

## TECHNOLOGY ASSESSMENT

### The Road To Open Document Standards

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#### IDC OPINION

Interoperability is very high on the agenda for companies and organizations. This has created a strong interest in standards including open standards as enabling technologies. In the office document area a battle is emerging between two competing standards: Open XML from Ecma and ODF from OASIS.

While IBM, Microsoft, Sun and others discuss "openness", IPR and documentation, IDC has surveyed Nordic companies, reality checking the adoption and views of customers of open document standards.

- Open standards are definitively on the IT agenda of Nordic companies. 2 in 10 companies are already heavily using open standards and another 4 in 10 companies are either piloting or considering piloting open standards. The interest is highest in Denmark, followed by Finland and Sweden.
- Companies generally do not consider ODF more open than Open XML or vice versa. Generally, companies are rating Open XML of higher importance to them when purchasing software than ODF.
- This is probably because IDC analysis shows a stronger affinity between the interest in interoperability and the interest in Open XML than between interests in interoperability and ODF. There is a similar affinity between Open XML and the interest in SOA as well as the interest in XML messaging architectures.
- ODF has its strongest adoption and ratings among public organization. We believe this reflects the current positioning of ODF as ensuring the "free communication between public sector and citizens". Assuming Open XML is approved by Ecma and subsequently ISO, we believe that even this position can be contested by Open XML – if Microsoft can build enough confidence in the market as to its "open intentions". An important step in this direction was the recent collaboration announcement from Microsoft and Novell.

## TABLE OF CONTENTS

P

<b>In This Study</b>	<b>1</b>
<b>Situation Overview</b>	<b>2</b>
Introduction.....	2
What is An Open Standard? .....	2
Open Standards Versus Open Source .....	8
ODF and Open XML as Open Standards .....	8
IDC Comparison .....	11
<b>Future Outlook</b>	<b>13</b>
Is Open Standards an important issue for companies and organizations? .....	13
Is the adoption of Open Standards driven by the public sector?.....	14
Is Open XML or ODF more "open" than the other? .....	15
How important is interoperability, Open XML and ODF? .....	15
Who are using Open XML and ODF? .....	16
What are the relations between open document standards and interoperability?.....	17
Is independence from vendors a stronger driver for ODF? .....	18
<b>Essential Guidance</b>	<b>19</b>
Public Sector .....	19
Private Sector .....	20
<b>Learn More</b>	<b>21</b>
Abbreviations .....	21
Members of Ecma TC45.....	21
Members of OASIS ODF TC .....	21
Sources .....	21
Related Research .....	22

## LIST OF TABLES

	P
1 Comparison of Open Standards Definitions .....	4
2 Open XML and ODF Strengths and Weaknesses .....	12
3 Correlation Coefficients for Interoperability .....	18

## LIST OF FIGURES

	P
1 Open Standards Interests .....	6
2 Overview of the "openness" of Open XML and ODF .....	12
3 Adoption of Open Standards by Country and Company Size.....	13
4 Adoption of Open Standards by Sector .....	14
5 Open Document Standards Bias .....	15
6 Important Parameters When Buying Software .....	16
7 Ratings of Open Document Standards by Segment.....	17
8 Ratings of Open Document Standards by Companies Looking for Open Source Software to Reduce Vendor Dependency .....	18

## IN THIS STUDY

This study is a fact-based analysis of the emerging open document standards, Open XML and ODF. The study is structured in two parts:

- ☒ An overview of the framework around open standards and open document standards in particular. Many discussions in this area tend to become opinionated and based on "which camp you belong to". We therefore find that in order to understand the foundation of the discussions around document standards it is important to have this overview.
- ☒ The second part looks in detail on what we can learn about the adoption of open standards from IDC's Nordic survey of companies and organizations carried out in August 2006. This survey, labeled the IDC Nordic IT Investment Guide, has asked 600 Nordic companies about their adoption of open standards and their view of Open XML and ODF. Here we present the most significant findings.

## SITUATION OVERVIEW

This chapter looks at the foundation for Open Standards and the formal position of open document standards in the market, ODF and Open XML in particular.

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### Introduction

Standards have played an important role in the history of mankind. Some standards have been created to cope with changing environments; others were created in response to an increasingly complex society. In any case it is clear that the use of standards is one of the key enablers of civilizations and societies.

One of the earliest standards were the creation of a calendar – a key foundation of development of agriculture. Over 20,000 years ago, our Ice Age ancestors in Europe made the first rudimentary attempts to keep track of days by scratching lines in caves and gouging holes in sticks and bones.

Since then the use of standards have spread to all areas of our modern world. We have heard classical examples like King Henry I of England standardizing measurement in 1120 by instituting the ell, which was equivalent to the length of his arm. Or how the railroads were standardized in the second half of the 19<sup>th</sup> century.

When IT emerged this was a new area that would clearly lend itself to standardization. While the initial systems were proprietary technology with proprietary, non-portable software, it soon became clear that standards would be needed in this rapidly growing technology area.

In 1950, the US National Bureau of Standards constructed the SEAC (Standards Eastern Automatic Computer) in Washington as a laboratory for testing components and systems for setting computer standards. In the late 1950s and 1960s a range of general programming languages emerged which made further standardization of software possible. In a standard manual from 1968 it is stated that "to those who must analyze and solve problems or operate complex machines, standards are the source for information and instruction to carry out this work."

Today, one of the discussions going on in the software arena is the discussion about open standards. While the concept of open standards is almost as old as the concept of IT standards, the current debate of open document standards has put emphasis on this aspect of standards – at least in the public and in the press debate.

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### What is An Open Standard?

In the words of Ken Krechmer of the International Center for Standards Research (University of Colorado) "Perhaps when everyone agrees on what requirements open standards serve, it will be possible to achieve them".

This is, however, not an easy task to complete as we will briefly describe in this section.

