



**US Patent and Trademark Office  
Department of Commerce**

**Request for Comments Regarding Prior Art Resources for Use in the  
Examination of Software-Related Patent Applications**

**[Docket No.: PTO-P-2013-0064]**



**March 14, 2014**

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## Oracle Legal Disclaimers

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### **Corporate Entity**

This Response is being made by Oracle America, Inc., (“Oracle”) a wholly owned subsidiary of Oracle Corporation.

### **Definition**

Throughout this Response, the term “solution” refers to and is interchangeable with “approach” or “system”. Solution is not intended to contractually bind Oracle to “solve” any issues or problems. It is intended to express the concept that an approach to your project has been well thought out and is the result of the use of our products, methods and experience.

### **Response Validity**

This Response shall remain valid for a period of 180 days from the date of this Response, unless otherwise mutually agreed, in writing, by Oracle and Department of Commerce (DOC) - US Patent & Trademark Office (US PTO)



Dear Ms. Seema Rao,  
Director, Technology Center  
[seema.rao@uspto.gov](mailto:seema.rao@uspto.gov)

On behalf of the Oracle America, Inc. ("Oracle") team, thank you for the opportunity to provide comments to the Request for Comments on Prior Art Search topic for US Patent & Trademark Office (USPTO). This RFC Response will provide you with an Oracle approach to the challenge.

Oracle offers a high level of integration between business applications and enabling technologies. This combination of functionality and technology enables USPTO to integrate with other systems and exploit information across your enterprise

Oracle can assist US PTO in your continuous improvement of areas critical to your success with:

- Streamlined Business Operations: Improve and automate current and future business processes.
- Sophisticated Business Analysis: Provide better information to all levels of management and employees at to USPTO to enable better decision-making.
- Adaptable Business Approaches: Allow USPTO to quickly tailor this approach to changing business conditions.

Oracle's business philosophy is based on a close working relationship with our customers. The success of this philosophy and the quality of our products and services are proven by the high satisfaction rates of our users who continue to make Oracle the world's largest enterprise software company.

Oracle values the relationship that our organizations have begun to establish and looks forward to enhancing our relationship through the implementation of this project. Please feel free to contact me, your dedicated CRM Application Sales Representative Agustin Garay, anytime if you have any questions or desire further information.

I can be reached at (703) 364 1563, or via E-mail at [agustin.garay@oracle.com](mailto:agustin.garay@oracle.com).

Sincerely,

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### 1. THE CHALLENGE

In line with the mission statement of the USPTO, “to foster innovation, competitiveness and economic growth ... by delivering high quality and timely examination of patent and trademark applications...” helping people search for Prior Art patents is extremely important. The ability to search for Prior Art by individuals and organizations as well as USPTO Examiners is a challenge due to the massive amounts of prior art sources, types of patents, media types, language, etc. as well as the different database and search tool interfaces makes a search for prior art difficult by both the novice and the advanced researcher. The issue is becoming harder each year as more and more patents are issued.

People have become accustomed to doing Internet searches using search tools such as Google and Bing. They are also used to looking up information by going to commerce sites such as Amazon, Best Buy, Kohl’s, Wal-Mart, and Target where they use commerce search tools to locate products and information. US Citizens are coming to public sector websites such as the USPTO where they expect a similar experience. In addition, Patent Examiners must also conduct a rigorous prior art search process, and it is important that these personnel be empowered to perform this task as rapidly, consistently, accurately and efficiently as possible.

Searching for Prior Art is daunting because a person needs to understand language (which can be used inconsistently to refer to inventions), categorization structure, as well as search different purpose-built USPTO and non-USPTO URLs to find information. In reviewing, the “How to Conduct a Preliminary US Patent Search” video, the complexity is well laid out.

### 2. ORACLE SOLUTION – NEW APPROACH

We would like to propose a solution to modernize the USPTO citizen web experience by 1) helping the citizen determine the best criteria for a Prior Art search query and 2) providing search results that guide the citizen through their review of Prior Art material.

Even before entering search terms or navigating databases, it is important for external users of the USPTO’s search systems to understand the context in which searches must be conducted, and the issues that arise in conducting a search. The USPTO’s guidance to citizens (video found on the USPTO’s public website) makes it clear that Prior Art searches are not a simple matter—and moreover, that searches exist in a broader context in which patent applications must also clear hurdles of non-obviousness (inventive step) and utility.

