

Overview

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SAS[®] Information Delivery Portal, Release 1.1

The SAS Information Delivery Portal provides an easy way to distribute and share high-quality information, data, applications, and reports throughout your enterprise. With our portal, you get

- a single, secure Web interface to your enterprise's information and applications
- a vendor-neutral platform that is founded on open industry standards
- a centrally-managed publish and subscribe framework
- centrally-manageable security that is based on industry standards
- customization on three levels: enterprise-wide, by organizational group, and by individual user. As information needs change, the portal can be modified quickly at any level to meet the new requirements.

Portal content can include raw data, processed reports, and links to other Web resources. Our solution leverages the state-of-the-art business intelligence capabilities of SAS software to give you functionality that no other portal on the market can.

Meet the SAS[®] Information Delivery Portal

The market for enterprise solutions demands applications that provide for the controlled acquisition, management, and presentation of information. A good portal meets these demands by enabling an organization to aggregate its data and applications from various systems across the enterprise and then present this *content* through a single access point. As a result, knowledge workers can quickly and efficiently access and analyze the data that they need to perform their jobs.

The SAS Information Delivery Portal is a Web application that provides these features along with the world-class business intelligence capabilities of SAS. It is designed to fulfill the following enterprise requirements:

- single access point to enterprise information
- view of enterprise information that is in context with the user's role in the organization

- integration with state-of-the-art business intelligence technologies
- scalability at the enterprise level
- extensibility and ability to customize unique requirements
- effective security and access control for sensitive enterprise data and applications
- manageability and ease of administration.

Click any requirement to see a discussion of the topic, or navigate using the ► buttons to see each topic in sequence.

Single Access Point to Enterprise Information

Much has been written about the current state of information overload that many organizations are experiencing today. These organizations are all struggling with how to manage an overabundance of information. To gain competitive advantage in a fast-changing business landscape, it is critical for organizations to deliver the right information to the right people at the right time.

Knowledge workers must have quick and efficient access to the information that they need to perform their jobs. However, countless hours are often lost as these workers hunt for the information that they need. In addition, there is a time value associated with information, and the half-life of valuable information seems to be ever shortening.

The SAS Information Delivery Portal solves these problems by enabling you to provide a single access point to enterprise information that is universally accessible across the organization. It enables you to aggregate all of the content that is stored on information systems throughout your enterprise - or any other Web resource that is available to your organization.

What is Content?

The SAS Information Delivery Portal uses a broad definition of *content* that gives you the flexibility to deliver any form of digital information that your users require. We provide a comprehensive set of predefined content types, and you can also define your own content types. Here are some of the content types that you can make available through the SAS Information Delivery Portal:

- Content that is managed through your data warehouse, such as SAS data sets and multidimensional databases (MDDBs).
- Reports that are dynamically generated using SAS stored processes.
- Web applications that access and generate content dynamically through Java servlets and Java Server Pages (JSPs).

- Content that is syndicated from a provider using technology such as Resource Description Framework (RDF) Rich Site Summary (RSS).
- Links to any other content that you want to make available.

In addition to these content types, the portal also leverages the capabilities of the SAS Publishing Framework. The Publishing Framework provides powerful tools for packaging content into digital containers that can be transported as needed to users throughout your enterprise.

These packages can contain SAS files (for example, data sets, catalogs, and database views); binary files such as spreadsheets and word processing documents; GIFs, JPGs, and PDF files; HTML files including ODS output; text files; and reference strings such as URLs. Packages give you virtually unlimited ability to surface almost any kind of digital content using the SAS Information Delivery Portal.

Managing Your Content

The key to making all of this content available through the SAS Information Delivery Portal is a centrally managed enterprise directory. The enterprise directory, which is implemented using the Lightweight Directory Access Protocol (LDAP), is used to catalog each content item that is to be accessed through the portal. For each content item, the enterprise directory stores metadata that includes attributes such as the content's location and access permissions. This metadata enables the portal to access information seamlessly from various systems throughout the enterprise and on the Web.

Ease of Use

Making all of this content available is not enough; the content must also be usable in order to empower the knowledge worker to make effective decisions. Because the portal is a Web application, it delivers all of its functionality through an easy-to-use and simple-to-understand Web browser interface. The result is a powerful tool that uses an already ubiquitous interface paradigm, and therefore requires a minimum of training for end users.

Contextual View of Information

While the SAS Information Delivery Portal can provide access to enterprise-wide information, all of your users might not need or want to view that much information. The SAS Information Delivery Portal enables you to organize information and present it to users based on their roles in the organization. This *role-based* approach organizes the information in ways that people are likely to use it.

For example, one worker might need information categorized by subject, while another might need it organized by workflow process. This approach to data organization keeps users from being overwhelmed with information that is not pertinent or useful to their jobs.

The SAS Information Delivery Portal is based on a desktop metaphor that gives each user a personalized virtual workplace within a Web browser window. The desktop contains tools that enable users to quickly and efficiently access and analyze the information they need to perform their jobs.

First, administrators set up desktops for groups of users based on the access needs of particular communities of interest. The portal's personalization features let administrators create role-based windows, lists, and links that contain the content that is suitable for a given community. For example, you might set up reports on current sales that are available through the portal to all members of the marketing team.

Individual users in each group can further personalize their desktops to meet their own needs and preferences. For example, users can subscribe to content channels that are of interest to them or create links to frequently visited Internet sites.

The SAS Information Delivery Portal also provides a focused search mechanism that enables users to find content based on keywords that have been cataloged in the enterprise directory.

All of these features enable you to tailor the view of information to only what is pertinent to your users.

Integrated Business Intelligence Technologies

Like other portals on the market, the SAS Information Delivery Portal gives knowledge workers single-click access to data and applications. However, it differs from other portals in that it is backed by the state-of-the-art analytical and reporting capabilities of the SAS software. This combination of functionality is perhaps one of the biggest advantages of using the SAS Information Delivery Portal.

Here are just a few of the capabilities of SAS that you can leverage through the portal.

SAS Intelligent Warehousing Solution

The SAS Information Delivery Portal is tightly integrated with the SAS Intelligent Warehousing Solution. This integration enables a user to navigate through data warehouses from the portal to find the object he or she is interested in. Once located, objects can be accessed with relational and OLAP data viewers, custom viewers, reports, and applications.

You can export metadata about objects in the warehouse to the enterprise directory and apply access controls during the export process in order to protect sensitive data. The metadata for server connections and authentication linkages is maintained during the export process to provide seamless access by the portal to these objects.

Relational Query and OLAP Tools

Through SAS/ACCESS software, the portal has a comprehensive set of enterprise data source

connectors available, including the following:

- DB2
- Oracle
- Informix
- Sybase
- SQL Server
- SAP R/3
- Baan

Ad Hoc Business and Analytical Reporting

Many business decisions are based on static information that does not accurately reflect the current situation. To make good business decisions in a fast-paced marketplace, knowledge workers need access to information in real time. The SAS Information Delivery Portal provides access to real-time reports through the use of the SAS stored process facility. For more information on this functionality, refer to the Stored Processes topic on the SAS Integration Technologies Web site.

A *stored process* is a SAS program that resides on a server and is available to be executed on a per request basis. When you run a stored process from the portal, you are presented with an input form that enables you to customize the report contents. You can also choose to display the report results dynamically, or you can choose to view the results later.

Like other resources that are accessible through the SAS Information Delivery Portal, reports are protected with access controls in the enterprise directory.

Information Publishing

As discussed in Single Access Point to Enterprise Information, the SAS Information Delivery Portal leverages the capabilities of the SAS Publishing Framework. The Publishing Framework is a key component of the SAS strategy for delivering the right information to the right people at the right time. Capabilities like event-based publication to users who are subscribed to channels and name/value pair filtering on published content enable you to manage effectively the information that your organization produces.

webEIS™

The SAS Information Delivery Portal can provide access to interactive JSPs that you create using the webEIS thin-client reporting solution. This webEIS software is part of SAS AppDev Studio, which is delivered with the SAS Information Delivery Portal Development Environment.

JSPs that you create in webEIS provide point-and-click access to live data from enterprise databases that can be centrally located on SAS servers. The data is presented in the form of charts, tables, and images. Users can drill into the data, create subsets, highlight exceptions, and create new computations. Like other resources that are accessible through the SAS Information Delivery Portal, webEIS documents are protected with access controls in the enterprise directory.

Scalability

A true enterprise application must be scalable. The architecture of the SAS Information Delivery Portal uses a multi-tiered (also called n-tiered) distributed application model that is based on the Java 2 Platform. This allows the portal to scale to the requirements of even the largest enterprises.

One of the advantages of an n-tiered architecture is that it enables you to distribute your processing load across multiple processors. With the SAS Information Delivery Portal, your SAS programs and data access logic run on the back tier (also called the business tier) and are separated from the Web components that run on the middle tier (also called the Web tier). This not only distributes the workload, but it also allows you to take advantage of the SAS Multi-vendor Architecture (MVA) for your business logic that is implemented in the SAS 4GL. Because this code is portable, you can "right size" the business tier platform(s) to meet your needs.

The portal's middle-tier components (comprised of a Web server that runs Java Servlets and JSPs) also operate in a multithreaded environment. This enables a single instance of a servlet to provide service for multiple clients by processing each request in a separate thread. Also, servlet technology provides even more throughput capacity because servlets do not have to be recompiled each time they are executed. And because Java technology is portable, you have a wide range of platforms available to choose from for this tier.

The SAS Information Delivery Portal also manages system resources wisely by pooling connections to Integrated Object Model (IOM) servers. When a client requests content that is located on an IOM server, the portal Web application uses a connection from the pool of connections to that server to retrieve the content rather than starting a new connection for each client that needs to access that server. When the request has been fulfilled, the connection is returned to the pool. This enables the middle tier to scale larger, and it also improves performance because a client does not have to wait for the connection to be established.

