Free Software in Europe
European perspectives and work of the

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Georg C. F. Greve <greve@fsfeurope.org>

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Introduction

Free Software – especially the GNU/Linux operating system – and the FSF Europe have recently become more visible on the political agenda. This article will seek to explain some of the larger economic, social and political benefits that Free Software offers the European countries and Europe as a whole. It will also give an insight into the work of the FSF Europe.

As a concept and paradigm, Free Software addresses some of the most fundamental needs of any society in its development towards the post-industrial information era. The most visible organization in this field, the Free Software Foundation (FSF), was founded in 1985, a time when people had barely begun grasping the most basic principles of information technology.

With the first formal definition of Free Software and the creation of the GNU General Public License (GPL) and GNU Lesser General Public License (LGPL), the FSF not only created (and still maintains) the two most popular licenses for Free Software in use today, but also invented the notion of "Copleft," referring to Free Software protected against being stripped of its freedom.

Free Software itself is defined by four basic freedoms. The first freedom – sometimes referred to as freedom 0 – is the unlimited use of a program for any purpose. This means that a Free Software license must allow use for all commercial or non-commercial applications in order to fulfill this criterion.

The second freedom – freedom 1 in the Free Software definition [1] – is the freedom to study a program to learn how it works and to adapt it to your own needs. The remaining two freedoms are the freedoms to redistribute unmodified copies and the freedom to release modified copies that improve the state of the art.

As these are freedoms, people are free to choose to exercise one or several of them, but they may also choose to exercise none.

Licenses providing these freedoms are referred to as Free Software licenses. [2] A special case of Free Software license, the so-called "Copyleft" license, has already been mentioned above. These licenses give any user the freedoms described above, but they explicitly forbid a distributor to remove that freedom, which would make recipients of such freedom-deprived software dependent on that specific distributor.

Since access to the source code is a necessity to exercise these freedoms for programming languages with distinct source code, some people suggested using "Open Source" as a marketing term for Free Software in 1998; nowadays Free Software is sometimes referred to under this marketing term.

The good intention of making Free Software more widely known has unfortunately had the unexpected side effect of weakening the distinction between Free and proprietary/non-free software. [3] Therefore the Free Software Foundation strongly recommends speaking about Free Software or the adequate term in the local language; as will be done in the remainder of this article.

Economic perspectives of Free Software

Despite the attempts of proprietary software vendors – especially those located in the United States holding a monopoly in their respective areas – to make it seem so, Free Software is not an attack directed at specific companies.

Free Software should be understood as a new paradigm, a new model of dealing with software based upon mature concepts. It is a model based upon keeping the markets open and freely accessible; as such it cannot be an attack on specific companies, since any company can participate in this new market.

In a Free Software economy, there will be market leaders, but the possibility of uncontrollable monopolies is much lower.

To current monopolies this may seem threatening. But as one of the most important – maybe even the most important – problems of the European IT industry is its dependence on foreign IT monopolies, weakening these monopolies has become necessary for Europe to prosper.

That current monopolistic situation is a logical consequence of the proprietary software model, which has a strong system-inherent tendency towards proprietarization. The reason being that proprietary software tends to only work properly with itself.

With such proprietary software, communication between two users requires that both use the same software. Given that all people in western countries supposedly know each other over no more than five others, this leads to a kind of "viral" effect, where one user forces the next to use the same software, creating a monopoly.

In theory, open standards would provide a way out of this vendor lock-in, but history has shown that no open standard was ever truly successful unless it was implemented in Free Software.

The possibility to enlarge and lock-in a user base by modification of an open standard – a process euphemistically described as "improving" a standard – that in consequence allows only migrating to a certain piece of software, but not away from it, has proven to be too much of a temptation for the major players in the field.

As the past has proven, it is ineffective to impose open standards on vendors of proprietary software because of the fast-paced development in this sector in combination with the intransparency of proprietary software and the comparably slow workings of the political decision process.