Once the search query string has been “determined”, the citizen search experience should be what citizens expect from modern search engines. The search should allow type ahead and “do you mean” capabilities. Faceted search results should be displayed to guide the citizen to refine their search. The search should be “federated” based on indexing disparate underlying databases and content sources.

We strongly feel that our solution would help increase the accessibility of the U.S. Patent & Trademark system to the country’s innovators and entrepreneurs.

### 3. INTERACTIVE CITIZEN EXPERIENCE

Oracle understands that Prior Art searches and other patent topics require significant expertise to be applied to all situations. However, we believe there could be benefit in using interactive Citizen Experience software to help external users, particularly those without specialized training, to build personalized checklists that identify issues that could apply to their applications. For example, the software could ask a series of questions about the claimed invention (whether it would require a utility patent, or is a design or a plant; and expanding into more detailed issues in the various categories), and then generate a list of steps or issues that the citizen should investigate. This approach can be implemented using the Oracle Policy Automation product. This approach to generating personalized citizen checklists has been increasingly adopted by governments over recent years. For example, the Internal Revenue Service uses this approach to generate highly personalized advice on a range of topics.

### 4. PRIOR ART SEARCH

For the Prior Art search itself, our proposed solution is Oracle Endeca Guided Search and Oracle Endeca Experience Manager. Guided Search/Navigation capabilities allow a user to get a relevant result for an explicit query, or allow a user to explore results in the case where they have an “idea” of what they may be looking for. Guided Navigation dynamically summarizes results in context to a user’s intent, allowing a user to more effectively refine and explore information. Guided Navigation is designed to reveal concepts within data and content to guide visitors to the best information in terms of their unique interests, showing users all possible, valid next steps, in context to their intent. Experience Manager presents the relevant results “relevantly”, meaning that results are presented in a manner that allows users to digest their meaning quickly and easily, all controlled by a business user with a web based business user toolset.

Oracle Endeca Guided Search enables USPTO to use any data and content from any source to power smarter, richer search experiences. It is designed to easily integrate with any licensed or homegrown technology; Oracle Endeca Guided Search provides an efficient way to leverage new as well as legacy technology investments. Prebuilt points of integration with external technologies and data sources make it easy to deliver richer, more intelligent experiences while lowering integration costs. Oracle Endeca Guided Search can be set up to support a consistent search experience incorporating all of your content and data sources. Endeca Guided Search will allow USPTO to scale across all complex data sources to return just the right information to the person searching for prior art without needing to go to different USPTO URLs and systems.

Oracle Endeca Experience Manager is a single, flexible solution that will enable USPTO to create, deliver and manage a content-rich, cross-channel citizen experience. Oracle Endeca Experience Manager will allow USPTO non-technical business users to deliver targeted, user-centric online experiences in a scalable way – creating always-relevant citizen interactions that allow easier searching of Prior Art content.

Several common objections to implementing an information access solution are based on the assumption that data must be managed coherently before it can be retrieved in any systematic fashion. This assumption is based on years of experience that companies have with traditional retrieval systems – such as search, enterprise applications, or business intelligence (BI) solutions. These solutions do not leverage the organization of information and therefore encourage application owners to think of information access as storage-agnostic, an afterthought to address once data is managed properly.

Endeca’s adaptive approach to information access invalidates this notion of how information must be accumulated, managed, and retrieved in a serial way. By indexing both the content, as well as the underlying structure of the content, Endeca’s patented platform is allowing enterprises to build solutions that help users find, analyze, and understand information in ways never before possible, on top of the messy, real-world data that they currently own.

### 5. SEARCH TECHNOLOGY DETAILS

Endeca's adaptive meta-relational architecture model allows companies and Government agencies like USPTO to extract structure from semi-structured or unstructured data, and then exploit this new-found richness for search and navigation. Data enrichment occurs in the Information Transformation Layer during the data transformation and indexing processes, when a number of facets are created through:

- Relationship Discovery – Endeca can extract entities (like categories and sub-categories) as well as terms (salient noun phrases) from unstructured text using natural language processing techniques and statistical inference. These entities and terms can be used to drive navigation and search behavior, such as presenting clusters of related documents to users.
- Contextual metadata – Endeca can extract existing information about records held in a file system. For example, Endeca can extract existing information about records held in a file system. For example the file structure, including elements of the file path, can be parsed and added to the record as metadata. This information can be used for making search refinements through Endeca's Guided Navigation capabilities. In cases where file structures are very hierarchical, this process can add several layers of metadata.
- Inherent metadata – Endeca can extract the metadata – data about documents such as their date of creation, file type, and file size – from more than 370 file types, including documents with no inherent structure such as Word and PDF files. This valuable information is then used by Endeca's Guided Navigation and search features for information access and retrieval. This capability is particularly powerful in cases where documents have some consistent metadata – for example, in content management systems.
- Rules-based tagging – Endeca can use rules to add still more tags to documents during the process of acquiring content from original sources. Rules can be as simple as tagging all documents containing the text "MSFT" or "Microsoft" with <Microsoft> or as sophisticated as employing Boolean syntax and developing a rule stating <if X AND Y> and <date=June03> add <TAG> for records from June 3 that include both X and Y. To facilitate implementing rules-based tagging, Endeca leverages industry-standard thesauri, taxonomies, and controlled vocabularies.
- Data processing – Endeca provides a number of built-in tools to facilitate data normalization, classification, and cleansing during data loads. These capabilities allow customers to standardize and enrich product data irrespective of source. Endeca also has integrated with best-of-breed ETL, data cleansing, data normalization, and data augmentation solutions to provide extended capabilities for processing your information.

Through these data processing steps, Endeca ensures that the richest possible Guided Navigation and search experience is available for your information access solutions.

Endeca's adaptive data modeling treats each piece of data or content as an individual record with a unique set of facets. As documents or database records or websites or other content are added to the system via the Information Transformation Layer, Endeca creates an index entry that exposes all of the facets about each of these individual pieces of information. These index entries include not only lists of parameter values and keywords, but file metadata such as who authored a document, when the file or record was last updated, or specific metadata from a database. Both the content, as well as the metadata about the content, then become available for faceted navigation.

### **6. CONSISTENT AND OPTIMIZED EXPERIENCE**

Exposing all of the facets of information to application developers and users of information access solutions enables people to make their own editorial judgments about the usefulness of a document or catalog entry or database record. Depending on the information seeker, judgments on information relevance may be based on when a piece of information was last updated, who authored a document, where the information is stored, or any number of other considerations.

Endeca's adaptive approach to information access readily accommodates changes to the underlying storage over time. Endeca's Information Transformation Layer includes built-in adapters to a number of leading information management solutions and a developer kit that allows writing custom adapters. Endeca's Management Suite allows application owners to bring online new sources of information, through a graphical user interface.

At the application tier, Endeca's data-driven experience ensure that changes to underlying data do not require re-writes for navigation or search functionality. By easily adapting to changes in USPTO's enterprise information, both in the indexing and presentation tiers, Endeca-powered solutions deliver a low total cost of ownership and a framework that will support UPTO's evolving needs.

Oracle Endeca Experience Manager integrates with Oracle Endeca Guided Search to provide rich customer experience capabilities such as visual type-ahead and spelling correction help citizens locate prior art information while enabling business users to tune the experience with keyword redirects and relevance tuning.

Oracle Endeca Experience Manager enables business and IT teams to deliver better web search experiences in less time. Oracle Endeca Experience Manager helps IT manage page templates and prebuilt, modular components called cartridges, which determine where content and data are placed and how they should be rendered. IT delegates templates and cartridges to members of the business team, who can then create and edit experiences without having to engage IT for every update. Without

the need for custom coding or long lead times, business and IT teams have the flexibility to focus on innovation instead of maintenance.

Citizens don't think in terms of channels; they simply expect a consistent and optimized experience regardless of device. Oracle Endeca Experience Manager would help USPTO provide that experience with prebuilt components and layouts that optimize the experience across mobile tablet devices, web TVs and, and search engines—and also for internal use by Patent Examiners.

Oracle's Endeca solution is deployed at a wide variety of customers worldwide. Some Endeca customers are: US Library of Congress, North Carolina State Online Library System, McMaster University, Toronto Public Library, IEEE Xplore, LexisNexis atVantage, NASA Technical Report Server (NTRS) and ESPN.

### **7. SUMMARY**

In closing, we feel that Oracle Policy Automation, Oracle Endeca Guided Search and Oracle Endeca Experience Manager offer a solution to help USPTO provide the type of search experience that citizens have come to expect. We look forward to showing USPTO the Oracle Solution power by Endeca and Oracle Policy Automation