There are three different reasons why the definition of open standards is a difficult matter:

- There is no universal agreed definition on what is an "open standard"

- ☒ The key characteristics of "open" is not just related to a standard specification but also to the process around the standard
- ☒ Parts of the suggested definitions are not very easy to determine in an objective way

### ***Definitions of "Open Standard"***

Although discussions about open standards have been going on for many years, any universal agreed definitions of what constitutes "open standards" has not been reached. This situation may be characteristic for the "open process", but it leaves both vendors and users in a difficult situation when discussion what is "open" and what is not.

Ken Krechmer, fellow at the International Center for Standards Research, University of Colorado, has developed a methodology to evaluate the "openness" of standards – or rather the organizations defining open standards. This provides a list of ten requirements of open standards, possibly the most extensive list of requirements available.

The ten open standard requirements are:

1. Open Meeting - all may participate in the standards development process.
2. Consensus - all interests are discussed and agreement found, no domination.
3. Due Process - balloting and an appeals process may be used to find resolution.
4. Open IPR - how holders of IPR related to the standard make available their IPR.
5. One World - same standard for the same capability, world-wide.
6. Open Change - all changes are presented and agreed in a forum supporting the five requirements above.
7. Open Documents - committee drafts and completed standards documents are easily available for implementation and use.
8. Open Interface - supports proprietary advantage (implementation); each interface is not hidden or controlled (implementation); each interface of the implementation supports migration (use).
9. Open Access - objective conformance mechanisms for implementation testing and user evaluation.
10. On-going Support - standards are supported until user interest ceases rather than when implementer interest declines.

Bruce Perens, a prominent open source supporter has a different definition that is only partly overlapping with the definition above. Bruce Perens puts most emphasis on the protection of open standards from proprietary interests as well as ensuring a non-profit environment.

Locally, we have several attempts to define "open standards". DKUUG has defined three key characteristics as (a) access to documentation, (b) no financial, IP or otherwise limitations and (c) open process. The organization for public standards in

Denmark, "Open Public Information Online", has defined open standards in a similar way, focusing on (a) free and available to everybody, (b) it remains free and available (no IP), (c) free access to documentation and (d) open process.

The EU body IDABC (Interoperable Delivery of European eGovernment Services to public Administrations, Businesses and Citizens) also has a definition of open standards. This definition emphasizes (a) open process through a non-profit organization, (b) free, available documentation, (c) no IP and (d) no constraints in re-distribution.

The table compares the few different definitions highlighted in this section – there are more. It is clear that the definitions are describing open standards in different ways. Even when looking at a single parameter, the content of the definition may vary from source to source. But it also becomes clear from the table that there are three areas the definitions have in common:

- Open process around the development of the standard
- No proprietary IP
- Open and free documentation

**TABLE 1**

Comparison of Open Standards Definitions

	Krechmer	Perens	DKUUG	OIO	IDABC
Open meeting	x	x	X	x	x
Consensus decisions	x	x	X	x	x
Due process	x	x	x	x	x
Open IPR	x	x	x	x	x
One world	x				
Open change	x	x	x	x	x
Open documents	x	x	x	x	x
Open interface	x	x			
Open access	x	x			
On-going support	x				

Source: IDC, 2006

### ***Open Process***

A key part of the definition of Open Standards is the process around the work establishing and maintaining the standard. This also means that bodies controlling the process – standard setting organizations, SSOs – have a major influence in ensuring the openness of the process and thereby the openness of the standard.

Ken Krechmer has defined an evaluation model for understanding how "open" different standard setting organizations are. However, evaluating the openness of the processes can be very difficult and requires significant experience with the real work of a SSO. The evaluation of whether "all interests are discussed without any domination" (as an example) will to some extent be a subjective evaluation.

The fact that processes even change over time – even for one and the same standard – make it difficult to define an objective measure for "process openness".

### ***Evaluation of Open IPR***

There are other aspects in the definition of Open Standards apart from the "open process" that can be difficult to determine in an objective way. There seems to be consensus that a standard must not be controlled by a proprietary IP in order to be labeled "open". This aspect is being described in different definitions as follows:

- The intellectual property - i.e. patents possibly present - of (parts of) the standard is made irrevocably available on a royalty free basis (IDABC)
- Open Standards are free for all to implement, with no royalty or fee (Perens)
- No restrictions must exist for the use and implementation of the standard. For example there cannot be royalties related to the use or distribution of a product using the open standard (DKUUG)

As document formats generally have IPR associated with them, the traditional way of ensuring the openness is to provide them under Reasonable And Non-Discriminatory (RAND) terms or Royalty Free (RF) on Rand Terms. To evaluate this requirement for potential open standards then become a legal evaluation rather than scientific evaluation. At the end of the day it can therefore only be determined through the legal system, subject to legal interpretation. This is also evident from the IPR statements from lawyers that vendors have promoted for their standards.

Whether a standard is open – with regard to no proprietary IP being reinforced – cannot be determined through an objective, non-legal process.

### ***Why Open Standards***

At this point we stop and take a look at the reason companies, citizens, public organizations and vendors talk about "open standards". Summarizing the different arguments for moving towards open standards we find that there are three overall areas of objectives:

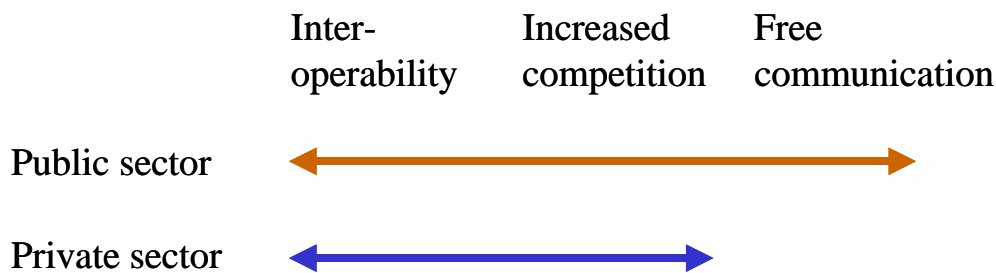
- Ensure interoperability: For systems to communicate the interfaces need to be standardized. As any standard will be able to fulfill this, the idea behind open standards is that it is more widely available and non-discriminating making it easier to use. It is also easier for product suppliers to implement the standard if it is royalty-free.

