

# **Oracle® AutoVue VueLink for Oracle UCM**

Clustering Guide

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# Preface

This preface contains these sections:

- ["Audience"](#)
- ["Related Documents"](#)
- ["Conventions"](#)

## Audience

The *Oracle AutoVue VueLink for Oracle UCM Clustering Guide* is intended for administrators, developers, third-party integrators and others whose role is to deploy and manage Oracle AutoVue VueLink for Oracle UCM.

## Related Documents

For more information, see the following Oracle resources:

- *Oracle AutoVue VueLink for Oracle UCM System Administrator Manual*
- *Oracle AutoVue VueLink for Oracle UCM Security Guide*
- *Oracle AutoVue, Client/Server Deployment Planning Guide*
- *Oracle AutoVue, Client/Server Deployment Installation and Configuration Guide*
- *Oracle Fusion Middleware High Availability Guide*

The most up-to-date versions of these documents may be found at the Oracle Technology Network (OTN) Web site:

<http://www.oracle.com/technetwork/indexes/documentation/index.html>

## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.



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# Overview

This document outlines the recommended deployment for Oracle AutoVue VueLink for UCM<sup>1</sup> in a clustered environment.

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**Note:** Specific instructions for installing and deploying VueLink for UCM are found in the *Oracle AutoVue VueLink for Oracle UCM System Administrator Manual*

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## What is Clustering?

Clustering is a key requirement for any Enterprise Deployment. A cluster is a group of processes that run on single or multiple machines that is viewed functionally as a single entity by the client. Clustering a set of processes provides redundancy for a system and as well as improved performance and availability. In the event a failover occurs during a transaction, session data is retained as long as one instance is functional in the cluster.

For more information on clustering with Oracle AutoVue, refer to the *Oracle AutoVue, Client/Server Deployment Planning Guide*.

## Clustering Solutions

There are two possible solutions when configuring a clustered system: active-passive clusters and active-active clusters (currently not supported).

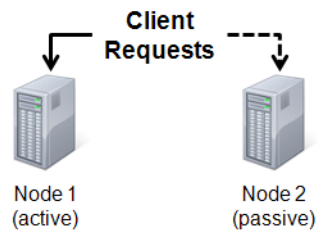
### Active-Passive Cluster

Currently, active-passive topology is the only supported deployment. It consists of an active instance (Node1) that handles requests and a passive instance (Node2) that is in standby mode. A heartbeat mechanism manages and monitors failover between these two instances. For example, in the event the active instance fails, the heartbeat mechanism shuts down the active instance and brings up the passive instance, and the process resumes. These procedures can be done manually for planned or unplanned downtime.

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<sup>1</sup> In this document, Oracle AutoVue VueLink for Oracle UCM is also referred to as VueLink for UCM.

**Figure 1–1 Active-Passive Cluster**

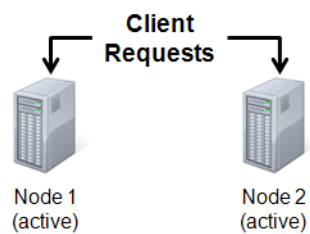


For more information on active-passive clustering, refer to section "[Active-Passive Cluster Deployment](#)".

### **Active-Active Cluster (Currently Not Supported)**

This cluster deployment consists of two or more active system instances (nodes) and may be used to improve scalability. In this deployment, all instances handle requests concurrently.

**Figure 1–2 Active-Active Cluster**





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## VueLink for UCM Clustering

