



Making Business
Intelligence Easy

White Paper

Integrating Yellowfin

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Introduction

This paper provides an overview of the integration options available that allow Yellowfin to be implemented into a company's existing application landscape or to be seamlessly packaged with an OEM software application.

Overview

When integrating your application with Yellowfin, there are two areas that need to be considered:

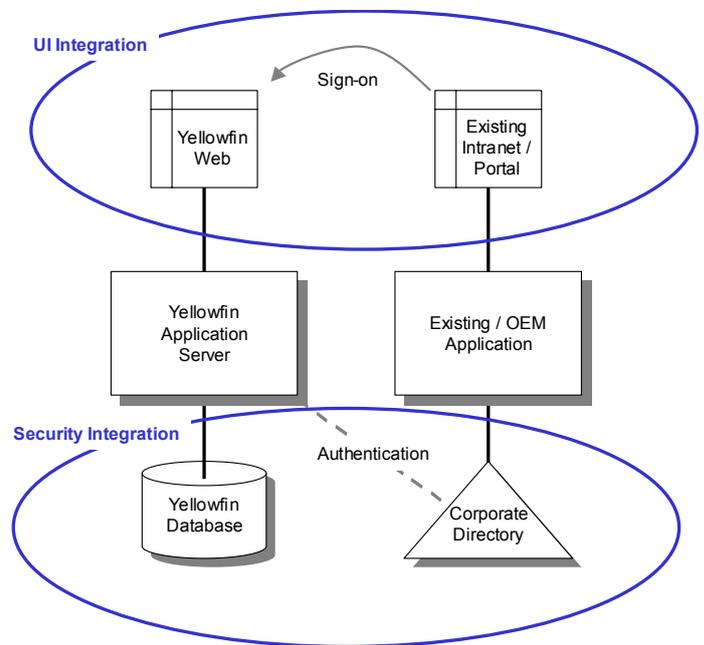
1. Security Integration

Security integration allows a seamless transition between an OEM software product or an existing application and Yellowfin. The options range between having a completely independent user id / password for Yellowfin through to having a common / shared authentication mechanism and a single-sign-on process that allows users to be automatically logged-on to Yellowfin.

2. User Interface Integration

Options for interface integration range from having a simple link on an existing corporate portal to the Yellowfin server through to full Web Services integration that allows reports to be delivered into an application with maximum control of look and feel.

The diagram to the right shows where these touch points exist.



Security Integration

The options for security integration are as follows:

No integration - default installation.

Yellowfin will maintain its own user ids, passwords and user roles. Commonality across multiple applications is maintained via manual security administration processes. This is a low-effort implementation option, however will increase the cost of identity management on an ongoing basis as all administrative functions will need to be performed manually.

Shared Authentication Mechanism - no single sign-on.

Yellowfin has the option to reference an external directory (LDAP) or database to perform authentication of an entered user id. Without single sign-on, this means that a user will have the same user id and password across all participating applications that use the directory. In addition, removal / lockout of the user on the directory will automatically flow through to Yellowfin, hence minimising the manual effort to manage users.

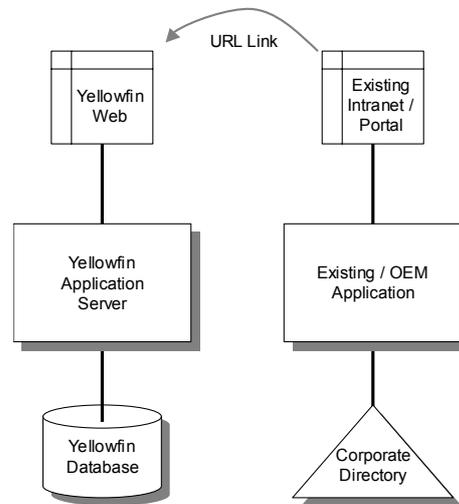
Shared Authentication plus single sign-on.

Yellowfin has the option to automatically sign a user on when linking from an existing portal or application that can pass the user's credentials to the Yellowfin webpage. This will eliminate the need for a user to sign-in to multiple applications.

