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Applications in Internet Time LLC
16

17 **UNITED STATES DISTRICT COURT**
18 **DISTRICT OF NEVADA**

19 APPLICATIONS IN INTERNET TIME, LLC,

20 Plaintiff,

21 v.

22 SALESFORCE.COM, INC.,

23 Defendant.
24

Civil Action No.: 3:13-CV-00628-RCJ-VPC

**DECLARATION OF CRAIG
ROSENBERG RE CLAIM
CONSTRUCTION**

25
26 RPX Exhibit 1061
27 RPX v. AIT
28 IPR2015-01751

1 I, Craig Rosenberg, hereby declare, affirm, and state the following:

2 1. The facts set forth below are known to me personally and I have firsthand knowledge
3 of them.

4 2. I make this Declaration in support of Plaintiff Applications In Internet Time, LLC's
5 ("AIT") proposed claim constructions in the above-captioned matter.

6 **I. Background**

7 3. I am a senior human factors engineer, user interface designer, and software architect
8 at Global Technica. A copy of my CV as well as a listing of my prior consulting engagements,
9 including cases in which I have testified as an expert at trial or by deposition in the last five years,
10 are attached as Exhibit 1 to this Declaration.

11 4. I am being compensated at the rate of \$325 per hour for my work in connection with
12 this matter. My compensation in this action is not dependent in any way on the contents of this
13 Declaration, the substance of any further opinions or testimony that I may provide, or on the ultimate
14 outcome of this action.

15 5. I have reviewed U.S. Patent Nos. 7,356,482 ("the '482 patent") and 8,484,111 (the
16 '111 patent") and their file histories. I understand that the '482 and '111 patents are related, and that
17 both patents claim priority to the same original patent application, U.S. Patent Application No.
18 09/215,898, filed on December 18, 1998.

19 6. The '482 and '111 patents are both titled "Integrated Change Management Unit," and
20 the patents relate generally to systems and methods for enabling individuals with knowledge of
21 business processes, rather than only computer programmers, to have responsibility for application
22 development with a simple and efficient metadata-driven application platform.

23 7. I understand that the general standard for construing claim terms is the meaning that
24 the terms would have to a person of ordinary skill in the art in question at the time of the invention.

25 8. I understand that the factors to be considered in determining the level of ordinary skill
26 in the art to be: (1) the educational level of active workers in the field, including the named inventors
27 of the patent; (2) the type of problems encountered in the art; (3) prior art solutions to those
28 problems; (4) the rapidity with which innovations are made; and (5) the sophistication of the

1 technology in the art. I further understand that the alleged invention date of the '482 and '111 patent
2 claims is sometime around December 1997.

3 9. I understand that, in construing terms, the Court looks first to the intrinsic evidence of
4 record, which includes the patent itself (including the claims and the specification) and the
5 prosecution history of the patent. I also understand that the Court may also consider extrinsic
6 evidence, which includes expert and inventor testimony, dictionaries, and learned treatises.

7 10. I understand that a claim is indefinite if it does not inform one of ordinary skill in the
8 art about the scope of the invention with reasonable certainty. I also understand that the party
9 alleging that a patent claim is indefinite bears the burden of proving indefiniteness by clear and
10 convincing evidence.

11 11. Based on my review of the '482 and '111 patents and on my consideration of the
12 above-mentioned factors, it is my opinion that a person of ordinary skill in the art at the time of the
13 invention of the '482 and '111 patents (sometime in the late 1997-98 time period) would be someone
14 with a bachelor's degree in computer science, computer engineering, mathematics, or a similar
15 course of study and at least 3 years of practical experience working in software development or
16 computer programming.

17 12. I am offering my opinions in this lawsuit based on my experience as one of at least
18 ordinary skill in the art of the '482 and '111 patents at the time of the invention.

19 13. Traditionally, a computer program, also called a software application, is first written
20 in source code using a suitable programming language, such as C, C++, or Java. Then, the source
21 code is compiled into machine-executable code, also known as binary code. The machine-
22 executable code can subsequently be distributed to various users.

23 14. When any change or modification needs to be incorporated into the program, a
24 software developer or programmer must modify or rewrite the relevant portion of the source code.
25 Thereafter the new source code must be re-compiled and re-tested, and the new machine-executable
26 code must be re-distributed to the users. This whole process must be repeated for each and every
27 modification made to the program.

