Software license forensics
An investigative approach to publisher licensing reviews
Overview

Software license management is a complex activity for both publishers and customers alike.

Faced with increasingly intricate IT estates and software contracts, companies are not always keeping track of their software deployment. Consequently, the extent of compliance with software licenses is often unknown and insufficient resources are allocated to address the problem.

Software publishers need to be able to manage and enforce their intellectual property rights in a manner that recognizes the challenges faced by their customers. At the same time, they need to be able to ensure that their customers are paying for what they use.

By enforcing your audit rights as a publisher, you can understand how your customers deploy your software products and reclaim lost revenue. When professionally executed, it also provides you with the opportunity to learn more about your customers’ requirements, tailor your offerings accordingly and grow your customer account.

IT departments struggle to keep track of their licensing coverage. Mergers and acquisitions, rapid growth and departmental restructuring can all wreak havoc with an otherwise sound software asset policy.

In many departments, licenses are recorded using simple spreadsheets or even paper records that fail to capture complex licensing dynamics, such as upgrades, version control and maintenance contracts.

New developments, such as cloud computing, software as a service (SaaS) and virtualization, make it even harder to monitor exactly what is being used and where.

Experience has also shown that no matter how much effort you invest in antipiracy technologies, organized groups are able to circumvent these and copy your software.

Of course, all of this takes place within an economic climate where budgets are being squeezed and procurement is heavily scrutinized.

The Ernst & Young Software Asset Management Survey (2010) revealed that software licensing reviews are increasingly becoming a way of life for both customers and publishers. Faced with the challenge of doing more reviews, publishers need to establish formal programs that are conducted efficiently and in a transparent manner that does not damage the relationship.

At Ernst & Young, we can provide you with a global network of professionals who are able to deliver detailed external reviews of your customers’ software assets. We can sensitively enforce your right to audit using our extensive experience in applying IT forensic techniques to the software licensing review process.

This brochure provides an overview of our software license forensic services, including the challenge faced by organizations, an approach to meeting that challenge and some examples of previous engagements undertaken by our team.
Responding to challenges

Treading softly
If not implemented professionally, a software license review can place you in an adversarial position with your customer. A number of challenges must be tackled.

Maintaining a collaborative relationship with your customers is paramount throughout the review process. It helps put customers at ease and makes them more likely to accept the possibility of weaknesses in their systems and controls.

Our software license review teams are comprised of trained forensic investigators. They are experienced in diffusing highly sensitive and confrontational situations and working with multiple stakeholders with conflicting agendas.

Looking below the surface
Your customers will often operate in a large and complex IT landscape. It is unlikely that they will have adequate tools to manage their software licenses – this is one reason why they are finding it difficult to control their software assets (see chart below).

A review must be conducted by professionals who can operate across the whole breadth of the enterprise in a quick and efficient fashion. Sampling PCs manually using simple tick-box questionnaires is not sufficient. At Ernst & Young, we use a number of bespoke and customized tools to conduct such surveys automatically.

Depth is also key to an effective review. Many software assets may lie out of sight, deployed on legacy platforms or on inactive virtualized environments. Cracked software may seem legitimate to the user and so a review team needs to be able to look underneath the surface of the IT landscape, using forensic techniques and methodologies to develop a fuller picture of software deployment.

Vendors’ views on why customers struggle to achieve compliance

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate management tools at end user</td>
<td>75%</td>
</tr>
<tr>
<td>Lack of understanding</td>
<td>63%</td>
</tr>
<tr>
<td>Complexity of contracts and user rights</td>
<td>50%</td>
</tr>
<tr>
<td>Lack of management attention</td>
<td>50%</td>
</tr>
<tr>
<td>Lack of due diligence in mergers and acquisitions work</td>
<td>25%</td>
</tr>
<tr>
<td>High cost of software</td>
<td>13%</td>
</tr>
</tbody>
</table>

Note: Respondents were able to choose more than one option.

Source: Ernst & Young Software Asset Management Survey 2010.
A global, rapid response

A software license review can be hampered by the activities of rogue IT staff who are attempting to mask deployment. If not executed promptly and consistently, across all customer sites, the approach will be open to criticism.

Ideally, a review would be undertaken at multiple locations simultaneously, using a consistent methodology and with a short delay between notification and review execution.

Our teams are deployed across the globe and draw on resources familiar with local language and business culture.

Customer selection

Care should be taken when selecting a customer for review. Considerations such as the likelihood of recovery, geographical location and client relationship will all influence the selection strategy. Some common drivers, as reported by participants of the Ernst & Young Software Asset Management Survey, are shown in the chart below. Ultimately, a selection strategy will continue to evolve as feedback is received from the review program and as license models continue to adapt.

How vendors select a customer for audit

<table>
<thead>
<tr>
<th>Internal inconsistency in purchasing patterns</th>
<th>History of poor license compliance</th>
<th>Size of customer</th>
<th>Mergers and acquisitions</th>
<th>Number of countries operating in</th>
</tr>
</thead>
<tbody>
<tr>
<td>75%</td>
<td>50%</td>
<td>50%</td>
<td>25%</td>
<td>13%</td>
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</table>

*Respondents were able to choose more than one option.

Source: Ernst & Young Software Asset Management Survey 2010.
Approach

A forensic approach
Ernst & Young can provide you with a global software license review capability. We use an in-depth forensic approach that combines investigative skills and tools in conjunction with our refined software license review methodology.

