Dell SupportAssist – Proactive Support For EqualLogic Storage Hosting a Fluid File System

Dell SupportAssist version 1.3 for Dell OpenManage Essentials supports automatic case creation and collection of information when issues arise in EqualLogic storage hosting a Fluid File System (FluidFS). This white paper provides details on configuring EqualLogic storage hosting a FluidFS and describes the supported features for EqualLogic storage hosting a FluidFS in SupportAssist version 1.3.

Dell SupportAssist Engineering Team
Arun Nagarajan
Aruna Jayaprakash
Karthik Ramesh
Steve Williamson

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Executive summary

Dell SupportAssist version 1.3 for Dell OpenManage Essentials identifies EqualLogic arrays with attached FS7500 and FS7600 Fluid File System (FluidFS) as EqualLogic FluidFS NAS storage. This categorization is in preparation for complete support of FluidFS devices in a later release. SupportAssist version 1.3 does not provide support for FS7500 and FS7600 systems. SupportAssist version 1.3 automatically creates support cases when issues arise on EqualLogic storage hosting a FluidFS, and collects information about the hardware and uploads it to Dell to help solve the problem. For automatic case creation in SupportAssist you must configure the EqualLogic storage hosting a FluidFS. This white paper provides guidance on configuring SupportAssist and the EqualLogic arrays hosting a FluidFS as required to ensure proactive support using SupportAssist. It also includes information on the features supported for EqualLogic arrays hosting a FluidFS. Intended user of this white paper is assumed to have prior knowledge on administration of EqualLogic storage, Fluid File System, OpenManage Essentials, and SupportAssist.

1 Introduction

Dell SupportAssist collects information about your computer hardware and software and is integrated with leading management consoles such as Dell OpenManage Essentials which enables automated case (ticket) creation and support from Dell by identifying failures in a customer's IT environment remotely.

Dell's robust and easy-to-use proactive support technology allows us to identify, diagnose, and resolve issues faster and more precisely with less customer involvement – reducing downtime and letting our customers get back to business. Available features are based on the level of your support agreement per device monitored. This helps Dell to provide you an enhanced, personalized, and efficient support experience. Some benefits of Dell SupportAssist are:

- Improve case accuracy and eliminate errors with automatic support case/ticket creation.
- Accelerate identification of issues with email alerts from Dell at the time of hardware failure.
- Automatic log collection and upload from the device using Dell collection tools.
- Gain an enhanced support experience by cutting support steps in half.

In SupportAssist for Dell OpenManage Essentials, OpenManage Essentials interacts with supported devices and receives SNMP traps. The SNMP traps are periodically retrieved as alerts by SupportAssist. The alerts are filtered using various policies to decide if the alerts qualify for creating a new support case or updating an existing support case. All qualifying alerts are securely sent to the SupportAssist server hosted by Dell for creating a new support case or updating an existing support case. Support cases are created only for devices covered under the Dell ProSupport and ProSupport Plus service contract types. After the support case is created or updated, the SupportAssist application runs the appropriate collection tools on the devices that generated the alerts and uploads the log collection to Dell. This information in the log collection is used by Dell technical support to troubleshoot the issue and provide an appropriate solution.

1.1 Dell Fluid File System

FluidFS is a shared-disk file system that provides distributed file systems to clients. Customers buy an appliance: a combination of purpose-built NAS controllers with integrated primary and backup power supplies (i.e., the appliance) attached to block level storage via the iSCSI or Fiber Channel protocol. A single Dell FluidFS appliance consists of two controllers operating in concert (i.e., active/active) connecting to the back-end storage area network (SAN). Depending on the storage capacity requirements and user preference, NAS appliances can be used with Compellent, PowerVault, or EqualLogic SAN arrays.

Dell Fluid File System (FluidFS) advantage helps eliminate many of the limitations of traditional file systems:

- Scale beyond the file system and file share capacity limits of conventional file systems.
- Manage growth with non-disruptive scaling of capacity and/or performance.
- Utilize a single namespace for easy administration.
- Present a storage pool as a single file system with a single virtual-IP address to the storage clients.

