Remote Services 2.0 Release Notes Late Breaking Caveats

Remote Services 2.0 - Release Notes

Contents

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1.0 Introduction

The Remote Services proactive solution provides a way for HPE to monitor and pro-actively support customer systems. This is a Cloud solution.

The system data, which is provided by the agent software running directly on the system, is stored on the Cloud. In addition to this, upon customer approval, RS may also provide access for HPE Support personnel to a customer system.

Remote Services functionality on MC990X systems is available as of August 1, 2017

2.0 System Requirements

Requires HPE System Foundation Software (SFS) 2.16 or later.

sgirs software consists of bash scripts plus the Agent software. Config options and global variables are within the file /etc/sysconfig/sgirs. The directory /etc/sysconfig must have the x bit set on its permissions and root:root ownership: drwxr-xr-x root root /etc/sysconfig

sgirs installs log filters and requires a service restart of the syslog facility.

sgirs has to obtain a valid system serial number; otherwise, the sgirs service will not start and will display an error as such. If this happens, contact your service provider for assistance in resetting your system serial number.

sgirs uses the #includedir syntax inside of the /etc/sudoers file, which was supported starting at version sudo-1.7.2. On a system running anything prior, copy the contents of sgirs and sgiremote files from /etc/sudoers.d/ into /etc/sudoers file after RPM install.

This applies to all sgirs RPMs, except for the sgirs-icelead RPM.

RS depends on these specific SFS components:
  - sgirs-universal RPM depend on sgi-support-tools and memlog
  - sgirs-iceadmin RPM depend on sgi-admin-node-release RPM
  - sgirs-icelead RPM depends on sgi-lead-node-release RPM

Some users may find they are able to install RS on systems without having met the dependency of SFS 2.16
or later.

RS has not been tested in environments other than systems that meet described dependencies. Running RS
on systems not meeting described dependencies may encounter unanticipated issues and/or encounter issues
in future RS releases.

Support for usage of RS is provided when issues can be reproduced on systems fully meeting described dependencies.

3.0 Features

The monitoring RPMs gather and send support data to a secured Cloud Platform from Axeda, sgi.axeda.com.
The RPMs are described later.

If installed, the optional sgirs-sgiremote RPM creates sgiremote user used by HPE Support personnel to
perform enhanced system support activities. This feature is described later.

4.0 Monitoring Agents

The RS RPMs (sgirs-universal, sgirs-iceadmin) add the following features to the host OS:

4.1 Agent details

4.1.1. Creates a user (sgirs) which
a. Is locked
b. Has a real shell
c. Has a home directory of /opt/sgi/Axeda/sgirs
d. Daemon runs as this user
e. Has group write privilege to the daemon home directory (/opt/sgi/Axeda/UniversalGateway or
/opt/sgi/Axeda/ICEAdminGateway)
f. If SELinux is in enforcing mode then the context for /opt/sgi/Axeda is set to user_home_dir_t

4.1.2. Adds sudo access for the sgirs user for the local system only via /etc/sudoers.d/sgirs.
    The directory /etc/sudoers.d/ is created if it does not exist.
    If the variable Defaults requiretty is set in /etc/sudoers it is commented out to allow sgirs to run
without a shell as the launcher.

4.1.3. Reference /etc/sysconfig/sgirs for description of configuration variables.

4.1.4. Reference /etc/syslog-ng/syslog-ng.conf (syslog-ng) or /etc/rsyslog.d/sgirs.conf (rsyslog) for
details of log filters that are added.

4.1.5. RS is enabled by default.

4.1.6. RPM removal (rpm -e)
On removal of the RPM the above changes are backed out.
There will also be *.rpmsave files created in directories /opt/sgi/Axeda/sgi_conf/ and /etc/sudoers.d/.

Once the RPM is re-installed, the appropriate *.rpmsave file can be restored by copying it over the
newly install file - if that is desired.

4.1.7. What is monitored is described below.

Script	Function
BMC_Env	Monitor the BMC using ipmi sel elist
Crash_Dump	Monitor for crash dumps in various directories
IB	Monitor servers using ibquerryerrors (configurable in /etc/sysconfig/sgirs)
IRU_ENV	Monitor servers using cmc ipmi sdr
Log_Files	Monitor /var/log/sgirs/sgirs-messages.log setup from filters set in /etc/syslog-ng/syslog-ng.conf or /etc/rsyslog.d/sgirs.conf uvdmp on SMN, disk space via df
memlogd	Monitor /var/log/sgirs/sgirs-memlog.log from filters set in /etc/syslogng/syslog-ng.conf or /etc/rsyslog.d/sgirs.conf specific to memlogd-related messages
NUMA_Err	Monitor NUMAlink using linkstat-UV
Pcie	Monitor changes to PCIe devices and status, using several lspci commands
RAID	Monitor RAID device, hdd/ssd using storcli64, MegaCli64, lsiutil, smartctl, lsscsi
Sw_Env	Changes in cat /etc/*release
Topology	Look for relevant topology -v changes
Uptime	Collect system uptime information
SGI_Config	Same result as SGI_Startup in the table below
External_Storage	smeecli, SMcli, show sub fault and show sub sum, smeecli/SMcli show storagearray healthstatus and show storagearray profile

