



A Web Services Framework for Mapping Disparate Information Sources for Better Discoverability

SmartSpace™ for **Oracle/OTN®**
Extending Oracle/OTN Content
to Microsoft Office™

A Case Study and Technical Brief
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Overview

MyST SmartSpace™ is a Web services framework for mapping disparate information resources into discrete meta-objects. Using this technology, it is possible to build information systems that increase awareness and discoverability by information workers using Microsoft Office applications such as Microsoft Word™ and Microsoft Outlook™.

SmartSpace™ is a service built on MySmartChannels™ that provides a unified information space for collections of content such as RSS feeds, dynamic search results, and other forms of information. Through various harvesting and mapping techniques, a disparate collection of knowledge and expertise like Oracle/OTN may be easily extended to Office 2003 users through Microsoft Office™ 2003 Smart Tags and Microsoft Office™ Research Task panes.

This executive summary provides an introduction to using a specific instance of SmartSpace™ and how this technology can be applied in other real-world scenarios.

Introduction

Content consumers are beginning to exhibit a desire to choose specific information sources that are meaningful to their work. They're doing this for many reasons but most compelling is the benefit of a publish-subscribe¹ model that creates awareness of, and access to content with less time and effort. This is evidenced by the rise in popularity of RSS; a syndication format that is catching on rapidly as a way to eliminate time-intensive Web surfing to get the information you value. But there are many forms of syndication services that can benefit information workers. MyST SmartSpace™ opens new doors to leverage existing content including RSS feeds and many other sources.

MyST SmartSpace™

MyST SmartSpace™ is a MyST service built on MySmartChannels™ that provides a unified information space for collections of content such as Oracle/OTN. MyST SmartSpace™ makes it possible to search and discover Oracle/OTN items through Microsoft Office applications including Microsoft Word™ and Microsoft Outlook™.

To demonstrate the benefits of leveraging Oracle/OTN content in Microsoft Office™ applications, we created a functional demonstration environment that uses OTN's RSS feeds, Weblogs, forum search results, and other MyST harvesting systems to create a unified information resource that integrates with Microsoft Office 2003 Smart Tags and Office Research Task panes. This is a demonstration of disparate information mapping to a meta-space as much as it is an example of content agility made possible by the MyST platform.

What Are Smart Tags?

Microsoft Office Smart Tags are automatically generated links between recognized keywords and phrases in Microsoft Office documents and MyST SmartSpace™. As Microsoft Office users type (or see) recognized terms, they are automatically linked to related items in Oracle/OTN and optionally the MyST SmartSpace™ depending on their collaboration credentials.

More information about Smart Tags technology is available at:

http://www.devx.com/codemag/Article/18232?trk=DXRSS_LATEST

¹ Growing attention has been paid to the publish/subscribe (pub/sub) communication paradigm as a mean for disseminating information (also called events) through distributed systems on wide-area networks. Participants to the communication can act as publishers, that submit information to the system, and as subscribers, that express their interest in specific types of information. Main characteristics of such many-to-many communication paradigm are: the interacting parties do not need to know each other (anonymity), partners do not need to be up at the same time (decoupling in time), and the sending/receipt does not block participants (decoupling in flow). So, the publish/subscribe paradigm has been largely recognized as the most promising application-level communication paradigm for integration of information systems.