The portal also uses caching to achieve higher scalability. It caches on several levels. First, when it retrieves metadata for content from the enterprise directory, it saves this metadata for future accesses. The content itself is also cached on the file system of the middle tier. The portal manages these caches and ages out older information as required.

All of these features enable the SAS Information Delivery Portal to scale to the required level for your business.

Extensibility

While the SAS Information Delivery Portal offers a rich feature set, you might need the flexibility to

extend it with new functionality. This capability is provided through the portal's application development environment and through software development kits (SDKs).

Application Development Environment

The application development environment delivered with the SAS Information Delivery Portal consists of the SAS Enterprise Guide and SAS AppDev Studio software packages. Enterprise Guide gives you the capability to create reports and publish them to portal users. AppDev Studio allows you to create Web applications, widgets, and webEIS documents for users to launch from the portal.

Your license for the SAS Information Delivery Portal includes two copies of each of these products. Additional copies can be added based on the standard license fee schedule.

Software Development Kits (SDKs)

Your license for the SAS Information Delivery Portal also includes software development kits (SDKs) that provide you with the ability to write your own applications and *widgets* that present content using the portal. These SDKs provide access to interfaces contained in the API Reference.

In addition to the portal's SDKs, you can use the IOM Java SDK that is available with SAS Integration Technologies software. These IOM Java components provide access to the SAS data and compute services that are made available by the SAS IOM Server. These IOM interfaces enable your applications to perform functions such as the following:

- bind to IOM servers (the IOM Workspace interface)
- submit SAS language statements and stored processes and examine the SAS log (the IOM LanguageService)
- access tabular data sources within a SAS Workspace using standard APIs such as ADO, OLE DB, and JDBC (the IOM DataService)
- create, retrieve, and manipulate packages from the SAS Publishing Framework (the Utilities interface).

These SDKs give you the flexibility to extend the functionality of the SAS Information Delivery Portal and create your own means of accessing and displaying content using the portal.

Adding Content Types

The SAS Information Delivery Portal also provides extensibility by enabling you to define your own content types in addition to those that are provided with the portal application (see Single Access Point to Enterprise Information). Because content definitions are based on the LDAP schema of the enterprise directory, you have the flexibility to extend the LDAP schema to include your own content types and associated attributes.

Security

Aggregating content through a single access point necessitates a robust security system so that you provide the right level of access control to information and applications.

In the SAS Information Delivery Portal, security is managed in the enterprise directory, where content can be made available to a user based on who the user is or what role he or she plays in the organization. This is achieved using Access Control Instructions (ACIs) that are placed on entities in the directory. These ACIs are used to allow or deny users or groups of users access to the content that is represented by the directory entities.

The enterprise directory also serves as the means for authenticating users of the SAS Information Delivery Portal. Users are represented as entities in the directory and can be assigned both individual and group access permissions. A group of users whose members all perform the same role in an organization can be registered in the enterprise directory as a group. This ability to group users together, along with the ability to define ACIs on an entry for a group, is the cornerstone of the role-based security supported by the portal.

When a user attempts authentication to the portal, the portal searches the enterprise directory for the object that represents that user so that his or her credentials can be verified. At that time, the enterprise directory also provides a security token to the portal for that user. The portal uses this token to grant or restrict access to content. In effect, the token allows a user to access entries that he or she is authorized to see.

Using the enterprise directory as the authentication mechanism provides the additional benefit of single sign-on support. If all content is registered with the enterprise directory and accessed through the security token object, then the user need only log on to the system one time.

The n-tiered architecture of the SAS Information Delivery Portal provides additional security for both your applications and your data. For example, using stored processes enhances security because the programs that access your sensitive data are contained on the server instead of being widely distributed with the client applications.

Manageability

The SAS Information Delivery Portal has several important features that make it easy to manage and administer. First, the portal has a very small client footprint. At a minimum, it consists of an HTTP client, typically a Web browser, that interacts with the portal Web application via an HTML interface.

Depending on your content, the client may also use one or more standard desktop viewers such as Adobe Acrobat or Microsoft Excel. These applications, which are commonly used to view content from

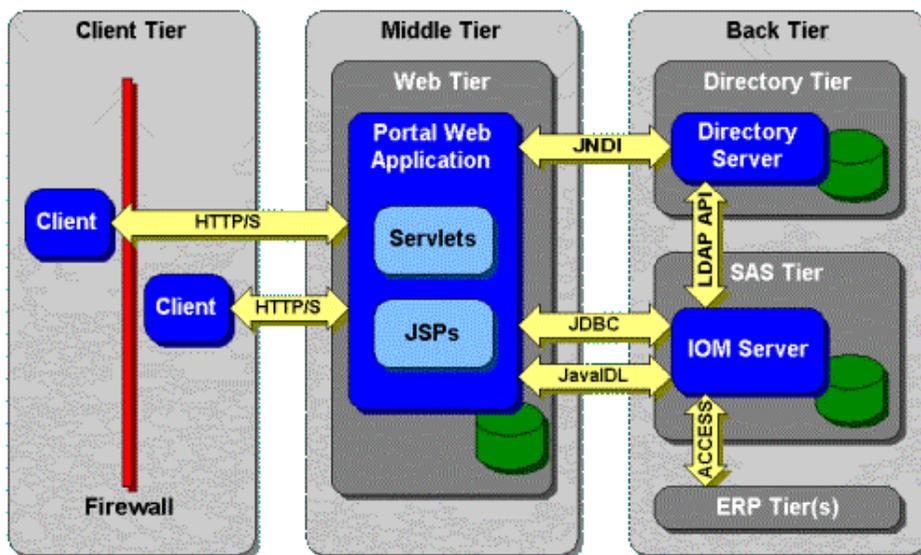
the World Wide Web, may be used to view content that is streamed by the servlets in the portal's middle tier.

The use of the enterprise directory by the SAS Information Delivery Portal offers further advantages relative to systems management. Since every user and every piece of content is defined in the directory, you have a centralized point at which to manage these objects. Regardless of where the server, application, report, or user resides on the network, you can administer it in one place using one interface.

The fact that the SAS Information Delivery Portal is based on an n-tiered architecture also makes it easier to administer and manage code changes. All of the servlets and JSPs reside on the middle tier, and when they need to be updated, you only have to go to one place to do it. Further, the ability to store your SAS programs centrally on the business tier enhances change management. For example, instead of embedding the SAS code into client applications, you can centrally maintain and manage this code from the server. This gives you the ability to change your SAS programs and at the same time ensure that every client that invokes a stored process will always get the latest version available.

Architectural Overview

As shown in the following figure, the SAS Information Delivery Portal is implemented using a multi-tiered architecture. This architecture has proven to be highly effective for developing and deploying enterprise applications.



Client Tier

The client tier consists of the components used to view the portal and its content. At a minimum, the client tier consists of a standard Web browser that is used to interact with the portal over standard Hypertext Transfer Protocol (HTTP) or HyperText Transmission Protocol, Secure (HTTPS). The use of

these standard protocols makes the SAS Information Delivery Portal Web Application "firewall friendly." You can deploy the portal anywhere on your network and users can access it regardless of whether they are on your corporate intranet, extranet, or public Internet.

Depending on your content, the client may also use one or more standard desktop applications such as Adobe Acrobat Reader or Microsoft Excel. These applications are used to view content that is streamed by the servlets in the portal's middle tier. When the Web browser receives content that it does not know how to render, it looks at the mime-type of the content and tries to locate a viewer that knows how to display it. Standard Web browser functionality then redirects the stream to that viewer for displaying. Once the content is in one of these applications, the user can process it locally or save it to disk.

Another optional client application is the SAS Package Reader, which is part of the SAS Publishing Framework. The Package Reader enables you to view and manage the contents of a SAS package off-line, independent of the portal Web application. For more information, refer to the SAS Package Reader topic on the SAS Integration Technologies Web site.

Middle Tier

The middle tier provides a centralized access point for enterprise information. All access to content is processed by components operating in this tier. This design point provides several advantages. The separation of the business logic from the display logic enables you to use different clients to leverage the logic on the middle tier. Another advantage is that the centralized point of access makes it easier to enforce security rules, administer the portal, and manage code changes.

The middle tier hosts the following functions:

- SAS Information Delivery Portal Web Application

The SAS Information Delivery Portal Web Application is the collection of Java servlets, JSPs, JavaBeans, and other classes and resources. These components work together to access information stored in the enterprise directory and present a customizable interface to the user.

- Servlet container

The servlet container, also known as the *servlet engine*, is responsible for managing the SAS Information Delivery Portal Web Application. The servlet container provides a runtime environment that supports concurrency, life cycle management, deployment, and other services for the Java components.

- Web server

The Web server provides services for the servlet engine. For example, the servlet engine relies on the Web server to provide HTTP message handling. The Web server can also be used to host Web sites that can be accessed through the portal.

Back Tier

The back tier is where the data servers and compute servers run. A compute server can also contain

business objects. For example, a SAS IOM Server can contain SAS stored processes that analyze data and summarize results. As shown in the figure above, the SAS Information Delivery Portal Web Application uses standard interfaces like Java IDL and JDBC to communicate with and access data from IOM servers.

Another server in the back tier is the enterprise directory server. As described in Single Access Point to Enterprise Information, the enterprise directory server maintains metadata about content that is located throughout the enterprise. The directory does not contain the content, only metadata that describes it. This includes where the information is located, how to access it, and how it is related to other content items. The portal Web application uses the Java Naming and Directory Interface (JNDI) to access the enterprise directory server.

