On 21 January 2010, the Commission adopted a Decision in a merger case under Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings (1), and in particular Article 8(1) of that Regulation. A non-confidential version of the full Decision can be found in the authentic language of the case and in the working languages of the Commission on the website of the Directorate-General for Competition, at the following address:

http://ec.europa.eu/comm/competition/index_en.html

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I. THE PARTIES

(1) Oracle Corporation (‘Oracle’ or the ‘notifying party’, USA) is a publicly listed company, which develops and distributes enterprise software solutions and related services, including middleware, databases and enterprise application software.

(2) Sun Microsystems, Inc. (‘Sun’, USA) is a publicly listed company active in hardware (servers, desktops, microelectronics, and storage devices) and software and related services, including operating systems, Java technology, middleware and database software.

II. THE OPERATION

(3) On 30 July 2009, the Commission received a notification of a proposed concentration pursuant to Article 4 of the Regulation (EC) No 139/2004 (‘the Merger Regulation’) by which the undertaking Oracle acquires within the meaning of Article 3(1)(b) of the Merger Regulation control of the whole of the undertaking Sun by way of purchase of shares.

(4) The proposed transaction consists in the acquisition by Oracle of all the voting securities of Sun for approximately USD 7 400 million. As a result of the proposed transaction, Sun will be solely controlled by Oracle. The operation therefore constitutes a concentration within the meaning of Article 3(1)(b) of the Merger Regulation. The proposed transaction has a Community dimension pursuant to Article 1(2) of the Merger Regulation.

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IV. EXPLANATORY MEMORANDUM

A. DATABASES

1. The relevant product and geographic markets

(9) Both Oracle and Sun are active in relational database management systems (‘RDBMS’ or ‘databases’). Databases are software programmes designed to store, organise, analyse and retrieve information held in an electronic format.
Databases play an important part in the functioning of many enterprises and organisations. They support a variety of applications, whether pre-packaged or customized in-house applications, including web applications, online transaction processing (OLTP), online analytical processing (OLAP) and data warehousing. Databases can also be ‘embedded’ in another hardware or software product and therefore not sold as a standalone product to its end user.

Databases are sold either on a proprietary basis whereby a license fee is charged to the customer or can be downloaded for free as an ‘open source’ product, for instance under the so-called GPL license.

For most of its database products, Oracle charges a license fee for its database software and offers a separate ‘maintenance’ contract. As with all enterprise software, the license fee is typically negotiated off a ‘list’ price and is adjusted for all of the typical reasons such as volume.

Sun’s main database product is MySQL that is available as an open source product free of charge under a GPL license. Direct revenues are achieved by Sun to a limited extent through (i) commercial licenses to customers that do not want to abide to the terms of the GPL license; and (ii) through support services. Sun describes MySQL on its website as the ‘world’s most popular open source database’ with more than 11 million active installations and 60 000 downloads per day.

The Commission’s market investigation indicated that databases are differentiated products but there is a continuum of database substitutability.

The Commission concluded that the relevant market in the present case is the worldwide market for RDBMS (or ‘databases’). Given the differentiated nature of databases, the Commission however examined the various segments of the overall database market for the purposes of assessing the competitive effects of the proposed transaction.

2. Competitive assessment

The Commission considered that the proposed transaction would on balance not lead to a significant impediment to effective competition on the worldwide market for databases.

Market shares


Gartner and IDC, two research firms, provide the following worldwide market shares on the basis of revenues for the year 2008:

<table>
<thead>
<tr>
<th>Database Vendors</th>
<th>Gartner</th>
<th>IDC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Revenues (USD million)</td>
<td>Market share</td>
</tr>
<tr>
<td>Oracle</td>
<td>[...]</td>
<td>[40-50] %</td>
</tr>
<tr>
<td>Microsoft</td>
<td>[...]</td>
<td>[10-20] %</td>
</tr>
<tr>
<td>Sybase</td>
<td>[...]</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>Teradata</td>
<td>[...]</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>Sun (MySQL)</td>
<td>[...]</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>Others</td>
<td>[...]</td>
<td>[5-10] %</td>
</tr>
<tr>
<td>Total</td>
<td>[18 000-20 000]</td>
<td>100 %</td>
</tr>
</tbody>
</table>

The database market is highly concentrated: in 2008, Oracle, IBM and Microsoft together controlled approximately [80-90] % of the market in terms of revenues. Oracle’s revenue market share is estimated between [40-50] % and [40-50] %. MySQL’s market share, when calculated on the basis of revenues, is very small.