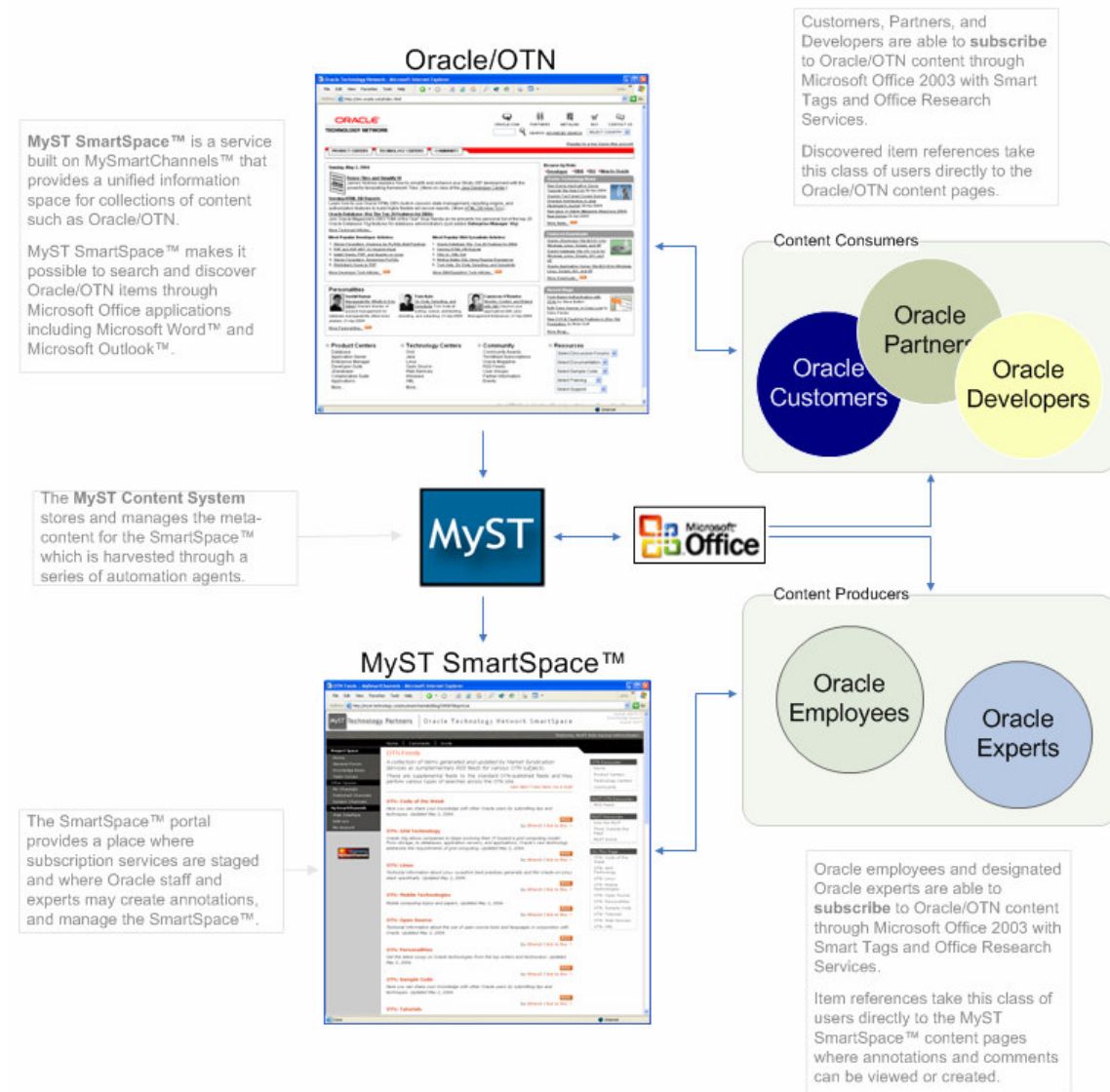
What are Office Research Task Panes?

Microsoft Office Research Task Panes provide instant access to enabled information sources from any Office document including Outlook, Excel, Word, and Publisher. More information about Office Research technology is available at:

<http://www.microsoft.com/office/editions/prodinfo/technologies/research.mspx>.

Anatomy of a SmartSpace™

SmartSpace™ provides the aggregation machinery and management services necessary to collect content and tag on a regular schedule. Additionally, as each page or item is collected, the items address is used to evaluate the target page for keyword acquisition. Keywords are determined and applied to the SmartSpace™ objects which form the basis for various types of subscriptions available to Office 2003 users.



How a SmartSpace™ Benefits Users

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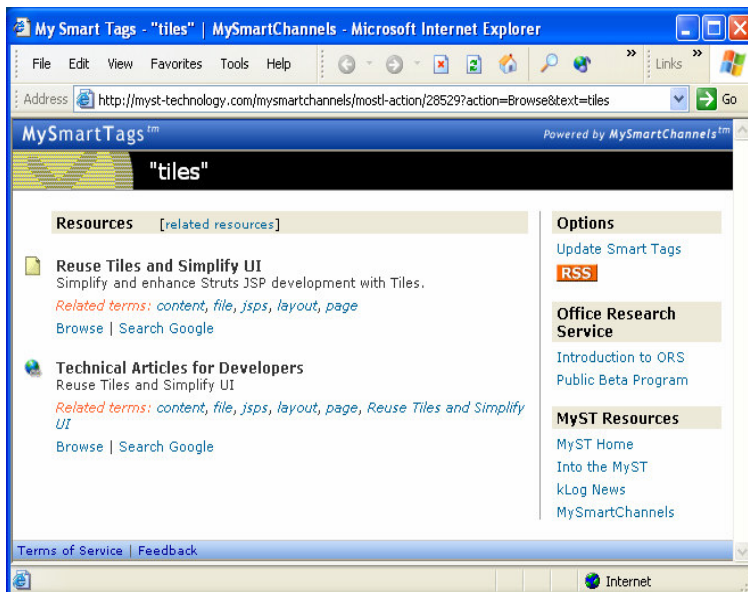
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As an example, when we type the term “tiles” into this Microsoft Word document, it is immediately underscored in purple; an indication that the Oracle/OTN SmartSpace™ has more information about this subject. But how does Microsoft Word