28 15. In some cases, changes or modifications need to be made to a program rather

1 frequently. For example, bugs need to be fixed; new features and functions need to be added;
2 adjustments need to be made based on business requirements; and so on. The '482 and '111 patents
3 discuss, as an example, a situation where changes in regulatory requirements may result in business
4 changes in specific industries and consequently causing business applications to implement
5 functional or data changes. Other types of changes, such as bug fixes and new features, may also
6 result in modifications or updates to an application. As the '482 and '111 patents point out,
7 "Without an integrated method for automatically handling such changes, a developer or user of
8 software that tracks business operations must continually rewrite part or all of the software in order
9 to accurately and fully reflect these changes, usually at great expense and effort and with little hope
10 for relief." ('482 patent at 9:4-9. '111 patent at 9:9-15.)

11 **II. The '482 and '111 Patents and the Preferred Embodiment**

12 16. The '482 and '111 patents disclose a system and method to automate the software
13 modification process, thus relieving software developers from manually implementing software
14 changes and in general streamlining and improving the process of developing software applications.
15 Instead of writing a software application in source code, the invention defines various aspects of an
16 application, such as its functionality, user interface, and data, using metadata combined with a data
17 dictionary.

18 17. The '482 and the '111 patents describe a system where four different layers work in
19 conjunction to allow users to easily modify an application or a set of applications to suit the users'
20 needs without having to modify the applications source code (Change Layer, Java Data Management
21 Layer, Metadata Layer, Business Content Layer). There are many advantages of having a system
22 that allows the user to quickly make changes to an application without the user having to be a highly
23 technical software engineer. There are other advantages associated with the inventive system
24 described in the '482 and '111 patents including easier configuration management, easier to make
25 changes to the application's user interface, easier to make changes to the application's business
26 logic, easier to make changes to the application's reporting and logging functionality, and easier to
27 build and deploy the system to its end users.

28 18. The disclosed system is able to accomplish these advantages through the use of the

1 four different layers described above (Change Layer, Java Data Management Layer, Metadata Layer,
2 Business Content Layer) combined with a data dictionary and two types of metadata that are both
3 part of the metadata layer. The patent describes the data dictionary as follows: “The data dictionary
4 describes or defines the data elements of the application system and the business content layer and
5 how a data element is recorded and managed at the database management system (DBMS) level.”
6 (‘482 patent at 12:34-38. ‘111 patent at 12:39-43.). A data dictionary can be defined as a collection
7 of descriptions of the data objects or items in a data model for the benefit of programmers and others
8 who need to refer to them. The data dictionary holds the various data elements that are used in the
9 application. In general, when developing programs that use a data model, a data dictionary can be
10 consulted to understand where a data item fits in the structure, what values it may contain, and what
11 the data item means in real-world terms. For example, a bank or group of banks could model the
12 data objects involved in a loan application. They could then provide a data dictionary for a bank's
13 programmers. The data dictionary would describe each of the data items in its data model for
14 consumer banking (for example, "Account holder" and ""Loan Amount").

15 19. Fundamentally speaking, metadata is data that describes attributes of the data – in
16 other words, “data about data.” (Understanding Metadata, page 1,
17 <http://www.niso.org/publications/press/UnderstandingMetadata.pdf>. Metadata,
18 <https://en.wikipedia.org/wiki/Metadata>. Metadata, <http://whatis.techtarget.com/definition/metadata>.)
19 The invention described in the ‘482 and ‘111 patents takes advantage of this characteristic of
20 metadata and uses metadata to define all aspects of an application. The metadata forms a metadata
21 layer. (‘482 patent at 12:30-52. ‘111 patent at 12:34-56.) In a specific embodiment, the metadata is
22 stored in metadata tables in a database. (‘482 patent at 12:53-14:19. ‘111 patent at 12:57-14:21.)
23 Different metadata tables may be used to store different types of metadata.

24 20. In a preferred embodiment, there is a metadata layer that manages and stores the
25 application metadata. (‘482 patent at 12:15-14:19. ‘111 patent at 12:20-14:21.) The metadata model
26 has two main components: a business content data dictionary and an application component. "The
27 business content layer includes business knowledge, logical designs, physical designs, physical
28 structures, relationships, and data associated with a selected area of business activity. The business

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