

Powerful and Easy Content Management and Business Analytics with IBM Content Navigator

IBM Redbooks Solution Guide

IBM® Content Navigator allows you to quickly and easily configure and customize the user interface with the administration tools provided. Content Navigator has many great capabilities, including easy development of plug-ins that add new actions and provide special production imaging layout to the user interface. Other customization capabilities include working with external data services, using IBM Content Navigator widgets externally in other applications, and wrapping the widgets as iWidgets to be used in other applications. Content Navigator components can be used in mobile development, and allow working with existing viewers and incorporating third-party viewers.

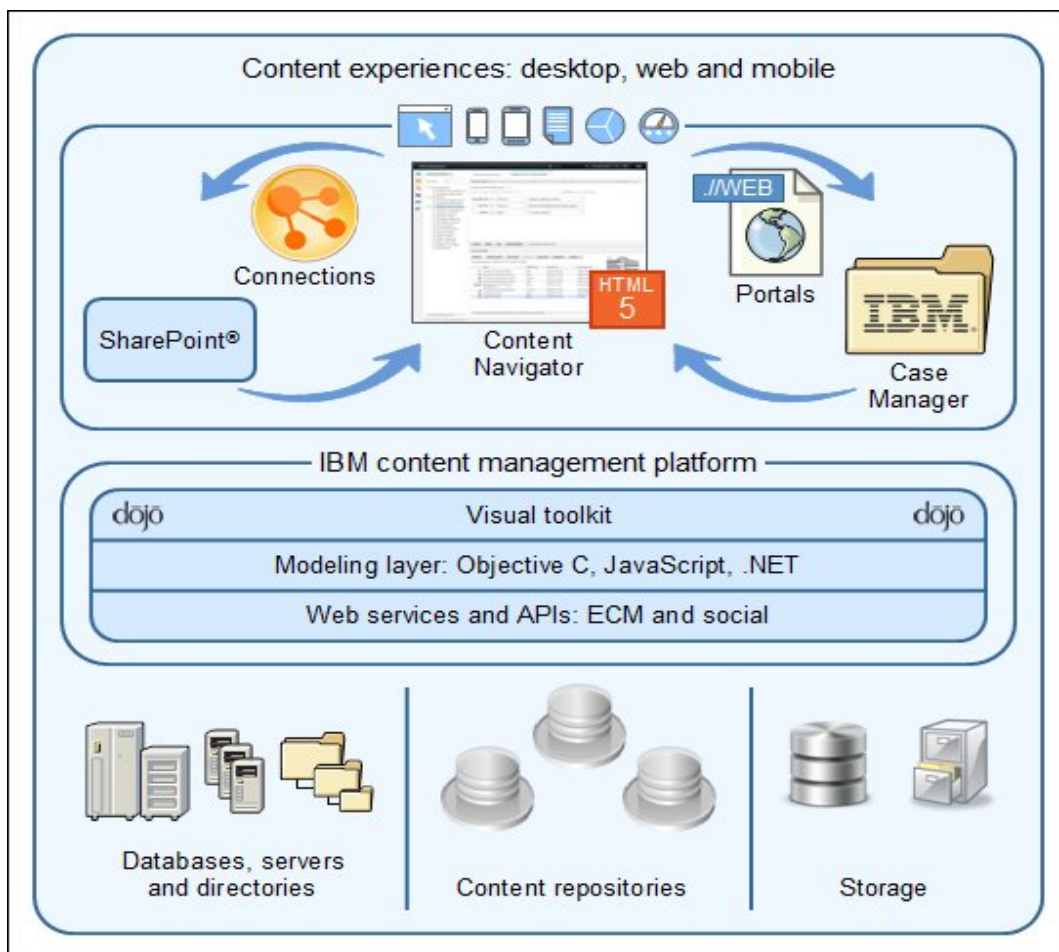


Figure 1. IBM Content Navigator overview

Did you know?

Over 70% of large organizations have three or more ECM systems, but over one quarter are migrating to a single system. More than two thirds of installed ECM systems do not have mobile access options. Many consultants believe the highest priorities in Enterprise Content Management are electronic records management, agreeing on taxonomy and integration of repositories.