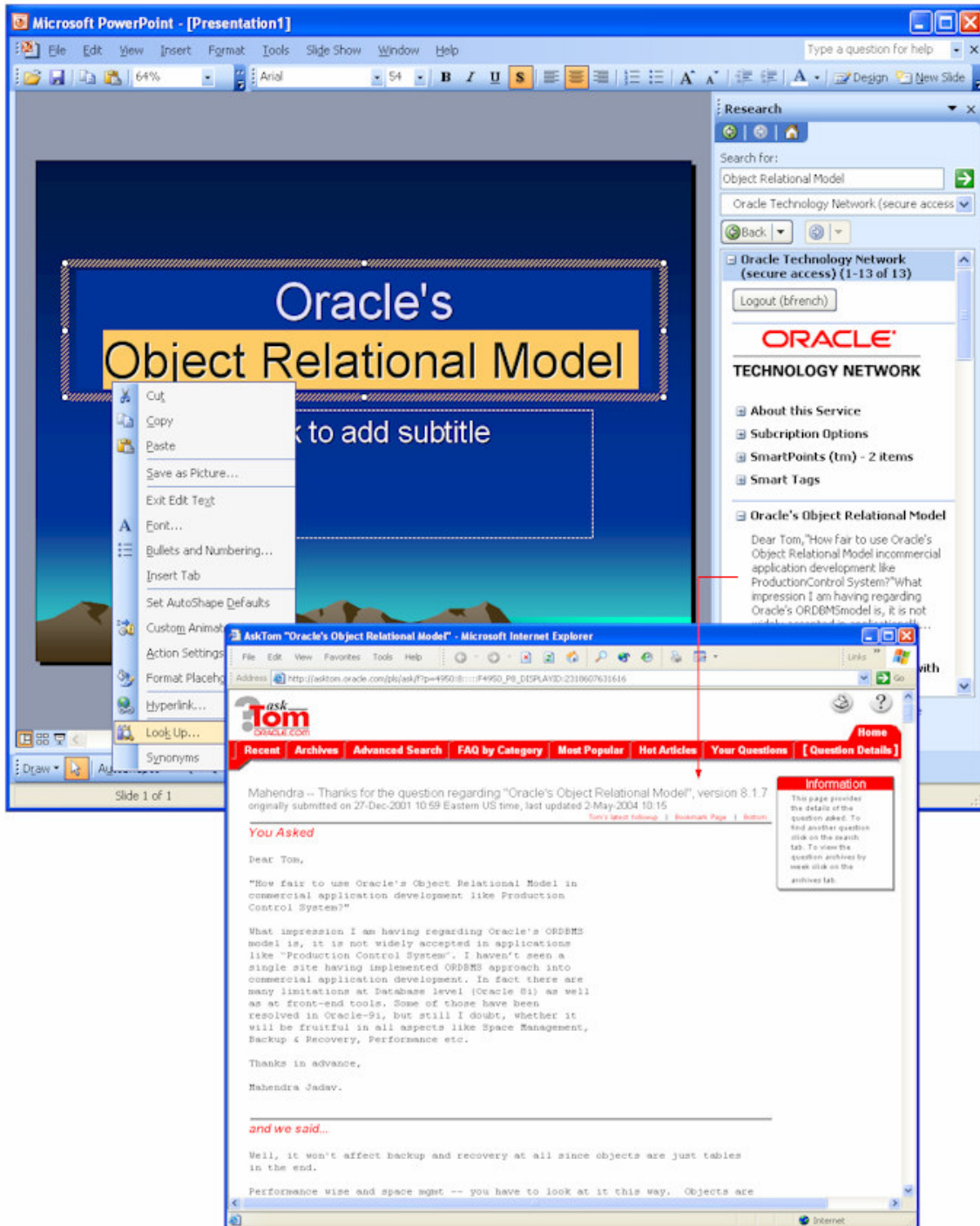
As an example, when we type the term “tiles” into this Microsoft Word document, it is immediately underscored in purple; an indication that the Oracle/OTN SmartSpace™ has more information about this subject. But how does Microsoft Word know to highlight the word “tiles”? There’s a bit of magic involved but the machinery responsible is mostly centered on the concept of publish-subscribe. The workstation that this document was composed on was subscribed to the Oracle/OTN SmartSpace™, so key terms, phrases and item titles in the MyST platform are made available to Microsoft Word in a method that allows it to exhibit this seemingly magical intelligence. The benefit is simple - information workers subscribe to pools of SmartSpace™ meta

information that are meaningful to their work. As they type documents, email messages, and slide presentations, they are alerted to a rich collection of support content relative to the subject matter that they work with. This also applies to Office documents that are sent to them regardless of who authored them or when they were written; SmartSpace™ will apply the intelligence that’s in context for each subscriber.