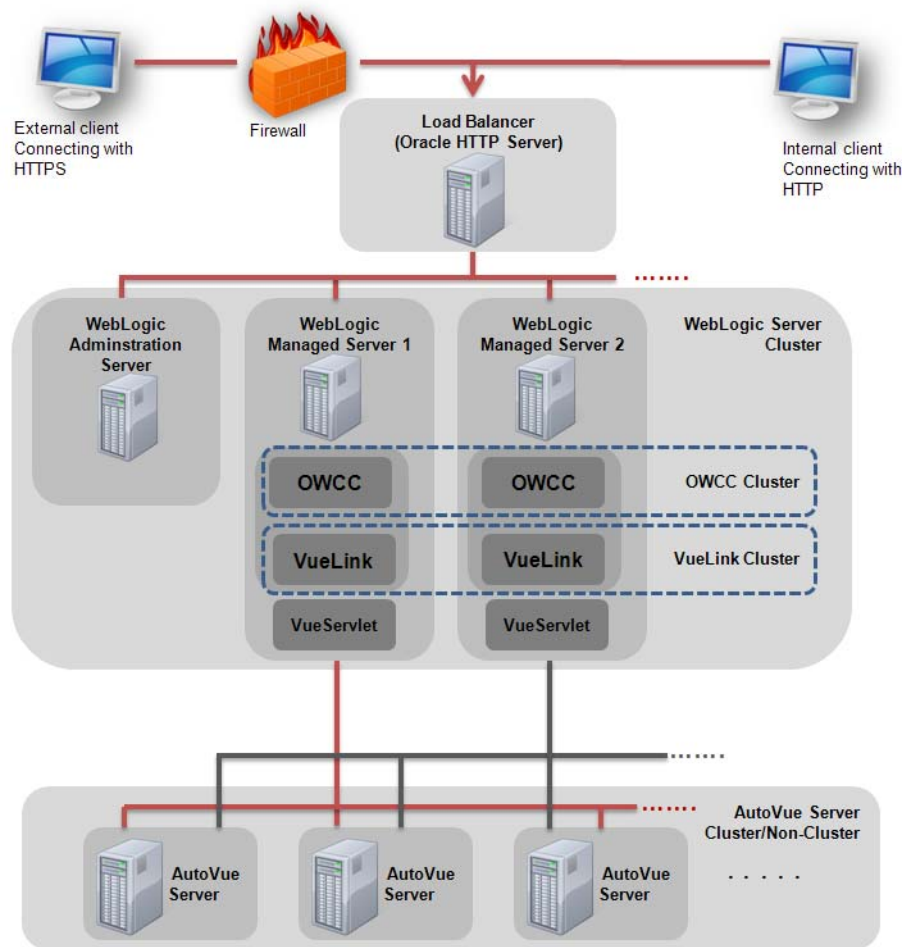
This section provides an overview of the VueLink for UCM cluster architecture and introduces basic clustering concepts.

### VueLink for UCM Cluster Architecture

As shown in the following figure, a VueLink for UCM cluster architecture includes the following components:

- Load balancer (for example, Oracle HTTP Server)
- WebLogic Server
- VueServlet
- VueLink
- AutoVue servers
- Oracle WebCenter Content (OWCC)

The following sections provide more information on these components.

**Figure 2–1 VueLink for UCM Cluster Architecture**

Take note of the following:

- The number of VueLinks in the WebLogic cluster should always match the number of OWCC instances.
- It is good practice to have a cluster of AutoVue servers in parallel with the WebLogic cluster on a different set of physical machines.
- The number of AutoVue servers in the cluster depends on the visualization demands of the users. An AutoVue Deployment Expert can provide appropriate server sizing guidelines.
- If an AutoVue server cluster is used, all VueServlet instances in the WebLogic cluster must point to the main AutoVue instance that acts as a gateway to the AutoVue server cluster. For information on how to setup the AutoVue cluster, refer to the "Configuring AutoVue Server Farm for High Usage" section of the *Oracle AutoVue, Client/Server Deployment Installation and Configuration Guide*.
- It is recommended to use Oracle HTTP Server (OHS) as the gateway for the WebLogic cluster. The OHS takes care of load balancing the requests among the WebLogic instances.

## Load Balancer (Oracle HTTP Server)

A load balancer distributes workload across multiples computers in a cluster. If an active system instance fails, the load balancer detects the failure and automatically redirects request for the failed member to the surviving active instances. Refer to section "[Oracle HTTP Server](#)" for more information.

## WebLogic Server

WebLogic Server is the application server of choice for setting up the VueLink cluster. The Administration Server acts as the main control entity by distributing changes and requests to the managed servers. Managed servers host application components (WebCenter Content, VueLink for UCM) and Web services. When a managed server starts up it connects to the domain's Administration Server in order to synchronize.

For detailed information on how to setup a cluster of WebLogic managed servers through the administration console and configuration wizard, refer the *Oracle® Fusion Middleware Using Clusters for Oracle WebLogic Server* document at [http://download.oracle.com/docs/cd/E21764\\_01/web.1111/e13709/toc.htm](http://download.oracle.com/docs/cd/E21764_01/web.1111/e13709/toc.htm).

## VueServlet

The VueServlet acts as the main entry point for communication between AutoVue clients and the AutoVue server. The VueServlet must be configured for access through a firewall when used by external AutoVue clients to communicate with the AutoVue server. For more information, refer to the "VueServlet Configuration Options" section of the *Oracle AutoVue, Client/Server Deployment Installation and Configuration Guide*.

