Sitecore CMS 6.3

Introducing Sitecore CMS 6.3

Information about the Sitecore Architecture for System Architects and Administrators

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Chapter 1

Introducing Sitecore CMS 6.3

This document introduces features and architectural changes in Sitecore CMS 6.3 in comparison with Sitecore 6.2, and provides definitions for related terminology. Readers of this document should be familiar with Sitecore, its application architecture, and the functions of each of the Sitecore databases.

Read this document in its entirety before working with the Sitecore CMS 6.3 software.

This document contains the following sections:

- Terminology

- Sitecore CMS 6.3 Multi-Instance Architecture

1.1 Terminology

Sitecore CMS 6.3 introduces features that change the way you configure environments that involve multiple Sitecore instances, making the Sitecore Staging module obsolete. Sitecore uses the following terminology in this and other documents that describe multi-instance configurations.

1.1.1 Instance

An instance is an installation of the Sitecore software.

Each instance consists of:

- An IIS Web site.

- The document root file system of the IIS Web site.

- One or more relational databases, typically on a separate database server. Other instances in the environment and other environments can access the same databases.

1.1.2 Server

A server is a single physical or virtual server. You can configure multiple Sitecore instances on a single physical or virtual server.

1.1.3 Environment

An environment is a group of instances configured to achieve a specific goal, such as content management (CM) or content delivery (CD). Multiple environments can serve the same purpose for a single managed Web site. For example, you can configure multiple CM and CD environments in different geographies to manage and deliver a single Web site.

A default Sitecore installation provides both CM and CD environments, but you can separate one or more CM instances from one or more CD instances to create two separate environments, and you can add additional CM and CD environments.

1.1.4 Content Management (CM) Environment

A Content Management (CM) environment is a group of one or more Sitecore instances that host Sitecore CMS user interfaces, typically inside the LAN/VPN. The CM environment is similar to the concept of a Staging Master using the Staging module in previous Sitecore editions.

1.1.5 Content Delivery (CD) Environment

A Content Delivery (CD) environment is a group of one or more Sitecore instances that host the managed Web site(s) available to the browsing public, typically in the peripheral network (DMZ). The CD environment is equivalent to one or more Staging Slaves using the Staging module in previous Sitecore editions.

1.1.6 File Replication

File replication refers to the replication of files between instances in an environment. Sitecore uses Windows Distributed File System (DFS) for file replication.

1.1.7   Web Deployment

Web Deployment refers to the automated deployment of file system changes from a CM environment to a CD environment. Sitecore uses the Microsoft Web Deployment tool for file deployment.[1]

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[1] For access to the Web Deployment tool, see http://www.iis.net/download/WebDeploy.

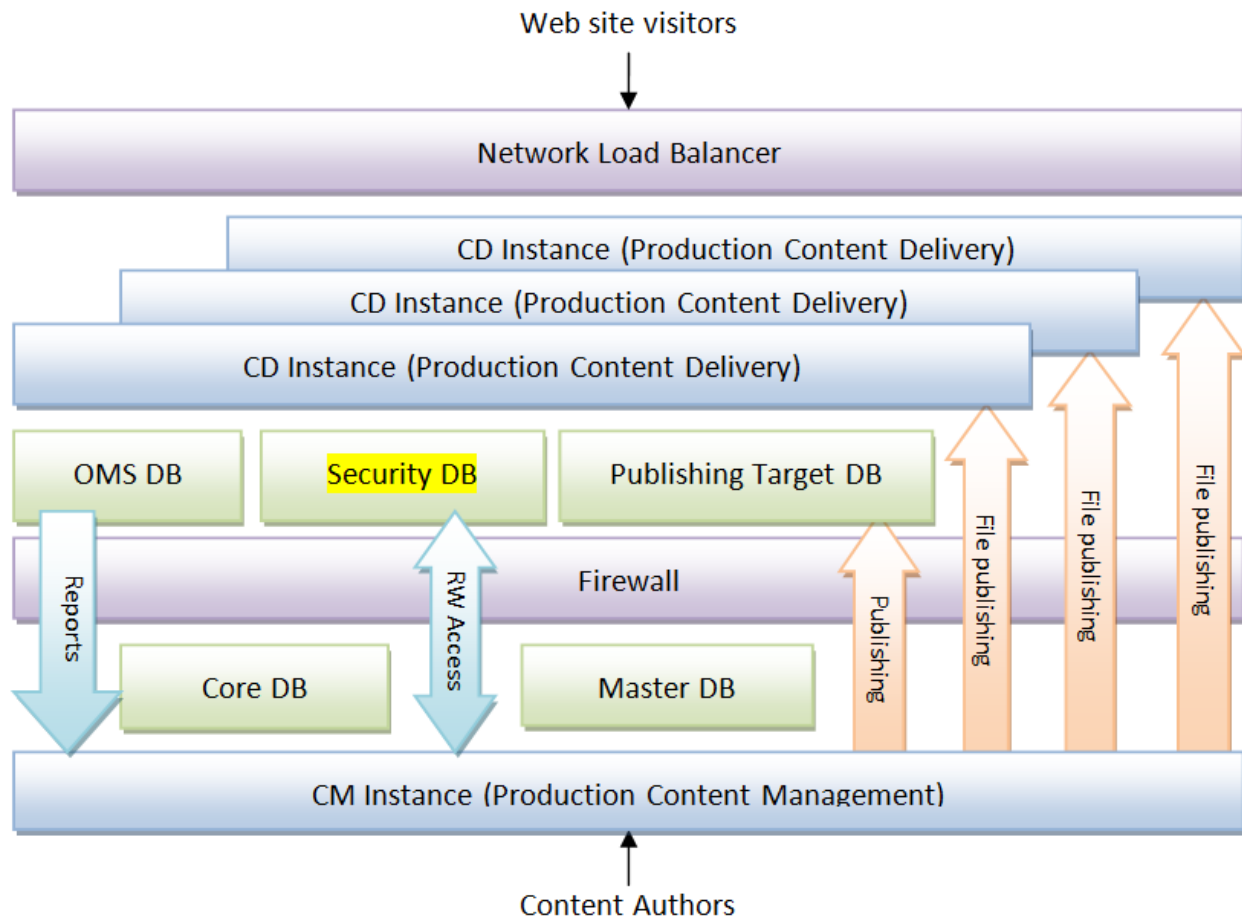## 1.2 Sitecore CMS 6.3 Multi-Instance Architecture