2 Supported features for EqualLogic storage hosting a Fluid File System

The following table provides a summary of the software version and features supported for EqualLogic storage hosting a FluidFS in SupportAssist version 1.3.

Device	Software version	SupportAssist	Auto Case Creation	Periodic System Log Collection	On Demand System Logs
FS7500 / FS7600 / FS7610	1.0/2.0/3.0	Not identified	Not Supported	Not Supported	Not Supported
EqualLogic PS arrays with attached FluidFS system	6.0/7.0	Discovered as EqualLogic FluidFS NAS Appliance	Yes	Yes	Yes
EqualLogic PS arrays without attached FluidFS system	5.0/6.0/7.0	Discovered as EqualLogic Storage	Yes	Yes	Yes

2.1 Discovery of EqualLogic storage hosting a FluidFS

EqualLogic storage hosting a Fluid File System is discovered through OpenManage Essentials. The following are the steps to enable SupportAssist to monitor the device.

1. Identify the Group IP address or Management IP address of EqualLogic hosting a FluidFS and login to the EqualLogic console and configure the SNMP community string and SNMP trap destination to the management station where OpenManage Essentials is installed. The optional Management IP address is not shown in this example but it can be found under the 'Advanced' tab. If the Management IP address is configured, SupportAssist uses this IP address for 'log collection'

