. Also sometimes failure of one cloud service (of different company) can have cascading effects on other services. The end-user has no relationship with IaaS and his redress is based on his contract with SaaS. This research has this relationship in mind, in order to extrapolate most useful use case scenarios and applications on ODR for cloud services. Even though there are cases where cloud services, engage in arbitration, online or off-line, question remains, is it most appropriate choice of dispute resolution for the other party. To answer the principal research question we need to examine all the positions of parties in dispute and to propose a solution that balances protection of rights and interests of all parties.

The important factor of the solutions could be the costs of process and accessibility. ODR costs also depend of technological developments supporting dispute resolution[15], whether by using agreement technologies[16] that improve the process or having enabling devices widely available[18]. On the table below we illustrate the similarities in prominent characteristics of service domain and instrument for dispute resolution; ODR is perceived much more flexible environment compared to court/ADR procedure.

Cloud computing services	Online dispute resolution (services)
On demand	On demand/Asynchronous/Synchronous
Elastic/ Scalable	Flexible/Certain ODR software scalable
Automatic	For certain disputes possible automatic
Pooled resources	Consensual/Flexible adjudication
Measured service/pricing model	Measured dispute/ pricing model

Table 2. Comparison of characteristics of services

The table does not compare services but illustrates similarities in approach of cloud computing services and ODR and change they proposed to previous models. Just the

mere speed of provisioning of cloud services could indicate needs of industry for a faster resolution, and in our opinion it does not sound appealing or appropriate to exchange claims written on paper and send them physically, to resolve disputes for online services that could have a quick life cycle, high volume and sometimes could be highly technical.

Having pointed to some appealing characteristics, we have to point out also that the use of ODR for cloud services has not occurred yet. That fact alone test the assumption within ODR community that disputes that have occurred online should be resolved online[14, 19, 23]. Nevertheless, it is not the technical aspects alone that drive the adoption of ODR, but we have to thoroughly examine legal and other factors that are relevant when we are to decide the course of action after dispute occurred. At this moment cloud providers and users rarely consider ODR as viable option for dispute redress.

We will illustrate this point with one of our observations that came after analysis of recent ODR/ADR EU regulation on consumer disputes that will create ODR platform as an instrument of consumer protection by the end of 2015. EU ADR Directive on consumer protection defines: “service contract means any contract other than a sales contract under which the trader supplies or undertakes to supply a service to the consumer and the consumer *pays or undertakes to pay* the price thereof.”⁸[21]. This effectively leads to situation that consumers can not send complaints about free online services (which are becoming common) to the EU ODR platform. But, if user pays 1 euro or less he/she will be eligible for online dispute resolution!

This inconsistency is explainable only as oversight of legislator who did not think through the concept of services (or possible evolution) and is opposed to the principles of consumer protection that EU promotes. The need of consumer protection from certain cloud services has been raised before [1] and even EU has undertaken the task of proposing and recommending model law for cloud services with terms that could be considered fair from consumers’ point of view[5].

From theoretical point this raises interesting question: are users of free service deprived of legal rights simply because they are not paying for service. The French court of Cassation ruled differently in a recent *Mr. Sebastian R v Facebook* case, claiming that since users are important source of funding (freemium model⁹) and their use of service has economic value, they should be under (certain) consumer legal protection[9].

⁸ Italics by author

⁹ Italics and comment by author, freemium model described in page 4.

4 Preliminary conclusions and ideas.

Preliminary idea of research is to match deficiency within possibilities in redress caused by misbalance in negotiation power between cloud providers and cloud users, and which manifested in terms of service, with the proposal for online dispute resolution circumventing certain problems with unfair terms and conditions. For certain disputes, as illustrated before, ODR could be filling some gaps that legal system is not paying attention enough. Further discussion about distinguishing right based approach from interest based approach in ODR for these purposes is needed. The research so far indicates that:

- Under certain circumstances ODR could be very effective tool and response for the lack of consumer protection vis-à-vis certain cloud services, as well as effective resolution of B2B disputes while maintaining somewhat the relationship.
- The speed, low costs, access and privacy that ODR offers, resonates both with providers and users of cloud services
- If EU decides to fully extend the use of ODR on cloud services it has to structure the ODR system to provide some incentives for cloud providers (especially big ones) to adhere to the schema
- EU and other ODR provider should rethink de minimis rule for services, to address the growth in providing free online services.
- ODR is part of the solution for the questions of jurisdiction and applicable law. It could be also very helpful tool for assisting judicial processes.
- Sector specific ODR for the disputes of cloud service should be looked into as a form of more competent, specialized forum for cloud disputes.
- For certain disputes over SLAs blind bidding assisted negotiation correspond in the sense of savings in time, costs, human involvement, consensual agreement etc.