That is if the vendors accept such measures and do not excert their monopoly-based clout to stop such actions altogether, as recent anti-trust cases in the United States have shown.

Structure of a Free Software economy

The differences are much smaller than many people would make you believe. The financially most important sector today is software for business activities and most of the revenue is generated through service. This is unlikely to change.

It is true that license revenue will most likely go down, probably significantly. However this only affects a very small part of the software generated revenue; a part which generates a negative trade balance between Europe and the United States today.

The by orders of magnitude largest source of revenue today is service. This sector will be able to grow significantly in a Free Software economy.

In the current system, dominated by proprietary software, only those companies supported by the monopolies can offer services; usually only a small part of what would be possible. The remainder is either done by the monopolies themselves – generating another stream of revenue flowing out of Europe – or not at all.

Free Software offers greater independence of European businesses, allowing them to offer the full array of services if they wish or cooperate with others if this seems economically more useful.

Also they will be able to provide solutions for those services that are already in demand, or that they can create a demand for, which are currently impossible because businesses lack adequate access and control over the software these services depend on.

In a Free Software economy, the current revenue in the service sector will be redistributed more in favor of the European vendors and the sector as a whole can be expected to grow.

Reducing dependencies

It also must be considered that currently the holders of monopolies have control over the European IT industry as they could drive most companies out of business by denying them access to their monopoly or by making access so difficult that the economics of the situation will possibly drive the company out of business.

To further worsen the situation, software monopolies can effectively be coupled with hardware monopolies. So a piece of monopolistic software will run only on a special kind of hardware and in return the vendor(s) of that hardware will only deliver their machines with this particular software.

The Free Software paradigm does not allow building this kind of coupled monopoly. In fact Free Software encourages platform independence and the Free Software systems (e.g. GNU/Linux and the BSD systems) run on more hardware platforms than any proprietary operating system.

Because the freedom to modify allows adding support for other hardware platforms, Free Software provides a stable fundament for innovative hardware initiatives that might even start on a local or regional level.

That way Free Software not only brings back competition into the software, but also furthers it in the hardware field.

National Economy

Because the largest part of software development is putting together old and well-known

principles, these get reimplemented at least once by every company, sometimes even once for every project.

In terms of national economy, proprietary software is waste of highly skilled labor. The proprietary software paradigm keeps software developers busy reinventing the wheel, slowing down innovation.

Free Software allows building upon these old and well-known building blocks, consequently reducing the market-entry barrier for new and innovative companies.

Also, the software industry is only one part of economy as a whole. As software is the glue that ties together a digitally networked economy, all sectors pay the price for the inefficiency of the proprietary software model.

Today, most non-IT companies use proprietary solutions. This makes them relying entirely on their vendors for crucial aspects of their own economic activity such as keeping stocks, writing and paying bills or communication with their customers, suppliers and/or competitors.

Forced updates are one result, the need to sometimes replace a whole IT solution, downtimes and new training of employees included, is another. Solutions based upon Free Software remove this dependency almost entirely.

As the company gains the freedoms described above, updates can be made according to the economic situation of the company. In case of problems with the vendor, the solution will still remain usable and another vendor can be found. In the latter case, an investment for the new vendor to work itself into the solution is required, but that cost is significantly lower than the cost of an entirely new solution. Also the indirect costs in terms of customer dissatisfaction, training of employees and downtimes usually do not arise.

It can be expected that these effects will help revitalizing economy as a whole. In essence, Europe can only win economically by furthering massive deployment of Free Software.

Social issues

Access to software becomes increasingly important to participate in the cultural, social and economic exchange of mankind. For the individual this means that access to software determines ones ability to communicate, to study and to work. Studies from the United States indicate that the average person interacts about 150 times each day with software.

In consequence, software has to be understood as a form of cultural property, a cultural technique. As long as mankind exists, new cultural techniques have risen the question of who is given access to them. Free Software ensures all people retain equal access to the cultural property that software has become.