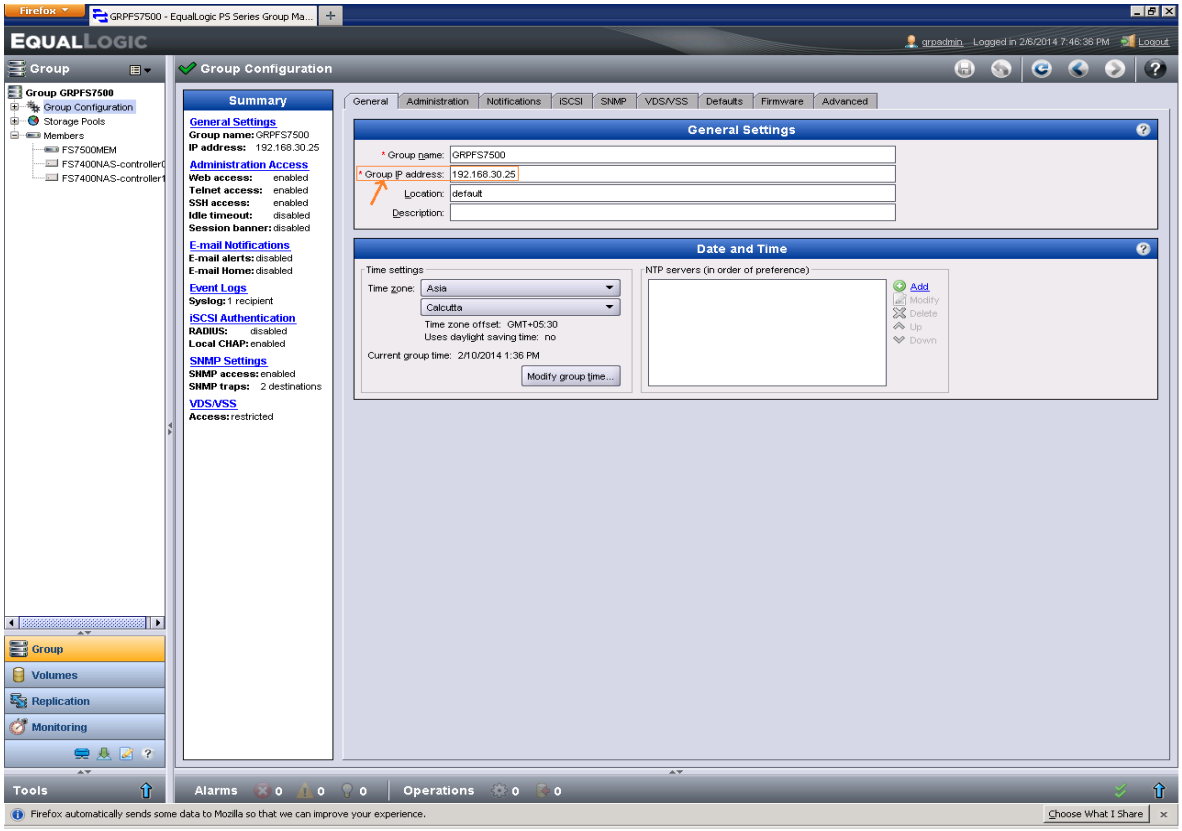

Figure 1 EqualLogic console indicating Group IP address

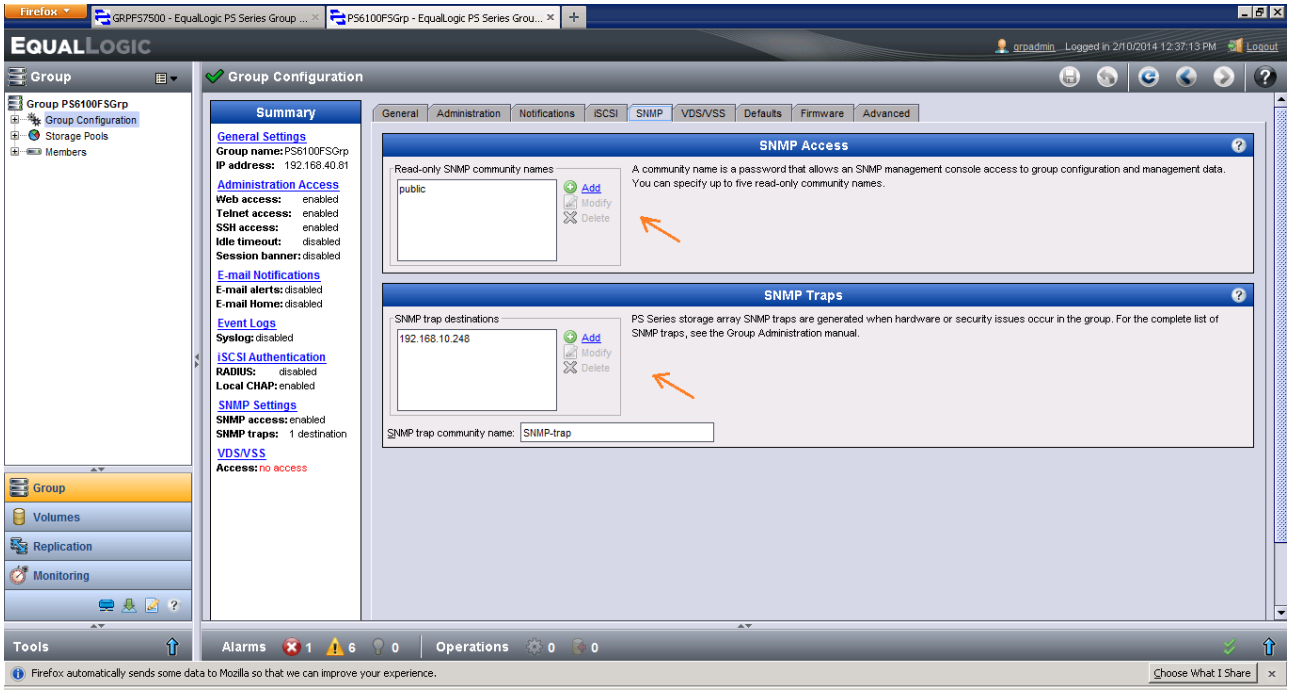

Figure 2 EqualLogic console for SNMP configuration

2. Discover the EqualLogic storage hosting a FluidFS with Group IP address or Management IP address in OpenManage Essentials by using SNMP community configured in EqualLogic storage hosting a FluidFS for discovery.