Note that the phrase "back tier" does not necessarily translate to additional hardware platforms. For small implementations, these servers can run on the same machine as the Web server. At the other end of the scale, a large enterprise may have multiple compute and data servers and an enterprise directory that is distributed across multiple platforms. The architecture of the SAS Information Delivery Portal gives you the flexibility to distribute these functions as required.

Stepping Through the Demo Portal

After you complete all of the steps outlined in the installation instructions for the SAS Information Delivery Portal, you will have a base implementation that includes sample content, a demonstration user account, and other sample features. You can use this base implementation, referred to as the "demo portal," for the following purposes:

- To verify that the portal has been correctly installed.
- To gain an overall understanding of the features that are available.
- To serve as a basis for adding content that meets the needs of your organization.

This demonstration takes you through the demo portal step by step. It introduces you to the user interface and briefly explains what is occurring behind the scenes. Even if you do not have the portal installed, this information will give you a preview of its potential benefits for your organization.

After this demo has introduced you to the SAS Information Delivery Portal, the User's Guide is available for ongoing reference regarding portal navigation and personalization. To access the User's Guide when you are inside the portal, you can click on the **Help** tool. In addition, the Implementation and Administration Guide tells how to add your own content to the portal and customize it to meet the unique needs of your organization.

We will now begin the demonstration.

Start your browser, and access the URL for your installed SAS Information Delivery Portal. Use the

URL that was designated as the \$SERVLET_URL\$ property when the portal was installed. For example, if you are using iPlanet Web Server 4.1, the URL is `http://<server DNS name>/Portal/idp`.

The portal is loaded and the *Public Kiosk* window is displayed. This is the entry window for the demo portal. It should look like the example below:



Notice that the demo portal contains live links to other Web sites, including CNN, CNNSI, SAS, and SAS Integration Technologies. These links and their descriptions were placed in the demo portal to provide examples of the types of content that can be added. Select one of the links to display the referenced Web site in a new browser window, and then close the new window when you are finished.

Next, we will take a quick tour of the SAS Information Delivery Portal's user interface. We will then log on and explore the features in more detail.

Touring the Portal Interface

The demo portal is provided to introduce you to the SAS Information Delivery Portal's user interface and some of the technology that supports it. You can customize many of the portal features, including its windows and navigation features. However, it is helpful first to understand the portal's fundamental components, which are introduced in this quick tour.



- The *toolbar* contains tools that apply to the entire portal:

Log On

The **Log On** tool allows a user to log on to the portal. Once you log on, you have access to your own personalized portal windows that contain content of specific interest to you. We will do a sample log-on later in the demo.

Log Off

Once you are logged on, the toolbar changes to display the **Log Off** tool. Logging off terminates your portal session. (This tool is available only to users who are logged on.)

Search

The **Search** tool allows you to search the metadata that are associated with any of the available information types (publication channels, content channels, documents, links, MDDBs, reports, subscriptions, tables, data warehouse views, applications, or webEIS documents). You can search for words or phrases that you type into the **Containing** field.

Personalize (*available only if you are logged on*)

Use the **Personalize** tool to create new windows, links, and lists and add them to (or remove them from) your portal. You can also use this tool to add new applications, widgets, and webEIS documents to the portal and to manage subscriptions to SAS publication channels and content channels. The Personalize tool appears on the toolbar only after you have logged on.

Help

The **Help** tool displays the User's Guide, which provides detailed documentation on how to use the features of the SAS Information Delivery Portal.

- The *navigation column* appears on the left-hand side of the browser window. Each button links to a window that can contain other windows, lists, links, and content. The portal allows you to define which buttons are to appear on this list.
- The *active window* is the window that is currently displayed in the right-hand section of the browser. A window can contain:
 - one or more other windows, called subwindows
 - one or more lists of content items
 - a widget, which is a graphical user interface (GUI) component that displays information or accepts user input, links, and content

In the demo portal, the Public Kiosk is displayed as the active window. The Public Kiosk contains two subwindows: *News* and *Links*.

Other available windows are listed in the navigation column of the portal. The demo portal highlights the active window button in the same color that is used for the active window background. You can change these colors by customizing the portal theme.

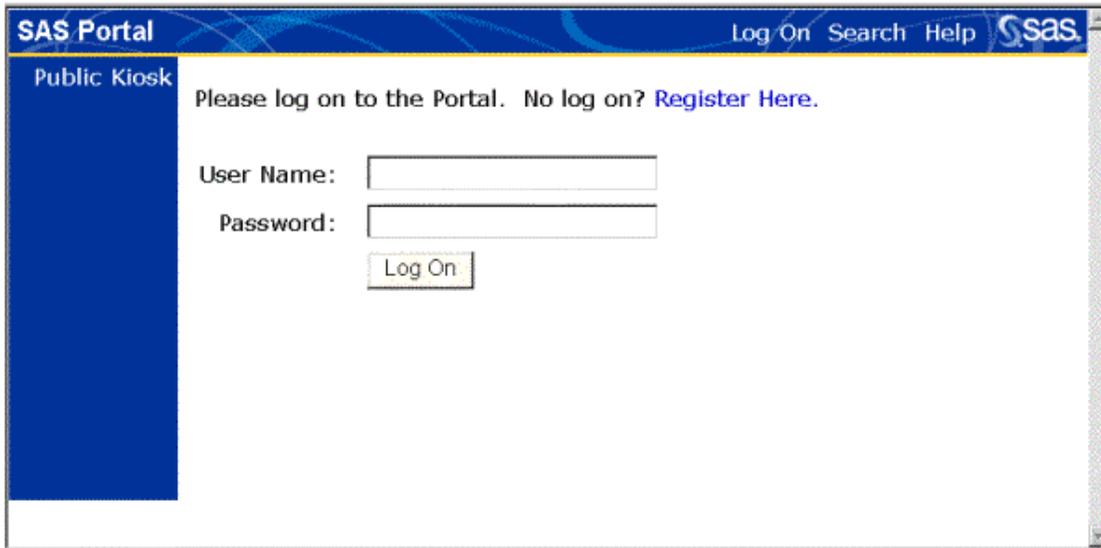
- A *subwindow* can contain one or more subwindows, one or more lists of content items, or a widget. However, subwindows do not appear in the navigation column. Subwindows have banners that use a different background color. Color and placement on the page are part of the interface design but do not affect the behavior of the window or its contents.
- A *list* contains a selection of items of a particular content type. For example, a list can contain a selection of publication channels, content channels, documents, links, MDDBs, reports, subscriptions, tables, data warehouse views, applications, or webEIS documents. In the demo portal, the *Links* subwindow within the Public Kiosk contains a list of links to the SAS Web site.

We will now log on to explore more of the portal features,

Logging On to the Demo Portal

So far, we have looked only at the information that is available on the Public Kiosk of the portal. This information is available to any user who can access the portal URL. However, the power of the portal is that it enables an administrator to aggregate and display content that is designed to meet the specific needs of the user. To access content that has been collected for a unique group of users or personalized for a single user, the user must log on using a valid ID. This ID tells the portal who the user is and enables the portal to display the appropriate content.

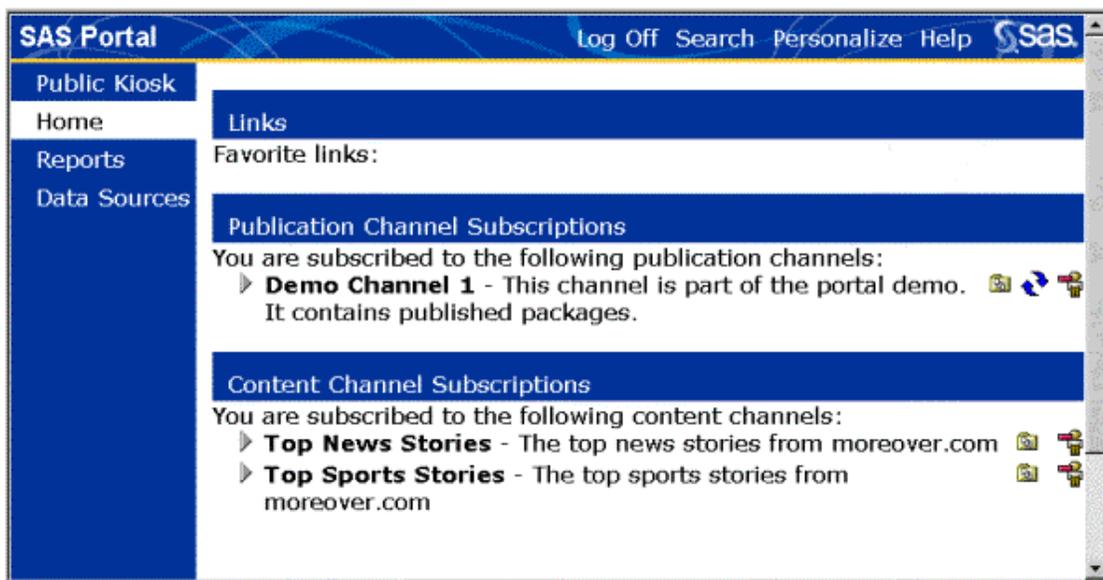
To log on to the demo portal, select **Log On** from the toolbar. The portal log-on window appears as shown below:



Type **portaldemo** in the User Name field and **demo1** in the Password field, and then click **Log On**.

Note: This user name and password should work if you are running the demo portal locally and you configured it using the default ID. If you cannot log on using this account, verify that your LDAP configuration was completed as described in the installation instructions. You might also want to check the Portal's troubleshooting guide for additional information.

