

Dependency Manager

A white paper addressing the setup and uses for
the Dependency Manager in OU Campus

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About OmniUpdate, Inc.

OmniUpdate® is the leading web content management system (CMS) provider for higher education. The company focuses on providing an exceptional customer experience to its 40,000+ OU Campus™ CMS users who manage more than 700 college and university websites in the U.S. and around the world. OU Campus is secure and scalable, and empowers institutions to effectively manage their web and mobile presence by taking advantage of the latest technologies through its complete feature set, extensible tools, deployment flexibility, and community resources. For more information, visit www.omniupdate.com.

About This Guide

The *Dependency Manager* provides a guideline for creating awesome documentation. This template provides examples for the formatting style and grammatical choices to be employed while creating documentation for both internal and external audiences. [**Note:** Replace this section with information about document being created.]

OU Campus Support

The Support site is available to everyone and users are encouraged to visit and browse the site for information. An institution's administrators are also available if the answer cannot be found on the Support site or further explanation and clarification is needed. Administrators may contact the OmniUpdate Support Team. Ways to access the OU Campus support documentation include:

- Support site: <http://support.omniupdate.com/>
- The help link in the main interface of OU Campus
- The WYSIWYG Help link
- Help links embedded in the system
- Text instructions are provide onscreen for specific fields and functionality
- OmniUpdate Community Network (OCN): <http://ocn.omniupdate.com/>

Conventions

Shorthand for navigation through the OU Campus CMS is indicated with a greater-than sign and bolded: > For example, **Setup > Sites**. Code snippets use `Courier New` and a shaded background.

Contents

Contents	3	New Clients	7
Introduction	4	Next Steps	8
Benefits	4	Web Developer Example (special case)..	8
Limitations	5	Binary Management	10
Dependency Manager Scanner	6		
Considerations	7		

Introduction

Dependency Manager is a key feature within OU Campus™. It is a service that manages links in pages to other pages, directories, and files under management in OU Campus. Dependency Manager maintains the correct link association when files, binaries, or directories are moved or renamed. All the files that link to a moved or renamed file or directory are automatically republished to maintain the correct link. In the case of directory or file deletion, Dependency Manager creates a notification in the Broken Pages report in OU Campus.

Dependency Manager utilizes dependency tags to maintain the correct link association if a file or directory is moved or renamed. These tags appear within the code similar to Asset tags (e.g., Directory: `{{d:71234}}` and File or Binary: `{{f:74321}}`). When a page is published, the tags are rendered and appear on the live Production Server site as root-relative URLs or absolute URLs if they are referencing a page within a different site but on the same account.

Before activating and using Dependency Manager, it is important to understand the feature's benefits, limitations, and maintenance requirements. Dependency Manager may require some manual intervention; therefore, it is worthwhile to think about how Dependency Manager will be used.

Benefits

Dependency Manager's primary use is to maintain the integrity of links throughout sites within the account by automatically updating links within the site if pages or directories on the site are renamed or moved. Benefits of the feature are as follows:

- When users add links via the Source Editor, WYSIWYG Editor, or file chooser, dependency tags are placed at the location of the link
- Users no longer have to manually update links within the pages being updated
- The amount of intervention required by administrators is limited (e.g., instead of using Global Find and Replace, the Dependency Manager will make updates automatically)
- Functionality is provided to easily identify broken links on a page from within the Source Editor or WYSIWYG Editor
- All affected files are automatically republished (unless the administrator has set a threshold)
- The current version of each affected page on the live Production Server is updated with the new Dependency links
- Dependency tags are shared among sites within an account, so links can be created to pages in other sites that are within the same account
- Links to products of a PCF page (HTML, PDF, etc.) are managed as Dependency tags
- Legacy HTML-managed sites are also supported by the Dependency Manager
- Dependency tags can be manually added to pages or include files
- Templates (TMPL and XSL) can contain Dependency tags
- Both the WYSIWYG Editor and Source Editor support the use and creation of links with Dependency tags

- The file chooser feature of the TCF and Page Properties supports the use of Dependency tags
- When a file or directory is deleted, all pages that have Dependency tags referencing that file or directory are reported in the Required Actions screen of the Reports Menu
- Images inserted onto a page via the WYSIWYG Editor's file chooser are managed as Dependency tags

Limitations

Limitations of the Dependency Manager are as follows:

- Dependency Manager only tracks files, folders, or the products of PCFs under management in OU Campus
- Links to binary files, such as images, are managed by Dependency Manager ONLY when the Binary Manager has been turned on and the binary files exist on the OU Campus Staging server. If the Binary Manager is not enabled for an account or site, then they are not managed by the Dependency Manager
- Dependency Manager does not manage links to files that are not under management by OU Campus, including external websites, sections of the current site not under management in OU Campus, or sites that are not in the same OU Campus account
- Dependency Manager always publishes to the Production target, root relative links (e.g., /folder/file.html or /images/photo.jpg or absolute links, e.g., <http://www.college.edu/folder/file.html>, if the link is referencing a page on another site within the same account)

Dependency Manager Scanner

Dependency Manager only works with dependency tags. An existing site should be scanned to replace URLs with Dependency tags within `href` attributes in `<a>` and `<link>` tags.

