OpenSaaS: Using Free and Open Source Software as Software-as-a-Service

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Abstract
Under German copyright law, rights of use cannot be granted for so-called unknown types of use. Software-as-a-Service (hereinafter: "**SaaS**") is a use considered to be unknown until the mid 1990s. When taking the law in a literal sense, Free and Open Source Software (hereinafter: "**FOSS**") licenses granted before then thus cannot grant the rights of use necessary for SaaS, meaning that some FOSS cannot be lawfully made available via SaaS under German copyright law.

Keywords
Law; information technology; Free and Open Source Software; Software-as-a-Service; licensing

Introduction

The term OpenSaaS describes the mash-up of two software licensing and delivery models both of which have left deep traces in the IT sector. The increasing use of FOSS has challenged the conventional idea of proprietary software licensing, while the software delivery model SaaS successfully competes with the traditional sale of seat licenses for software which is hosted on company-owned servers. OpenSaaS can therefore be expected to become the "next revolution in on-demand software delivery".[1]

This proposition is substantiated by the ubiquity of SaaS.[2] It was described as an evolving paradigm in 2011 and since then continued to grow.[3] As Richard Stallman puts it: "There's a sucker born every minute."[4] Currently, FOSS is deployed widely and used in all sorts of

1 http://en.wikipedia.org/wiki/User:Opensaas/Sandbox.
2 Raffo, Zusammen mit SaaS (Software as a Service wächst auch Cloud-zuCloud-Backup, accessible via http://www.searchstorage.de/news/2240226273/Zusammen-mit-SaaS-Software-as-a-Service-waechst-auch-Cloud-zu-Cloud-Backup; Mell/Grance, The NIST Definition of Cloud Computing, accessible via http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf.
3 All, Gartner: SaaS Growth Shows No Signs of Slowing, accessible via http://www.itbusinessedge.com/cm/blogs/all/gartner-saas-growth-shows-no-signs-of-slowing/?cs=48600. In small and medium sized companies the use of software via SaaS grew by 30% in 2013; http://www.shortnews.de/id/1099316/saas-loesungen-sind-einer-der-groessten-trends-im-softwarebereich.
4 Charles, Google's ChromeOS means losing control of data, warns GNU founder Richard Stallman; accessible

entrepreneurial operations and offerings.[5]

Against this background, an increasing use of FOSS in the cloud and combining these two successful software licensing and delivery models is the logical way forward. Nevertheless, it represents a challenge under German Copyright law, as considered in greater depth below..

Do FOSS licenses grant the necessary rights?

Under German copyright law, the starting point of any analysis regarding SaaS is to tackle the subject of the necessary rights of use that need to be granted to the SaaS provider. As software is protected by Articles 69a ff of the German Act on Copyright and Related Rights ("**Urheberrechtsgesetz**", "**UrhG**")[6], the author is entitled to all rights. According to Article 69c of the German UrhG these rights include the right of reproduction, the right to modify and adapt, the right to distribute including the rental right and the making available right. No third party is entitled to exercise such rights unless they have been explicitly granted. If no such rights are granted, others are only entitled to run the program. According to German copyright law, however, the right to run the program solely entitles the user to exploit the program's functionalities. Correspondingly, it does not entitle the user to make the functionalities of the program available to others. In other words, German copyright law differentiates between own use of software and enabling others to use it. As SaaS providers enable others to use software and make use of a program's functionalities, SaaS providers depend on the rights of use being granted by the right holders in order to lawfully provide Software-as-a-Service, as they are not just running the program.