We would suggest as preliminary observation that it would be logical to include within the scope of ODR/ADR regulation for consumer protection definition of services including free (online) services, at least where there is considerable economic exploitation of users. In fact, we could say that there are lots of concerns about protection of users in these services, not properly addressed, as opposed to selling goods online or providing more traditional services that have been regulated in some other manner. However we should specify in that case: how could we value these cases from ODR aspect, but also to leave possibility to exclude frivolous claims?

From the point of view of cloud services ODR is offering new, unused, cheaper ways for solving dispute with huge number of users (if needed) while achieving increase in trust, loyalty, feedback on service. Even though the market may not be mature enough for some service and there are not enough competitors for user to have alternative, it does not mean it will always remain this way.

From ODR perspective, the applicability to cloud disputes have not been researched and certainly not considered much for free products or services. Even courts do not consider (or quickly decide upon) the lowest claim based on de minimis rule. ODR tend to be focused on value such as price to select most appropriate tools and mechanisms. But in digital world free services have evolved to a business model and have significant place in users' eyes. Users have duties as well, and ODR tool could be also applied to negotiate or enforce current or existing obligations. We believe that there is potential for innovation especially within the possibility of integration of ODR in cloud service, especially when they are completely software based.

All these aspects as well as opposite end of the spectrum in the form of ODR for high value disputes (online arbitration) will be researched thoroughly.

5 Methodology of research.

This research tends to focus primarily on legal analysis combined with data gathering from selected cloud service providers and ODR providers (that correspond to proposed cloud dispute use cases) and finally we analyze the state-of-the-art of ODR supporting technologies and technologies used in selected ODR providers.

In the first phase of research we introduce legal analysis of the provisioning of cloud services. We examine the private and public laws that shapes cloud computing services. Cloud services are based on contracts usually comprised of four parts: terms of services (ToS), acceptable use policies (AUP), privacy/security policy and service level agreements (SLAs). In order to illustrate the points more clearly we will construct four cloud dispute use cases corresponding to the four usual parts of the contracts. Each dispute illustrates typical problem that could be the cause of dispute. These use cases will serve as binding element for connecting the parts of research into coherent body of work with concrete solutions.

Second phase is dedicated to analysis of international legal framework for online dispute resolutions and cloud service offerings. In the third phase we conduct in-depth semi-structured interviews and analyze data gathered from selected ODR providers (based on previously formulated criteria for providers that offer corresponding or comparable solutions to cloud disputes use cases), in order to thoroughly examine best practices of selected ODR providers. In the fourth phase, we examine state-of-the-art in ODR supporting technologies and cross-examine practices of observed ODR providers. We propose directions for future research based on observed needs of all parties. In final phase based on conclusions from previous chapters we will deduct possible scenarios under which ODR is the most appropriate means to resolve cloud computing disputes.

6 Conclusion.

Cloud computing is a relatively new technology, with high adoption rate and trends that enable even further innovation in ICT. This research sheds a new light on ways we could solve some of the legal issues in cloud computing environments and seeks to find optimal ways to use ODR in cloud services. By constructing use cases of the disputes, which will be connected to every aspect of research, it will give rise to the possibility of practical solutions to certain cloud disputes. Research answers the question under which circumstances ODR could be the most appropriate solution for cloud computing disputes and in that way it could be a starting point of a new research and development of ODR technologies for e-services. This paper illustrates certain oversight by EU legislators who cannot consider all circumstances and situation while designing the dispute resolution system. However, they should rely on independent research to go beyond existing concepts of application.

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