Business value

On a smarter planet, leading organizations need to redefine the role of content to gain better insight and outcomes. This new approach requires new tools and solutions. IBM Content Navigator provides a new user experience that improves the way people interact with and manage content. Content Navigator delivers intelligence and control of collaborative and mobile content throughout the organization. The results can transform the way organizations do business by putting content in motion for maximum value throughout its lifecycle. Content Navigator is a ready-to-use, modern, standards-based user interface that supports all content management use cases, including collaborative document management, production imaging, and report management. Content Navigator is also a flexible and powerful user platform for building custom Enterprise Content Management (ECM) applications by using open web-based standards.

Solution overview

IBM Content Navigator is a component that serves as both user interface and platform, and that can be used with the following products (and their content repositories):

- IBM Content Manager
- IBM FileNet® Content Manager
- IBM Content Manager OnDemand

Content Navigator provides a rich and flexible feature set so businesses can more effectively use information to streamline business processes. Among the capabilities provided are:

- General document actions such as check in, check out, properties, and history
- Favorite documents and folders definitions from supported repositories
- Thumbnail preview
- Document searching
- Search builder
- Shared searches
- Full text searching
- Advanced search feature that includes a category or facet tree, search collections, type-ahead, saved searches, thumbnails, term-hit-highlighting, and document summary
- Document viewing and annotation
- Workflow tasks and processes
- Business self-provisioning
- Mobile application and mobile browser support

Solution architecture

The architecture for Content Navigator is divided into three main tiers:

- View tier
- Model tier
- Controller

The view tier provides easy access to model tier services for client-side components, common request and response, and error and session timeout handling. When an item is modified, this architecture enables the update to be reflected throughout the user interface, making it a true model-view experience in the browser. The model tier optimizes access through caching and smart requests. The non-visual logic is pushed into the model layer and is reused across visual components, which makes it easier to build custom visual components. The controller is the repository for connectors in the ECM mid-tier services layer.

Unique aspects of the Content Navigator architecture are that the model and view tiers have a clear separation, and that both the model and view tiers are implemented in JavaScript and therefore execute on the client. Servlets are still being used but the model is entirely in JavaScript and the view is now entirely in JavaScript, HTML, and CSS. The model is not stored in the session or the request because everything is stateless at this point. The servlets are called through REST-style HTTP calls and they return JavaScript Object Notation (JSON) formatted payloads back to the JavaScript model. The model layer then creates JavaScript objects that are based on the payload that is returned. The model then tells the view what to display.

Content Navigator is built on the Dojo 1.6 open standard. It extends Dojo widgets and Dojox. As a convenience, Content Navigator includes a set of visual widgets that can be used and configured to build your user interface. The entire Content Navigator user interface is built by wiring these widgets together. Often, the same widgets can be used in multiple places in the user interface theme and reusable components that sit on Dojo. Content Navigator uses the JavaScript model to provide highly specialized ECM functionality. The JavaScript model can be extended through plug-ins to provide additional functions in Content Navigator, such as the following functions:

- Define new actions or replace existing actions.
- Define services to support new actions or extend existing services (through preprocessing and post processing).
- Access all available underlying toolkits (Dojo, P8, CM, and CMOD APIs).

The plug-ins do not require any modification to the Content Navigator code. There is no change to EAR or WAR files. The following plug-ins are already available:

- Content Analytics plug-in
- External data services plug-in

The IBM Content Navigator architecture is shown in Figure 2.