In order to decide which of the above mentioned rights must be granted to the SaaS provider by the authors, it is first of all necessary to look at how the software is going to be used in technical terms. Technically, the SaaS provider will centrally host the software and provide it for use by third parties, the users. These users usually access the software via a web browser using a thin client. For the most part (if we think, for example, of email services), no specific client software or applets need to be installed by the user to be able to use the software, which means that the software does not actually "change hands".[7]

Having said that, the use by the SaaS provider is clearly beyond what is defined as mere "use of the software" (that is, running the program in accordance with its intended purpose) as according to Article 69d of the German UrhG the user would be entitled to do even without a license. Instead, the SaaS provider exploits the software commercially by making it available to users without providing them with their own copy, while recovering his costs from all his customers and charging them a usage-based fee. In order to be able to provide his service, the SaaS provider reproduces the software when installing it on his servers, making it available to users, enabling his users to access the software and make use of its functionalities. Whenever the software needs adjustments to be fit for use via SaaS, the provider will also modify and adapt it. Against this background, a substantial majority in Germany takes the view that to provide such services in accordance with German copyright law, software licenses for SaaS would need to include the

http://www.theguardian.com/technology/blog/2010/dec/14/chrome-os-richard-stallman-warning?INTCMP=SRCH.

5 Cooper, Effects of cloud computing on Open-Source Compliance, accessible via http://www.linuxjournal.com/content/effects-cloud-computing-open-source-compliance.

6 An English translation of the German Copyright Act (UrhG) accessible via http://www.gesetze-im-internet.de/englisch_urhg/index.html.

7 In some cases, using Software via SaaS may require local applications. For the most part, however, internet access and web browsers are sufficient to use Software via SaaS; for further reading see http://www.pcmag.com/encyclopedia/term/56112/saas.

rights to reproduce and modify and adapt the software and – most importantly – the right to make the software publicly available.

The right to modify, adapt and reproduce the software covered by the license is characteristic for FOSS licenses[8], which is why these rights are explicitly included in such licenses, whereas the right to make a covered work available to the public by means of network communications is only referred to in very few licenses. For example, clause 2 d) of the Affero General Public License Version 3 ("**AGPL-3.0**") imposes the same obligations on those making a covered work accessible to others through a computer network as it imposes on those distributing a covered work in any other form.[9]

If the making available right is expressly included in a FOSS license agreement, the right is granted for the software covered by the license. If, however, the making available right is not expressly named, views regarding the granting of this right amongst lawyers and courts differ widely.

Excursus: What is the Making Available Right?

The right to make available a work covered by copyright law is laid down in Article 19a of the German Copyright Act. It reads:

> *"The right of making works available to the public shall constitute the right to make the work available to the public, either by wire or wireless means, in such a manner that members of the public may access it from a place and at a time individually chosen by them."*

It is based on Article 3 Sections 1 and 2 of the Directive 2001/29/EC of the European Parliament and the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society and was newly added to the German UrhG in 2003.

Whether a work is "made available to the public" most of all depends on what is considered to be "public" within the meaning of Article 19a of the German UrhG. The term "public" is defined in Article 15, Section 3:

> *"(3) The communication of a work shall be deemed public if it is intended for a plurality of members of the public. Anyone who is not connected by a personal relationship with the person exploiting the work or with the other persons to whom the work is made perceivable or made available in non-material form shall be deemed to be a member of the public."*

Thus, by enabling users to make use of software provided via SaaS, the SaaS provider makes the software available within the meaning of Articles 19a, 15 Section 3 of the German UrhG if no personal trust-based relationship exists either between him and his users or among his users. This may even apply if there is only one SaaS user: i.e.. a group of users is not a prerequisite.

Further to this, Article 19a of the German UrhG does not require the software to be downloadable in object or source code form.[10] The interpretation of Articles 19a and 69c No. 4 of the German

8 According to the Free Software Foundation's definition Free Software (a term nowadays used synonymously for Open Source Software) is a matter of the users' freedom to run, copy, distribute, study, change and improve the software (http://www.gnu.org/philosophy/free-sw.en.html).