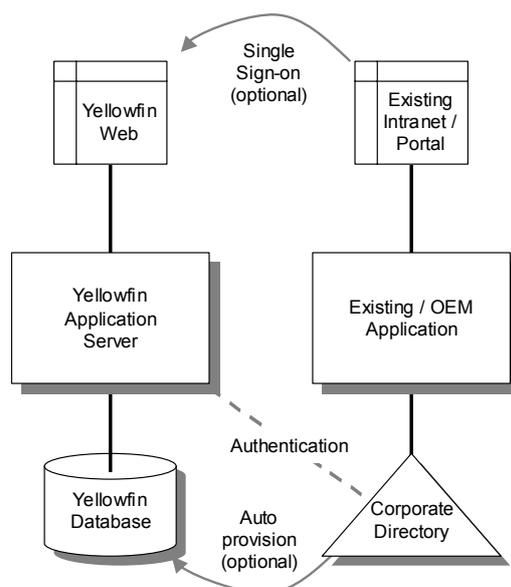
Note that for Web Services Integration (covered later in this document) user credentials are passed in the Web Service call.

Automated Provisioning (Shared Authentication Only)

Also as an option, Yellowfin can automatically provision authenticated users from the corporate directory into Yellowfin with a default level of access. This will greatly reduce the amount of conversion / implementation effort required to implement Yellowfin into an organisation.



Default Installation – no security integration.
(Separate sign-on required)



Shared Authentication.

User Interface Integration

There are a number of options that can be considered for User Interface integration that provide varying levels of integration with other applications.

Style Sheets, URL link, Custom Chart Colours

The Yellowfin web application is fully style-sheeted. Style sheets can be customised to match your existing corporate style or the look and feel of your existing applications. The header elements can also be customised to provide links back into your intranet / application.

Benefits: Rapid deployment.
Similar look & feel.
Low integration effort.
Low integration complexity.

Drawbacks: Doesn't use your navigation standards.
Not ideal for non-web applications, although you can embed a browser object in .net or java GUIs very easily.

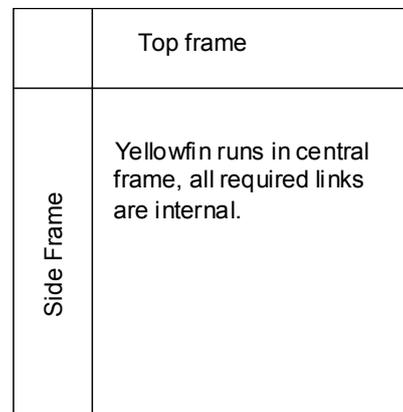
Frames based integration

In addition to customising the style-sheets, Yellowfin can be customised to remove all header and side navigation elements – this provides for seamless integration into a frames-based intranet.

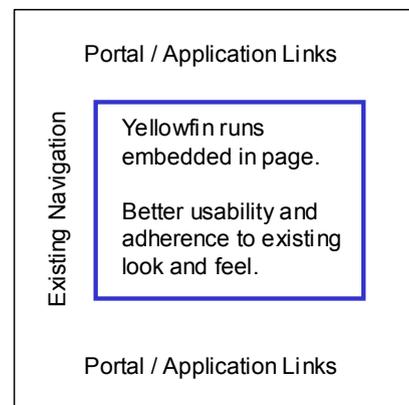
If your application or intranet doesn't use frames (eg. web portals such as Sharepoint, Websphere, etc) an IFRAME can be used instead – this operates in a similar manner to a frame however can be embedded into a portal to retain the standard functionality of the portal (navigation, etc).

Benefits: Rapid deployment.
More consistent look & feel.
Low integration effort.
Low integration complexity.
Participates in your navigation framework.

Drawbacks: Frames are not highly recommended / used.
Not appropriate for non-web applications.



Traditional Frames approach.



Web page IFRAME approach.

Custom Header & Navigation

The Yellowfin application can be integrated into existing or new applications by removing or replacing the side and top navigation areas. Doing this will replace the navigation uniformly across all Yellowfin pages.

Replacing the navigation with an html fragment allows you to quickly add your own site links to each page. Customising the navigation areas is a quick and easy way to integrate Yellowfin into your application, while preserving full functionality.

Benefits:

- Rapid deployment.
- More consistent look & feel.
- Low integration effort.
- Low integration complexity.
- Participates in your navigation framework.

Drawbacks:

- Removal of side nav will impact usability
- Not appropriate for non-web applications.

	Top Navigation
Side Navigation	Yellowfin runs in central frame, all required links are internal.

Embeddable Java Client

The client component of Yellowfin can be deployed as simple java library (JAR file) into your GUI or web java application. This client component provides a set of APIs that will connect to a Yellowfin Server using Web Services and render the returned report (including tables, drill downs, graphs, etc) within your application. Integration can be achieved with minimal coding, however you can still have full control over the way the report is displayed in your application should you wish it.