However, the Commission’s investigation showed that market shares on the basis of revenues are not a good proxy to reflect the competitive position of MySQL and other open source databases. As MySQL is predominantly distributed under a free of charge GPL license, the majority of its installations do not lead to database revenues for Sun.
(21) On the other hand, there are no reliable data available on the total size of the database market in terms of deployments, measured for instance in number of users, active licenses or active installations. According to Gartner, MySQL is the most deployed open source database. It is the third most deployed database, behind Microsoft SQL Server and Oracle but ahead of IBM DB2 and Sybase. A 2009 survey by Evans Data Corporation, another research firm, reported that overall MySQL was the database most used by developers and IT managers in the EMEA region in the past year (45.6 %), second only to Microsoft SQL Server (48.3 %) with Oracle a distant third (25.7 %).

(22) These elements indicated that MySQL's competitive significance is much greater than its very small market share based on revenue would suggest.

Specificities of the database market

(23) The market for databases is characterised by a certain degree of price discrimination. Another feature of the software market is very low marginal costs for software licenses. This generates significant economies of scale, which gives the database vendors strong incentives to reach high volumes of sales. The strong economies of scale, together with significant ability to price discriminate imply that the competition is likely to be strong for sales to less demanding users.

(24) Another specificity of the database market on the side of the customer is the significant relationship specific sunk costs associated with adoption of a particular database, which result in large switching costs. The costs arise as the customer invests in database specific learning and into development of applications customized for the particular database. A costly hold-up problem may result, due to the vendor's incentives to increase the price after the customer has been locked-in with its database. Database customers after taking deployment decisions need to obtain support for long time periods, sometimes up to 15 years. Reputation and reliability of database vendors are therefore of great importance to database customers.

(25) The database market, similar to other software markets, is characterised by strong network effects. Significant barriers to entry exist.

Legal test and its application to the specific case

(26) The Horizontal Merger Guidelines recognise that some firms, despite having a relatively small market share, may be an important competitive force. A merger involving such a firm may change the competitive dynamics in a significant, anticompetitive way, in particular where the market is already concentrated.

(27) Through the proposed transaction, Oracle, the leading proprietary database vendor, would acquire MySQL, the most important open source database.

(28) In its in-depth investigation, the Commission therefore assessed the nature and degree of competitive constraint exerted by MySQL before the proposed transaction, the extent to which this competitive constraint would be removed after the proposed transaction, as well as the extent to which other current or potential database open source competitors or forks of MySQL would replace this competitive constraint after the proposed transaction.

(29) There are strong specificities of this case in particular due to the open source nature of MySQL that influenced the assessment for each of the abovementioned issues:

— first, the Commission examined whether MySQL might potentially exert a particular constraint on Oracle and other proprietary database vendors due to its open source nature making it an ‘important competitive force’,

— secondly, while in any horizontal merger case it can be presumed that after the proposed transaction two previously competing products will no longer compete if they become owned by the same firm, it was necessary for the purposes of this decision, given the open source nature of MySQL, for the Commission to go further and to assess to what extent Oracle might have the ability and the incentive to degrade or eliminate MySQL after the implementation of the proposed transaction,

— thirdly, in order to assess the likelihood of sufficient and timely replacement entry after the proposed transaction, the Commission’s assessment focused on the remaining open source vendors, in particular PostgreSQL, as well as on the possible new entrants that forks of MySQL would constitute,

— as regards both Oracle’s likely ability and incentives to degrade or eliminate MySQL and the likelihood of sufficient and timely replacement entry after the proposed merger, the public announcement made by Oracle on 14 December 2009, which was transmitted to the Commission on 11 December, also had to be taken into account in the light of the strong specificities of the open source software industry.

(30) In its in-depth investigation, the Commission analysed various sources of information, which in particular comprised an internal Oracle dataset HQ Apps (HQ Apps contains the communications between sales teams and Oracle headquarters relating to non-standard rebates offered by Oracle to its customers), internal documents of Oracle, Sun and third parties, surveys, as well as input provided by competitors and customers of Oracle and MySQL responding to Commission’s questionnaires.
(31) As regards the situation before the proposed transaction, the Commission's investigation showed that MySQL is the largest open source database. It also appeared that MySQL has the potential to exert an important and growing competitive constraint on Oracle and other proprietary database vendors due to inter alia its specific modular architecture, its business model resulting in low pricing and absence of lock-in, and the other strengths it derives from its open source nature. The nature of this constraint has also a dynamic aspect as MySQL's specific modular architecture favours innovation by third parties developing storage engines enhancing MySQL's functionalities for some targeted higher-end applications.