If you used the default values supplied with the installation program, the Home window for the "portaldemo" user is now displayed as the active window, as shown below:



Notice the changes in the active window. The Home window has replaced the Public Kiosk as the active

window, and the toolbar has changed to include a Log Off tool and a Personalize tool. Also, the navigation column contains more buttons than were available before we logged on. The Home button is now highlighted to indicate that it is the active window.

You can display any of the main windows by selecting a button from the navigation column. For example, try selecting the **Public Kiosk** button to change your active window back to the Public Kiosk. Because you are still logged in to the portal, the navigation column continues to display all of the available windows for the "portaldemo" user.

In the demo portal, we named the windows to reflect the kind of information that is available on the window. However, you can also choose to group information based on subject matter or task. For example, a procurement specialist might have a main window that lists procurement reports, data sources, and subscriptions, and another main window named Distributors that contains reports about distributors' ratings and links to their web sites.

Now we will look at what is available in the main windows. Click on the **Home** button in the in the navigation column to reopen the Home window, where we will explore Publication Channels.

Publication Channel Subscriptions in the Demo Portal

The SAS Business Intelligence Portal brings the functionality of the SAS Publishing Framework to your Web browser. This means, among other things, that you can use the portal to view content that has been published to a SAS publication channel. (For more information, see the Publishing Framework topic on the SAS Integration Technologies Web site.)

The Home window of the demo portal contains a subwindow titled Publication Channel Subscriptions, as shown below:



This window shows content published to SAS publication channels. The channel's name and description are displayed along with three icons that represent subscription management actions (  ). The first action displays channel properties. The second action refreshes the list of packages published to the channel. The last action allows you to quickly unsubscribe from the channel. Once you unsubscribe, the channel disappears from your list of subscriptions. It can be added back only by resubscribing.

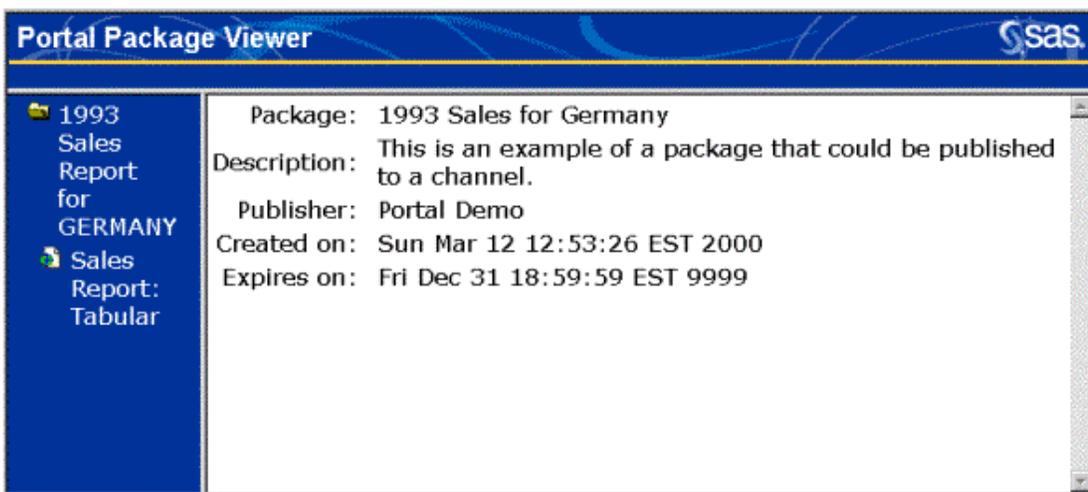
To subscribe and unsubscribe to publication channels, you can use either the SAS Information Delivery Portal or the SAS Subscription Manager applet. On the portal, select the **Personalize** tool and then select **Manage Subscriptions**. The SAS Information Delivery portal stores and accesses information about your subscriptions in the enterprise directory server, which is the same information that the SAS Subscription Manager applet accesses. Therefore, your subscription information will be reflected accurately in both the SAS Information Delivery Portal and the SAS Subscription Manager.

To view the contents of Demo Channel 1, select the arrow (▶) next to the channel name. The list expands to show the three packages that have been published to this channel:



The description that appears next to each package name is entered when the package is published and should provide details about the information contained in the package.

To view the contents of a package, select a package name: **1993 Sales for Germany**. The contents of the package are displayed in a new browser window using the Portal Package Viewer:



The Portal Package Viewer opens the package and displays a list of the contents in the left column and package properties information in the right column. The Germany sales package contains only one entry, a pre-generated tabular report. Select the link for the sales report. It replaces the properties information in the right column of the browser window. To open another package, return to your list of subscriptions

on the Channels window and select another package name.

Each of the packages provided with the demo contains a tabular report. However, you can publish other types of information using the publishing framework. For more information about packages and the types of information they can contain, read *Package Content* on the SAS Integration Technologies Web site.

When you are finished, close the window containing the Portal Package Viewer. Then click on the downward arrow (▼) to collapse the channel content.

In addition to SAS publication channels, the SAS Information Delivery Portal lets you access *content channels*, which provide syndicated content published by information providers such as news services. We will now take a look at the Content Channels list.

Viewing Content Channels in the Demo Portal

The SAS Information Delivery Portal allows you to subscribe to *content channels*, which provide syndicated content published by information providers. An example of a content channel is a news service that publishes continually updated information, either of general interest or related to a specialized topic.

The Home window of the demo portal contains a subwindow titled Content Channel Subscriptions, as shown below:



The Content Channels list in this window contains two sample content channels. The channel names and descriptions are displayed along with two icons that represent subscription management actions ().

descriptions are displayed along with two icons that represent subscription management actions ( ).

The first action displays channel properties, and the second action allows you to quickly unsubscribe from the channel. Once you unsubscribe, the channel disappears from your list of subscriptions. It can be added back only by resubscribing. You can do this using the Personalize tool.

To view the contents of the Top News Stories channel, select the arrow () next to the channel name. The list expands to show current news stories that have been published to this channel, as in the example below. (A different list of stories will appear on your screen, since this channel is updated continually.)



To view the full text of a story, select one of the highlighted links. The story will be displayed in a new browser window.

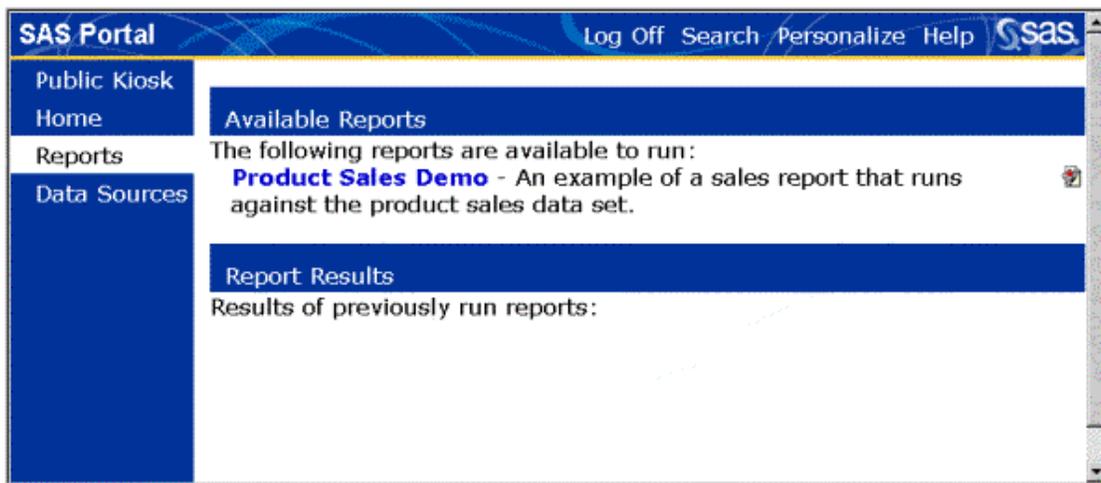
When you are finished viewing, close the window that contains the story. Then click on the downward arrow () to collapse the channel content.

In addition to content and publication channels, the SAS Information Delivery Portal provides other methods of accessing and evaluating information. These methods are demonstrated on the Reports and Data Sources windows. We will start by looking at the Reports window.

Running Reports in the Demo Portal

A previous section showed how you can use the SAS Information Delivery Portal to view reports that have been published to a SAS publication channel. These types of reports are generated by SAS and published to the desired channel as part of a package. Once published, the report contents are static. The content is refreshed only when the report is rerun and the results are published in a new package. This functionality is quite appropriate for some types of reports.

However, some users require the ability to run reports on an ad hoc basis. For more information on this type of functionality, refer to the Stored Processes topic on the SAS Integration Technologies Web site. To see this feature in action, select the **Reports** button from the navigation column of the demo portal. You should see a window that looks like the following:



The Available Reports subwindow contains a list of reports that are available to the user. Select **Product Sales Demo**. The Portal Report Runner appears in a new browser window.

On the Portal Report Runner window, select **1994** for the Year value and **U.S.A.** for the Country value. Make sure that the **Wait for results** option is checked, and then submit the report request.

The results package is displayed in a window called the Portal Package Viewer. From the left column, select **Sales Report: Tabular** to view the results. You should see a window that looks like the following:

Portal Package Viewer 

1994 Sales Report for U.S.A.

Sales Report: Tabular

1994 Sales Report for U.S.A.

		Actual Sales
		Sum
Country	Division	
U.S.A.	CONSUMER	57205.00
	EDUCATION	59091.00

Since this report uses a small data set, it runs very quickly. Other reports may not run as quickly, or you may be multitasking and not need the results immediately. In these cases, you can uncheck the **Wait for results** option. This causes the generated report to be stored for later viewing. As shown in the figure below, a link to the report is added to the Report Results window with a date stamp. You can select this link to view the results.

