



ZFS STORAGE
APPLIANCE

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Oracle® Storage Connect Plug-in for Oracle ZFS Storage Appliance Security Guide

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Overview

This guide provides an overview of Oracle Storage Connect Plug-in for Oracle ZFS Storage Appliance, v2.x, and explains the general principles of application security.

Product Overview

The Oracle Storage Connect Plug-in for the Oracle ZFS Storage Appliance is a component of the Oracle VM software suite that enables Oracle VM to provision and manage the Oracle ZFS Storage Appliance for virtualization. This plug-in addresses iSCSI and Fibre Channel (FC) storage management for virtual machines. It manages shares and storage consumed through the iSCSI or FC block protocols for data path connectivity to a targeted Oracle ZFS Storage Appliance.

Basic Security Principles

This plug-in product follows the following security principles:

- Configure the Oracle ZFS Storage Appliance environment securely.
- Communicate with the Oracle ZFS Storage Appliance securely:
 - The plug-in connects to Oracle ZFS Storage Appliances for remote command execution using SSH and HTTPS protocols.
 - For initiator group management operations, the plug-in executes commands on Oracle ZFS Storage Appliance through RESTful services using HTTPS.

Secure Installation and Configuration

This chapter outlines how the software is securely installed and configured.

Installation

The latest version of the plug-in is available for download from the Oracle Technical Network (OTN). The product distribution consists of a single zip file. The plug-in is in a Linux RPM format which is to be installed on the Oracle VM Server(s).

Oracle ZFS Storage Appliance Configuration

The following is recommended for secure configuration:

- Create a user with the following basic authorizations, defined through these scope items:
 - Workflow – read authorization
 - SAN (target group and initiator group management) – configure authorization
 - Shares property schema – modify authorization

- Project and shares – all authorizations
- Limit the Oracle VM user to managing only the dedicated project/shares.

Password Protection

The plug-in does not store the credentials for Oracle ZFS Storage Appliances. Credentials management is handled by Oracle VM Manager, and the plug-in simply consumes the credential as provided by Oracle VM Manager.

When configuring iSCSI LUNs, the plug-in does not store the CHAP authentication credentials.

Security Features

This section provides a high-level overview of the security features of the plug-in.

The critical security features that provide protection are:

- Authorization – The plug-in requires that users have the appropriate privileges to gather storage system, configuration and performance information from Oracle ZFS Storage Appliances.
- Confidentiality – All interactions between the plug-in and the storage appliance are through secure network channels such as SSH or HTTPS.
- Project/Share Filtering – Oracle VM users will only see the shares that are within the their particular user project/share scope.
- Restricted Login – Limits access to specific targets. In iSCSI environments, the Oracle VM servers will only log into targets that are specified during Oracle ZFS storage array registration. This approach prevents LUNs from being exposed to unauthorized servers.



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Oracle Application Integration Engineering



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