9 Clause 2.1 MPLv2 refers to the making available right as well and explicitly grants this right to users.

10 *Marly*, Praxishandbuch Softwarerecht, 6th edition 2014, paragraph 226; *Schäfer*, in: Niemann/ Paul, Praxishandbuch

UrhG is controversial. Some fill the room left for interpretation of the articles' wording by defining the making available right as only covering cases, in which the software or essential parts of it are transferred to the user in object or source code form.[11] However, this interpretation does not correlate with the description of the making available right in the underlying Directive 2001/29/EC, according to which the making available right does not require software to be transferred: even though recital 25 uses the word "transmission" and thus suggests that copies of the software need to change hands, on-demand transmissions under making available right are then described by the fact that "members of the public may access them from a place and at a time individually chosen by them". This includes the ability to download the software but even goes beyond that, as it also applies to software which can only be used via online-access.[12] Further, the German UrhG explicitly differentiates between acts by which the software is being transmitted (i.e. distribution) and the preceding act of making the software publicly available, thus aiming at granting protection by copyright as early as possible.

Do FOSS licenses include the making available right?

The answer to this question largely depends on the specific license agreement and its wording and can be very different for each particular FOSS license. For the purposes of this article, the GNU General Public License Version 2 ("**GPL-2.0**"), the GNU General Public License Version 3 ("**GPL-3.0**") and the AGPL-3.0 will be looked at as an example. The latter, as it was deliberately designed to fill the ASP/SaaS-loophole of the GPL-2.0. The first, as it is the most frequently used FOSS license[13], and GPL-3.0 as it has replaced GPL-2.0.

AGPL-3.0 and GPL-3.0

AGPL-3.0, as well as GPL-3.0, explicitly include the making available right in their respective Sections 0, where the term "propagation" is defined to include copying, distribution (with or without modification) and making available to the public a covered work. Accordingly, by the respective Sections 2 granting the "right to propagate a work" licensed under AGPL-3.0/ GPL-3.0, the right to make the covered software available in the meaning of Article 19a German UrhG is also granted.

GPL-2.0

Unlike AGPL-3.0 and GPL-3.0, where the right to make available covered work is explicitly granted, GPL-2.0 grants the right to distribute works under its terms.

The term "distribution" is not defined in the license. However, in a narrower sense it is usually defined as "transferring software copies to a third party". This interpretation of the term is supported by the GPL-2.0 wording for example in Section 1 ("distribute verbatim copies"). When

Rechtsfragen des Cloud Computing, chapter 6, paragraph 23 Higher Regional Court of Munich, decision of February 7, 2008 - 29 U 3520/07 - openJur 2012, 90291; Regional Court of Hamburg, decision of June 14, 2013 – 308 O 10/13.

11 *Grützmacher*, in: Wandtke/Bullinger, UrhG, 4th edition 2014, § 69c, paragraph 53.

12 This article draws the attention to the software that is immediately used by the SaaS user. Other software (such as the operating system or virtualization software) are left out of consideration, as they are primarily used by the SaaS provider who is running the program in accordance with its intended purpose according to Article 69d of the German UrhG. Until which point in the stack the SaaS provider is still running a program in accordance with its intended purpose and at what point he is making software publicly available by enabling third parties to make use of the software's functionalities needs to be decided case by case depending on the precise technical circumstances of the individual case.

13 See table of Top 20 Open Source Licenses, accessible via http://www.blackducksoftware.com/resources/data/top-20-open-source-licenses.

software is made available via SaaS, no copies change hands, which means that when strictly interpreted, GPL-2.0 does not grant the right to make the covered software available to third parties.

As this interpretation obviously contradicts GPL-2.0's intention to make software freely available for all users and all kinds of use, the term "distribute" should be adapted to the changes driven by technical progress and be read to include the right of making software available to the public via SaaS (or in any other way for that matter). This interpretation is in line with the licence's original intention to enable the use of covered software in any possible way, and supported by the wording of Section 3 GPL-2.0 that refers to a distribution being "made by offering access to copy from a designated place".

Even though this seems to be necessarily included in the interpretation of the term "distribute", considerable challenges arise under German copyright law, as quite frequently the granting of rights using GPL-2.0 has to be considered invalid where the provision regarding the so-called "unknown types of use" are taken literally.