SAS Portal Log Off Search Personalize Help 

Public Kiosk

Home

Reports

Data Sources

Available Reports

The following reports are available to run:

Product Sales Demo - An example of a sales report that runs against the product sales data set. 

Report Results

Results of previously run reports:

Product Sales Demo - Feb 22, 2001 

Select the delete action icon () to remove the report from your Report Results window when you no longer need access to it.

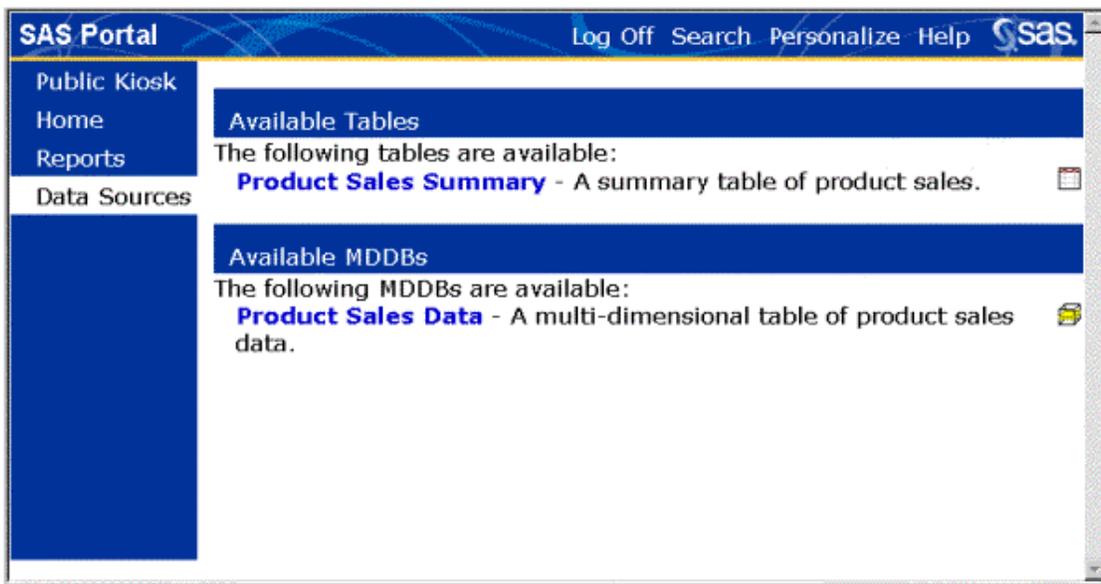
The SAS Information Delivery Portal offers other vehicles for interactive reporting, including the Table Viewer and the MDDB Viewer. We will now continue by looking at the Data Sources window.

Viewing Data in the Demo Portal

The previous section demonstrated how you can use the stored process facility to generate ad hoc reports. You can also manipulate tabular data using the Table Viewer and multi-dimensional data using the MDDB Viewer.

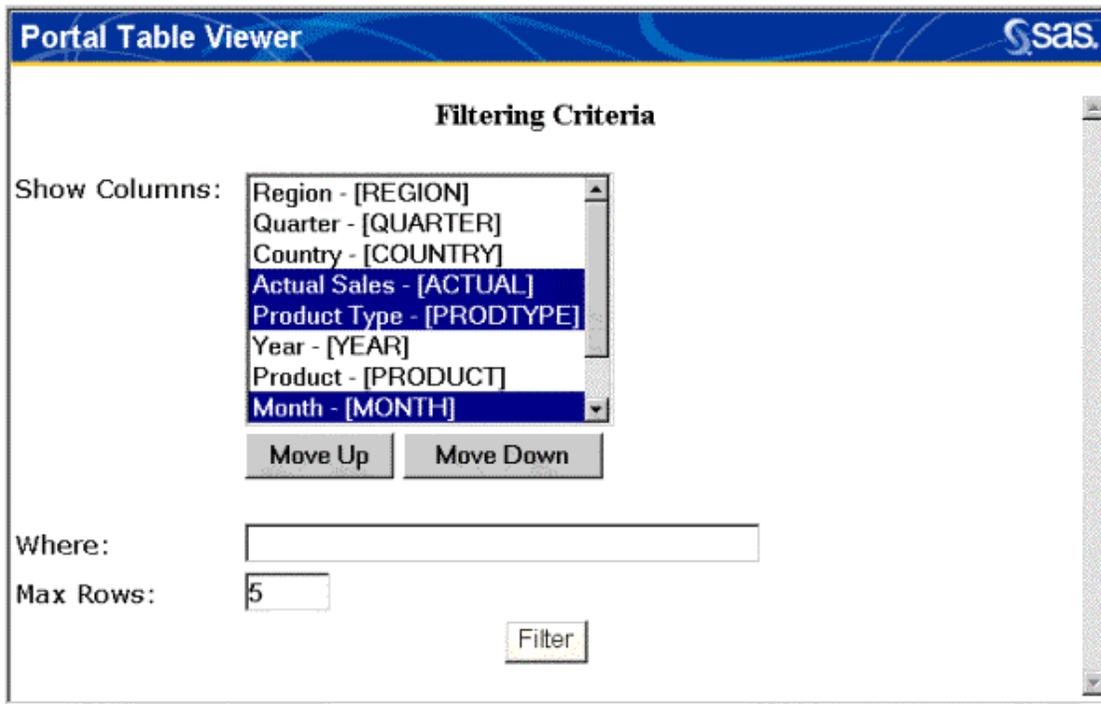
To see these features, select the **Data Sources** button from the navigation column on the demo portal. You will see a window that looks like the figure below.

Note: The Available MDDBs subwindow will appear only if you enabled MDDB support during installation.



Viewing Tables

To view a sample table, select the **Product Sales Summary** link from the Available Tables list. The Portal Table Viewer opens in a new browser window (see the figure below). Make your selections look like those in the figure. In the Show Columns selection box, select **Actual Sales**. Then hold down your control key and select **Product Type** and **Month**. Change the value for Max Rows to **5**.



Select the **Filter** button.

The results of the filter are displayed at the top of the Table Viewer window, as shown in the following figure. The filtering criteria are displayed at the bottom of the window in case you want to change the values and resubmit the filter.

Portal Table Viewer sas

Product Sales Summary

Actual Sales	Product Type	Month
925.0	FURNITURE	1993-01-01
999.0	FURNITURE	1993-02-01
608.0	FURNITURE	1993-03-01
642.0	FURNITURE	1993-04-01
656.0	FURNITURE	1993-05-01

< Previous Page [Next Page](#) >
Showing rows 1 - 5

Filtering Criteria

Show Columns:

Region - [REGION]
 Quarter - [QUARTER]
 Country - [COUNTRY]
Actual Sales - [ACTUAL]
Product Type - [PRODTYPE]
 Year - [YEAR]
 Product - [PRODUCT]
Month - [MONTH]

Where:

Max Rows:

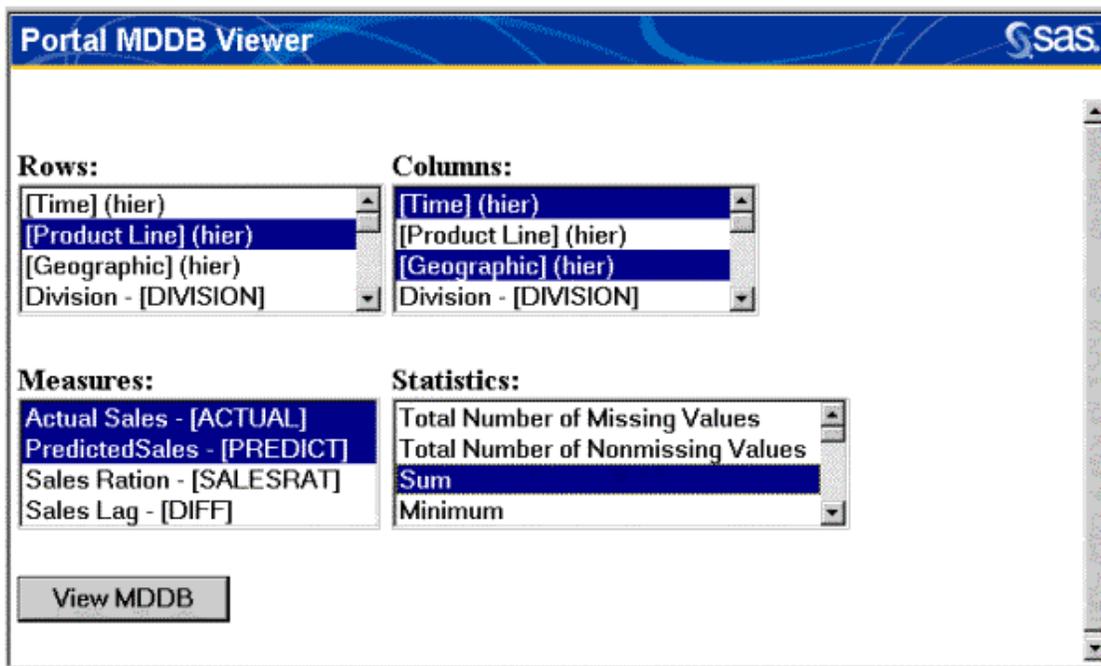
The number of rows shown on the page is controlled by the value that you entered for the **Max Rows** field (5 in this case). The counter on the right of the window indicates which rows you are currently viewing. In this case, we are viewing the first five rows. The **Next Page** and **Previous Page** links on the left side of the window allow you to scroll through the pages of results, each of which contains another five rows of data.

When you are finished, close the Table Viewer window. The Data Sources window should still be displayed.