(32) The Commission's investigation therefore revealed that MySQL has the potential to be an important competitive force constraining Oracle in some important segments (in particular the small and medium enterprise ('SME') or low-end segment and some parts of the embedded segment). The Commission, however, found that MySQL does not currently constrain Oracle in all the segments of the database market (in particular in the high-end segment). In addition, Oracle will continue to face competitive pressure from a number of other proprietary database vendors including Microsoft, IBM and Sybase.

(33) After the proposed merger, it could be expected that the Oracle database and MySQL would stop competing as they would be offered by the same vendor. Some concerns have been expressed that Oracle might stop offering MySQL under a GPL license, may degrade or stop developing the GPL version of MySQL, or may prevent constraint from third-party storage engines by modifying the interface or refusing to grant storage engine vendors the commercial licenses that would allow them to market proprietary versions of their storage engines working with MySQL.

(34) The Commission's investigation, however, found that Oracle's likely ability and incentives to degrade and eliminate MySQL after the proposed merger would be constrained due to the open source nature of MySQL.

(35) As part of the ten pledges Oracle publicly made vis-à-vis MySQL's users, customers and developers following the Oral Hearing, Oracle announced that it will continue to enhance MySQL and make subsequent versions of MySQL, including Version 6, available under the GPL. Furthermore, Oracle will maintain and periodically enhance MySQL's Pluggable Storage Engine Architecture to allow users the flexibility to choose from a portfolio of native and third party supplied storage engines. Also, commercial licenses will not be required by Oracle from third party storage engine vendors to implement the application programming interfaces available as part of MySQL's Pluggable Storage Engine Architecture. Upon termination of their current MySQL OEM Agreement, Oracle shall offer storage engine vendors, who at present have a commercial MySQL license from Sun, an extension of their agreement on the same terms and conditions for a term not exceeding 10 December 2014.

(36) Oracle announced that it will comply with these points worldwide until the fifth anniversary of the closing of the proposed transaction.

(37) In line with its public announcement Oracle has already taken steps to implement some of the pledges by immediately sending letters to third-party storage engine vendors in which Oracle has pledged to amend the existing contractual terms by reproducing the relevant content of its public announcement. These elements are therefore legally binding on Oracle.

(38) The public announcement made by Oracle does not constitute formal remedies. The Commission has a long established and consistent practice regarding the remedies that are necessary in order to clear a merger once competition concerns have been established at the end of the investigation. These principles fully apply whenever the Commission has identified competition concerns. The situation, however, is different when the facts of the case allow the Commission to arrive to the conclusion that the merger will not raise competition concerns.

(39) The public announcement made by Oracle on 14 December 2009, addressed to the general public and in particular to the open source community and the subsequent actions already taken to implement some of the pledges therefore constitute factual elements that the Commission had to take into account, along with all the other elements in its file, in its assessment of the likely impact of the transaction on the database market.

(40) Due to the specific characteristics of the open source product MySQL, the Commission found that Oracle will continue to offer and enhance MySQL under the GPL after the proposed transaction. As regards the potential dynamic constraint exerted by MySQL, the public pledges addressing storage engine vendors are very likely to reduce Oracle's ability to disadvantage features of products that are based on MySQL, including those products that compete in the market with Oracle databases.

(41) The Commission's investigation also revealed that after the proposed transaction other open source databases, in particular PostgreSQL, have the potential to constrain Oracle to an important extent and therefore replace the competitive constraint currently exerted by MySQL in a timely and sufficient manner.

(42) Finally, the Commission's investigation suggested that it cannot be excluded that forks of MySQL might also develop to exercise a constraint on Oracle to some extent.
Conclusion

(43) The Commission thus concluded that the proposed transaction will not lead to a significant impediment to effective competition in relation to the worldwide market for databases.

B. MIDDLEWARE

1. The relevant product and geographic markets

(44) Both Oracle and Sun are active in the middleware sector. Middleware refers to a wide category of software products that provide infrastructure for applications.