- ☒ Ensure market competition: Through the openness of the standard, the proprietary aspect of standards is taken out of the equation. No particular vendor can control or dominate the standard as the standardization process is open. This will enable other vendors to compete on equal terms because products can be developed freely (no IPR or royalty, open documentation) that adhere to the standard and therefore is "compatible" with existing products in the market.
- ☒ Free communication between public sector and citizens: To ensure the democratic rights of citizens to freely receive and send digital documents with public organizations without being tied to any proprietary standards. This assumption is that an open standard is not owned or controlled by a particular vendor and citizens therefore have a choice of products when communicating with the public sector. This requires that a wide range of products supports the "open standard".

Different groups of interests put different emphasis on these three arguments for open standards. This is illustrated below.

**FIGURE 1**

Open Standards Interests



Source: IDC, 2006

The public sector quite naturally is interested in the democratic aspect of open standards as well as looking at a reduction of IT costs – in many public areas budgets are under pressure and public managers look at how open standards could lead to increased competition and therefore a general reduction in price levels. In addition to this many public organizations are increasingly working internally with content and document management systems and workflow systems that need to be integrated to a wide range of systems. This means that even interoperability is very important in the sector.

The private sector is very concerned about integration of systems and interoperability. As we will demonstrate below, the aspect of interoperability is actually one of the highest rated priorities in this sector. Of course, the private sector is also interested in increased competition in the market – not just for cost considerations but also to ensure a wider range of solutions available in the market.

### ***Open Standards Versus Innovation***

Another discussion that has emerged around open standards is the discussion of whether open standards are increasing innovation or is a barrier to innovation. Of course, innovation can mean different things, and there are two quite different viewpoints on this question.

On one side open standards means that it becomes easier to develop new products that can compete with existing products. If products use open standards, they can interface with new products in the market, and the new products can adopt open standards without the financial penalty associated with a proprietary standard. Open standards open up the market and reduce the lock in to particular vendors. As an example open document standards will enable new companies to compete with new desktop products that can integrate seamlessly with the existing products in the market. Or in other words, open standards will spur new, innovative products in the market.

On the other hand, open standards means giving up IPR on the interfaces and this can be seen as a hindering factor for innovation in line with the software patent discussion. The right to invent a proprietary technology, patenting this technology and making a business out of the technology is often a key business model for small, innovative companies (even big companies). The proprietary nature ensures an installed base of customers and the ability to have a window of opportunity long enough for technologies to mature and penetrate the market.

One may argue that with open standards, innovation must move to the functionality of products instead of the formats and fundamental technologies used. In theory this may be a reasonable argument, but in reality it is much harder to recognize and reinforce IPR and patents on functionality compared to technology.

In some sense this discussion about innovation can be viewed as "open innovation" versus "proprietary innovation" – and at the end of the day a question of market philosophy or even personal philosophy.

### ***Conclusions***

In conclusion, the concept of open standards is by no means a new concept and is often a desired quality that standardization organizations want to achieve when working on standards. While there is no universal agreed definition of "open standards" there are three characteristics that generally are agreed to: Open process, open and free documentation and no intellectual property rights nor royalty.

Because the determination of an "open process" is difficult and not black or white, it is not possible to classify the world into two: open standards and proprietary standards. It is a gray-scale.

This is furthermore underlined by the requirements to IPR. Requirements to IPR are legal concepts and not an objective functionality/technology requirement. Whether a standard is open in this respect can, at the end of the day, only be determined through a legal process.

These limitations – although by no means making "open standards" obsolete – should be kept in mind in the following discussions.

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## **Open Standards Versus Open Source**

Quite often the concepts of "open standards" and "open source software" are mixed. Even industry people with considerable insight into the topics often tend to discuss one in the context of the other.

It is understandable, why the mix-up of the two concepts occurs. Both concepts are related to a particular "open" philosophy around software. And both concepts primarily come out of grass-root organizations (at least originally).

Still, it is two different concepts and the discussions on open standards should not be mixed up with discussions on open source software.

It can be defined as follows: "Open source is used to describe an open process of software development. Often open source development makes use of open standards for operating systems or software development tools, but the purpose of open source is to support continuous software improvement while the purpose of open standards is to support common agreements that enable communications open to all." (Krechmer).

This means that even proprietary software can use open standards and they increasingly do (example: Google Docs & Spreadsheets). Open source software can support proprietary standards as well (such as Openoffice.org support of the Microsoft DOC format), but this can be a difficult task if the proprietary standard is a moving target.

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## **ODF and Open XML as Open Standards**

It is no big secret that there are two document standards that are going to compete for the position as the default open document standard for public and private companies. Open Document Format (ODF) from OASIS and Open XML from Ecma. Both are XML-based standards that extend the XML standard to a higher functionality level to accommodate the functionality in work processing, spreadsheets and graphical documents.

### ***ODF Background***

ODF originates from the German software company StarDivision who in 1999 was working on a non-binary, standardized document format for its word processing product, when it was acquired by Sun Microsystems. In 2000, Sun decided to transfer the product into the open source software domain and at the same time started a formal process of developing ODF as a formal document standard.

This work has been done through the organization OASIS (Organization for the Advancement of Structured Information Standards) with Sun Microsystems leading the effort. Sun decided on OASIS following an evaluation and found that OASIS was a good choice because of its open process, its experience with XML and the possibility of all interested parties to participate in the process (OASIS, for example, allows individual membership).

The purpose of the ODF TC (technical committee) is to create an open, XML-based file format specification for office applications. The format provided by Sun Microsystems to OASIS constituted the starting point of the work and the ODF TC has since then developed the standard from this basis.

OASIS approved the ODF 1.0 standard in May 2005 and it was subsequently submitted to ISO. ISO approved ODF as an international standard in May 2006.

