



Integration with *UpToDate*[®]

Version 0.51

November 10, 2006

UpToDate, Inc.
95 Sawyer Road
Waltham, MA 02453

Integration with *UpToDate*

Version 0.51

Copyright © UpToDate, Inc. 2006

About this Document

This document describes the general concepts and specific technical information required for integrating an Electronic Medical Record (EMR) system (or other application) with *UpToDate*.

Overview

UpToDate allows professional caregivers to retrieve the latest clinical information in a format designed to answer clinical practice questions. Numerous studies have proven that the closer to the point of care that this information is made available, the better the quality of care becomes. To this end, making *UpToDate* information directly available from an EMR allows the caregiver to obtain answers to clinical questions at the point in time where such questions commonly occur.

Integration Approach

Support is currently planned for three levels of integration with *UpToDate*, each with an increasing level of complexity, as follows:

- Level 1 Integration — Basic search integration
- Level 2 Integration — Search integration with user ID (for automatically tracking CME credits)
- Level 3 Integration — Web services integration

Level 1: Basic Search Integration

Level 1 Integration, the lowest level, is simple URL-based integration where the integrating application opens a new browser window and passes a search URL to *UpToDate*. All responses and further interaction with *UpToDate* then occur within the new browser window. Access to *UpToDate* content is handled as normal for institutional subscribers. This level of integration is primarily for institutions with an IP-based site license.

Search URL

The search URL is as follows:

```
http://www.utdol.com/utd/content/search.do
?search=phrase
&source=integratingapplicationidentifier
```

The following table describes the components in the search URL.

Component	Description	Example
URL destination page	Full URL of the <i>UpToDate</i> search page. This page can use either HTTP or HTTPS protocol, depending on the desired security level.	http://www.utdol.com/utd/content/search.do
Search phrase	Query argument of the URL that specifies the search string that the caregiver entered or selected in the EMR system. This is a required element.	search=heart
Source (optional)	Name that identifies the installation that created this request. This is an optional element used to help track third-party systems and special features from normal institutional or individual usage. This value is assigned by <i>UpToDate</i> for use by the application integrator.	Source=EMRabc

Level 2: Search Integration with User ID

Level 2 Integration, the middle level, is also URL-based, but includes a login URL for uniquely identifying each user. This level of integration provides the caregiver with the ability to receive Continuing Medical Education credits, as well as other personalized profiles that will become available in future *UpToDate* releases.

It is expected (although not required) that applications integrating at this level will maintain more control over the browser window that displays the *UpToDate* content. For example, in an EMR system, it might be advantageous for the window containing the *UpToDate* content to be displayed next to the patient's actual medical information, making it is easy for the caregiver to compare patient-specific information with the information presented in *UpToDate*.

Level 2 Integration also includes support for coordinating user IDs and passwords between the integrating application and *UpToDate*. For the current version of integration (Version 0.5), the EMR needs to map its user IDs into *UpToDate* user IDs and passwords. Future versions will provide more automated mechanisms for coordinating this user information between the EMR and *UpToDate*.

Login and Search URLs

This topic describes the login and search URLs used for Level 2 Integration.

Combined Login and Search URL

The combined login and search URL is as follows:

```
https://www.utdol.com/utd/login.do  
?userName=username  
&password=password  
&PDA=true  
&search=phrase  
&source=integratingapplicationidentifier
```

The following table describes the components in the login URL.

Component	Description	Example
URL destination page	Full URL of the <i>UpToDate</i> login page. The login page must use HTTPS protocol, as the user's password may be included.	https://www.utdol.com/utd/login.do
User identifier	<i>UpToDate</i> ID with which a caregiver would log in if accessing <i>UpToDate</i> from an individual subscription. This user ID is case sensitive.	userName=jn67a89
Password	User's password for logging in to <i>UpToDate</i> . This password is case sensitive.	password=123ScG
PDA argument (optional)	If this argument is set to true , <i>UpToDate</i> treats the login request as one for a PDA device, providing a "small screen" single pane view; if set to any other value or omitted, <i>UpToDate</i> treats the login request as one for a full browser window with frame support.	PDA=true
Search phrase	Query argument of the URL that specifies the search string that the caregiver entered or selected in the EMR system. This is an optional element, added as of Version 0.5.	search=heart
Source (optional)	Name that identifies the installation that created this request. This is an optional element used to help track third-party systems and special features from normal institutional or individual usage. This value is assigned by <i>UpToDate</i> for use by the application integrator.	Source=EMRabc

Search only URL

After login, subsequent searches in the same session can be done with a search URL. The search URL is as follows:

```
http://www.utdol.com/utd/content/search.do
?search=phrase
&source=integratingapplicationidentifier
```

The following table describes the components in the search URL.