(45) In the recent Oracle/BEA decision, the Commission left the product market definition open but stated that the market investigation had confirmed that middleware could be sub-segmented according to the end use of the product.

(46) In the present case, the exact product market definition in relation to middleware could be left open, as the proposed transaction did not raise serious doubts as to its compatibility with the common market under any alternative product market definition.

(47) Concerning the geographic market definition, it was undisputed that it is worldwide.

2. Competitive assessment


<table>
<thead>
<tr>
<th>Vendors</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle</td>
<td>[10-20] %</td>
<td>[10-20] %</td>
</tr>
<tr>
<td>SWIFT</td>
<td>[0-5] %</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>Microsoft</td>
<td>[0-5] %</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>Sterling Commerce</td>
<td>[0-5] %</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>TIBCO</td>
<td>[0-5] %</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>Sun</td>
<td>[0-5] %</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>Others</td>
<td>[30-40] %</td>
<td>[30-40] %</td>
</tr>
</tbody>
</table>

(49) The market investigation showed that Sun is not a competitively significant player in the overall middleware segment. Most customers do not consider Oracle and Sun as close competitors in this segment. The middleware market is competitive and the merged entity will continue to face competition from a number of significant market players.

(50) As regards the different middleware sub-segments, in 2007 Oracle and Sun's combined market shares exceed 15% only in the offering of (i) application server middleware; (ii) enterprise portals; and (iii) integration and process automation middleware (and more specifically enterprise service bus (ESB) and business process management software (BPMS)).

(51) Oracle's market share in application server software is ca. [20-30] % and Sun's market share is [0-5] %. Oracle's share in the enterprise portals segment is just over [20-30] % and the increment in Oracle's market share resulting from the proposed transaction will be small. In the ESB segment Oracle's market share is ca. [10-20] % and Sun's market share is ca. [5-10] % leading to a combined market share of ca. [20-30] %. In the BPMS segment Oracle's market share is ca. [10-20] % while Sun's market share is ca. [0-5] %.

(52) Also in these segments, the market shares remain moderate (even if taking into account the fact that the numbers reported for Sun's market share may not be entirely accurate due to the open source nature of some of its product offerings). Moreover, Sun's products are not the closest substitutes for Oracle's products in these segments and the segments are competitive with several large competitors being active in these segments.

Conclusion

(53) The Commission thus concluded that the proposed transaction will not lead to a significant impediment to effective competition in relation to the overall market for middleware or any of its possible sub-segments.

C. JAVA

1. The relevant product and geographic markets

(54) Java is a 'development environment' that was created by Sun about 20 years ago. A development environment is a software platform allowing developers to build and deploy software applications. A major characteristic of the Java development environment is that it is 'open' in the sense that it is independent of the underlying operating system or hardware on which Java-based applications run.

(55) Although open source implementations of many parts of Java are available, Sun controls the most important related Intellectual Property (IP) rights that need to be licensed by software developers, in particular by middleware and Enterprise Application Software (EAS) developers. Sun therefore controls an important input for firms developing software with the Java language. The main other development environment is .NET, Microsoft's proprietary and closed environment, which can only be used for the development of software working on Windows.
There were no Commission precedents on the definition of a market for development platforms. For the purposes of the present decision, the product market definition could be left open, as on the narrowest segment, which is the licensing of JAVA IP rights, no competition concerns arose. The licensing of Java IP rights can be considered to take place on a worldwide basis.

2. Competitive assessment

The market investigation confirmed that Java licences are an important input for software programmers. Java’s importance is related to its widespread standardized approach, which is the key factor of its strength versus the proprietary .NET platform.

It seemed that any possible foreclosure strategy engaged by Oracle would have a limited impact on downstream EAS competitors, given that their dependence on a Java commercial license is limited. On the other hand, Oracle’s competitors for middleware products need commercial licenses for Java Technology Compatibility Kits (TCK) — either for the modification of the source code of a Reference Implementation or for the independent implementation — in order to commercially distribute software products that are certified to comply with the Java platform specification. The freely available versions of the implementation of the J2EE middleware products (OpenJDK or binary executable versions) are not sufficient for their needs.

The ability to engage in any foreclosure strategy crucially depends on the legal and procedural framework under which the JCP operates and to which Oracle will be bound after the proposed transaction.