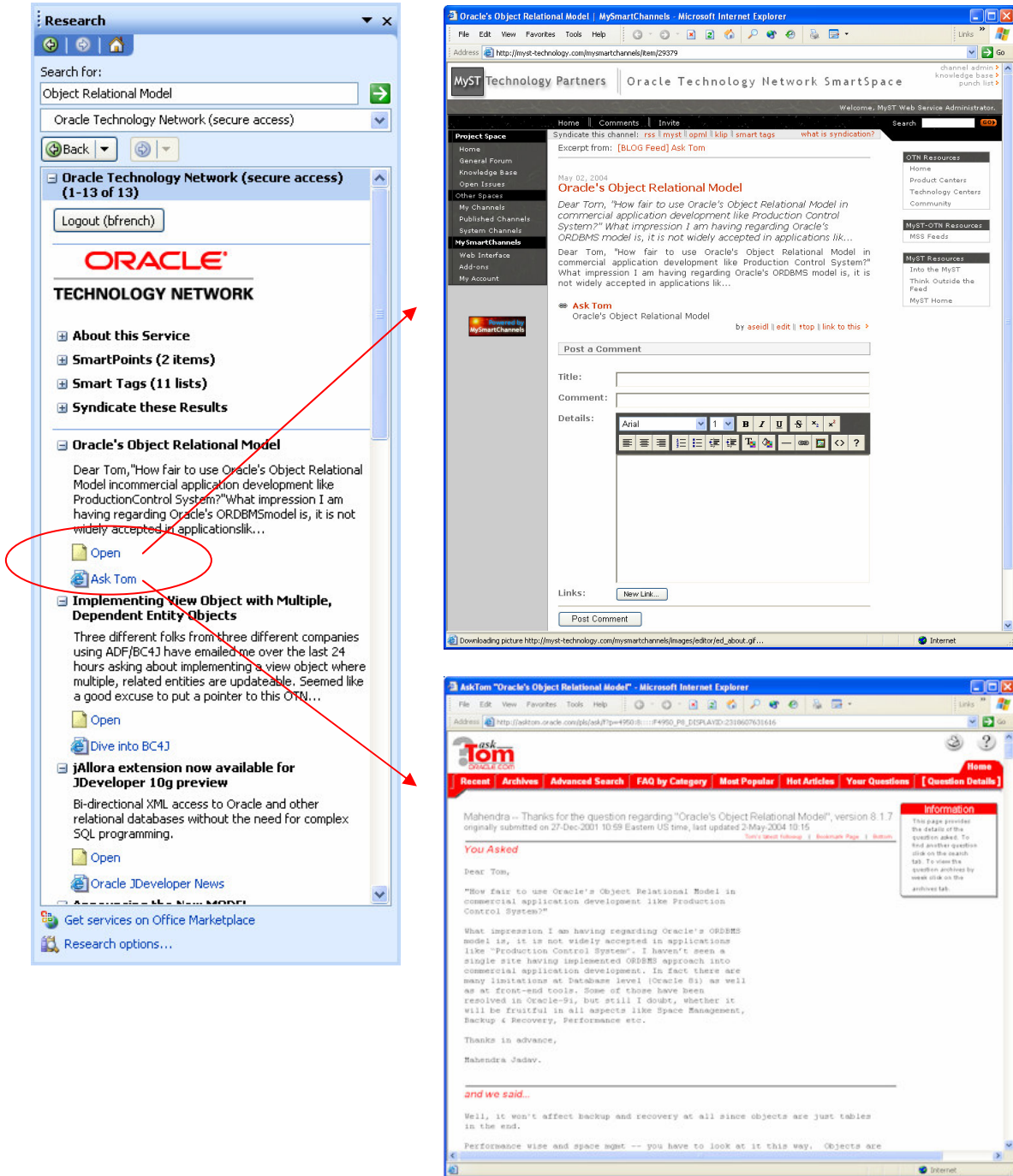
In another example, imagine you're developing a PowerPoint slide presentation about Oracle's *object relational model* and you needed to look up additional information about this topic on the Oracle/OTN site. Simply highlight the phrase in PowerPoint, and right click to select "Look Up". Microsoft Office will launch the Office Research Service for Oracle/Oracle/OTN and display the most relevant items concerning this subject matter.