Dependency Manager has a scan tool to help administrators populate a site with Dependency tags. The Dependency Manager Scanner is meant to be used as a starting point, as it only replaces URLs with Dependency tags within `href` attributes in `<a>` and `<link>` tags, but Dependency tags can be added manually within other tags.

Prior to using the Dependency Manager Scanner, it is important to understand the following:

- The Dependency Manager Scanner can be used for an entire site or on individual directories
- The Dependency Manager Scanner only converts the `href` paths contained in `<link>` and `<a>` tags into Dependency tags)
- The Dependency Manager Scanner does not affect any attributes to the tags, except the `href`
- If files have broken links before the Dependency Manager scan is started, the links will not be converted to Dependency tags and will remain broken after the scan).
- After running the site scan for the first time, it will only be necessary to run the Dependency Manager Scanner when you have newly uploaded directories and/or directories with newly uploaded files, thereby converting paths contained within `<link>` and `<a>` tags to Dependency tags
- When scanning multiple sites within an account, all sites should be scanned, then all sites, except the last one, should be scanned again (to handle cross-site links that may have been missed the first time around)
- The Dependency Manager Scanner recognizes all valid URL types, including local (e.g., `file.html`), page relative (e.g., `/file.html`), root relative (e.g., `/folder/file.html`), and absolute (e.g., `http://www.college.edu/folder/file.html`)
- The Dependency Manager Scanner ignores any URL not under management in OU Campus (e.g., `http://www.cnn.com/`)
- The Dependency Manager Scanner creates a backup of each dependent page in the versioning system prior to entering the Dependency tags
- The Dependency Manager Scanner will perform four passes during the scanning process
 - Passes 1 and 2 are site wide and synchronize the database with the files on the Staging Server
 - Passes 3 and 4 identify the valid paths the Dependency Manager Scanner can convert within the target site or directory and replace them with Dependency tags, ignoring invalid paths
- Completing the scan process can take time (up to 1 to 2 hours for very large sites) and it should be done during an off-peak time, such as on the weekend or during the evening
- Using the Revert scan will not revert the links back to their original state, but rather to root relative links or absolute links if the link is referencing a page on another site within the same account

- The Revert scan is not a mirror of the Dependence Manager Scanner; the scanner will only change `href` paths found in `<link>` and `<a>` tags to Dependency tags, whereas the Revert scan will find all Dependency tags anywhere on the site and revert them as described above

Considerations

Dependency Manager is a powerful and useful tool. Consequently, there are factors to consider before activating it and it is important to think ahead about the manner in which the account and sites will be configured and utilized. Factors to consider are as follows:

- Dependency Manager works when directories or files are renamed or moved; however, if directories or files are copied, the following considerations should be made:
 - When a directory with Dependency tags pointing to files within the same directory is copied, the local links in the files of the copied directory either must be manually updated, or contact OmniUpdate Customer Support to help with this scenario (See Web Developer Example below)
- Broken Pages within the Required Actions report will show all pages that contain broken Dependency Tags to all users, not just pages on which they were working or have access to
- Adding a processing instruction to a PCF creates a new product; deleting one deletes a product. Changing the extension in an existing processing instruction renames a product and is a special case. The Dependency Manager can only detect such renames properly if only one is done at a time and the PCF is saved between each edit. The Dependency Manager scanner will ONLY see creates and deletes; if a rename is done along with another rename, a delete, or a create, it sees the rename(s) as a delete and a create, causing the Dependency tag to change for that processing instruction and thereby breaking all the Dependencies to that product.
- When utilizing Dependency Manager and Dependency tags, it is important to train users on what to expect:
 - When inserting new Dependent links, a tag appears where previously a path was seen, formatted as follows: Directory: `{{d:71234}}` or File: `{{f:74321}}`
 - When viewing the source on the Staging Server, the Dependency tag will appear instead of the path
 - Dependency tags appear within the WYSIWYG Insert Link dialog box, Source Editor file chooser, other file choosers, and the source code for the pages

New Clients

Prior to activating Dependency Manager, new clients should complete the implementation process, upload all migration files and binaries, and test that they render. Additionally, the following should be completed:

- Reformat or/fix URLs within pages to remove any non-existent folders (URLs within pages need to match the site structure)
- After updating the URLs, run the Dependency Manager Scanner on all sites
- Move or rename directories and files; corresponding links will be updated

Next Steps

When activating the Dependency Manager, the next steps are as follows:

- Completely review this document and the Dependency Manager online support documentation: <http://support.omniupdate.com/oucampus10/setup/account/optional-features/dependency-manager/>
- It is advisable to export all sites prior to turning on the Dependency Manager to allow the sites to be reverted using Zip Import if it is desired that the URLs appear in the same format as they did before the scan
- Activate Dependency Manager in the account, and then run the Dependency Manager Scanner (this should be done during off-peak hours, evenings, or weekends)
- When scanning multiple sites within an account, all sites should be scanned, then all sites, except the last one, should be scanned again (to handle cross-site links that may have been missed the first time around)
- Once the Dependency Manager Scanner has run, all Dependency tags output to the live Production Server as root relative links or absolute links, if the link is referencing a page on another site within the same account
 - If page relative URLs currently exist on any of the pages and it is required that they remain page relative, the Dependency Manager Scanner should be run on a per- directory basis, not a site-wide basis
 - If page relative URLs are required going forward, these must be added manually without using the WYSIWYG and Source Editor browse functions or the file chooser

Web Developer Example (special case)

In order to take a directory from an existing site that is using Dependency tags and make it into a new site of its own (e.g., <http://www.college.edu/athletics/> is to become <http://athletics.college.edu/>), specific steps must be taken to obtain the desired outcome. It is important to note that most of the following steps are necessary for this process with sites that do not use Dependency tags. The instructions below add the steps needed when Dependency Manager is used on the source site.

Perform the process during a downtime (evening or weekend)

1. In the **Setup > Sites** view, select the **Revert** tool to remove all Dependency tags from the source site.
2. Use the Zip Export tool to download a copy of the site from OU Campus.
3. Create the new site record the same way sites are normally created in OU Campus.
4. On the workstation being used, open the exported zip file and extract the folder desired to be the source of the new site.
5. Create a new zip file of just the directory that is the origin of the new site.
6. In the new site in OU Campus, from the top **Content > Pages** view, use the Upload tool to import the zip file just created (select the “Ignore containing folder” check box of the Zip Import, if there is one).

7. Once the files are uploaded, on the new site use the Global Find and Replace from the ContentMenu to search for the paths that have the containing folder, which was ignored upon import, and remove the now incorrect folder name (e.g., Find: /athletics/; Replace with: /).
8. Use the Global Find and Replace to correct the links from the new site to the source site, usually found in header and footer navigation and links (e.g., any paths that are not on the new site, such as /admissions/... would become <http://www.college.edu/admissions/>...).
9. On the source site, use the Global Find and Replace from the Content Menu to search for the paths that have the now removed folder and change them to the new site URL (e.g., Find: /athletics/...; Replace with: <http://athletics.college.edu/>...).
10. Use the scan tool from the Setup > Sites view to scan the new and old sites to create new Dependency tags for each site.
11. On the source site, delete the now obsolete /athletics/... directory.
12. If any URL paths were missed in step 10, any pages on the source site with links to the now deleted directory will appear in the **Dashboard > Broken Pages** screen.
13. Fix the pages that appear in the Broken Pages screen; the two sites will now have correct Dependency tags for each site and cross-site links.
14. Populate the new site's Production Server with any needed binaries to support the new site (or if Binary Manager is turned on, and the binaries are now on your new site's staging server as part of that zip import, then this step is not needed as they will be published when the new site is published).
15. Continue to setup and configure the new site as would be done for any other site.

Binary Management

Binary files in OU Campus v10 can be managed directly on the staging server through Binary Management. In addition to the ability to perform various file operations and page actions (such as editing and saving), links to binary files can be managed and automatically updated by the Dependency Manager in a similar way to how Dependency Manager works with pages. Previously, files were not managed by Dependency Manager, which meant that if a file was renamed, moved, or deleted, all links pointing to it were broken until a site check was run or someone identified that the link was broken. Now, with Dependency Manager enabled, pages that link to a file are automatically updated if that file is moved, renamed, or published.

- When Binary Management is disabled, files can be uploaded through the OU Campus interface, but are published immediately to the production server (giving users less control over when those files are publicly viewable). With Binary Management enabled, files are uploaded to the staging server and must be published in order to exist on the production server.
- Many file types can be previewed in OU Campus, sent to another user for review or approval, published directly or along with a page publish, or can be scheduled for publish or expiration. Additionally, images can be seamlessly uploaded, edited, and inserted into a page while editing in the WYSIWYG Editor.
- By default, Binary Management establishes the staging server as the default server for file choosers when inserting files onto a page. Images placed onto a page using file choosers will be linked via the staging server and transformed to the production server or publish target upon page publish.
- Binary file types, just like pages in OU Campus, can also be controlled with access settings and sent through a workflow. Administrators can also include binary files in the reporting available through the Reports menu.
- Binary Management is enabled at the account level by default. Administrators may enable Binary Management for each site within an account. Dependency Manager must also be enabled for each site using Binary Management.

Additional information on the use of the Dependency Manager can be found on the OmniUpdate Support site at <http://support.omniupdate.com/oucampus10/>.

The information contained in this document represents the current recommendations of OmniUpdate, Inc. as of the date of publication.

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