## VueLink

VueLink is an Oracle-developed integration solution that integrates AutoVue with popular content management systems (for example, WebCenter Content). For information on clustering VueLink for UCM, refer to section "[VueLink for UCM Clustering](#)".

## AutoVue Servers

The AutoVue server is the core of the AutoVue solution. Note that AutoVue servers should always have their own dedicated physical machines. For information on clustering AutoVue Servers, refer to the *Oracle AutoVue, Client/Server Deployment Planning Guide*.

## Oracle WebCenter Content

The cluster of WebCenter Content web applications must be setup on top of the cluster of WebLogic managed servers. For information on clustering WebCenter Content, refer to "[Oracle WebCenter Content Clustering](#)".

## VueLink for UCM Clustering Concepts

This section provides conceptual information about using VueLink for UCM in a two-node cluster.

- The VueLink for UCM package only needs to be unpacked on the machine that hosts the Administration Server of the cluster domain. From this machine, VueLink for UCM can be deployed on all of the managed servers of the cluster.

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**Note:** Steps detailing how to configure the VueLink Web application in the "Configuring VueLink" section of the *Oracle AutoVue VueLink for Oracle UCM System Administrator Manual* must be performed prior to deploying the WebLogic Server.

---

As shown in the following figure, when selecting the target for VueLink for UCM deployment, you must select **All servers in the cluster**.

Available targets for vuelink :

Servers	
<input type="checkbox"/>	AdminServer

Clusters	
<input type="checkbox"/>	ibr_cluster
<input checked="" type="radio"/>	All servers in the cluster
<input type="radio"/>	Part of the cluster
<input type="checkbox"/>	IBR_server1
<input type="checkbox"/>	IBR_server2
<input checked="" type="checkbox"/>	ucm_cluster
<input checked="" type="radio"/>	All servers in the cluster
<input type="radio"/>	Part of the cluster
<input type="checkbox"/>	UCM_server1
<input type="checkbox"/>	UCM_server2

- Since the VueServlet is bundled with VueLink, the same above recommendation automatically applies to the VueServlet cluster (one instance of VueServlet with each instance of WebCenter Content).

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**Note:** It is good practice to have the VueLink instance on the same physical machine that hosts the WebCenter Content instance. Conversely, you should never include an AutoVue instance on the same physical machine that hosts the WebCenter Content instance.

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## Oracle WebCenter Content Clustering

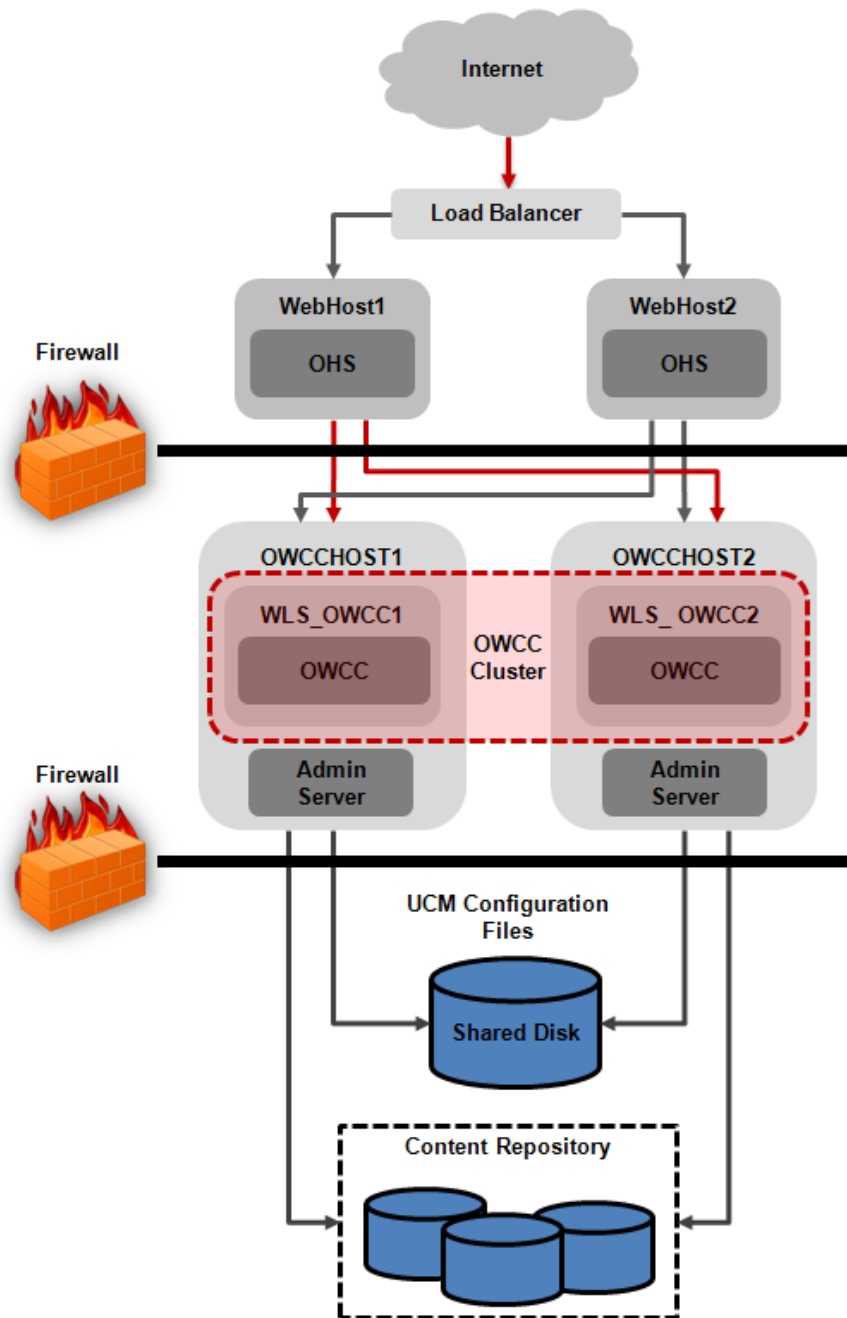
This section provides an introduction to Oracle WebCenter Content and how to design and deploy a clustered environment for WebCenter Content.