Work continues on ODF and three subcommittees currently are working on accessibility, spreadsheet formula definitions and metadata. Some of work on accessibility has been included in ODF 1.1 that has just been passed by the ODF TC (October 2006). The definition of formulas in spreadsheet documents and further accessibility functionality is expected in ODF 1.2 to be submitted in mid-2007.

ODF is promoted by the ODF Alliance, counting more than 300 members. In July 2006, Microsoft announced the intention of supporting ODF for Microsoft Office through the Open XML Translator Project, involving community resources and external partners.

### ***Open XML Background***

Gradually, Microsoft has moved its Office document formats (.doc, .xml, .ppt) from binary formats to XML based formats. Office 2000 introduced an HTML file format with document properties defined in XML; Office XP included the first XML reference schema (SpreadsheetML); and Office 2003 introduced a standard way to store and exchange data stored in documents by using additional reference schemas (WordprocessingML and an enhanced SpreadsheetML) as well as customer-defined schemas.

With the release of Office 2007, XML-based file formats become the default in Word, Excel, and PowerPoint. The new file formats are an extension of the WordprocessingML and SpreadsheetML schemas introduced in previous versions and is now called Microsoft Office Open XML.

In November 2005, Microsoft submitted Open XML to the industry standard organization Ecma to become a document standard. Committee T45 was created with Microsoft leading the work. The objective has been to produce a formal document standard for office productivity applications that is fully compatible with the Microsoft Office Open XML format. Microsoft selected Ecma because the Ecma process is voluntary and consensus based. Ecma also provides a rigorous process needed to be considered for ISO standardization. IDC expects that it also had an influence that Ecma has a successful record of submitting standards proposals to ISO's fast track procedure.

In October 2006, T45 completed its work with finalizing Open XML version 1.0 which is expected approved by the Ecma general assembly in December 2006. Subsequently, the standard will be submitted to ISO to be approved as an international standard in 2007.

In November 2006, a significant technical and commercial collaboration between Novell and Microsoft was announced. As part of this announcement, it is intended to implement Open XML for Openoffice.org.

Open XML is maintained by the ECMA organization. This implies that development in functionality of Microsoft Office that requires further development of Open XML will be dependent on passing Open XML changes through Ecma.

### ***Open Process***

As described previously, one of the key requirements for an "open standard" is an open process. This includes open process, consensus discussions without any domination and openness to change suggestions. These requirements are more related to the standardization organizations rather than the standards themselves and it is therefore of interest that the work on ODF is done by OASIS and the work on Open XML is done by Ecma.

To evaluate standard organization with regard to "openness" is quite difficult. Some information can be found on the Web site, but the reality can only be experienced by the actual participants in the processes. It should be noted that Sun opted not to be a member of the committee on Open XML and Microsoft opted not to be a member of the committee on ODF.

Ken Krechmer from the International Center for Standards Research at University of Colorado has evaluated the processes of the two organizations [1]. In his view the two organizations tie when it comes to consensus process and open change.

Only when it comes to open meetings, OASIS is rated more open than Ecma. One of the arguments for this is that Ecma is more limited in memberships versus OASIS who allows individual membership. There are several individuals who participate in the ODF TC which is not the case in Ecma TC45 (see "Learn More" for details on TC memberships).

Another example of the difference is that working documents including mailings lists and lists of comments are publicly available in OASIS. This is not the case for Ecma.

### ***Open Documentation***

Ecma has a clearly stated policy on its documentation: "All current Ecma Standards and Technical Reports are available, free of charge and freely copyable, as electronic files".

Although not stated directly, OASIS has a similar strategy, and here even drafts and communication of the committees are available online.

Therefore both organization make their documentation available free of charge and the documentation of standards can be easily downloaded.

### ***Open IPR***

In September 2005, Sun issued its "covenant not to sue": Sun irrevocably covenants that, subject solely to the reciprocity requirement described below, it will not seek to enforce any of its enforceable U.S. or foreign patents against any implementation of the Open Document Format for Office Applications (OpenDocument) v1.0 Specification, or of any subsequent version thereof.

The Software Freedom Law Center has examined whether there are any legal barriers to the use of the ODF in free and open source software. They concluded that "on the factual basis described, and subject to reservations, it is our opinion that ODF, as standardized and licensed by the Organization for the Advancement of Structured Information (OASIS), is free of legal encumbrances that would prevent its use in free and open source software".

In November 2005, when Microsoft submitted its Open XML to Ecma, the company also issued its covenant not to sue: "Microsoft irrevocably covenants that it will not seek to enforce any of its patent claims necessary to conform to the technical specifications for the Microsoft Office 2003 XML Reference Schemas posted at <http://www.microsoft.com/office/xml/default.mspx> (the "Specifications") against those conforming parts of software products... Microsoft will make the covenant above available for the Ecma International Standard on Office Open XML file formats."

In September 2006 the "covenant not to sue" was expanded with the Open Specification Promise: "Microsoft irrevocably promises not to assert any Microsoft Necessary Claims against you for making, using, selling, offering for sale, importing or distributing any implementation to the extent it conforms to a Covered Specification".

Within the limitations of legal evaluations it is therefore not possible to disqualify any of the two standards with regard to "Open IPR".

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## **IDC Comparison**

In general we do not find any substantial difference in the "openness" of Open XML versus ODF, evaluated on the basis of the three consensus requirements for open standards: Open process, open documentation and open IPR.

Both in the areas of open documentation and open IPR we find that both standards live up to the basic requirements of open standards. Only in the area of "open process" which is more attributable to the standards organizations we find that OASIS is having a more open process than Ecma.

In any case, with the assumption that Open XML eventually is approved by ISO, both standards will be approved global standards. Both standards will also be based on no royalty, no IPR and freely available documentation.

We believe that for most implementers and users of document standards the key aspects of open standards are the practicalities of the standards and therefore the questions on royalty, IPR and documentation as well as functionality. The facets of the open process leading to the open standard is also of interest, at least from an academic view, but is of less pertinence to the practical use of the standards.