Viewing Multi-Dimensional Databases (MDDBs)

To view a sample MDDB, select the **Product Sales Data** link from the Available MDDBs subwindow on the Data Sources window. The Portal MDDB Viewer opens in a new browser window (see the figure below).

The first step in viewing the MDDB is to select the rows, columns, measures, and statistics that you would like to view. In the Rows selection box, select **[Product Line]**. In the Columns selection box, select **[Time]**; then hold down your control key and select **[Geographic]**. In the Measures selection box, select **Actual Sales**, and then hold down your control key and select **Predicted Sales**. In the Statistics selection box, select **Sum**.



Select the **View MDDB** button. As shown in the following figure, the Portal MDDB Viewer window changes to show the data you have requested.

Year	1993				1994			
	CANADA		GERMANY		U.S.A.		CANADA	
Country	Actual Sales	Predicted Sales						
Product type	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
FURNITURE	\$48,564.00	\$47,155.00	\$54,246.00	\$50,080.00	\$46,085.00	\$50,166.00	\$49,300.00	\$42,786.00
OFFICE	\$72,456.00	\$72,174.00	\$73,158.00	\$67,039.00	\$74,968.00	\$73,597.00	\$76,670.00	\$70,904.00

Now that you have identified how you want to view the MDDB, you can drill down into the data using

the links in the headings. The arrows at the bottom of the window allow you to scroll between the pages of data.

When you are finished, close the MDDB Viewer window.

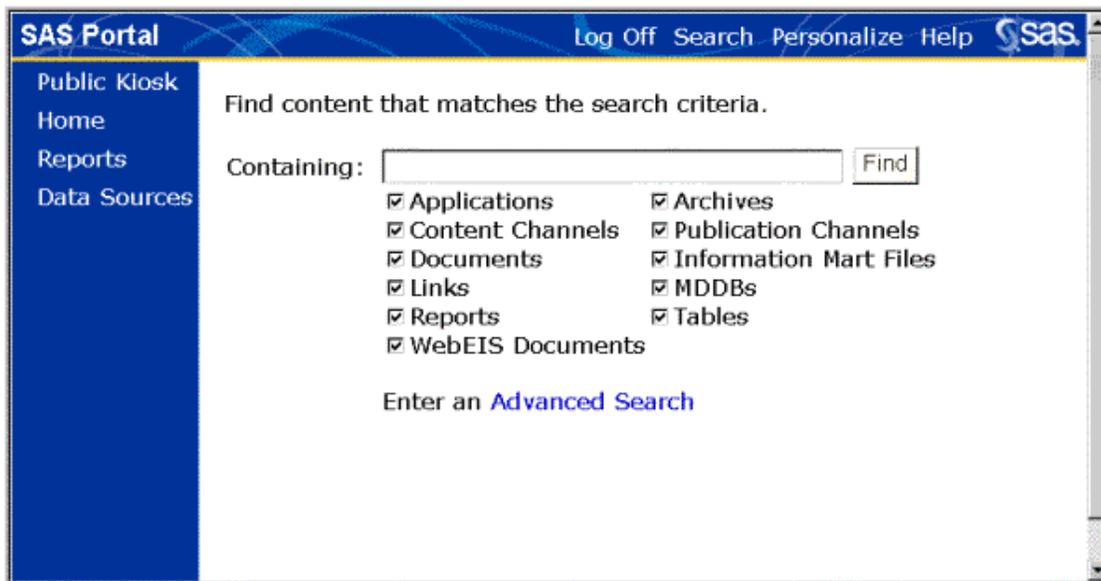
Next, let's look at the SAS Information Delivery Portal's powerful search tools.

Searching the Demo Portal

You have seen several examples of the types of data and information that can be made available through the SAS Information Delivery Portal. Other types of content that the portal can accommodate include applications, documents, data warehouse views, and webEIS documents. You can further customize the portal to include even more types of content.

The portal's Search tool provides a powerful way for users to locate available content, even if the content is not included in the windows and lists of the user's portal desktop. To use the search tool, you enter search criteria and specify the types of content you are interested in. The search engine examines the metadata (descriptive data) associated with all portal content that you are authorized to view, and it displays a list of content items whose metadata match your criteria.

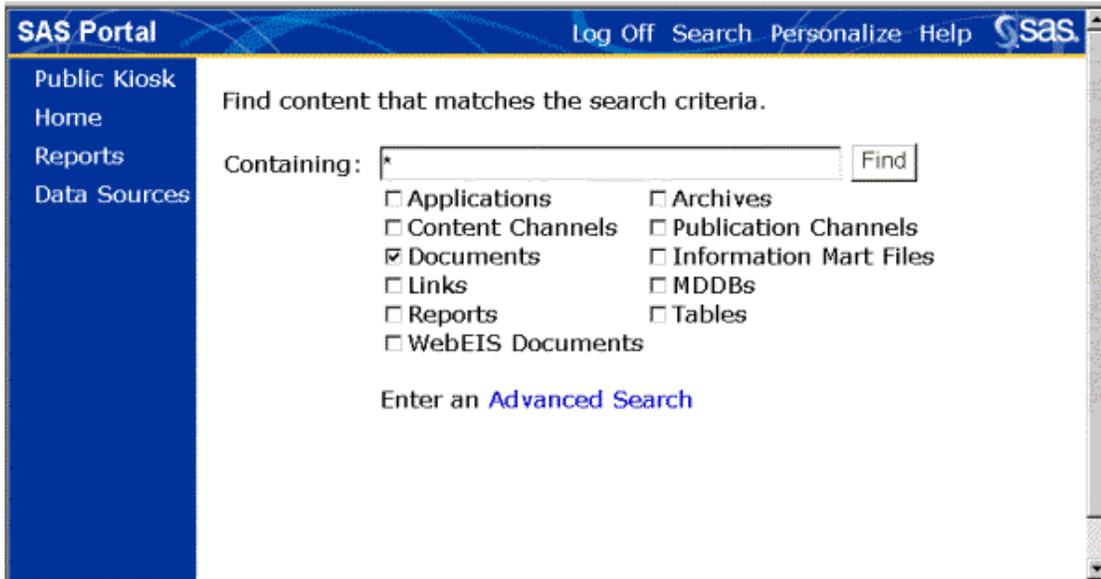
To see how the search tool works, select **Search** on the demo portal toolbar. You will see a window that looks like the figure below.



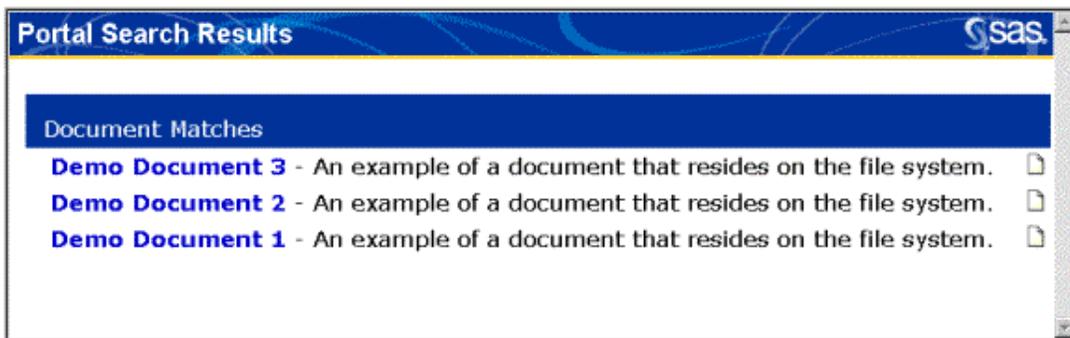
At **Containing**, enter an asterisk (*). This is a wildcard, indicating that you are interested in finding all of the content items that are available. (Alternatively, you could enter a word or phrase that you want to

search for.)

In the list of content types, click on the checkboxes to remove the checkmarks from all of the checkboxes *except* the **Documents** checkbox. The window should look like the figure below.



Now click the **Find** button. The search engine examines the metadata associated with the portal content and finds all documents that the *portaldemo* user is authorized to see. The documents are listed in the Portal Search Results window, as shown below.



To open a document, click on **Demo Document 1**. The document appears in a separate browser window, as shown below.



Close the window that contains the document.

Before we log off and leave the demo portal, let's take a look at the Personalize tool.

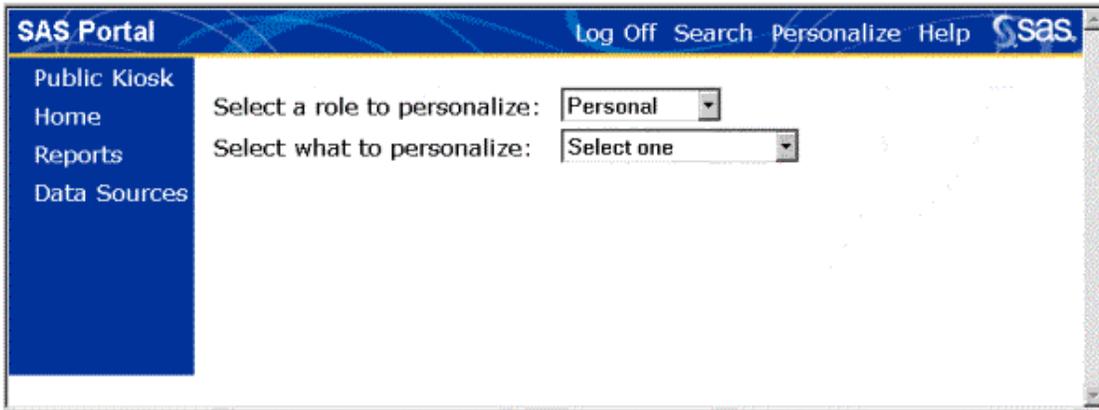
A Look at Portal Personalization

The SAS Information Delivery Portal offers almost unlimited possibilities for delivering information using a Web browser as the application interface. The demo portal offers just a glimpse of the features that are available.