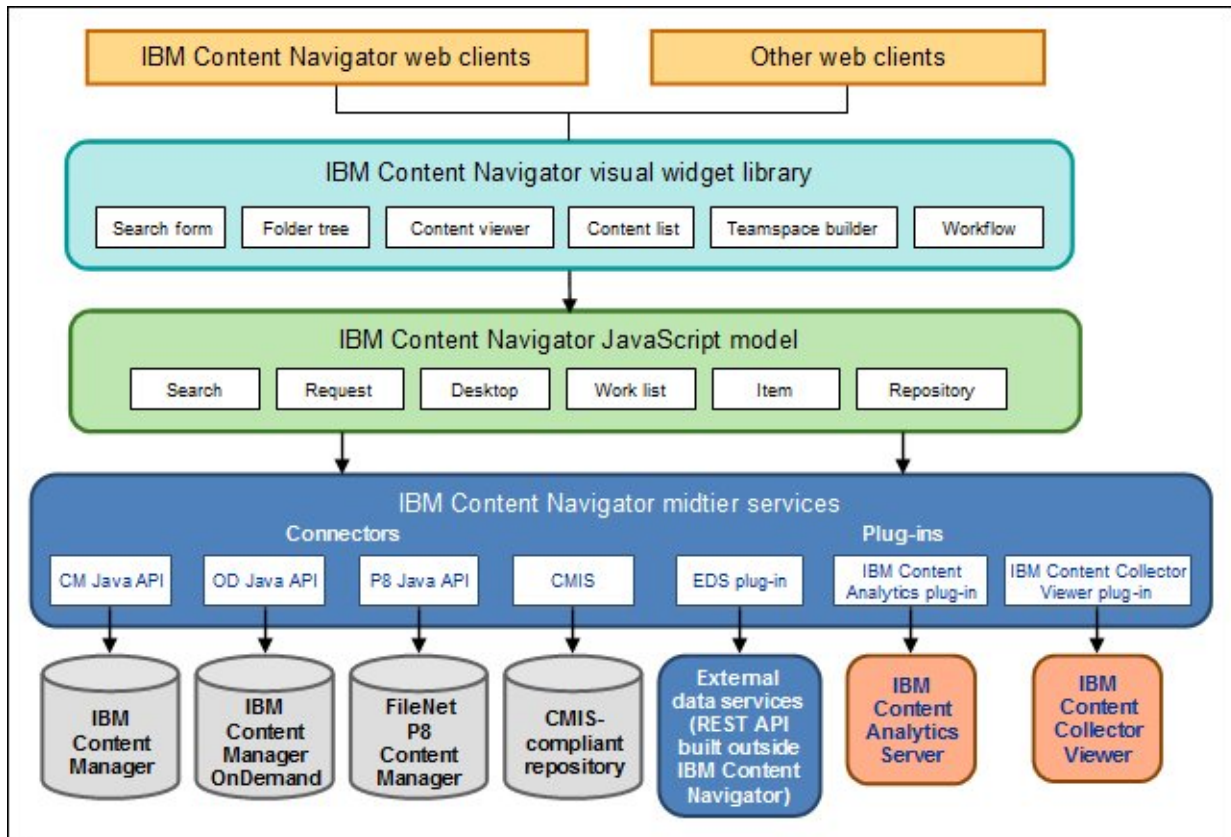


Figure 2. IBM Content Navigator architecture

Usage scenarios

There are many examples of different Content Navigator extension points and how they can be used to meet the needs of the company. In this section, we give an overview of a capability needed by a fictitious insurance company to update all documents that are associated with an account when that account is closed. Several other scenarios and more detail behind this scenario can be found in IBM Redbooks publication *Customizing and Extending IBM Content Navigator*, SG24-8055.

Document update scenario

In this scenario, the user typically searches for all documents associated with the account. The user then updates those documents to indicate that the account associated with the documents has been closed by specifying the close date. This information is typically used to determine retention or disposition of these documents and also for record-keeping on the account status. We can develop an IBM Content Navigator plug-in to provide this bulk update capability. This plug-in adds an action into the search and browse views of the base Content Navigator component. This action can be initiated when one or more documents are selected. After the action is selected, a dialog box opens where the user can enter the date that the account was closed. This date is then used to update the selected documents to indicate that the associated account has been closed.

The steps to add this new action through a plug-in are summarized as follows:

1. Set up a plug-in project and package.
2. Create a Plugin class.
3. Create the plug-in service.

4. Create the action dialog.
5. Implement the action JavaScript.
6. Add the action.
7. Implement `getActionModel`.
8. Update the `Plugin` class.
9. Add a configuration panel.
10. Package and build the plug-in JAR file.
11. Deploy and configure the plug-in.