**FIGURE 2**

Overview of the "openness" of Open XML and ODF

	Open XML	ODF
Open process	✓	✓
Open documentation	✓	✓
Open IPR	✓	✓

Source: IDC, 2006

Looking beyond the discussions on the "openness" of the two standards, there are other considerations on both standards. These can be summarized in the table below on strengths and weaknesses of Open XML and ODF respectively.

**TABLE 2**

Open XML and ODF Strengths and Weaknesses

Open XML 1.0 Strengths	ODF 1.0 Strengths
Complete specification of office functionality, including spreadsheet formulas  Accessibility/disability support  Fully compatible with Microsoft Office documents	Lean documentation and building on existing standards in the market  Approved ISO standard  Wider participation in the ODF TC work  Available on a wider range of platforms
Open XML 1.0 Weaknesses	ODF 1.0 Weaknesses
Extensive functionality and documentation makes implementation more complex and dependent on implementation tools  Not approved by ISO	Incomplete with regard to all office functionality. Spreadsheet formulas planned for version 1.2  Metadata definitions  Accessibility/disability support (available in v1.1)

Source: IDC, 2006

## FUTURE OUTLOOK

This chapter looks at the reality in the market for the deployment of open standards. It is based on a recent survey of 600 Nordic companies. The interviews have been carried out with the IT managers of the organizations and, of course, should be interpreted on the basis of their knowledge of the subjects discussed.

In the words of IBM's Bob Sutor in his blog (February 9, 2006): "May the best, most open standards-based software win. Actually, may the customer win." So, let's see what customers are telling us about their use of open standards.

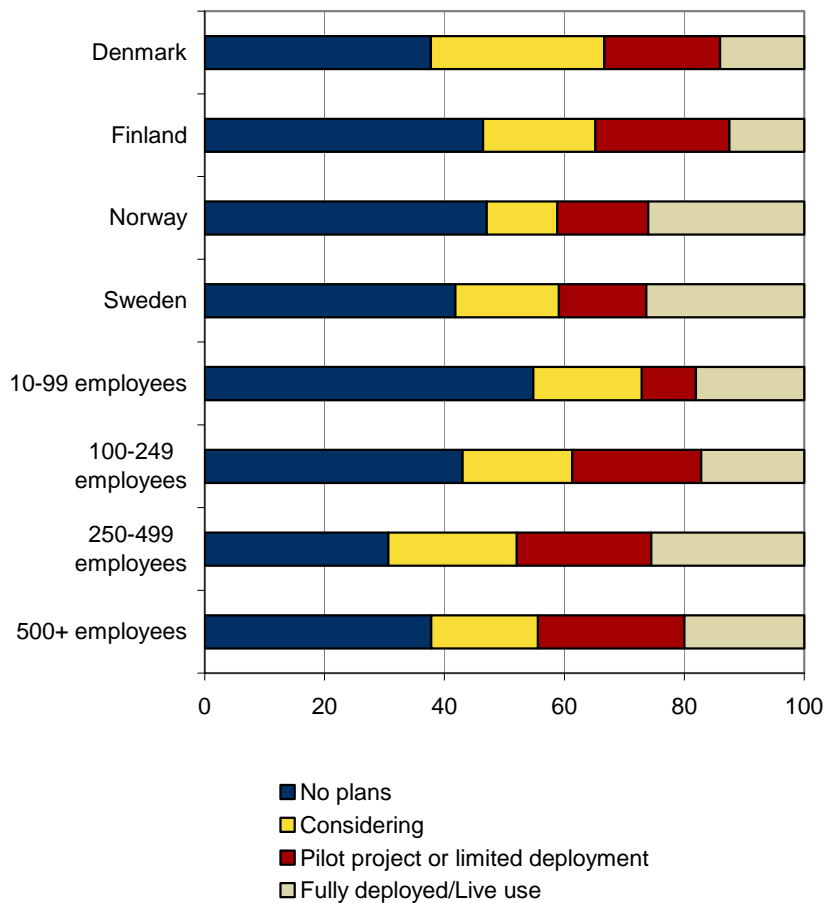
The chapter is structured in terms of the questions asked or implied in the previous chapter of this study.

### Is Open Standards an important issue for companies and organizations?

**FIGURE 3**

#### Adoption of Open Standards by Country and Company Size

*What stage of adoption has your organization reached in use of Open Standards?*



Note: N = 455

Source: IDC, 2006

Yes, many companies are looking at open standards to improve their IT architectures. About 60% of all companies surveyed either use open standards today or are considering the use of open standards.

Leading countries seem to be Sweden and Norway where the current adoption is higher than in Denmark and Finland. However, it is significant to note, that the share of companies considering the use of open standards is highest in Denmark. The recent public and political discussions on open standards in Denmark probably had an influence on that.

Open standards appeal to most companies regardless of size. The adoption and interest is about the same for very large companies with more than 500 employees compared to medium sized companies with 100-250 employees. Only small companies with less than 100 employees have a slightly lower interest in open standards.

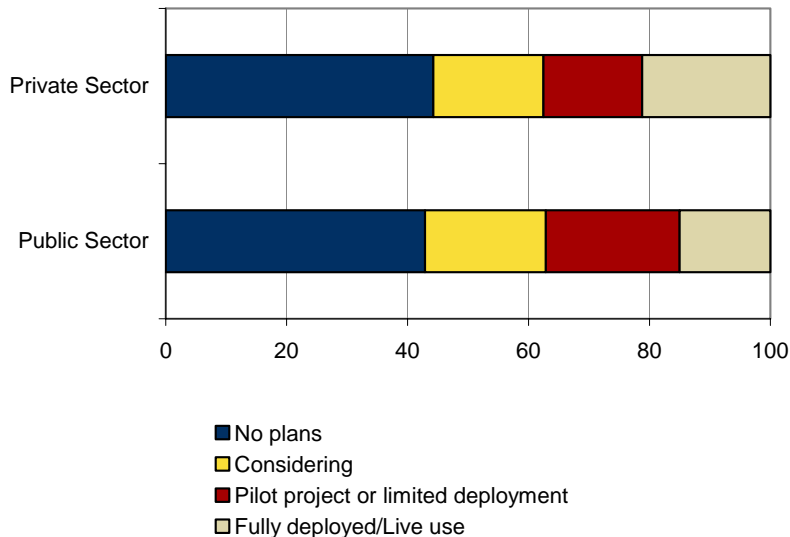
### Is the adoption of Open Standards driven by the public sector?