Typically, an administrator customizes the SAS information Delivery Portal by incorporating an organization's own content into the application. The Personalization features of the SAS Information Delivery Portal take this process a step further by enabling each individual user to personalize the portal to meet his or her unique work requirements. Using this tool, you can add new windows, lists, and even certain types of content to your personal Portal desktop.

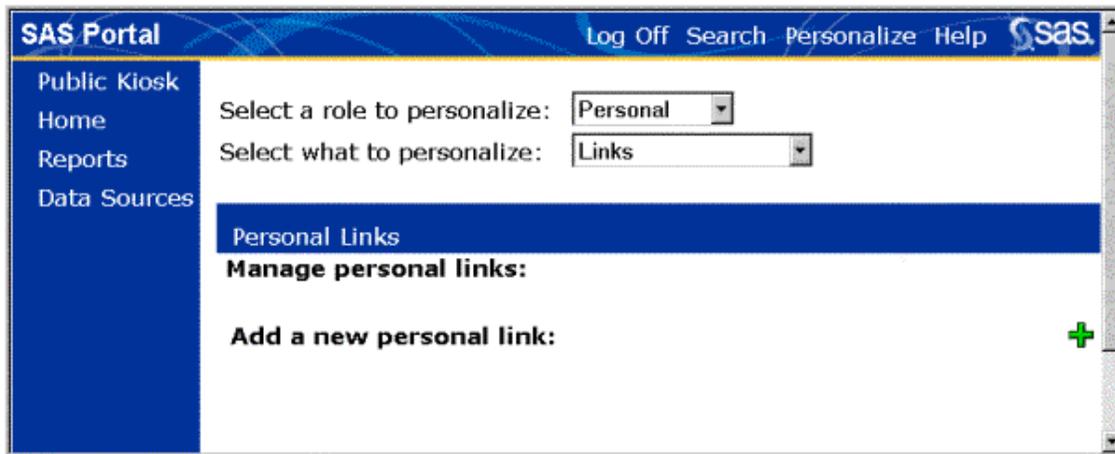
In this part of the demonstration, we will use the Personalize tool to create a new personal link. Then we will add the link to the Home window of the demo Portal.

First, select the **Personalize** tool from the toolbar of the Portal desktop. The following choices are displayed:



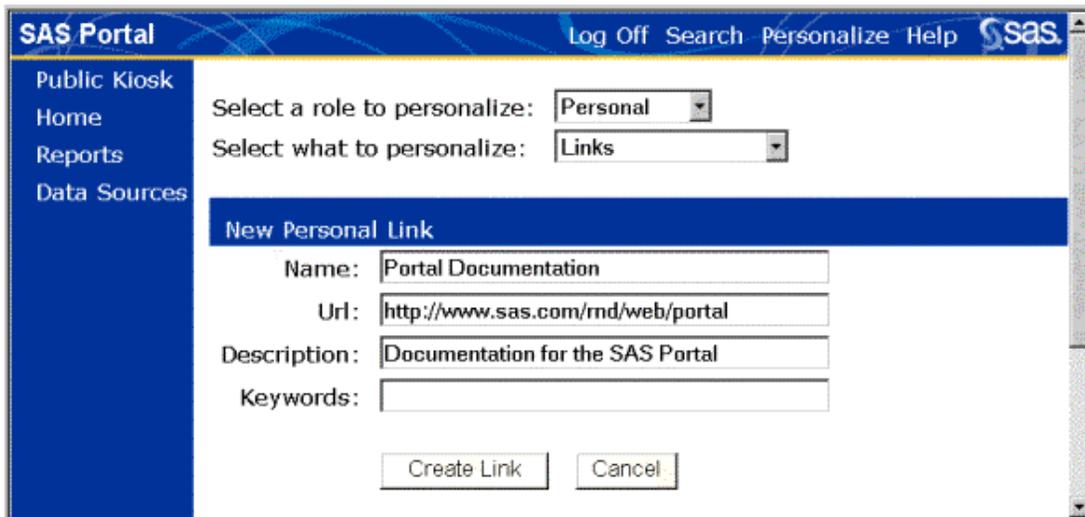
In the first drop-down list, we will accept the **Personal** role. This means that our personalization actions will affect just the **portaldemo** user. (Users who are authorized as group owners can select a role that encompasses multiple users. In that case, the personalization changes would affect all of the users assigned to that role.)

In the second drop-down list, select **Links** as the category of features to personalize. The Personal Links subwindow is displayed:

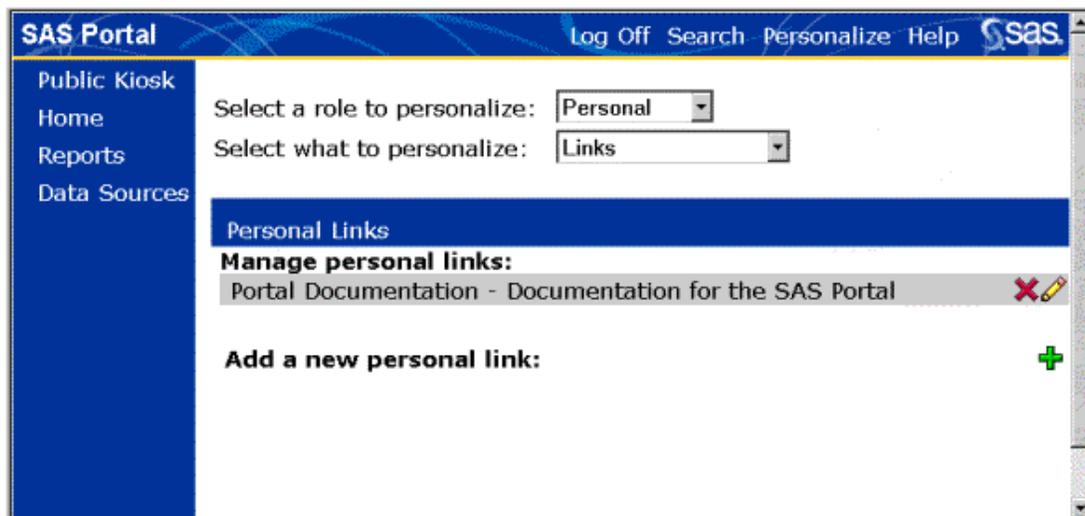


Select the icon for **Add a new personal link** (+). Then complete the New Personal Link subwindow shown below with the following values:

- **Name:** Portal Documentation
- **Url:** <http://support.sas.com/rnd/web/portal>
- **Description:** Documentation for the SAS Portal



Select **Create Link**. The new link is created, and it now appears in the Personal Links subwindow under **Manage personal links**:



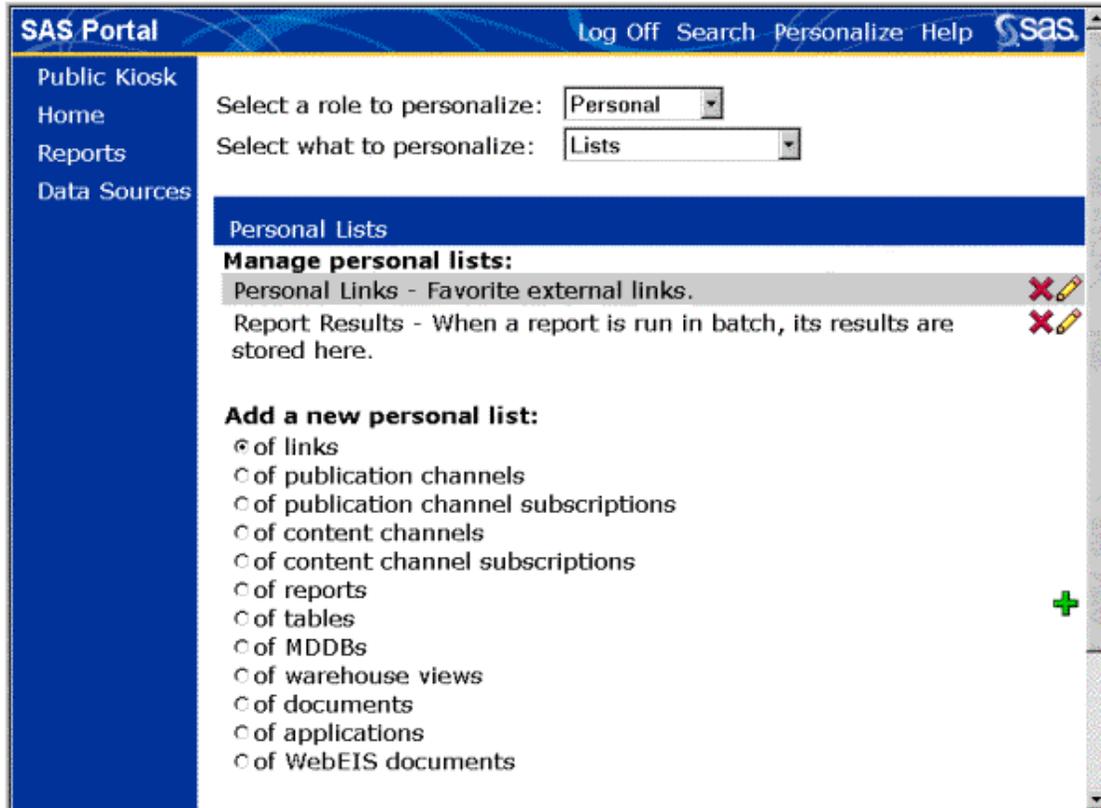
Before we can use the new link, we must add it to the portaldemo user's desktop. We will first determine where to place it.