Excursus: Unknown Types of Use

The former Article 31 Section 4 of the German UrhG deemed any agreement invalid that included the granting of rights for yet unknown types of use of works protected by copyright law. Article 31 Section 4 of the German UrhG read as follows:

> *"The granting of rights of use for as yet unknown types of use, and obligations aiming at this purpose are invalid."*

The Article was designed to ensure that authors would be involved in any kind of commercial exploitation of their work at a time when they were actually able to assess the monetary value of the underlying right. Article 31 Section 4 of the German UrhG was repealed and rewritten into Article 31a in 2007, according to which agreements including unknown types of use are now lawful. The situation for rights granted under FOSS licenses before 2007 has, however, not changed, since the transitional provision in Article 137l of the German UrhG is not applicable to FOSS. Consequently, with regard to FOSS, Article 31 Section 4 of the German UrhG remains effective for rights granted before 2007.[14]

The suitability of Article 31 Section 4 of the German UrhG for software (in general) has been disputed amongst lawyers. Some refer to Article 69a Section 3 of the German UrhG, which says that software should be treated like a literary work. The reference is general, no exceptions are mentioned, meaning that Article 31 Section 4 of the German UrhG is also applicable to software. Others point to the intent and purpose of Article 31 Section 4 of the German UrhG which – they say – prohibits applying it to software irrespective of the licensing model. They argue that, unlike other authors of copyrighted works, the authors of software are more likely to be well-paid to develop a product that is designed to be adapted to changing industrial and technical conditions. In other words, their interest in profiting from its commercial exploitation is already compensated by the fees they are paid. Further reference is made to Article 69b of the German UrhG, whereby all rights of use for software developed by employees are transferred to the employer. The contradiction between this transfer of rights to the employer and the assignment of rights outside the scope of employment relationships – they argue – can only be dissolved if Article 31 Section 4 of the German UrhG is not applied to software licenses at all.

14 Jaeger, in: Redeker, Handbuch der IT-Verträge, delivery 25 June 2013, chapter 1.20, recital 112.

This argument can be sustained for FOSS development. Nowadays, FOSS is mainly developed by company employees. For example, the top contributors for Linux are salaried employees.[15] With regard to FOSS, the suitability of Article 31 Section 4 of the German UrhG can be contested on the grounds that FOSS licenses do generally not include license fees. Furthermore, broad circulation of software even using new technologies will be in the author's interest at least when the source code is also made available.

However, if Article 31 Section 4 of the German UrhG is actually found to be applicable to FOSS licenses, its provisions are fulfilled regarding the granting of the making available right by GPL-2.0.

SaaS is an "unknown type of use", as it is technically and economically independent of other types of use. It was unknown until it became technically feasible, economically relevant and actually commercially exploitable. Given these circumstances, making copyrighted works available via SaaS is considered to be an "unknown type of use" until the mid 1990s.

It is yet to be assessed in legal literature and court decisions whether this is still valid. However, there are strong arguments against it.

For one, GPL-2.0 comprehensively grants rights of use by naming and describing the ways in which software can be used. However, GPL-2.0 does not go further and state that any other ways in which software can be used are included in the license as well, despite the fact that they are not explicitly named and described. In consideration of GPL-2.0's goal to comprehensively grant all imaginable rights of use, one can only assume that such rights (i.e. those that are not explicitly named and described) were supposed to be granted as well. This makes GPL-2.0 different from typical licenses and agreements granting rights for unknown types of use.

Secondly, GPL-2.0 makes a vague reference to the making available right by referring to the "designated place software can be downloaded from" in clause 3. Offering a program for download is the second way besides SaaS/ASP by which software can be made publicly available.

It is contradictory to first interpret "distribute" as being inclusive of the right to make covered programs available via SaaS just to then render the GPL-2.0 void by applying Article 31 Section 4 of the German UrhG based on SaaS being an "unknown type of use".