Component	Description	Example
URL destination page	Full URL of the <i>UpToDate</i> search page. This page can use either HTTP or HTTPS protocol, depending on the desired security level.	http://www.utdol.com/utd/content/search.do
Search phrase	Query argument of the URL that specifies the search string that the caregiver entered or selected in the EMR system. This is a required	search=heart

	element.	
Source	Name that identifies the installation that created this request. This is an optional element used to help track third-party systems and special features from normal institutional or individual usage. This value is assigned by <i>UpToDate</i> for use by the application integrator.	Source=EMRabc

Level 2 Integration Specifics

As of Version 0.5, there are two possible methods that integrating applications can use to log in *UpToDate* users and pass the first search phrase to *UpToDate*:

- Method A (preferred): Combined Login and first Search URL
- Method B (optional): Separate Login and Search URLs

Method A is the preferred method, although Method B is still supported for backward compatibility.

Method A: Combined Login and First Search URL

As of Version 0.5, the integrating application can include a search phrase in the login URL. This is the preferred method.

Figure 1 shows the expected sequence of events with Level 2 Integration when the first search phrase is included with the login information. Note that it is required that JavaScript and cookies are supported by the presenting browser.

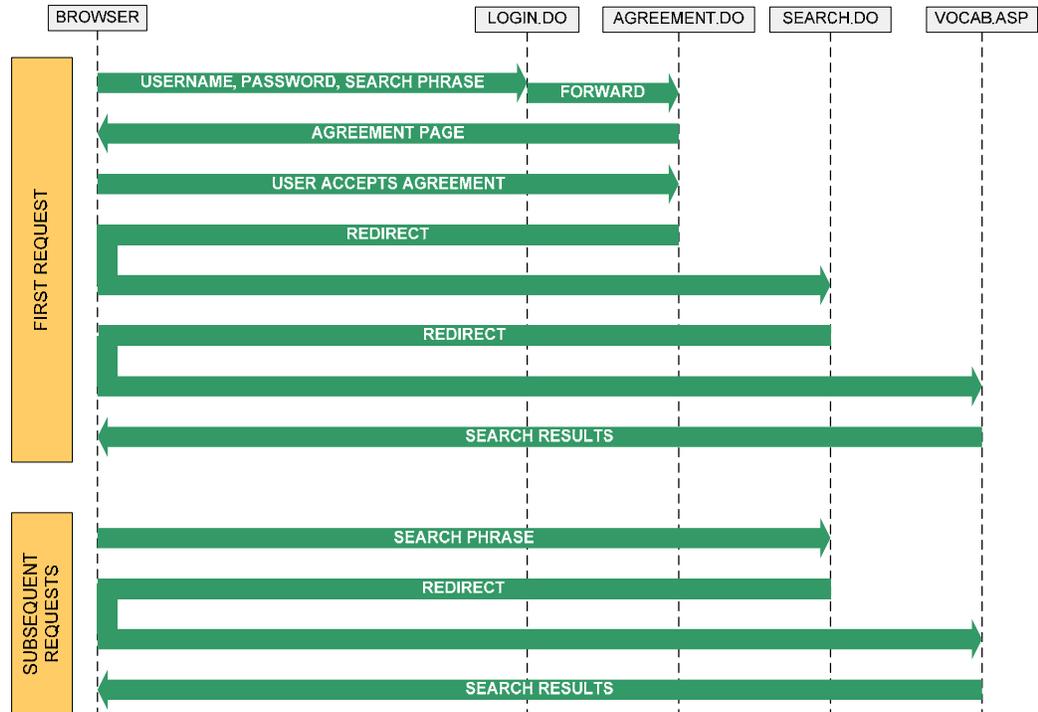


Figure 1 System Flow Diagram for Method A

The integrating application first sends a login request (the login URL) to *UpToDate* that includes the first search phrase. For the first exchange of URLs for this session, *UpToDate* then presents the license agreement page to the user.