Using external data services

The insurance company handles property, casualty, and automobile policies. All documents that relate to policies are stored in the insurance company's Enterprise Content Management (ECM) repository, which uses IBM FileNet Content Manager.

Inbound correspondence is scanned, indexed, and stored in a folder-based filing system by document type, within policy number of a client number. The filing of inbound documentation is dependent upon the assignment of correct values to the inbound document. An invalid or misspelled word means that the document will not be filed correctly. Incorrectly filed documents do not enter the appropriate business process, which then leads to delays and additional costs. The insurance company has decided to implement external data services to manage the consistency of data that is entered during the post-scanning indexing phase of inbound document capture.

The design that the insurance company decided on will implement a range of features:

- Simple choice lists: For selecting data such as marital status
- Dependent choice lists: For constraining values such as address data
- Field validation: For validating key data such as Policy Number and Client Id against the main Policy administration system

The implementation of the EDS will reduce the data entry effort and improve accuracy of the document-indexing phase, minimizing the risk of misfiled documents, and reducing the overall cost of the operation. The company wants to leverage the functionality that is provided by EDS to manipulate their property input fields. Several use cases will be fulfilled with EDS capabilities, including the following:

- Provide a choice list for all the estimators for a car insurance claim. This choice list can be a list of people from a database table.
- Provide a dependent choice list of categories that belong to one main category. This choice list is to limit the available categories under each main category. Categories can be regions; subcategories are cities with offices.
- Validate, by format, the claim numbers that are entered; for example, validate whether they contain the appropriate number and types of characters.
- Hide the input property field, which accepts custom text describing the reason a claim is opened, if none of the provided reasons in the choice list make sense.
- Limit the amount of adjusted loss for a newly created insurance claim to a certain value.

Integration

IBM Content Navigator works with all forms of content - content that is stored in IBM ECM repositories, including IBM FileNet Content Manager, IBM Content Manager, and IBM Content Manager OnDemand, as well as content that is stored in third-party repositories accessible through the open Content Management Interoperability Standard (CMIS).

Content Navigator is built on open web standards including HTML5, JavaScript, and CSS3. Content Navigator also includes a CMIS technology preview, which brings its benefits to third-party content management systems. Ultimately, Content Navigator can be used as a single interface on virtually all repositories of content in an organization.

With Content Navigator, users can interact with documents and folders, work on tasks that they are assigned through workflows, set up favorites, and search content through the standard search tools of the corresponding repository.

Supported platforms

For detailed system requirements for IBM Content Navigator V2, see "Hardware and software requirements for IBM Content Navigator Version 2.0.0.1" at: <http://www.ibm.com/support/docview.wss?uid=swg27036272>

Ordering information

Ordering information for the products that support the IBM Content Navigator component are shown in Figure 1.

Table 1. Ordering part numbers and feature codes

Product name	PID number
IBM Content Manager Enterprise Edition V8.4	5724-B19
IBM Content Manager OnDemand for Multiplatforms V9.0	5724-J33
IBM FileNet Content Manager V5.1	5724-R81

Related information

For more information, see the following documents:

- *Customizing and Extending IBM Content Navigator*, SG24-8055
<http://www.redbooks.ibm.com/abstracts/sg248055.html?Open>
- IBM Content Navigator public forum
<http://www.ibm.com/developerworks/forums/forum.jspa?forumID=2869&cat=19>
- IBM Content Navigator publication library
<http://www.ibm.com/support/docview.wss?uid=swg27025015>
- IBM Content Manager with IBM Content Navigator
<http://publib.boulder.ibm.com/infocenter/cmgmt/v8r4m0/index.jsp>

- IBM Content Manager OnDemand with IBM Content Navigator
<http://publib.boulder.ibm.com/infocenter/cmody/v8r5m0/index.jsp>
- IBM FileNet Content Manager with IBM Content Navigator
<http://publib.boulder.ibm.com/infocenter/p8docs/v5r1m0/index.jsp>
- IBM announcement letters and sales manuals
http://www.ibm.com/common/ssi/index.wss?request_locale=en

On this page, enter `IBM Content Manager` or `IBM FileNet Content Manager`, and click **Search**. On the next page, narrow your search results by information type, geography, language, or all three options.

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