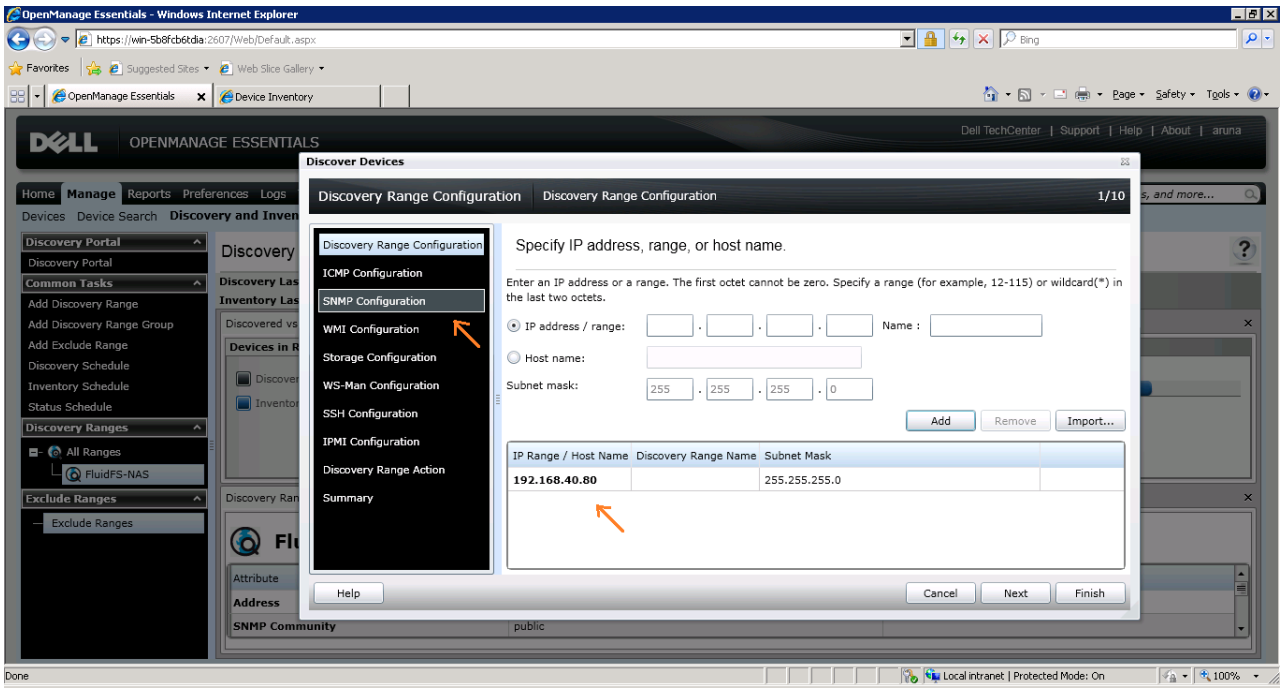

Figure 3 Discovering EqualLogic storage hosting a FluidFS in OpenManage Essentials