For complete information on WebCenter Content clustering, refer to the "Oracle Universal Content Management High Availability" section of the *Oracle Fusion Middleware High Availability Guide*.

### Active-Passive Configuration for Oracle WebCenter Content

WebCenter Content has Web application that runs within an Oracle WebLogic Manager server environment. As shown in the following figure, it is recommended to deploy the WebCenter Content cluster in an active-passive configuration.

For more information on active-passive topologies, refer to the "Active-Passive Topologies for Oracle Fusion Middleware High Availability" section of the *Oracle Fusion Middleware High Availability Guide*.

**Figure 3–1 Two-node Active-Passive Oracle WebCenter Content (OWCC) cluster**

Note the following:

- OWCCHOST2 is in standby mode. In the event OWCCHOST1 fails, OWCCHOST2 becomes active and handles all future requests.
- Each node in the cluster is run independently from the shared file system. Each client request is serviced by a single node.
- A WebLogic Server cluster or external load balancer can be run with OWCC.

## AutoVue Component for Oracle WebCenter Content

As show in [Figure 3–1, "Two-node Active-Passive Oracle WebCenter Content \(OWCC\) cluster"](#), all instances of WebCenter Content use a shared disk for all components. As as result, the AutoVue component for WebCenter Content must be installed only once (as described in the "Customizing WebCenter Content" section of the *Oracle AutoVue VueLink for Oracle UCM System Administrator Manual*). The installed AutoVue component is then available in all nodes of the WebCenter Content cluster.





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## Oracle HTTP Server

Incoming HTTP requests are received by Web tier. The Web tier acts as a load balancer between the end user and the cluster. Oracle HTTP Server (OHS) is the preferred Web tier for the WebCenter Content cluster. OHS is the Web server component for Oracle Fusion Middleware.

For detailed information refer to the "Configuring High Availability for Web Tier Components" section of the *Oracle Fusion Middleware High Availability Guide*.

If the WebCenter Content cluster uses OHS as the load balancer, VueLink for UCM addresses must be added to the OHS as well. To accomplish this, you must modify the same configuration file inside the OHS that is used to setup the WebCenter Content cluster (mod\_wl\_ohs.conf).

### **Example 4-1**

If the following defines the WebCenter Content inside the OHS configuration file:

```
<Location /cs>
    SetHandler weblogic-handler
    WebLogicCluster server1:16200,server2:16200
    WLCookieName JSESSIONID
</Location>
```

Then you should duplicate the code and replace /cs with /vuelink (or any other name that you chose for the VueLink deployment) in the new instance of the configuration file:

```
<Location /vuelink>
    SetHandler weblogic-handler
    WebLogicCluster server1:16200,server2:16200
    WLCookieName JSESSIONID
</Location>
```

Restart the OHS for the changes to take effect.

