

Oracle iStore – Layout Architecture

Rendering Capabilities

An Oracle White Paper

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EXECUTIVE SUMMARY

This document discusses the rendering capabilities of Oracle iStore and how it enables enterprises to establish a competitive web presence for growth and profitability. Specifically, this document discusses the iStore rendering framework, and how customers achieve their strategic and tactical marketing goals while meeting their corporate branding requirements.

This document also explains the concepts and ideas that empower business and technical users to create a web store front solution that generates rapid Return on Investment, reduces time to market, and lowers the Total Cost of Ownership.

“We sell language learning solutions in over a 100 different countries and across numerous vertical markets, so we needed sophisticated functionality to effectively support the demand in those channels.”

*Robert Bland,
Vice-President of Operations,
Fairfield Language Technologies
Fairfield Customer Profile
www.oracle.com/customers*

INTRODUCTION

Companies today accomplish marketing, selling and customer service through multiple channels. For example, Consumer Packaged Goods (CPG) companies require strategies that vary by customer type, partner, brand and geography. Computer and electronic device makers, on the other hand, attempt to reach their customers directly or through partners, depending on the item categories and customer segments. Each channel requires an Internet presence with company specific business rules and branding. To achieve this, companies seek a flexible E-Commerce infrastructure tool that caters to channel specific needs and is extensible to allow significant cross-channel reuse.

Like all projects, the process of creating and managing an E-Commerce capability needs to qualify as a sound investment against organizational IRR or ROI considerations. Computing the returns on such an investment is a significant challenge. The implementation and maintenance costs are extremely difficult to estimate, as they have to be mapped to the evolution of business needs. Future business needs are themselves dependent on a slew of extraneous factors, adding to the complexity and risk of the investment.

Most successful organizations in this scenario have benefited from choosing a tried and trusted solution – one that is mature, supports evolving E-Commerce needs and is backed by strong vendor commitment.

Oracle iStore is such a solution. Oracle iStore is the solution for Oracle’s own online sales and is built on the expertise of supporting thousands of customers spanning several industry segments. These customers range from market leaders to niche customers, demonstrating the latitude of the solution. Over time, these customer experiences have created a solution that achieves a powerful, flexible and reliable web channel with sustained economic benefits. Some of these are:

- **Rapid time-to-market:** iStore’s flexible information and layout architecture enables enterprises to create web sites using ready-to-configure templates (JSPs), which are shipped with the product. iStore already provides over 800 such templates and continues to deliver more with each software release.
- **Short and long-term ROI:** iStore is designed to support incremental implementation cycles. Customers taking this approach have been able to reinvest their short-term returns to implementation, thus creating value in the short term and significant long-term ROI.
- **Lower TCO:** The iStore architectural framework ensures that customers incur a lower TCO as the effective cost of implementation and maintenance is reduced through easy extensibility and reusability.
- **Extensibility:** Customers can implement their desired look and feel and branding efficiently through the iStore framework. Customers can also make changes to their site depending on strategic and tactical marketing needs. The iStore framework ensures that all updates are efficient and economical.

THE ISTORE PHILOSOPHY

The primary consideration in the creation of the iStore solution is to create value to customers through flexibility, reusability and efficiency. These considerations are a result of a careful analysis of the issues and the key success factors related to setting up an E-Commerce capability. They are elaborated below:

- **Flexibility:** Enabling customers to communicate their brand through a specific look and feel, delivering a differentiated customer experience.
- **Reusability:** The iStore framework ensures that customer investments in content are protected. Layout and content management capabilities allow a high degree of reuse by providing tools which make maintenance simple.
- **Efficiency:** The process of managing content is designed to be fast and inexpensive. Furthermore, common updation tasks such as adding a new product or modifying the content on a page can be accomplished easily.

These considerations translate to design ideas and concepts that span the various features delivered by the product.

“In the first eight weeks after Oracle iStore was launched, Master Lock created six different, unique store fronts to meet the varying needs of its customers, whether in the United States or internationally.”

Master Lock Customer Profile
www.oracle.com/customers

Participants, Roles and Processes

The entire process of site design, creation and maintenance primarily involves two types of users – business and technical. The business users typically represent the marketing function, while the technical users represent the IT department of the customer organization (or a consulting firm performing an implementation as the case may be).