This section compares the Sitecore CMS 6.2 multi-instance architecture with the Sitecore CMS 6.3 multi-instance architecture. This section describes new features in Sitecore CMS 6.3, including further explanations of new terminology.

1.2.1 Sitecore CMS 6.2 Multi-Instance Architecture Overview

A typical Sitecore CMS 6.2 configuration employing the Staging module consists of a single Content Management (CM) instance accessing a Core database, a Master database, and one or more publishing target databases, such as the default Web database. Publishing transfers data from the Master database managed in the CM environment to one or more publishing target databases that support the Content Delivery (CD) environment(s).

Each 6.2 CD environment consists of one or more Sitecore CD instances, typically behind a network load balancer. The CD environment accesses a subset of the databases managed by the CM environment, typically excluding the Master database. The CD instances typically access a separate database for Security, which is the Core database by default.

In 6.2, the Staging module integrates with publishing on the CM instance to expire relevant cache entries on the CD instances. Optionally, the Staging module transferred files between the CM and CD environments using either FTP or SOAP.

1.2.2 Sitecore CMS 6.3 Features and Architecture Enhancements

Sitecore CMS 6.3 supports a number of new features based on changes to the multi-instance architecture.

Important

Do not install the Sitecore Staging module on Sitecore CMS 6.3 instances. Sitecore CMS 6.3 provides native support for configuring multiple related instances, replacing the Staging module used with previous Sitecore editions.

Load-balanced CM and CD Environments

With Sitecore CMS 6.3, you can load-balance both the CM environment and the CD environment for failover and greater scalability.

All instances in an individual CM or CD environment access a common collection of Sitecore databases. In a CM environment, all instances access a common Master database.

When applying updates or installing modules, administrators manage all of the instances in each environment as a single unit. For example, an administrator might first update code and configuration on all of the instances in the CM environment, and then update all of the instances in one of the CD environments, and then update all of the instances in another CD environment.

Excluding any instance-specific configuration and data files and code, all instances in an environment run identical Sitecore installations. Sitecore synchronizes all required data excluding resources deployed using release management techniques such as source code management systems. Sitecore ensures cache coherence between all instances in each environment.

CM Publishing Instance

With Sitecore CMS 6.3, you can separate a publishing instance from other instances in the CM environment, offloading publishing operations initiated on all instances to the single publishing instance. The publishing instance is responsible for all publishing operations in each CM environment. The publishing instance can be a member of the load-balanced group of CM instances, or you can exclude the publishing instance from the balance to dedicate an entire instance to publishing operations.