Select
We can assist you to select customers using our market knowledge and investigative experience. For example, we can help you to identify customers who have recently experienced rapid growth, opened new offices or expanded into new regions. Similarly, a selection strategy may focus on geographies and industries that are known to have a culture of relaxed controls and intellectual property abuse.

Prepare
Prior to the execution of a review, we will work with your development teams to profile your products forensically. We can “fingerprint” software components, as well as the artefacts that indicate their deployment and use. We then can design automated searching tools that can deploy across your customer’s network, look for those fingerprints and report back to a central location.

We will then agree a software license review engagement plan (see opposite) to be used on each review.

Execute
Following customer selection, our teams will seek to gain access to the client site as quickly as possible. We will then conduct a survey of the IT landscape, using a similar approach to that used on sensitive, large-scale IT forensics investigations.

We will scan the customer’s assets and physically review more complex systems as required. We will collect software license collateral for comparison and compare to actual deployment. We can also look for evidence of cracked software or forged license documents.

If required, we can use forensic data recovery scans to seek out deleted traces of software. In some instances, we can provide you with an indication of where software has been removed from a system and when this occurred.

Deliver
We will provide a detailed factual report on the quantity of software licenses in use against what has been purchased. We will identify additional risks such as illegitimate licenses.

Debrief
Following each review, we will feed back the results of our analysis to help you understand current trends in license abuse, assist you to design appropriate countermeasures and enable us to improve the effectiveness of subsequent reviews. We can also lead a workshop with the customer to help them improve their software asset management (SAM) controls.
Software license review engagement plan

<table>
<thead>
<tr>
<th>Review planning</th>
<th>Onsite visit/fieldwork</th>
<th>Analysis of findings</th>
<th>Draft report</th>
<th>Final report</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software publisher</td>
<td>Publisher selects client</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Client/target</td>
<td>Publisher sends notification to client</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EY team</td>
<td>EY sends notification to customer</td>
<td>Mutually agree and fix review date</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EY obtains internal clearance</td>
<td>EY proposes and facilitates three-way call/meeting between client, publisher and EY</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>EY conducts opening meeting to understand client’s infrastructure</td>
<td>EY conducts onsite review in all locations/subsidiaries in scope</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EY processes the data and prepares deployment summary</td>
<td>EY maps licenses with installation to establish licensing position</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EY prepares and publishes draft report based on findings</td>
<td>EY discusses draft report with client. Minutes of meeting are captured and feedback incorporated</td>
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<td></td>
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<tr>
<td></td>
<td>EY publishes final report to publisher and customer</td>
<td>EY publishes final report to publisher and customer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joint meeting between customer, publisher and EY to discuss findings</td>
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</table>

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Benefits

Software licensing reviews, when conducted thoroughly and forensically, can identify lost revenues and deepen relationships with your customer base.

We understand that revenue generation is a key objective for your review, as is the protection of your intellectual property (see chart below).

A review can help you to recover lost revenue and identify unpaid maintenance and support charges. You can enhance customer relationships by identifying weak areas around products and by resolving gaps in understanding agreements and contracts.

Following a review, you might be able to identify opportunities to cross-sell related products, or help your customer to harmonize or consolidate their license portfolio. A review program may also help you to identify trends in non-compliance, understand the techniques used to circumvent your digital rights management technology and develop a profile of “high risk” customers.

Objectives of vendors’ compliance programs

*Respondents were able to choose more than one option.

Source: Ernst & Young Software Asset Management Survey 2010.
Why Ernst & Young?

A global advisor for you
Ernst & Young is able to provide you with a truly global capability. We are experienced in the deployment of concurrent review exercises across the globe and operating in challenging locations.

We can provide you with a team of experienced forensic professionals who have been instrumental in establishing software license compliance programs for software publishers.

Over the years, our team has developed in-depth knowledge of licensing contracts and the licensing models of various software publishers. Our teams have an extensive information base for identifying cracks or pirated versions of software.

An advisor to your customers
We are a trusted advisor for companies globally, and our brand is synonymous with quality in everything we do. It is likely that we already have forged strong relationships with many of your existing customers, who trust us to advise them on issues impacting their organization.

Bespoke forensic technology
We have developed a portfolio of in-house tools. Our team uses forensic technologies to execute in-depth reviews and is not constrained by standard SAM software. By using forensic techniques, we are able to uncover and analyze pirated products and to provide that intelligence to your compliance teams and developers.
# Case studies and credentials

<table>
<thead>
<tr>
<th>The situation</th>
<th>Our action</th>
<th>The result</th>
</tr>
</thead>
<tbody>
<tr>
<td>A middleware publisher required documentation of the usage of their software across a European telco.</td>
<td>Ernst &amp; Young carried out the review, including a detailed technical assessment of a number of CPU-based licenses deployed in a virtual server, multi-CPU environment.</td>
<td>The vendor identified lost revenues amounting to approximately €3m and renegotiated the customer's contract to a three-year deal.</td>
</tr>
<tr>
<td>A software publisher undertook a routine review of a UK financial institution at the close of a three-year unlimited licensing contract.</td>
<td>Ernst &amp; Young identified several instances of license abuse, whereby licenses that were situated in the UK were being used overseas. Specifically, local country IT managers were using the UK systems remotely so as to avoid buying additional licenses for their region.</td>
<td>These connections breached specific obligations laid down in the publisher’s contracts; our report led to the customer and vendor negotiating a €3.9m settlement.</td>
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Contacts

Learn more
For further help and advice, please contact:

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