Furthermore, GPL-2.0 aims at a comprehensive granting of rights. Like other FOSS licenses, it does not contain any restrictions with regard to types of use. There are certain conditions that have to be met, and if they are not, the rights of use are cancelled entirely – but the ways in which the covered works may be used are not limited in any way. In order to achieve this goal, the so-called "principle of transfer tied to purpose" as laid down in Article 31 Section 5 of the German UrhG might be applied. However, it would need to be applied a sensu contrario, because it is usually applied for restricting rather than for granting rights of use.

Eventually, it is possible that there is simply a tacit consensus amongst rightholders that GPL-2.0 actually grants the right to make software available via SaaS.

15 Linux Kernel Development: How Fast it is Going, Who is Doing It, What They are Doing and Who is Sponsoring it (2013 Edition), accessible via http://www.linuxfoundation.org/publications/linux-foundation/who-writes-linux-2013.

Is a SaaS provider required to meet the license obligations?

Specifically in the context of FOSS and FOSS licenses, SaaS raises another question: Does making the software available via SaaS oblige the SaaS provider to fulfil the license requirements? This especially includes the question of whether the source code has to be made available, too, whenever software is provided via SaaS. The answer to this question challenges the FOSS philosophy of ensuring the freedom of software, as this freedom only exists if the source code is openly accessible.[16]

AGPL-3.0

According to Section 13 AGPL-3.0 the SaaS provider - as the person who offers his users to remotely interact with a program via a computer network - is obliged to license any modifications to software licensed under AGPL-3.0 also under AGPL-3.0. In particular, he must give all users (but not all third parties) the opportunity to obtain the corresponding source code of the software version made available via SaaS.

Legally, this means that all license obligations must be met when software licensed under AGPL-3.0 is used by a SaaS provider. However, for the most part, the practical inability to examine the software offered to users for remote interaction with a program via a computer network for AGPL-3.0'd components remains.

GPL-3.0

As stated above, GPL-3.0 grants the right to make software licensed under GPL-3.0 available via SaaS as part of the right to "propagate" covered works. Since obligations from license requirements only arise if a covered work is conveyed, the SaaS provider is not obliged to fulfil the GPL-3.0 obligations. In other words, making available software licensed under GPL-3.0 via SaaS is an effective way to bypass the GPL-3.0's license obligations, in particular the obligation to make the source code available.[17]

Provisions closing this so-called "ASP-loophole" were intentionally not included in GPL-3.0. Rather the issue was tackled by the AGPL-3.0.[18] According to Section 13 GPL-3.0, AGPL-3.0 can be applied whenever GPL-3.0-licensed code is linked or combined with software licensed under AGPL-3.0.

GPL-2.0

GPL-2.0 only grants the necessary right of making available covered software via SaaS if the term "distribute" is interpreted as including the making available right. In other words, the SaaS provider is either distributing software licensed under GPL-2.0 resulting in him having to meet the license obligations, or he has not been licensed to make the software available via SaaS. As laid down above, a SaaS provider is not just "running the program" under German copyright law, as the provisions distinguish between making use of software oneself and enabling others to make use of the program's functionalities. While in the first case it is only about using a program, the latter goes beyond that and thus requires specific granting of rights

16 Cooper, Effects of Cloud Computing on Open-Source Compliance, accessible via http://www.linuxjournal.com/content/effects-cloud-computing-open-source-compliance.
17 Pohle/Ammann, Software as a Service - auch rechtlich eine Evolution?, K&R 2009, 625, 629.
18 Smith, GPL-3.0 and Software as a Service, accessible via http://www.fsf.org/blogs/licensing/2007-03-29-GPL-3.0-saas.

Conclusion

When taking Article 31 Section 4 of the German UrhG in a literal sense, it precludes certain FOSS licenses granting the rights of use necessary for making FOSS available via SaaS. However, there are strong arguments against applying this Article to software licenses in general and to FOSS licenses in particular. What courts will say about it, remains to be seen.

About the author

Dr. Miriam Ballhausen *is an associate lawyer at JBB Rechtsanwälte, Berlin. She counsels IT businesses and software developers in the fields of software, copyright and licensing law, in particular on issues of open-source software law.*