From the navigation bar, select the **Home** window:

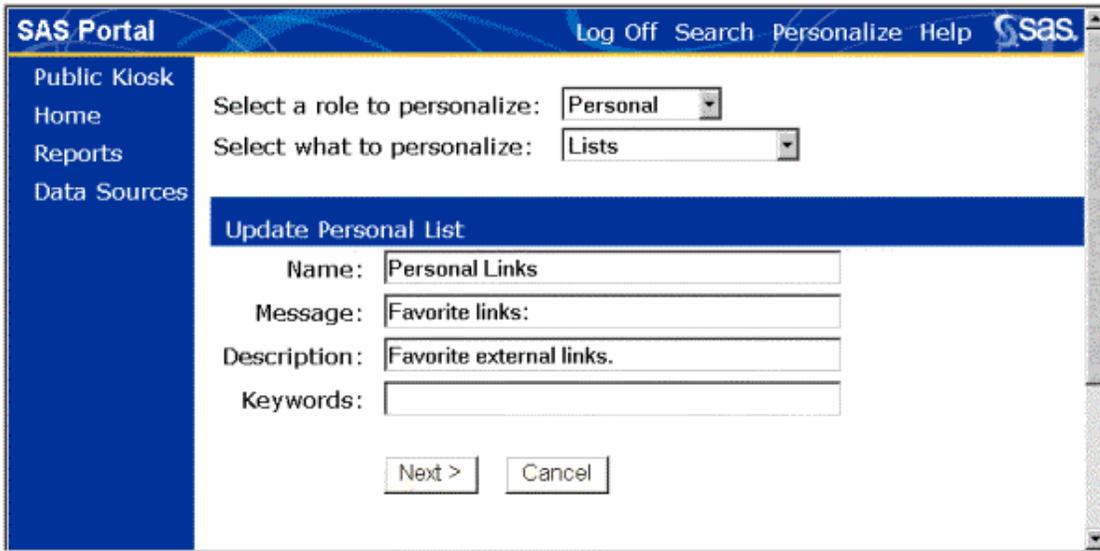


Notice that the Home window contains a subwindow called **Links**. Within this subwindow, an empty list appears with the message **Favorite links**. We will add the new link to this list.

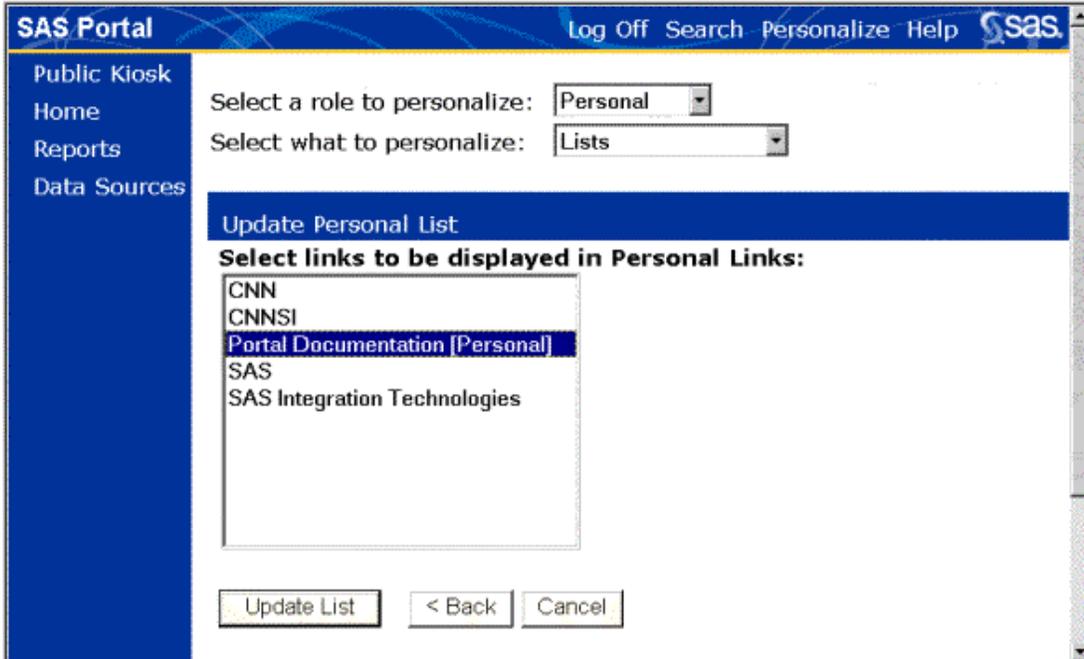
To do so, select the **Personalize** tool again. This time, select **Lists** from the second drop-down list. The window changes to include the Personal Lists subwindow:



On the line that says **Personal Links - Favorite external links**, select the icon for the edit list action (). The Update Personal List subwindow is displayed:



Select **Next** to accept the default values. Now a selection list of available links is displayed on the window. Notice that Portal Documentation is one of your choices.



Select **Portal Documentation**, and then select **Update List**.

You are finished, and the new personal link is now available. To see it, select the **Home** button from the

navigation bar:



Portal Documentation appears in the Links subwindow. You can click that link for up-to-date information about the SAS Information Delivery Portal.

If other persons in your organization will be signing on as the portaldemo user and working through this demonstration, you should now delete the new link. To do so, select the **Personalize** tool once again. Select **Links** from the second drop-down list. On the Manage Personal Links subwindow, select the delete link icon (✘) on the **Portal Documentation** line. The link will be deleted from the demo portal.

To log off, select **Log Off** from the toolbar on the Portal desktop. When the logoff is complete, select the **Back to the Portal** link to return to the Public Kiosk. Notice that the other windows are no longer available.

We have now stepped through many of the windows in the demo portal and given you a glimpse of some of the features offered. If you have installed the SAS Information Delivery portal, you should have seen the same results for each task we performed. If not, review the installation instructions and check the Portal's troubleshooting guide for possible solutions.

For complete reference information on using the SAS Information Delivery Portal, see the Portal User's Guide.

To learn more about how to implement and administer the SAS Information Delivery Portal to meet the needs of your organization, refer to the Implementation and Administration Guide.

System Requirements

The SAS Information Delivery Portal requires a Web server, a SAS server, an enterprise directory server, and one or more clients. The requirements for each are described below.

Client Requirements

Because the SAS Information Delivery Portal is a Web application, the only requirement for client machines is that they use a Web browser. We require either Microsoft Internet Explorer, Version 5.0 or later; or Netscape, Version 6.2.

Depending on the types of content to be published on the portal, client machines may also need one or more standard desktop applications. Examples could include Adobe Acrobat Reader (to read PDF files streamed to the portal) or Microsoft Excel (to read spreadsheets streamed to the portal).

Web Server Requirements

The SAS Information Delivery Portal Web Application is based on the Java 2 platform. It uses Java servlets and JavaServer Pages (JSPs) running on a Web server in the middle tier.

Java Software Development Kit (SDK)

The current release of the SAS Information Delivery Portal Web Application requires the Java 2 Software Development Kit (SDK), Standard Edition. Version requirements vary depending on which servlet container software is used. Whenever possible, Version 1.3.0_01 is recommended.

Servlet Container

The Web server must provide a platform, or engine, called a *servlet container*, to run the SAS Information Delivery Portal Web Application's servlets and JSPs. The container provides a runtime environment that supports concurrency, life cycle management, deployment, and other services for these components. Some commercial Web servers include the servlet container functionality. Others require a separate product that provides this functionality. Web servers that contain servlet containers are sometimes called Web application servers.

Note: Because the servlet container vendors have used inconsistent methods to implement the Java servlet and JSP specifications, the SAS Information Delivery Portal is only supported with servlet containers that have been tested and validated by SAS.

The servlet containers in the following products have been tested for use with the SAS Information Delivery Portal Web Application and the Java 2 SDK, Standard Edition, Version 1.3.0_01:

- Apache Tomcat, Version 3.2
- Allaire JRun, Version 3.0
- BEA WebLogic Server, Version 6.1
- BEA WebLogic Server, Version 7.0, SP2
- IBM WebSphere Application Server, Version 4.0

The servlet containers in the following products have been tested for use with the SAS Information Delivery Portal and the Java 2 SDK, Standard Edition, Version 1.2.2. (**Note:** These servlet containers do not support Version 1.3.0_01).

- BEA WebLogic Server, Version 5.1
- iPlanet WebServer, Version 4.1
- IBM WebSphere Application Server, Version 3.5.2

The recommended reference servlet container is Apache Tomcat Version 3.2.

At a minimum, your Web server must support the following specifications:

- Java Servlet Specification, Version 2.2 or later
- JavaServer Pages Specification, Version 1.1 or later
- Java 2 SDK, Standard Edition, Version 1.3.0_01 (or Version 1.2.2, depending on which servlet container is used)

For more information about the above listed software specifications, visit the Products and APIs section of the Java Web site provided by Sun Microsystems.

SAS Server Requirements

The SAS Information Delivery Portal requires a portal-enabled SAS server to access and process information. Each portal-enabled SAS server must include the following:

- Base SAS Software, Release 8.2 or higher
- SAS Information Delivery Portal Server Components 1.1
- Other SAS products required for hosted content types and applications that process and analyze data

Directory Server Requirements

You must have an LDAP-enabled directory server that can be accessed by the Web server and the SAS server. The following directory servers have been tested for use with the SAS Information Delivery Portal:

- Sun ONE Directory Server 5.1
- Netscape Directory Server 4.1
- IBM SecureWay, Version 3.2

For more information on the requirements of the enterprise directory server, see Directory Services and Integration Technologies on the SAS Integration Technologies Web site.