The iStore architecture ensures a clear separation of the tasks for technical and business users. Activities with respect to site building usually have a high technical component and are carried out by technical users. On the other hand, maintenance activities such as price changes, product additions, etc. can be performed by business users through simple administration tools. However, when collaboration is required between the business and technical users, the architecture ensures that the concepts and ideas are such that communication is clear and productive.

RENDERING FRAMEWORK

The iStore rendering framework translates to the following organization hierarchy: **Store → Catalog → Sections**. Extensibility is available at all three levels. The ‘Catalog’ refers to the collection of product and service offerings for an enterprise. The catalog is a simple hierarchy that allows enterprises to organize, define and manage their offerings. The catalog contains numerous sections which are logical grouping of product areas. For instance, a computer vendor may want to create product groups – laptops and desktops. In iStore, this is accomplished through ‘Sections’. A *section* is a group of related items. A section in turn could contain subsections – for instance, the section *Desktop* could have a subsection for *Standard PCs* and another for *Configurable PCs*.

The eventual products are defined within sections. Therefore, in the example above, a Standard PC – ‘DesktopPro300’ would appear under the subsection *Standard PC*.

“We don’t just have one store, we have several. The flexibility iStore affords us is tremendous for our business model. We have many different classes of trade, but with iStore we can create many stores to meet their unique needs. It’s a tremendously flexible tool.”

Marti Gahlman,
Director of E-Commerce,
Solutions, Master Lock
Master Lock Customer Profile
www.oracle.com/customers

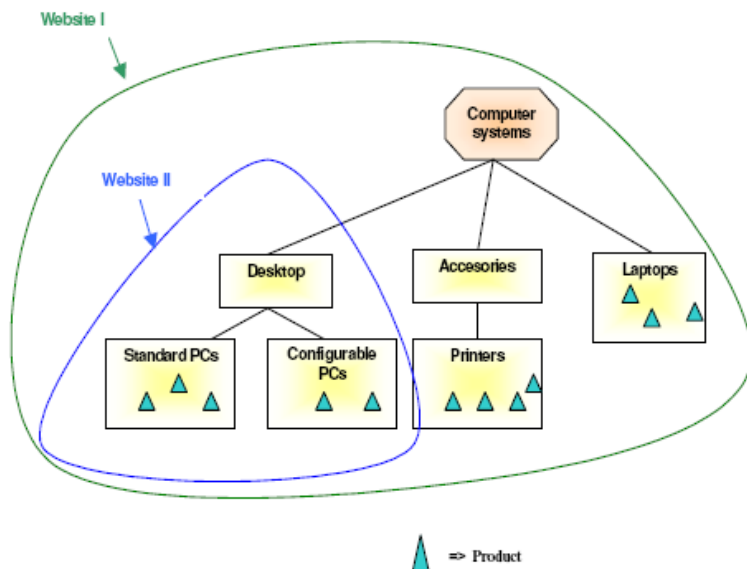


Illustration of Catalog, Section and Product Hierarchy
(Individual sections can constitute a site)

In the above illustration, you could anchor a site at *Computer Systems* to target a broad customer base. Alternatively, if you wish to target a particular segment of laptop computer prospects only, you could anchor the site at *Laptops*. This flexible framework allows customers to manage their offerings with complete freedom by enabling them to:

- Offer different products and services at chosen points in time
- Publish sections in an incremental manner as promotions become available
- Target specific customer segments with relevant and up-to-date catalog and pricing

BUILDING BLOCKS

The sections below describe the basic architectural concepts and methods which allow a digital entity such as an image to represent a product in a section. This involves transforming the physical entity to a context sensitive, logical object which is visible to users. The transformation is through a process of simple abstraction. This process ensures that the intermediate web forms are reusable in present and future rendering scenarios. Lastly, the abstractions make the entire process easy to learn and simple to communicate.

The Abstraction Hierarchy

The abstraction encompasses a “**What – When – How**” paradigm which is easy to understand and generic, yet possesses the required power to support a range of business scenarios.

What to use

At this level of abstraction, users identify and define the digital raw material that they would use. These refer to digital entities (for example, doc, pdf, jpg, gif, etc.).