Office Research Service for Oracle/Oracle/OTN

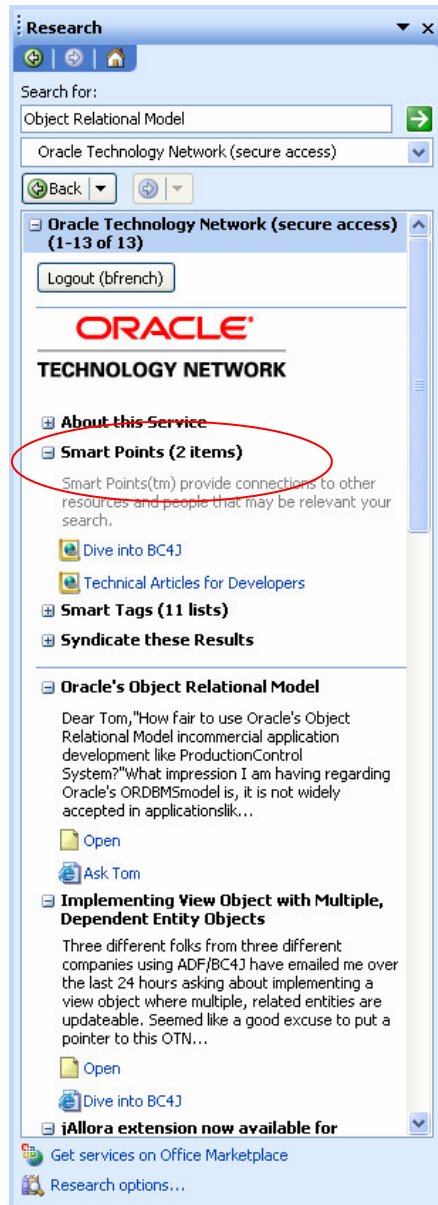


Access Modality

The SmartSpace™ integration and mapping capabilities for Office Research Services provides dual access to content items. Registered (and logged in) users of Oracle/OTN SmartSpace™, benefit from the ability to access the SmartSpace™ application where the Oracle/OTN meta-data is stored, as well as the original pages from Oracle/OTN. SmartSpace™ provides additional content services such as annotations.



MyST Smart Points and Office Research Services



Smart Points are surfaced in the Oracle/OTN Office Research Service for registered users. SmartPoints provide a natural connection between pools of knowledge and individual search hits. SmartPoints are knowledge-aware components that appear in conjunction with the collection of relevant keyword hits in the research service task pane which provide guideposts for users as they search for relevant information.

Given a collection of hits to the query “Object Relational Model”, users may also benefit by knowing such things as which author has written the most content on this subject? Or, which channels produced the greatest number of hits? SmartPoints provide answers to these and many additional questions through a series of dynamic statistical findings based on typed associations² of the related hits. By searching the meta space, MyST searches across disparate resources and then uses those “hits” as starting points for a “semantic relationship search” based on typed associations.

In this example, two pools of information emerge as very useful sources of content concerning Oracle’s object relational model; *Dive Into BC4J*, and *Technical Articles for Developers*.

This provides an extremely valuable addition to Oracle/OTN which can provide individual search hits but cannot tell you what RSS feeds or sections of the Web site contain the most valuable information on the subject of inquiry. Furthermore, Oracle/OTN searches possess no awareness of possible

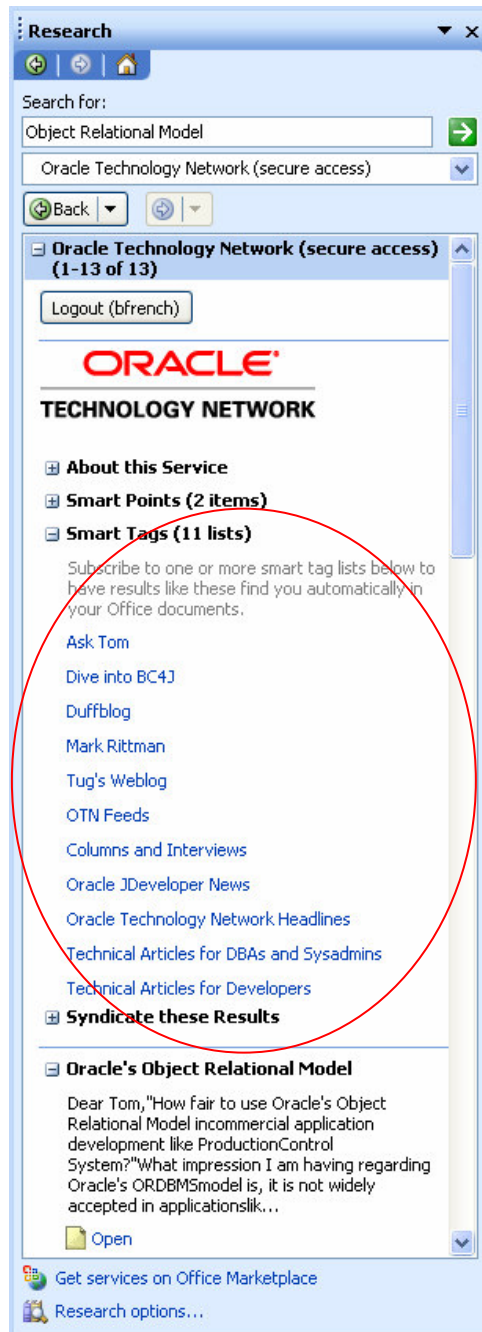
relevant intersections with information objects in the forums or Weblogs of its experts.

MyST SmartSpace™ provides a seamless integration layer affording information accessibility across these domains without any intrusive changes to the Oracle/OTN Web site.

² The MyST platform provides specific support for typed association objects making it possible to create complex relationships between people and information.