The complaints and the submissions from the respondents to the market investigation rested on the assumption that Oracle, once it had acquired control of Sun, would also ‘control’ the JCP and, as a consequence, the licensing of Java-related IP rights, in particular in relation to the TCKs. The Commission assessed the assumptions made by the complainants in the light of the rules governing the JCP and concluded that, on the basis of the current framework, there were no grounds to conclude that the merged entity would have the ability to engage in a foreclosure strategy.

A number of software vendors expressed the view during the market investigation that Oracle would also have the incentive to engage in input foreclosure in the form of raising rivals’ costs in access to Java. This was because Oracle has a different product portfolio than Sun. Oracle is a leading supplier of databases, middleware and software applications and Java is an important input in particular for middleware and software applications.

In the assessment of incentives for input foreclosure the Commission considered potential benefits and costs to the merged entity from such behaviour. Effective foreclosure from complete access to Java could result, in a reduction of competitors’ ability to exercise competitive constraint on the merged entity, because customers may value less software products which are not Java compliant, regardless of their functionality.

On the other hand, the costs to the merged entity from foreclosing competitors are potentially significant. With foreclosure, the merged entity could suffer a loss of (limited) revenues corresponding to Java licenses currently granted to the competitors that would be foreclosed. More importantly, foreclosure is likely to result in a loss of support that Java currently enjoys among the customers. This industry is characterised by strong network effects which would be lost with the loss of community support for Java. This would result in a significant reduction of the value of Java compliant applications and Java as an application development framework itself. There exist significant competitors (e.g. Microsoft), which do not base their value proposition heavily on Java and Java compliance, and which would benefit from such a foreclosure. As such the foreclosure and the resulting loss in terms of network effects would adversely affect competitiveness of the software products of the merged entity itself. Moreover, following attempts to foreclose competitors, Java forks could appear, as software vendors would turn to alternatives. This would result in fragmentation and the fracture of the Java standard, resulting in the loss of network effects and further reduce the value of Java compliance of applications.

On balance, the Commission concluded that it was very unlikely that the benefits of foreclosure of access to Java would exceed the costs of such behaviour for the merged entity and that, therefore, the merged entity would have no incentive to foreclose.

Conclusion

The Commission thus concluded that the proposed transaction will not lead to a significant impediment to effective competition in relation to the licensing of IP rights connected to the Java development environment and of the downstream overall markets for middleware and for EAS.

D. IT STACK

1. The relevant product and geographic markets

Oracle and Sun are also active in other parts of the IT stack, which are the markets for servers, storage solutions, operating systems and EAS. The Commission therefore assessed whether the merger would lead to any adverse vertical or conglomerate effects. The precise product market definition for these markets could be left open. The relevant geographic markets are worldwide.
2. Competitive assessment

(67) The market shares of Oracle and Sun (based on IDC) were as follows in 2007:

<table>
<thead>
<tr>
<th></th>
<th>Oracle</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware/Servers</td>
<td>—</td>
<td>[10-20] %</td>
</tr>
<tr>
<td>Databases</td>
<td>[40-50] %</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>Middleware</td>
<td>[10-20] %</td>
<td>[0-5] %</td>
</tr>
<tr>
<td>Enterprise Application Software</td>
<td>[5-10] %</td>
<td>—</td>
</tr>
</tbody>
</table>

(68) The merged entity would be the only firm together with IBM to be present in all the elements of the technology stack.

(69) The Commission found that foreclosure of competing database vendors from access to customers using Sun’s operating system is unlikely because the market share of Sun in operating systems is low, i.e. below [5-10] %. Indeed, the market investigation revealed that the majority of customers considered that Oracle would not have the incentive to foreclose.

(70) The Commission also found that it is unlikely that Oracle would degrade the interoperability of one of its products in one layer of the technology stack with product from competitors in other layers. As in all layers but databases the market share of the merged entity is limited, such a practice appears unlikely to benefit the merged entity. This was confirmed by the market investigation.

Conclusion

(71) The Commission thus concluded that the proposed transaction will not lead to a significant impediment to effective competition due to the merged entity’s presence in the IT stack.

V. CONCLUSION

(72) For the reasons mentioned above, the decision concluded that the proposed transaction would not significantly impede effective competition in the common market or in a substantial part of it.

(73) Consequently, the Commission declared the concentration compatible with the common market and the functioning of the EEA Agreement, in accordance with Article 2(2) and Article 8(1) of the Merger Regulation and Article 57 of the EEA Agreement.