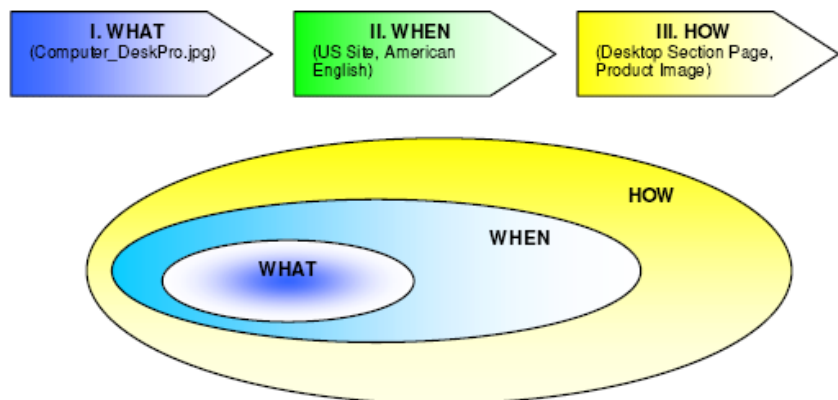
When to use

Here users are able to identify and define the context in which they want to use these objects. For instance, users can make a decision on which content objects should be used to target a particular customer segment, geography, etc.

How to use

Finally, users make the decision on display. This abstraction enables the business and technical users to communicate in a non-technical language while they discuss the look and feel of the site. For example, users can agree that all promotional information for their customers should appear on the top of the web page.

In this manner, business users are able to communicate and ensure that their marketing objectives are met in the most relevant and accurate manner through the content chosen.

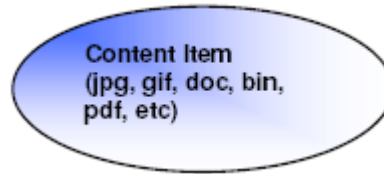


Abstraction Hierarchy

This illustration depicts the iStore idea of defining objects (**What**), adding usage contexts (**When**), and finally making rendering decisions (**How**).

Content Item

The Content Item is the most fundamental unit of content in the iStore world. A Content Item logically wraps an image, message, document, spreadsheet, multimedia or executable file, or any such entity that you may use to present information.



Content Item
The Fundamental Unit

Media Objects

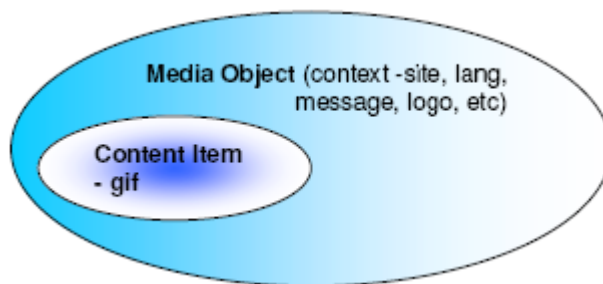
Media Objects are reusable placeholders that link to Content Items, allowing users to define *when* they wish to use a Content Item by associating such context information.

Media Objects allow you to abstract content items so that they can be used meaningfully. A Media Object is a wrapper around a Content Item that allows:

- Association of Content Items with sites and languages
- Labeling of Content Items as a particular type – Message, Logo, or belonging to a Product or Section or both

A single Content Item can be associated with more than one Media Object. For instance, you could reuse the same image in two different sites (one for English and the other for French) simply by creating two media objects.

The converse is also true. A single Media Object can refer to different content items depending on unique site-language combinations. This implies that the raw material used for content can be large while the logical entities remain finite and manageable, creating efficiency and simplicity.



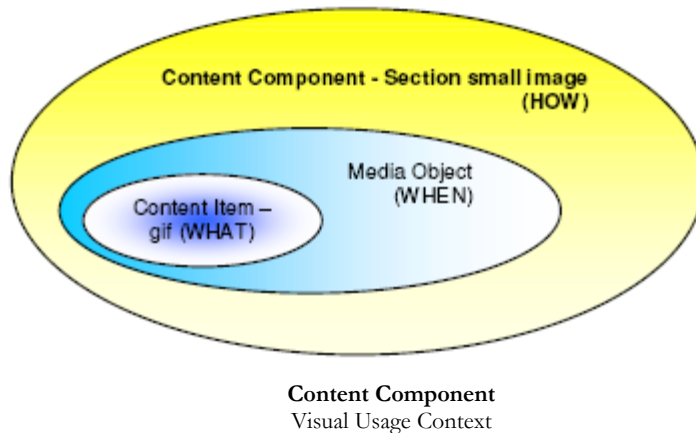
Media Object
Wraps a Content Item to provide situational context

Content Components

The Content Component is the logical link between the displayed sections / product pages and media objects. Content Components represent the next level of abstraction that allows users to think and speak of web pages visually. By wrapping a media object with a content component, users can define **how** they wish to use the media objects. For example, you can map an image file to a Media Object, and then link the Media Object to a Content Component at the product level.