3. The EqualLogic storage hosting a FluidFS is discovered in Dell SupportAssist as EqualLogic FluidFS NAS Appliance.

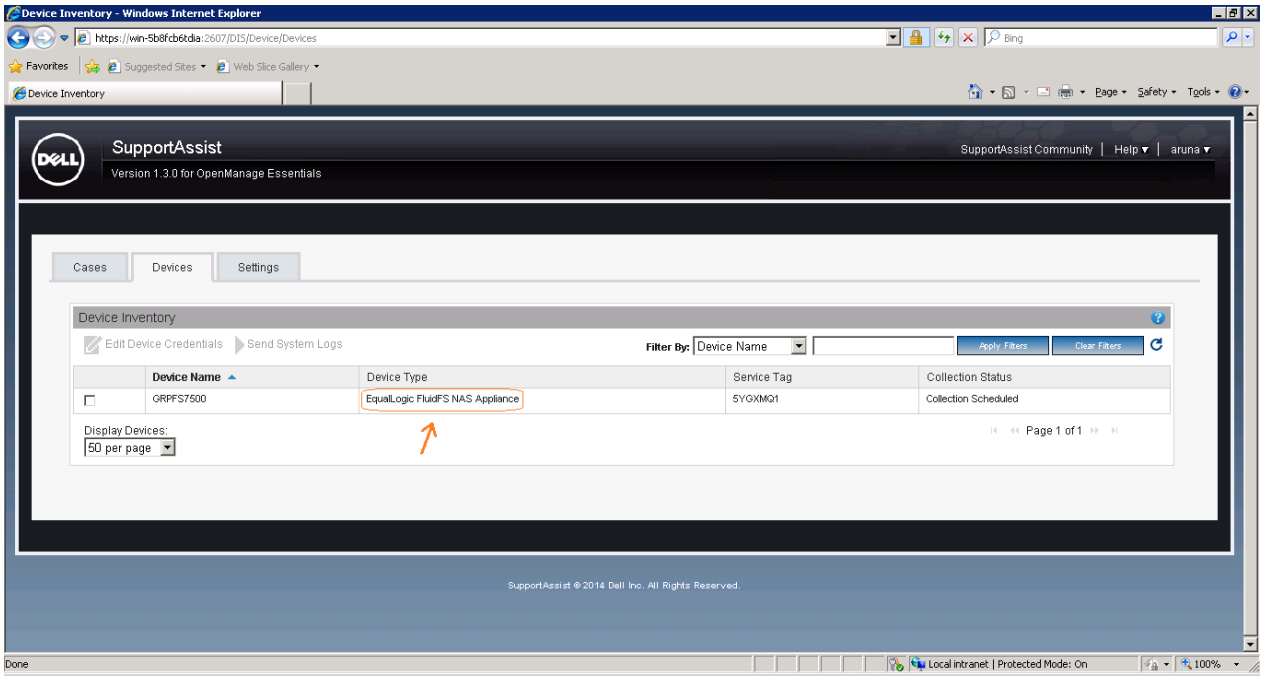

Figure 4 EqualLogic storage hosting a Fluid File System displayed in SupportAssist

2.2 Automatic case creation for EqualLogic storage hosting a Fluid File System

SupportAssist processes alerts from EqualLogic storage hosting a FluidFS through OpenManage Essentials, but a support case is created only if:

- The policies in SupportAssist qualify the alert for a case creation
- SupportAssist is configured to automatically generate support cases

Once the support case is created, the appropriate collection tool is invoked, and the system log collection is generated and uploaded to Dell to help solve the problem.

Note:

1. Only Alerts from EqualLogic storage hosting a FluidFS are processed in SupportAssist version 1.3. Alerts from FluidFS are not processed.
2. For devices covered under Basic Support service contract type, the support case is not created, but the collection tool is invoked.

The following are the stages of case creation:

1. If a support case is created for EqualLogic storage hosting a FluidFS, the case details are displayed in SupportAssist and the collection tools are invoked.