No, definitively not! Looking at the adoption pattern of private companies compared to public companies we find almost the same level of adoption and interest. In fact, private companies show a higher full-blown adoption rate today of open standards compared to public organizations.

**FIGURE 4**

#### Adoption of Open Standards by Sector

*What stage of adoption has your organization reached in use of Open Standards?*



Note: N = 455

Source: IDC, 2006

## Is Open XML or ODF more "open" than the other?

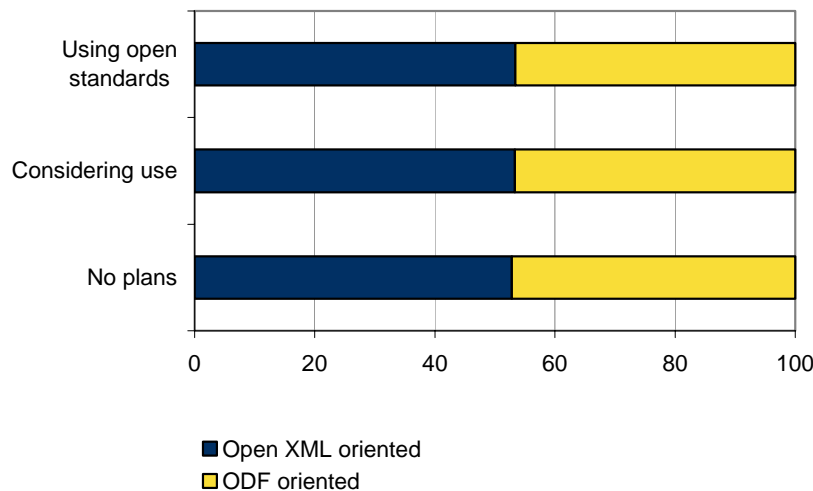
No, there is no evidence from users suggesting that neither Open XML nor ODF is considered a more open standard than the other one. When we look at the rating of Open XML and ODF respectively and comparing these ratings across different segment of companies using and not using open standards there is no difference at all. If ODF was generally considered more open than Open XML, we would have expected a higher rating of ODF compared to Open XML in the segment of users stating they are using open standards (e.g. having a policy of selecting software supporting what they believe are "open standard").

This means that companies putting high emphasis on using open standards are not particularly biased towards ODF compared to Open XML. Actually, in absolute terms the companies investing in open standards generally are rating Open XML higher than ODF – a point discussed below.

**FIGURE 5**

### Open Document Standards Bias

*What stage of adoption has your organization reached in use of Open Standards compared to ratings of importance of Open XML and ODF when purchasing software*



Note: N = 455

Source: IDC, 2006

## How important is interoperability, Open XML and ODF?

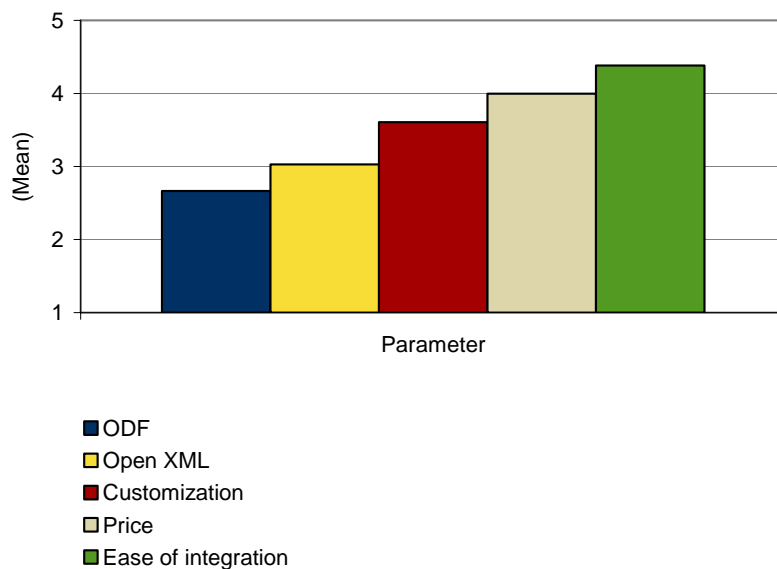
Interoperability is very important to companies and organizations when purchasing and implementing software. Of the parameters studied in this survey, interoperability is the most important parameter with a very high rating of 4.4 on a scale from 1 to 5 (5 equal very important). Interoperability is even more important than price which is quite significant.

Further down the list of priorities when purchasing software we find Open XML and ODF. Generally, Open XML is more important to companies when purchasing software than ODF. This is related to the view of Open XML as supporting interoperability, which will be further described below.

**FIGURE 6**

### Important Parameters When Buying Software

*How important is xxx to you when buying software?*



Note: N = 417

Source: IDC, 2006

### Who are using Open XML and ODF?

As seen above, the ratings of the importance of Open XML are generally higher than the ratings of ODF. However, it is of interest to see, if the ratings of Open XML and ODF vary by type of user in relative terms (e.g. where is Open XML strongest and where is ODF strongest).

It turns out that in Denmark and Finland, Open XML is relatively strong while in Norway, ODF is relatively strong. We also find that the bigger the company, the bigger is the rating of the importance of Open XML.