Smart Tag Subscriptions

As registered users begin to leverage the value of the Oracle/OTN Office Research Service, they are given the opportunity to subscribe to channels of interest for Microsoft Office Smart Tags. Pub/sub concepts are extremely useful because they align information awareness with user interest. SmartSpace™ Office Research Services takes this one step beyond by presenting subscriptions that are relevant to the search queries.



As an example, the Smart Tags list in this screen shot includes channels that are related to the search for “object relational model”. A search for “JDeveloper” will yield a completely different list of Smart Tag subscriptions, with Andre Koelewijn’s content as being the most likely subscription concerning this subject.

Each Smart Tag list can be subscribed to by simply clicking on the list name.

Oracle/OTN SmartSpace™ - A Corporate KM Product

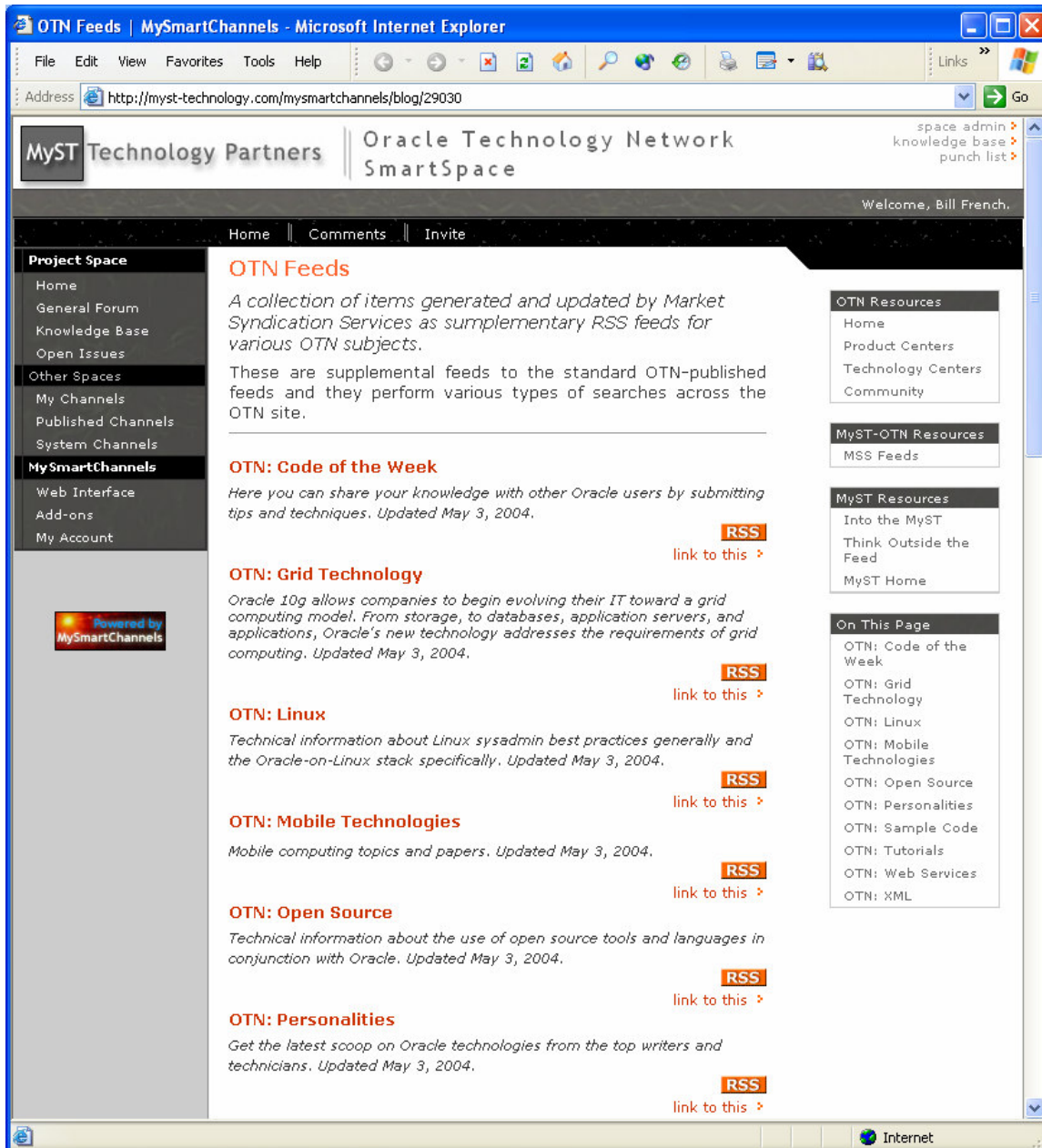
As registered users begin to build knowledge artifacts associated with Oracle/OTN content, the meta-space will begin to produce interesting Smart Tags and search results completely independent of the Oracle/OTN content. Over time the SmartSpace™ content will gradually become the focal point for collaboration about the Oracle/OTN content.