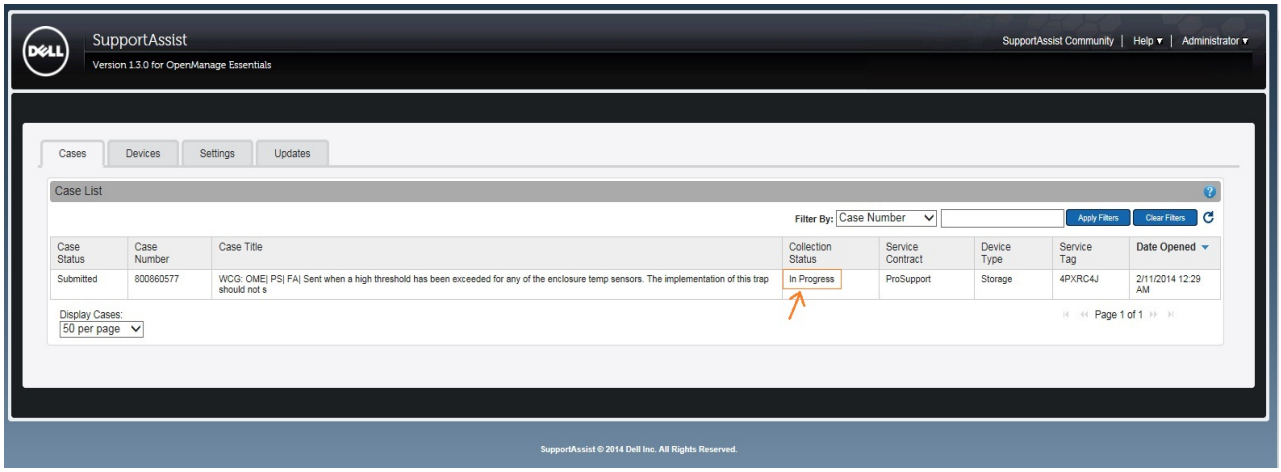

Figure 5 Case created for EqualLogic storage hosting a Fluid File System

2. Once the diagnostic information is collected, the report is uploaded to Dell to help troubleshoot the problem.

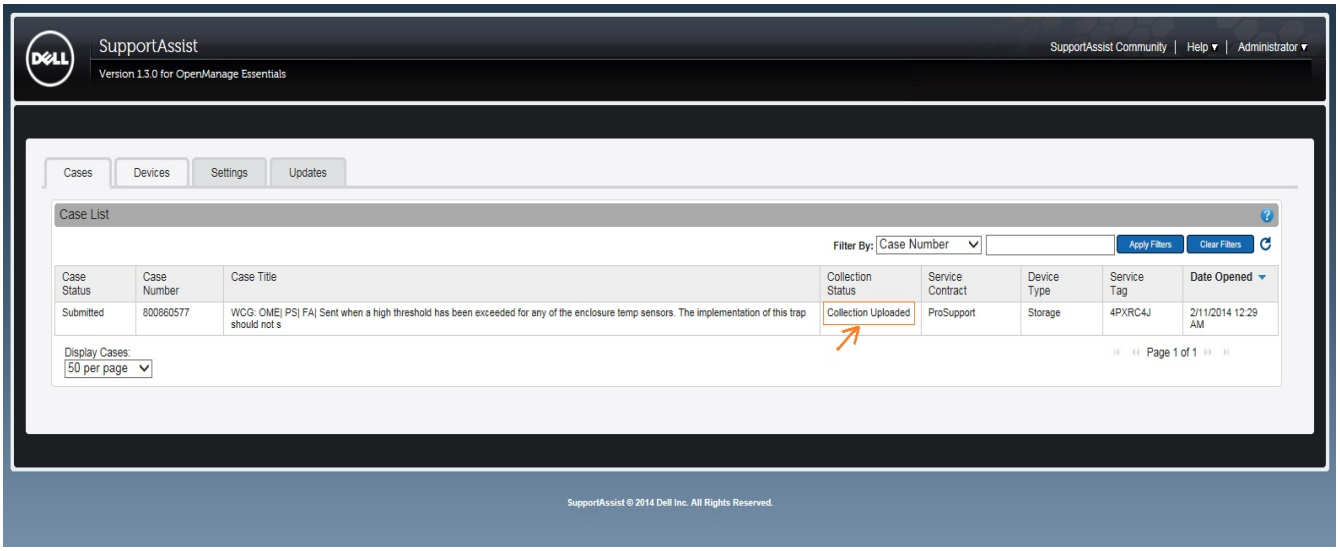

Figure 6 Collection status for EqualLogic storage hosting a Fluid File System

2.3 Periodic system log collection for EqualLogic storage hosting a Fluid File System

By default, SupportAssist invokes the collection tool on EqualLogic storage hosting a FluidFS every week to generate the system log collection and uploads it to Dell. However, you can change the frequency at which the system log collection is generated and uploaded to Dell.