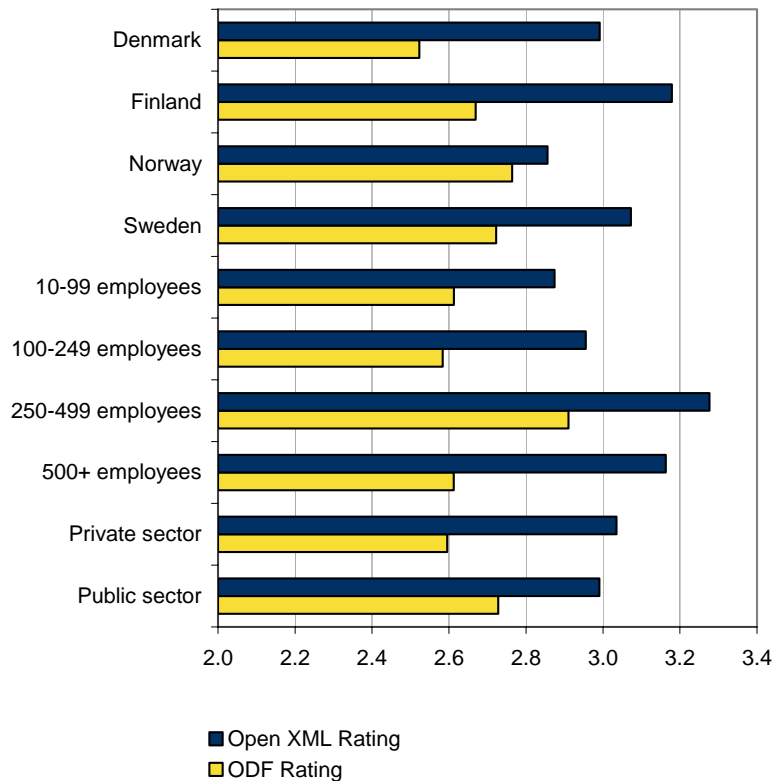
When analyzing the data by private and public sector it becomes clear that the strongest segment for ODF is the public sector, while the importance of Open XML is relatively stronger in the private sector compared to the public sector.

It does not change, however, that Open XML is rated more important than ODF in all segments in absolute terms.

**FIGURE 7**

**Ratings of Open Document Standards by Segment**

*How important is Open XML/ODF to you when buying software?*



Note: N = 455

Source: IDC, 2006

**What are the relations between open document standards and interoperability?**

In the previous sections we have made the observations that interoperability is important – actually key – to companies and organizations today. It is significant to notice that the survey data shows a positive correlation between importance of interoperability on one side and the use of Open XML on the other side. This correlation is much stronger than the similar correlation to ODF.

This means that by all probability companies see a relation between the two, e.g. that the use of Open XML will provide a better foundation for interoperability than ODF. This is furthermore underlined by similar correlations between Open XML and SOA as well as XML messaging. Companies rating interoperability, SOA and XML messaging high also tend to rate Open XML high.

**TABLE 3**

Correlation Coefficients\* for Interoperability

	Correlation to Interoperability
ODF	0.179
Open XML	0.232

Source: IDC, 2006

\* Coefficient is between 0 and 1 for positive correlations; high numbers mean stronger correlation.

**Is independence from vendors a stronger driver for ODF?**

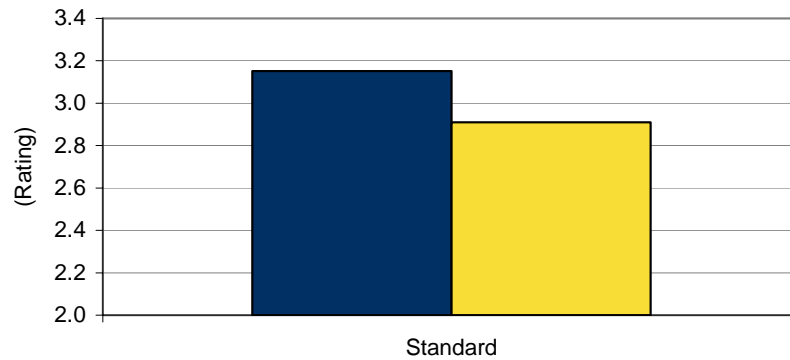
One may have expected that ODF would seem more attractive than Open XML to companies who states "independency from vendor" as the most important reason for moving to open source software. However, such a relation does not exist in the data – on the opposite.

As is seen in the figure, companies that are looking at open source software to become more independent from vendors do rate Open XML higher than ODF.

**FIGURE 8**

Ratings of Open Document Standards by Companies Looking for Open Source Software to Reduce Vendor Dependency

*How important is Open XML/ODF to you when buying software?*



■ Open XML  
■ ODF

Note: N = 571

Source: IDC, 2006

## ESSENTIAL GUIDANCE

One open standard is very good. Two open standards are not necessarily double as good!

It is not very clear what is going to happen if and when Open XML is approved by Ecma (very likely) and subsequently ISO (somewhat likely) as an alternative to the existing ODF document standard.

Assuming the proper approvals, there will be two document standards available in the market, but we do not believe there per se are any problems with the co-existence of two document standards. In reality there are already other standards available such as PDF/A just approved by ISO for archiving – and even de-facto document standards are available. As a publishing standard, PDF is widely used for non-editing distribution of documents, even from public organizations (see for instance [www.ec.europa.eu/idabc](http://www.ec.europa.eu/idabc)).

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### Public Sector

For two reasons the public sector has an invested interest in open document standards and how they are used: internal and external. Internally, the public sector is very document-intensive and need to exchange documents freely within the administration as well as making sure that documents can be stored in a relevant format for very long periods of time. Externally, the public sector wants to enable electronic communication with citizens and companies in a non-proprietary and widely available format.

Particularly the external aspect has made governments – such as in Denmark and Belgium – decide on a policy of using open standards in the communication with documents. The next step for the public sector is therefore to decide on what is "open standards" and which ones to allow/recommend.

In our experience, however, the first part may be possible, while the second part is a very difficult task. History has shown (X.400, OSI Reference Model etc.) that often the public sector has not been able to override market dynamics with specific recommendations on specific standards to be used by the public sector.