In terms of data security and protection, another issue arises. As computers are always opaque – it is not possible to tell by mechanical observation what a computer does – it becomes even more important that the software is entirely transparent. Oth-

erwise people lose the ability to determine what their computers do and consequently have no control over their personal or other data.

Free Software is by nature entirely transparent, preserving the maximum of informational self-determination.

2001: The FSF Europe

Networks tend to be more stable than single nodes and Europe is one of the leading – if not the leading – regions for Free Software. So in 2001, the Free Software Foundation Europe (FSF Europe) was founded as a sister organization of the Free Software Foundation in North America. Legally, financially and personally independent of each other, they are working together on all aspects of Free Software in a spirit of equal cooperation.

The FSF Europe itself encompasses the vision of a strong Europe united in cooperation and mutual understanding with currently four countries (France, Germany, Italy, Sweden) fully represented, three others associated (UK, Portugal, Austria) and several others involved through regular cooperation.

A main function of the FSF Europe is providing a European competence center for Free Software, offering advice to governments, commissions, companies, journalists and others.

In the scope of these activities, the FSF Europe was invited to provide an expert for the Commission on Intellectual Property Rights in London [4] and presented Free Software at an OECD workshop in Tokyo on invitation of the German Ministry of Economics and Technology.

Other activities involve regular project work, for instance in AGNULA [5], a project funded in the scope of the 5th framework programme of the European Commission (IST-2001-34879).

For the 6th framework programme, the FSF Europe issued a recommendation supported by over 50 parties, in which the advantages of Free Software for Europe are addressed in how they refer to accepted European goals; concrete recommendations on how Europe can capitalize on them are given. [6]

Also the FSF Europe is doing work to support the legal fundament of Free Software, for instance it helped a local institute for legal issues of Free Software, the ifross, with the amendment of a German copyright law revision and recently issued the Fiduciary Licence Agreement (FLA) [7], which will help upholding the legal maintainability of Free Software.

Capitalizing on Free Software

Free Software offers unique opportunities for Europe as a region and the European states. In fact Europe is currently the region with the best position to gain the full advantages of Free Software and go into the information age with a head-start.

Possible advantages include greater independence, increased sustainability, freedom from foreign mono- and oligopolies, alter-

native hard- and software possibilities, a strengthened domestic market and better protection of civil rights.

For these to become reality, it becomes increasingly important to make clear statements and policies in favor of Free Software, such as the evaluation bonus for Free Software projects defined in the IST work programme or the policy statement by Liikanen in the European Parliament [8] regarding Free Software in public administration.

In fact public administration happens to provide an excellent starting point for the transition towards Free Software for three reasons.

Firstly, a government using proprietary software creates a tendency to force its citizens to use the same software because of the aforementioned "viral" effect of proprietary software. As governments have the ethical obligation to be available to all its citizens, they can make a just case for Free Software based upon the consideration of not wanting to force their citizens into a harmful monopoly.

Secondly, public administration is always short of resources, but the majority of resources spent on IT get squandered by creating a separate solution for each ministry or region, while the problems addressed tend to be similar and massive cooperation would be possible.

And finally, use of Free Software in public administration will provide a role model, encouraging citizens and businesses to get out of unhealthy dependencies, getting accustomed to the new model and becoming economically and socially active in it.

Several European regions already have initiatives to make use of Free Software mandatory for public administration. The region of Brussels adopted such a regulation on February 11th, 2003.

Public administrations in Europe should at least make sure to prefer Free Software over proprietary and require open standards for which a Free Software reference implementation exists.

Also wherever public money is spent, spending it on Free Software is making sure that it will benefit the public and economy. In the past, such money was usually spent on proprietary sofware, often benefitting only that proprietary vendor company directly at the cost of society and economy as a whole, or getting lost entirely.

For that migration period towards a more sustainable approach, especially the so-called "Copyleft" licenses – the GNU General Public License (GPL) being the most widely known – provide a sound basis for such projects.