Acceptance of the license page is required, once for each session, before any content can be displayed. The acceptance of the license page is annotated for this session at the *UpToDate* web server. After the license agreement is accepted, *UpToDate* responds with a list of search results.

If the user goes back to the integrating application and submits a subsequent query or question from that application (without having shut down the previous browser session), the user will still be logged in to *UpToDate*, and the integrating application should use the search URL for this and all subsequent search requests.

Method B: Separate Login and Search URLs

Figure 2 shows the expected sequence of events with Level 2 Integration when the login URL does not include the first search phrase. As with Method A, JavaScript and cookies must be supported by the presenting browser.

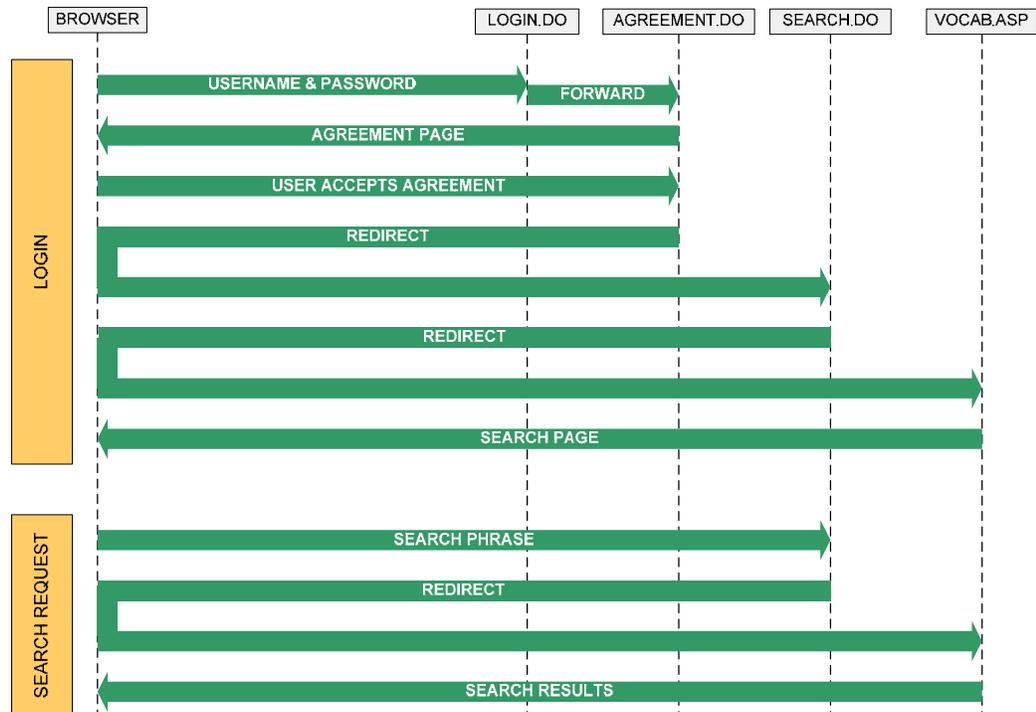


Figure 2 System Flow Diagram for Method B

The integrating application first sends a login request (the login URL) to *UpToDate* that does not include the first search phrase. For the first exchange of URLs for this session, *UpToDate* then presents the license agreement page to the user.

Acceptance of the license page is required, once for each session, before any content can be displayed. The acceptance of the license page is annotated for this session at the *UpToDate* web server. After the license agreement is accepted, *UpToDate* responds with the search entry page. Since the next URL will be composed by the integrating application, this search entry page can be ignored.

The integrating application then submits the search URL, which includes the search phrase. *UpToDate* responds with the list of search results for the integrating application to present to the caregiver in a browser window. Full interaction with the user can now occur in this browser window or frame.

If the user goes back to the integrating application and submits a subsequent query or question from that application (without having shut down the previous browser session), the user will still be logged in to *UpToDate*, the login URL will not be sent, and the license page will not be presented to the user. If the integrating application *does* send the login URL again, a new session will be

created, the old session will be destroyed, and the user will be presented with the license page again.

Level 3 Integration

Level 3 Integration, the highest level, is web-services-based. At this level, the integrating application has more control over the search information provided, user authentication is controlled through a single-sign-on mechanism, and there is some flexibility in the display of the *UpToDate* content. As of this version (Version 0.5), Level 3 Integration is not supported.