We believe that market dynamics eventually will decide which standards will survive and which standards will be widely used. Therefore we recommend that next to focusing on approved open standards, flexibility and multiplicity of choice should govern the approach to standards recommendations in the public sector. This is also the strategy of the Open Public Information Online (OIO) in Denmark.

For Open XML to gain traction in the public sector it must – in addition to become an ISO standard – demonstrate that it is not controlled by Microsoft and that Microsoft will not use any backdoors to prevent the openness of the standard. Whether real or not there is considerable mistrust to Microsoft that Microsoft needs to address. The recent announcement of Microsoft and Novell collaboration is an important step in this direction.

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## Private Sector

Functionality will always be a driving parameter in the private sector, compared to the needs companies have with regard to processes and communication. Private companies will therefore have to evaluate the applicability of Open XML and ODF in terms of best fit to the requirements the company have.

ODF supporters are putting emphasis on the high number of vendors and partners who are supporting ODF which – in their eyes – makes it a truly platform independent, open standard. ODF is also positioned as a standard under "continued development". Various functionality areas like spreadsheet formulas are being addressed by subcommittees for future versions of ODF. In this sense, ODF can be seen as a standard using a step by step development principle. It will therefore be easy to pilot the use of the standard while a full-blown implementation may have to address areas not yet developed.

Open XML supporters are putting emphasis on the standard covers all functionality in Microsoft Office and also ensures backwards compatibility to the vast repositories of office documents. In this sense, Open XML can be seen as a development where completeness has been part of the objectives for version 1.0.

Companies therefore will have to determine if they need all office functionality in the use of a document standard and how important is the full compatibility with Microsoft Office documents. If this is the case, the direction seems to be Open XML.

On the other hand, if companies determine that they need just basic document functionality in the document standard – and/or if the company needs to interface to products that only supports ODF – the arrow points in the direction of ODF.

Whether the ODF will have enough critical mass in the market is another question. Although ODF is claiming a large number of supporting vendors and products, the footprint in the market of office products like Staroffice, Openoffice.org, IBM Workplace and Google Docs is still not substantial. Microsoft Office is having a very large market share, and this will help driving Open XML into the market as a document standard.

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## LEARN MORE

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### Abbreviations

DKUUG: Danish Unix User Group

IP: Intellectual property

IPR: Intellectual property rights

ISO: International Organization for Standardization

OASIS: Organization for the Advancement of Structured Information Standards

ODF: Open Document Format

OIO: Open Public Information Online

RAND: Reasonable And Non-Discriminatory

SOA: Service Oriented Architecture

SSO: Standard setting organization

TC: Technical committee (where the actual work is carried out on a standard)

XML: Extensible Markup Language

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### Members of Ecma TC45

Apple, Barclays Capital, BP, The British Library, Essilor, Intel, Microsoft, NextPage, Novell, Statoil, Toshiba, and the United States Library of Congress.

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### Members of OASIS ODF TC

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### Sources

[1] Krechmer, Ken: Personal correspondence, October 2006.

AGS Computers Standard Manual, 1968

European Interoperability Framework for Pan-European eGovernment Services, IDABC

Krechmer, Ken: Open Standards Requirements. University of Colorado, 2005

[www.ansi.org](http://www.ansi.org)

[www.computerhistory.org](http://www.computerhistory.org)

[www.dkuug.dk](http://www.dkuug.dk)

[www.ec.europa.eu/idabc](http://www.ec.europa.eu/idabc) (EU Commission)

[www.ecma-international.org](http://www.ecma-international.org) (ECMA)

[www.ft.dk](http://www.ft.dk) (Folketinget)

[www.ibm.com](http://www.ibm.com)

<http://nfocentrale.net/orcmid/writings/2005/06/W050601b.htm> (Comparison of Open XML and ODF)

[www.oasis-open.org](http://www.oasis-open.org) (OASIS)

[www.oio.dk](http://www.oio.dk) (Offentlig Information Online)

[www.perens.com](http://www.perens.com) (Bruce Perens)

[www.radikale.dk](http://www.radikale.dk) (Det Radikale Venstre)

[www.softwarefreedom.org](http://www.softwarefreedom.org)

Interviews with Sun Microsystems, IBM, Microsoft and DKUUG

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## Related Research

- Nordic, IT Investment Guide 2006: Enterprise Applications - The Future of Software Redefined
- Denmark Application Software Market Review 2005 and Forecast 2006-2010, IDC#560656-1N
- Sweden Application Software Market Review 2005 and Forecast 2006-2010, IDC#560657-1N
- Norway Application Software Market Review 2005 and Forecast 2006-2010, IDC#560659-1N
- Finland Application Software Market Review 2005 and Forecast 2006-2010, IDC#560658-1N
- Denmark Software Tools Market Review 2005 and Forecast 2006-2010, IDC#560656-2N
- Sweden Software Tools Market Review 2005 and Forecast 2006-2010, IDC#560657-2N
- Norway Software Tools Market Review 2005 and Forecast 2006-2010, IDC#560659-2N

- ☒ Finland Software Tools Market Review 2005 and Forecast 2006-2010, IDC#560658-2N
- ☒ Denmark Infrastructure Software Market Review 2005 and Forecast 2006-2010, IDC#560656-3N
- ☒ Sweden Infrastructure Software Market Review 2005 and Forecast 2006-2010, IDC#560657-3N
- ☒ Norway Infrastructure Software Market Review 2005 and Forecast 2006-2010, IDC#560659-3N
- ☒ Finland Infrastructure Software Market Review 2005 and Forecast 2006-2010, IDC#560658-3N

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## Synopsis

This study is a fact-based analysis of the emerging open document standards, Open XML and ODF. The study is structured in two parts: An overview of the framework around open standards and open document standards in particular. The second part looks in detail on what we can learn about the adoption of open standards from IDC's Nordic survey of companies and organizations carried out in August 2006. "We believe that multiple open document standards are going to exist in the market – just as the case would be with proprietary standards – and each will mirror certain needs in the market", says Per Andersen, Managing Director for IDC Nordic.

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