Provided as a Web service, separate discrete SmartSpace’s can be deployed against the same Oracle/OTN content collection. Organizations that depend heavily on Oracle technologies may each have private instances of Oracle/OTN SmartSpace™.

Semantically Mapped Resources Emerge

Oracle/OTN SmartSpace™ is a meta-space built on a framework that can integrate with any platform or serve its own content in almost every conceivable way. As such, disparate resources harvested from across the Oracle/OTN information horizon are available in forms like RSS, MyST-ML³, OMPL, and xHTML.

In this screenshot are a few of the RSS feeds that are maintained daily by SmartSpace™ for the purpose of mapping content in unique ways. The OTN: Personalities feed aggregates the most recent seven articles by three of the top Oracle writers.



³ MyST-ML (an XML format) is the native format used by applications built on the MyST platform.

Annotations and Collaboration

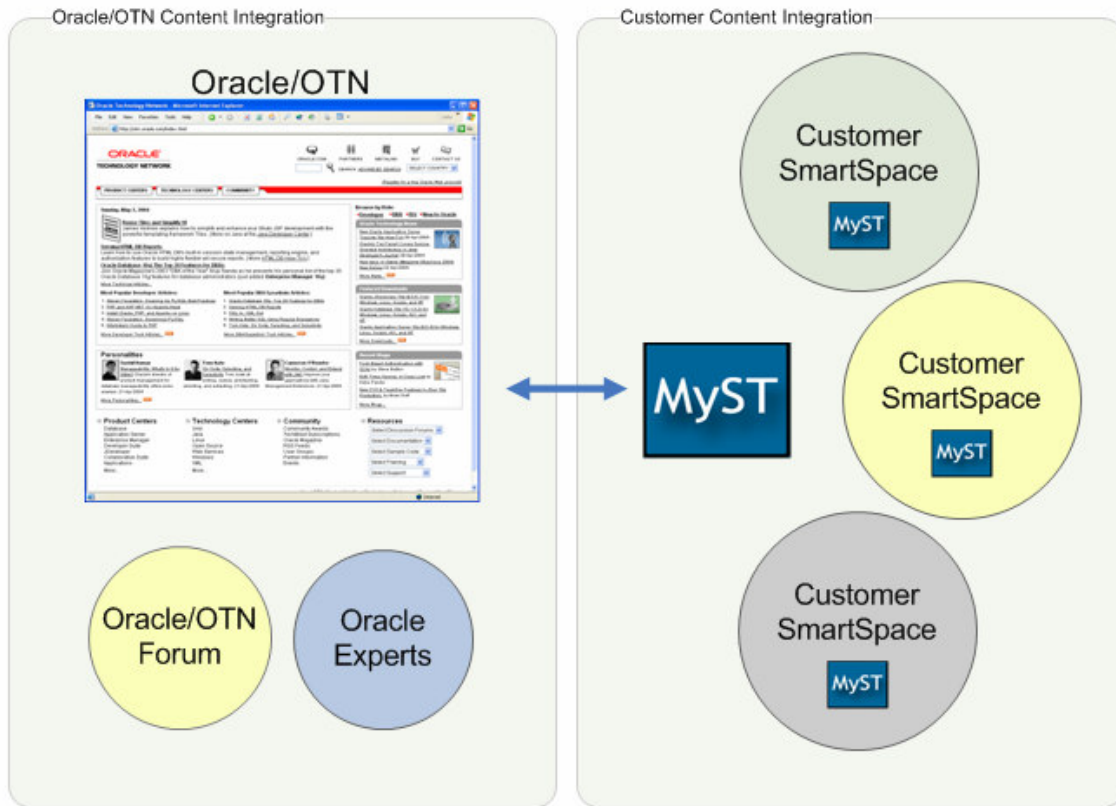
Oracle/OTN SmartSpace™ provides the proxy space necessary to map, collect, organize, and present connections to OTN objects through various search mechanisms. But in so doing, it also provides a collaborative space that allows registered users to create annotations, comments and even original content related to OTN content items. SmartSpace™ also provides essential services for enterprise Weblogs and other types of content publishing requirements.



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Addendum

Oracle/OTN User Configuration

Installing and using the Oracle/OTN SmartSpace™ is described below.