Users can communicate in terms of display objects as they apply to visible screen areas instead of referring to the next level of detail. For example, on a web page which displays the details of a product, say, a laptop computer, a content component “section small image” will be used to refer to:

- The position where the small image appears on screen
- The image file itself



Content Management

Content items are organized and stored through Oracle Content Manager (OCM). Oracle iStore integrates seamlessly with OCM. OCM presents a powerful solution which enables users to create and manage content. Key features include:

- Support for defining multiple content types
- Folder based management which supports versioning and access control
- Powerful cross referencing abilities which enable a search based on user defined content types
- Translations
- Flexible, workflow-based approval hierarchy

Layout Management

In keeping with the principles of simplicity, reusability and efficiency, iStore provides an intuitive display framework for managing the display of content. The framework is comparable to the outline of a landscape picture before the colors are filled in. Users can use these outlines out-of-the-box, change them, or create their own to build the landscape they want before they ‘paint’ their web sites to fulfill their display requirements.

The framework is one of nested elements, referred to as ‘templates’. Templates are logical entities. At display time, depending on the site and language combination, each template maps to a Java Server Page (JSP). The final output therefore is a dynamic JSP page which is formed programmatically in a context sensitive manner. Typically, the outermost template (JSP) is a structure holding several internal templates (JSPs) which plug-in to render the web page. The JSP technology is an easy to use, open-standard, free and platform-independent technology with a significantly large developer community.

iStore ships with over 800 such ready to use JSPs. Each pre-defined JSP is built to render a particular layout on screen. Media objects that customers create on their own can be easily linked to these templates for display through content components. The framework has the advantages of being:

- Extensible – each of the ready-to-use JSP files can be configured to meet different look and feel requirements. They provide a convenient platform for designers and business users to converge and visualize their needs.
- Reusable – each element serves as a logical component in a template repository which can be reused or modified subsequently.

The section below introduces a fundamental template.

Layout Templates

Layout Templates refer to the JSPs which provide the framework for positioning all display. These templates hold inner templates at designated positions which create a simple nesting hierarchy. Users can make use of this framework to ‘paint’ images on the screen by plugging in JSP templates into the placeholders of a Layout Template (‘landscape outline’).

Oracle iStore supports three types of Layout Templates:

- Fixed – aimed at enabling speed of site construction. The illustration below is an example of a *fixed section template*.
- Configurable – provides the flexibility and the power to move content around for defining unique corporate branding and distinct visual appeal.
- User Defined – these layout templates are user defined JSP templates that can be incorporated ensuring that every branding requirement is satisfied.

“With our implementation of Oracle iStore, we’ve been able to consolidate our content site and our on-line store front, which will allow us to save over half a million dollars in one year.”

Ron Pollard,
Chief Information Officer,
Specialized
Specialized Customer Profile
www.oracle.com/customers

The illustration below depicts a Fixed Section Layout Template. This is a template that is pre-defined and available for use out-of-the-box. This JSP file has pre-defined placeholders which allow users to insert content efficiently.