These licenses will make sure that the results of resources spent will be available for all of economy and society equally, fostering a general increase of economic activity. They will resist having the results procured by any single company or person trying to restore old monopolistic situations.

Information Age aware governance

Like information technology permeates all of economy and society, governance decisions in one area can influence chances in the information age significantly. Given the European goal of becoming an information economy, it becomes necessary to be aware of these issues in all areas of governance.

There are several policies pending or in implementation that are about to inflict serious harm on the European competitiveness. These should be prevented or abolished if seeking to increase the European edge.

One policy endangering proprietary and Free Software alike are software patents. Patents are an entirely unsuitable concept for software as it has very different properties. Experience indicates the United States are already paying dearly for their software patent system with reduced innovation.

To quote Bill Gates from an internal memo: "If people had understood how patents would be granted when most of today's ideas were invented and had taken out patents, the industry would be at a complete standstill today. ... The solution is patenting as much as we can. A future startup with no patents of its own will be forced to pay whatever price the giants choose to impose. That price might be high. Established companies have an interest in excluding future competitors." [9]

Another extraordinarily harmful law is the European Copyright Directive (EUCD). Its US counterpart, the Digital Millennium Copyright Act (DMCA) is already being used successfully by groups such as Scientology to censor unwelcome web sites. [10] Similar cases can be expected in Europe.

Economically, the EUCD is highly anti-competitive. As it makes it illegal to circumvent whatever is considered a protection measure, the company that created this technical measure is given ultimate control over who may or may not participate in the market based upon it or how these companies should behave.

Example is given by the recent case against the teenager Jon Johansen, in which the question whether buying a DVD in a store will entitle the customer to view that DVD on their computer has become the central issue. The EUCD also provides a serious impediment of the freedoms of speech, communication and choice of profession, giving it a somewhat anti-democratic air.

These two policies are either in the process of adoption or adopted already and should be abolished before they can do further harm to Europes competitive edge.

The current new initiative to reduce competition in the market further are Palladium and its hardware counterpart proposed by the TCPA. This initiative, which wishes to be known as increasing the trustworthyness of computers, is best described as "Treacherous Computing." [11]

Under the pretense of trying to improve computer security, the TCPA apparently seeks to eliminate concepts and paradigms competing with the monopoly holders of the proprietary software model. Again, Europe would be on the losing side.

Resumé

Free Software as a new paradigm offers a stable, lasting and sustainable approach with higher dynamics and increased efficiency. The first region to understand and adopt it on a larger scale is likely to become a leading force in the information age.

Currently it seems unlikely that Free Software will ever replace proprietary software completely, but by making Free Software the predominant model, Europe could relieve dependences on foreign monopolies, which currently create a highly unstable and unfavorable situation for the European information technologies industry.

Europe is right now in the unique situation of having a large supply of Free Software competence and growing network of smaller companies that are based upon or centered in Free Software. Also more of the old and traditional European IT companies have begun shifting at least partially towards Free Software.

If this is furthered now, Europe has the potential to become global leader in the information age.

In case of further questions, the FSF Europe [12] will gladly be of assistance.

[1] http://www.gnu.org/philosophy/free-sw.html

[2] http://www.gnu.org/licenses/license-list.html

[3] http://fsfeurope.org/documents/whyfs.html

[4] http://www.iprcommission.org

[5] http://fsfeurope.org/projects/agnula/

[6] http://fsfeurope.org/documents/fp6/recommendation.html

[7] http://fsfeurope.org/projects/fla/

[8] http://www3.europarl.eu.int/omk/omnsapir.so/cre?FILE=20021023r&LANGUE=EN&LEVEL=DOC&NUMINT=3-188&LEG=L5

[9] http://swpat.ffii.org/archive/quotes/index.en.html

[10] http://www.theregister.co.uk/content/6/24533.html

[11] http://www.counterpane.com/crypto-gram-0208.html#1

[12] http://fsfeurope.org