System Requirements

- ❖ Microsoft Office 2003
- ❖ A live Internet connection

Instructions

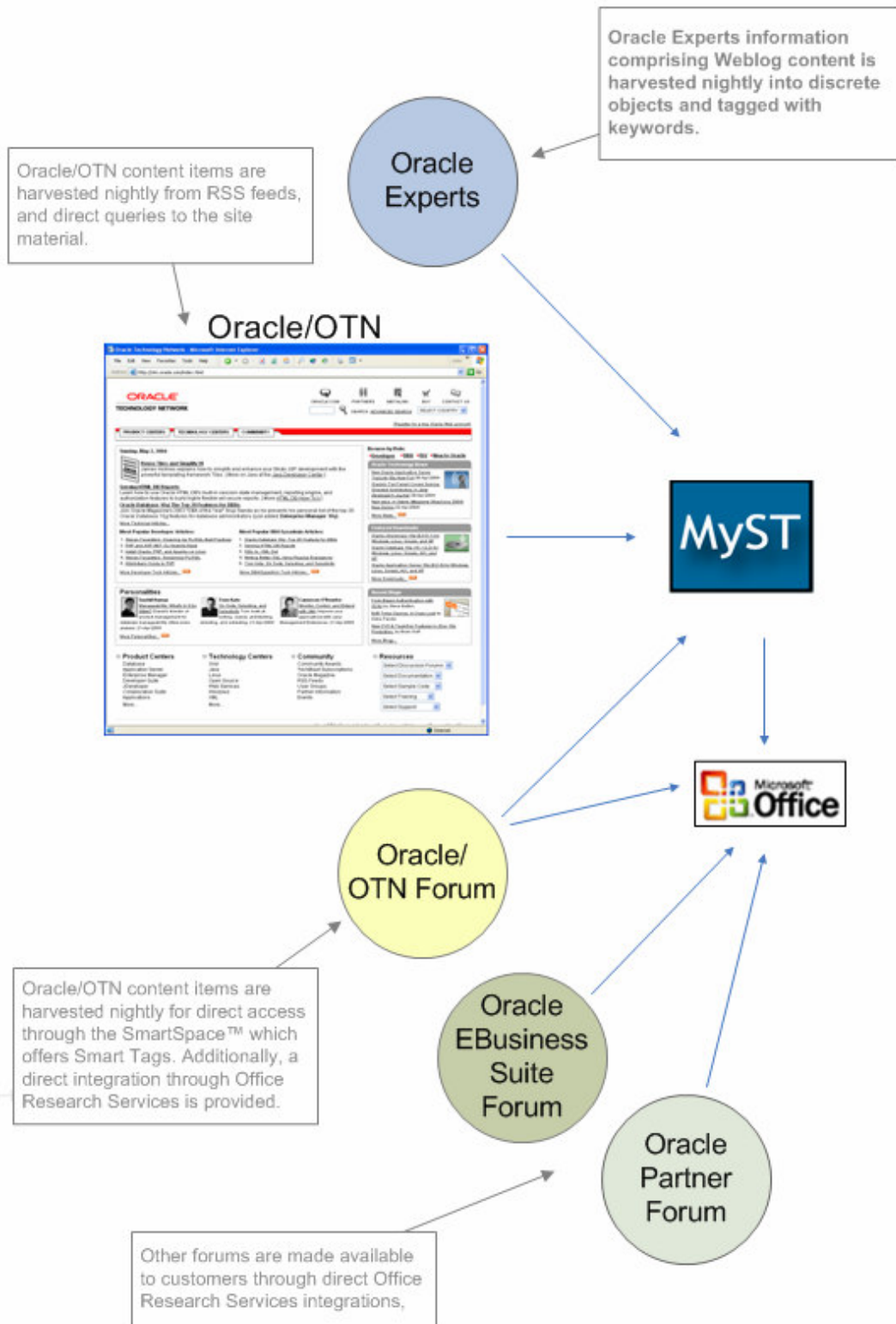
1. Open a Microsoft Office 2003 application such as Microsoft Word.
2. Find the Research task pane. In most Office applications, just hit F1 and then click on the little down-arrow in the displayed toolbar pane and choose Research.
3. Click Research options... at the bottom of the Research pane.
4. Click the Add Services... button.
5. Type or paste the Oracle/OTN ORS service address in the Address field:
`http://myst-technology.com/myst-service/services/OracleTechnologyNetworkORS`
6. Click the Add button.
7. Click Continue on the service's Introduction dialog.
8. Click Install on the service's Confirmation and Options dialog, accepting any default option checkboxes.
9. Click OK on the confirmation dialog.
10. Click OK on the Research Options dialog.

Testing

1. Verify that the drop down list in the Office Research pane contains the Oracle Technology Network services entries under All Research Sites.
2. Select Oracle Technology Network from the Research pane drop down list.
3. Type a phrase such as "Tom Kyte" in the Search for: field and hit Enter (or click the green arrow button) to search.
4. Verify that you have search results.

Oracle/OTN SmartSpace™ Mapping

This diagram represents the mapping structure of this SmartSpace™.



To learn more about SmartSpace™ and the MyST Web Services platform, to obtain a free MyST user account, or to explore how your organization might benefit from these technologies, visit the MyST Technology Partners Web site at [HTTP://MYST-TECHNOLOGY.COM](http://MYST-TECHNOLOGY.COM) or send e-mail to INFO@MYST-TECHNOLOGY.COM.

Forward-looking Statements

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