Make sure that the OHS port number is used inside autovue\_environment.cfg for the VueLink port.

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**Note:** Since components in a WebCenter Content cluster environment are installed in the shared location, you only have to make changes to AutoVue components in one location. The changes made in this shared location are picked up by all instances of the WebCenter Content.

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## General Recommendations

This section provides general cluster deployment recommendations.

### Seamless Failover

VueLink for UCM is not verified in seamless failover mode. That is, in the event the active instance fails, all unfinished tasks are lost. The passive instance becomes active and starts processing new requests.

### Active-Passive Cluster Deployment

The active-passive topology is the recommended cluster deployment for VueLink for UCM. As described in the *Oracle Fusion Middleware High Availability Guide*, this topology consists of an active node that services the requests and a passive node that acts as a backup node. The passive node is only activated when the current active node fails and stops service.

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**Note:** VueLink for UCM does not require any special configuration for active-passive cluster and works based on the recommendations from the "[Oracle HTTP Server](#)" section.

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The Oracle HTTP Server uses a session-based round-robin load balancing mechanism. While the load balancer attempts to rotate between all node, it maintains an established session to a single node (all requests with that session ID are directed to the same node).

### Load Balancing

Load balancing can be achieved using a hardware load balancer when using an active-passive topology.

### Passing Cookies to AutoVue Server and VueLink for UCM

Parameter DMS\_PRESERVE\_COOKIES can be set so that cookies can be passed from the AutoVue client to the AutoVue sever and VueLink. This parameter is defined in the applet launch page (csiAutoVue4webtop.jsp) and includes the following values:

- JSESSIONID: WebCenter Content session identifier. This value is used so that the load balancer can maintain sticky sessions.

- PK: Public key. This value is needed by the VueLink when communicating with WebCenter Content.
- username: username. This value is needed by the VueLink when communicating with WebCenter Content

DMS\_PRESERVE\_COOKIES ensures that JSESSIONID, PK, and username cookies are passed from the applet to the AutoVue server and then onto the VueLink.

For more information on DMS\_PRESERVE\_COOKIES, refer to the *Oracle AutoVue, Client/Server Deployment Installation and Configuration Guide*.

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## Troubleshooting

This section details troubleshooting steps for VueLink for UCM in a cluster deployment.

### WebCenter Content Search Index Delay

In a clustered environment, a markup being added to a file may not immediately appear in the search page or the markup counter may not be updated immediately. This is caused by the periodic delay between each indexing in the WebCenter Content cluster. A workaround is to manually run the WebCenter Content indexer so that changes can take effect immediately. To do so, follow these steps:

1. From the Administration menu, select **Admin Actions**.  
The Admin actions status page appears.
2. Next to the Collection Rebuild Cycle heading, click **Start**.  
The document index rebuild cycle creates a new search collection containing all released documents.

### Verifying VueLink Instances

The section describes how to verify that each instance of the VueLink in the cluster is running properly.

### VueLink Instance URL Responsiveness

To verify the responsiveness of each instance of the VueLink, you can access the direct URL of each node. Since URLs may be behind a firewall, you can verify the VueLink from the proxy server machine. To do so, open a Web browser on the Oracle HTTPS Server (OHS) machine and then follow the verification steps as outlined in the "Deploying the VueLink Web Application" section of the *Oracle AutoVue VueLink for Oracle UCM System Administrator Manual*. Note that this verification must be performed for each instance of the VueLink in the cluster.

### Unresponsive URLs

If any the VueLink URLs are unresponsive, you must perform the following steps.

1. Open the WebLogic administration console (for example, `http://<admin server>:7001/em`)
2. From the **Environment** menu, select **Server**.
3. Verify the following:

- All nodes in the cluster are running.
- VueLink is running on all intended nodes.
- None of the nodes show an error.

In the event there is an error, redeploy the VueLink on the server. If the redeployment fails, verify the WebLogic Server log for possible exceptions or errors.

## Monitoring the Number of Requests

If Oracle Enterprise Manager is installed on the WebLogic Server, it is possible to monitor the number of requests to the VueLink.

1. Open the Enterprise Manager console (for example, <http://<admin server>:7001/em>).
2. Inside the Enterprise Manager, locate the VueLink cluster and click on each node to observe the number of requests processed and their process times.

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## Feedback

We appreciate your feedback, comments or suggestions. Contact us by e-mail or telephone. Let us know what you think.

For any questions regarding a particular class or method, please contact Oracle Customer Support or post your question to the My Oracle Support AutoVue Community Web site.

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