To schedule the periodic collection:

1. Click the Settings tab in SupportAssist.
2. In Edit Device Type Credentials, select the device type as Storage and credential type as NAS Appliance
3. Enter the credentials of the EqualLogic storage hosting a FluidFS device.
4. In System Log Collection Schedule, change the frequency, date, and time as required.
5. Click Save Changes.

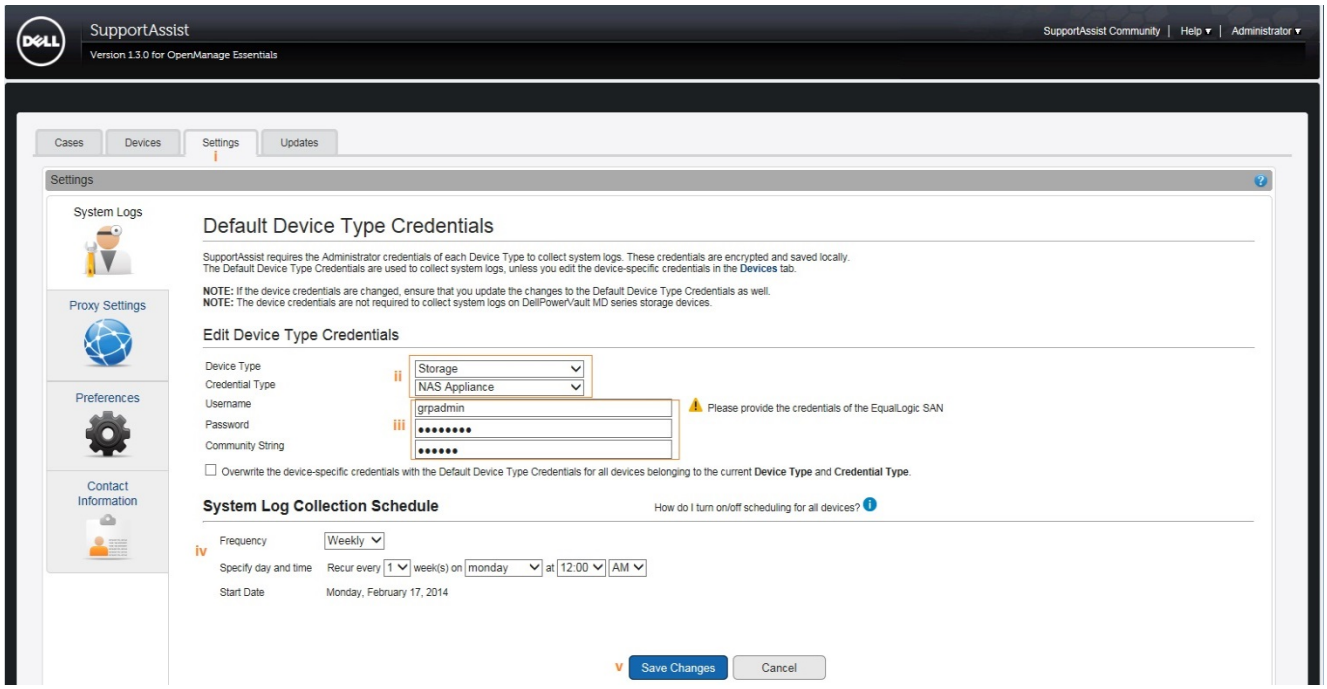

Figure 7 Scheduling periodic collection of system logs

2.4 On-demand system log collection for EqualLogic storage hosting a Fluid File System

When a support case is opened or updated, SupportAssist runs the collection tools on the devices that generated the alerts, and then uploads the system logs to Dell. In certain conditions, if required by Dell technical support, you may be required to manually collect the system logs and send it to Dell.

To send system logs manually:

1. Navigate to the Devices tab in SupportAssist.
2. Select the EqualLogic storage hosting a FluidFS on which the collection tool should be invoked.
3. Click Send System Logs.
4. The collection tool is invoked and the generated system log collection is uploaded to Dell.