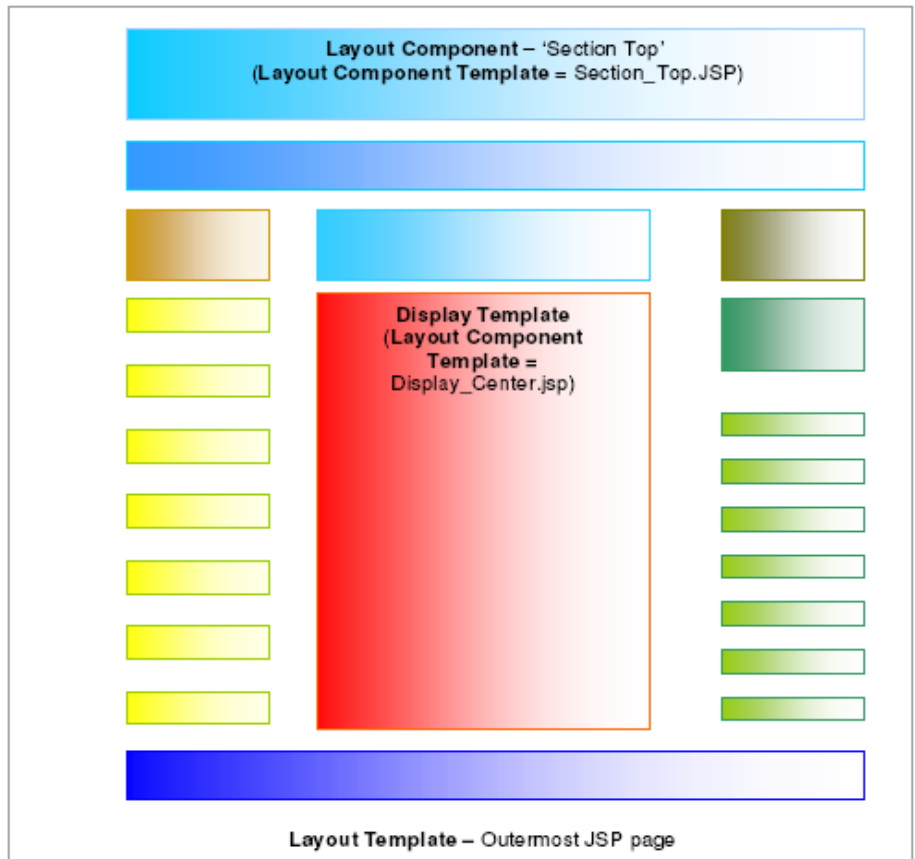


Illustration of seeded Section Layout Template

Template Management

The Template Manager feature in iStore is a facility that provides users with the ability to create and register their own templates. This approach allows you to use your own templates throughout the web site for consistent branding. Through Template Manager, users can:

- Associate their own JSPs with new or existing logical 'templates' in unique site-language combinations
- Reuse business logic but create a different look-and-feel by simply changing template-JSP mappings for a site-language combination

Users can also import or export template mappings for reuse, scale and flexibility. These mappings are stored in the XML format and can be directly edited for speed and efficiency.

“Each enhancement to the software gets easier, faster, and less expensive.”

*Robert Moon, Vice President
Information Services,
ViewSonic Corporation
ViewSonic Customer Profile
www.oracle.com/customers*

“Master Lock was able to recoup its entire investment in the application in less than a year.”

*Master Lock Customer Profile
www.oracle.com/customers*

INVESTMENT PROTECTION – CONTENT AND LAYOUT

The Oracle iStore solution delivers investment protection through several means. Both the information and layout architectures ensure that evolution is simple and efficient. The tools required to reuse and extend solutions are powerful and are easy to use. Some indicative examples include:

- Easy duplication and modification of stores to target specific customer segments in a phased manner and allowing businesses to react quickly to changing environments
- Self-service template management allowing new screen displays while reusing navigation and business logic
- Content reuse through an abstraction hierarchy which is designed to separate the content from the context
- Content management tools which create a simple process to manage content and its reuse

One of the most significant benefits is delivered through the site administration capability. This is created to be a simple enough to allow business users (not just technical users) to perform common tasks. This ensures that costs of maintenance and simple evolution are kept to a minimum during the life cycle.

“We wanted an IT architecture that would actually serve as a driver of our strategic growth efforts, instead of just back-end tools to merely support us. We have found that in Oracle”.

*Robert Bland,
Vice-President of Operations,
Fairfield Language Technologies
Fairfield Customer Profile
www.oracle.com/customer*

CONCLUSION

It is critical that any product chosen to implement an E-Commerce solution be designed to support the creative, technical and business needs during the process of web store planning and creation. Additionally, in the longer term, the solution must provide sustained economic and competitive benefits.

Oracle iStore offers a compelling solution, which is built on the perspective resulting from thousands of customers worldwide, and the experience of being Oracle’s own store front. Oracle iStore customers span multiple geographies and industries. Furthermore, these perspectives ensure a solution for the long term which delivers value through usability, flexibility, efficiency, reusability and scalability. Fully integrated with the Oracle E-Business Suite, the iStore solution provides customers with the investment that stands up and delivers against the most demanding economic and competitive considerations.



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