Remote Partial Cache Clearing and File Media Synchronization

Sitecore CMS 6.3 provides features that make the Staging module obsolete. These features include remote partial cache clearing and support for Microsoft Windows Distribute File System (DFS) for local file system synchronization and Web Deployment for remote file system synchronization.
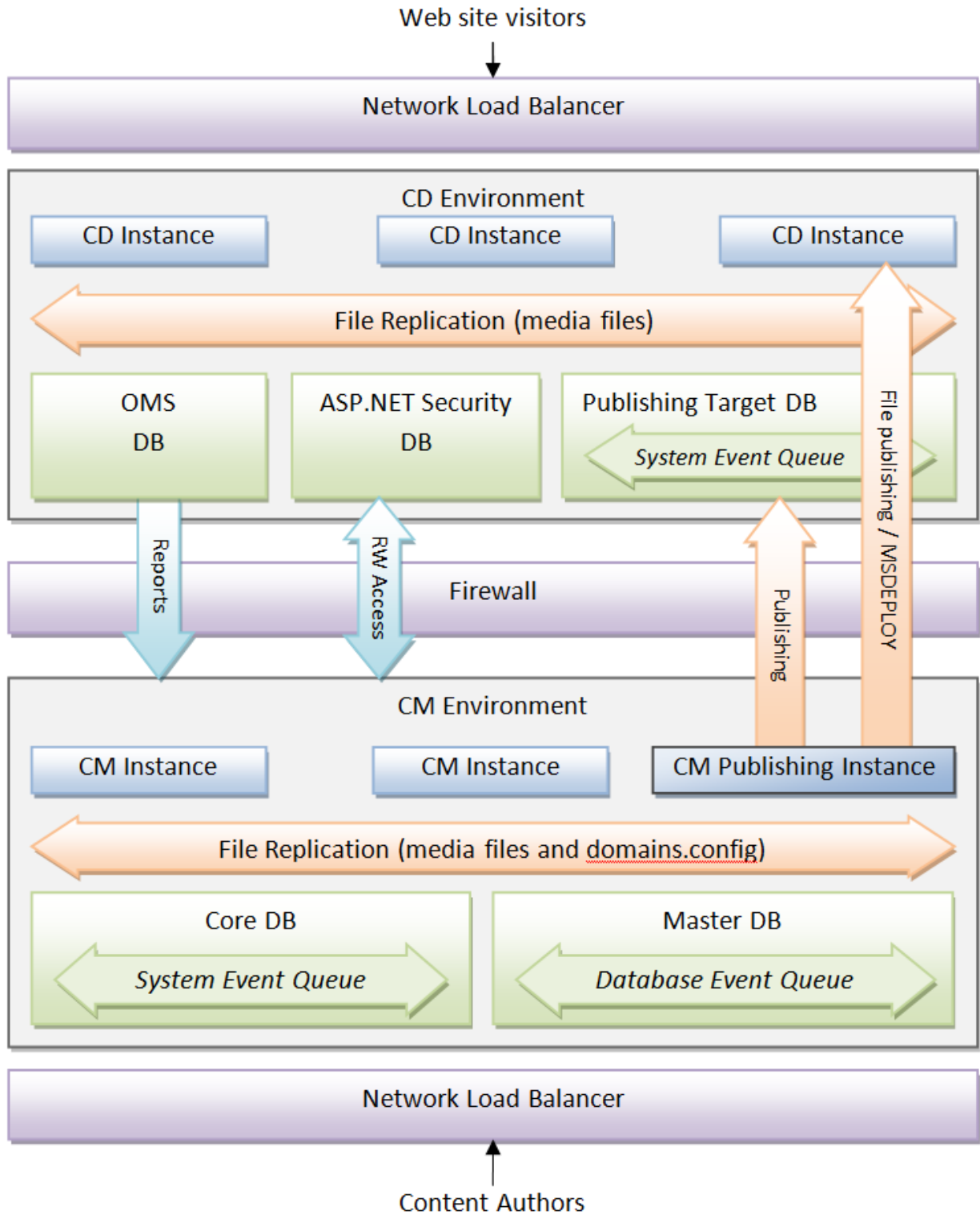
Remote partial cache clearing allows multiple instances to share databases without introducing cache incoherence or data latency.

You can use Microsoft Windows Distributed File System (DFS) to synchronize file system changes between multiple instances in a CM or CD environment. You can use Web Deployment to transfer changes to a file systems from a one environment to another, such as from CM to CD. You can configure DFS to replicate file system changes from one CD instance to others in the environment.

Event Queues

To ensure data and cache coherence and support communication between instances in an environment and between CM and CD environments, Sitecore CMS 6.3 maintains event queues as tables in Sitecore databases.

Each Sitecore instance accesses one Database Event Queue for each database, and writes database events relevant to the containing database to each queue. Each instance designates one of the Database Event Queues as the System Event Queue, and additionally writes system events to that queue. The System Event Queue contains events related to security, publishing, and other operations. By default, Sitecore manages the System Event Queue in the Core database. Unless directed otherwise, each instance processes database and system events in all database queues.

Web site visitors

Network Load Balancer

CD Environment

CD Instance   CD Instance   CD Instance

File Replication (media files)

OMS
DB

ASP.NET Security
DB

Publishing Target DB

System Event Queue

File publishing / MSDEPLOY

Reports   RW Access

Firewall

Publishing

CM Environment

CM Instance   CM Instance   CM Publishing Instance

File Replication (media files and domains.config)

Core DB

System Event Queue

Master DB

Database Event Queue

Network Load Balancer

Content Authors

1.2.3   Additional Documentation

Read the document, Scaling Sitecore, in its entirety before attempting to install Sitecore CMS 6.3 in a multi-instance configuration.