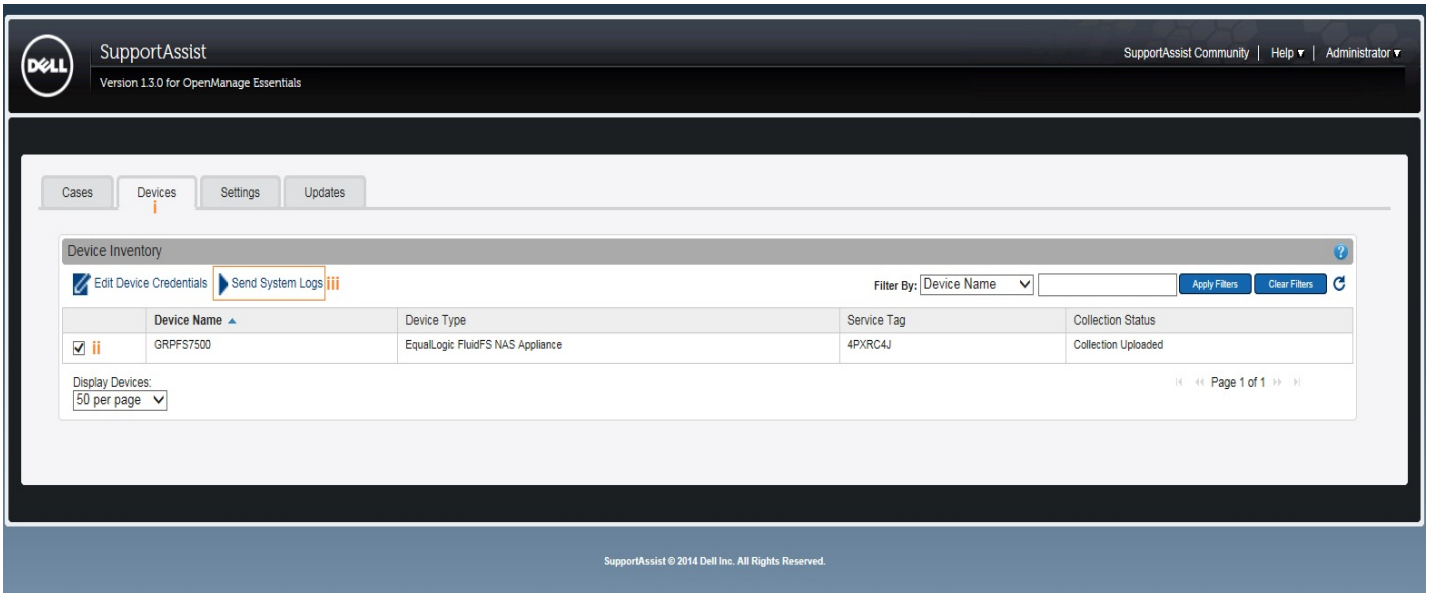

Figure 8 On-demand system log collection

A Glossary

Component	Description
Periodic System Log Collection	Diagnostic log collection on a device through SupportAssist
On Demand System Log Collection	Manually triggered Diagnostic collection on a device using Send System Logs in the Device page in SupportAssist
Fluid File System	Fluid File System is an enterprise-class distributed file system that provides customers with the tools necessary to manage file data in an efficient and simple manner
SAN	Storage Area Network

B Additional resources

Support.dell.com is focused on meeting your needs with proven services and support.

DellTechCenter.com is an IT Community where you can connect with Dell Customers and Dell employees for the purpose of sharing knowledge, best practices, and information about Dell products and installations.

Referenced or recommended Dell publications:

- Dell Fluid File System White paper: http://i.dell.com/sites/content/shared-content/data-sheets/en/Documents/DSFS_White_paper_r4-0.pdf
- Dell SupportAssist User's Guide: **dell.com/ServiceabilityTools**
- Dell OpenManage Essentials User's Guide: **dell.com/OpenManageManuals**

Referenced or recommended other publications:

- Dell EqualLogic FS7600: http://www.equallogic-storage.co.uk/products/fs7600-fs7610-network-attached-storage