CHAPTER 1

Introduction

This chapter provides an overview of SMASH support in the Cisco UCS Servers.

This chapter contains the following sections:

About the Cisco Unified Computing System

Cisco Unified Computing System (Cisco UCS) fuses access layer networking and servers. This high-performance, next-generation server system provides a data center with a high degree of workload agility and scalability. The hardware and software components support Cisco's unified fabric, which runs multiple types of data center traffic over a single converged network adapter.

About the DMTF

The Distributed Management Task Force (DMTF) is an industry organization that develops and promotes standards for the platform-independent management of enterprise servers and systems. Founded in 1992, the DMTF has a membership of more than 200 organizations and companies, including many universities and most major vendors of enterprise IT systems. The activities of the DMTF consist of several general initiatives, with multiple working groups addressing specific aspects of each initiative.

About the CIM

The central concept at the core of most DMTF standards is the Common Information Model (CIM), an object-oriented framework for modeling the logical and physical components of an information system. The CIM describes a common set of managed elements and the relationships between them.

The CIM Schema defines a hierarchy of classes in which subclasses inherit general attributes from parent classes while adding more specialized attributes. Each class will have one or more instances. Each instance has a number of properties and each property has a value. For example, a 2 gigabyte DIMM memory module is an instance of the CIM_PhysicalMemory class, which is a subclass of the CIM_Chip class, and has a Capacity property whose value is 2147483648 bytes.

The CIM further defines profiles, which comprise the classes, properties, methods, and values that are required to represent and manage a particular management domain or functional area. For example, the Fan profile describes the properties and methods of fans and redundant fans in a managed system. This profile associates the physical fan instance with a sensor instance and requires the ability to sense and set properites such as fan speed and state. The DMTF publishes specifications for many standard profiles, with most system vendors implementing a subset of the available profiles.

About SMASH

The Systems Management Architecture for Server Hardware (SMASH) initiative is a suite of specifications defining a common architectural model, standard protocols, and profiles to facilitate the management of a data center, independent of vendor, topology, or operating system. The SMASH initiative includes two methods of interaction for system management:

- Server Management Command Line Protocol (CLP)—A universal command line syntax allowing an operator or a script to execute common system tasks over a text-based transport protocol.
- WS-Management—A universal Web services interface for system management.

Either interface provides control of the managed elements of the CIM for the underlying system.

Cisco UCS servers implement both interaction methods.

About This Guide

The purpose of the *Cisco UCS SMASH Reference Guide* is as follows:

- List the profiles, classes, properties, and methods of SMASH management that are supported by the Cisco UCS Servers.
- Provide instructions for accessing the SMASH management interfaces that are supported by the Cisco UCS Servers.

This guide does not provide detailed instructions on how to use the SMASH management methods. For usage instructions, see the DMTF documentation at the following URL:

- http://www.dmtf.org/standards/smash