Benefits:

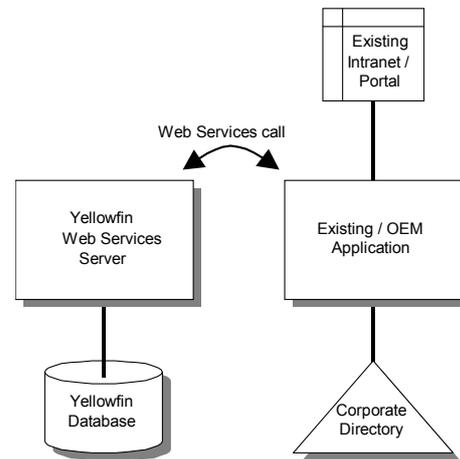
- Full control over look & feel.
- Supports both java web & GUI applications.
- Low to medium integration effort.
- Medium integration complexity.
- Report development is abstracted from your application - additional reports can be added through the server
- Utilises Web Services to communicate with the server.

Drawbacks: More effort for initial integration.

Web Services Integration

For non-java applications or web applications that require a more complete control over look-and-feel, Yellowfin provides a Web Services interface to browse the list of reports and to execute reports. All elements (table data, graph images, etc) are returned as fields to allow you to fully customise the layout of the reports within your application framework. Web services also allow you to receive the raw report data from Yellowfin, allowing you to render the data into your existing applications reports, or export the data in your own formats. This Web Services interface is the same one used by the embeddable client.

The report is then rendered with the aid of the Yellowfin embedded java client or by your application - note that this may be a very simple or complex depending on your requirements (eg. The simplest scenario would involve returning all requested reports in PDF format which could just be passed straight through with no additional rendering.



Using web services your existing application is delivered report lists and report content through a remote program call.

Benefits: As per the embeddable client.
Supports .net and other non-java programming languages (eg. PHP, C++, etc)

Drawbacks: More effort for initial integration.

Silent Installer

Yellowfin generally is installed via its own branded installer. However, if you wish to wrap Yellowfin into your own installer and deploy it 'silently' this can be achieved by the use of the silent installer process.

Your Installers would essentially be a wrapper around the Yellowfin silent installer. Your installer will create the Yellowfin database and aggregate information about your application. This aggregated information gets inserted into some properties files which enable your clients to create the data sources OOTB on the installation. Yellowfin provides a command line java process to do this.

Your installation process may also invoke the content import (another java proc) to pre-load content on installation and by calling the deployment descriptor include the Yellowfin database connection details.

In addition to this, you can perform some initialization steps on the start up of the application. On start up, you can make sure that the configuration settings are correct (dashboard width, custom header, support email address, etc.). You can also set the permissions for roles in a customisable way. For example, because you may create users in your own system, and then only create users in Yellowfin on Single Sign On, you would want to disallow the use of the UI to create/modify/delete users, groups, or roles. This allows you to keep all user administration within your own product.

OOTB Content

One of the main considerations when integration Yellowfin will be the out of the box (OOTB) content that you provide to your clients. The content that you can ship includes Data sources, Yellowfin Views, Tabs, Categories, and Reports.

Your users are able to manually create the content in their own application. This means they are able to create a data source against their data mart, users create the categories and views and reports, applied with security. All content created is exportable via an XML file and can either be imported manually through the Yellowfin UI or via a command line procedure.

Typically you would want to deploy Yellowfin with a reasonable number of reports and tabs to meet your client's basic needs. However, since Yellowfin does have advanced ad hoc report writing capability you do not need to deliver all reports to your clients, since they will be able to create new and easily alter existing reports themselves.

The amount of time required for the development of OOTB content is largely dependent on the complexity of your application. The more complex the application the longer this phase will take.

Summary & Integration Planning

As can be seen Yellowfin provides a number of options for integrating with other applications – the best selection of options will depend upon your specific needs and the level of integration required. Yellowfin recommends a project based approach to integrating Yellowfin into your application – starting with an initial workshop / brain storming session to understand what your desired level of integration is.

About Yellowfin

Unlike traditional tools Yellowfin is making BI easy. Yellowfin supports wider distribution across the organisation through ease of use, ease of deployment and ease of integration into production applications and through a minimal end user learning curve.

To find out more contact Yellowfin at www.yellowfin.com.au