4.1.8 Scripts can be run to collect server information to push to the Cloud. They are described below.

Script	Function
Gather_Support_Data	Run a combination of system_info_gather, generate_support_info.sh, tempo-info-gather, smn_info_gather, uvdmp, sosreport, and supportconfig
Gather_Logs	Gather boot-log, messages, dracut_log, uvconfig, het, memlog, sar, hb_report, crm_report, select /var/log directories and files, gateway directory*.txt files and xGate.log, and the sgirs monitor_work directory and push them to the Cloud, react, react.conf, cpuset, lsmod, modules, cmdline, capability.conf, 99-sgireact.rules, /etc/group
Get_Repotools_Info	Gathers output of yum repolist or zypper repos
Pcie_Get	Run a variety of lspci commands
RAID_Get	RAID device using storcli64, MegaCli64, lsiutil
External_Storage_Get	smeecli, SMcli, show enclosure 0 all and show sub fault, smeecli/SMcli show storagearray healthstatus and show storagearray profile
Remote_Access	Invoke rpm -q sgirs-sgiremote and indicates in the Remote_Access data item if the remote access RPM is installed.
HET_monitor	monitor and report on Hardware Environment Tracking actions described in /etc/het.action.d/het_sgirs
SGI_Startup	Run when Gateway is started to populate all data items in the Cloud
COP_Get	Run commands to gather coprocessor (GPU and MIC) information, nvidia-bug-report.sh, nvidia-smi, micinfo, miccheck, look at /proc/driver/nvidia/gpus/sys/class/pci_bus/* /sys/class/mic
CXFS_Dump	collect cxfs_dump -fast out. Configurable in /etc/sysconfig/sgirs.
CXFS_Gather	collect CXFS gather type information cxfsdump, clconf_info, cxfs_admin, cxfs-config. Configurable in /etc/sysconfig/sgirs.
DMF_Gather	collect DMF gather type information dmusage, dmcapacity, dmcollect. Configurable in /etc/sysconfig/sgirs.
Restart_Service	restart the sgirs service from the Axeda Cloud
Gather_Memlogd	collect memlogd -c and /proc/meminfo output

4.1.9. Frequency of monitoring

Description	Frequency of Collection
SGI Startup	Once at daemon start
BMC ENV	5 minutes
IRU	5 minutes
HET	5 minutes

```
NUMA Error          30 minutes
InfiniBand          1 hour
RAID                2 hours
External Storage    4 hours
memlogd             2 hours
PCIe                2 hours
Uptime              2 hours
Topology            24 hours
Crash Dump          24 hours
Log Files           12 hours
SGI Config          24 hours
Sw Env              24 hours
Remote_Access       24 hours
```

4.1.10. Data items are collected when daemon first starts and are only updated when they change.
Time stamp reflects when the data item was first gathered and is only updated if a change occurs.

Data Item	Description
Cool_tec	How the device is cooled; set to water or air as part of the RS install procedure
FW_Inv_Bios	System or motherboard BIOS information; /proc/sgi_uv/bios_version, dmidecode
FW_Inv_BMC	BMC firmware version; ipmitool mc info, bmc version
FW_Inv_CMC	CMC firmware version; cmc version
FW_Inv_Other	IB firmware version; parsing /sys/class/infiniband/*
FW_Inv_RAID	RAID firmware version; storcli64, MegaCli64, lsiutil
Hostname	System hostname; hostname --long, /proc/sys/kernel/hostname
HW_Inv	System type, memory, and CPU information; topology, hwinfo, dmidecode
Kern_Ver	Operating system version; uname -a
RAID_Storage	RAID storage version; smeecli, SMcli, show sub sum, show storagearray profile
External storage information: Chassis SN,Feature pack submodel ID, Current NVSRAM Verion Current Package Version	
ICE_Srv	The ICE admin serial number
Remote_Access	Enables remote access via sgiremote user and ssh keys; rpm -q sgirs-sgiremote. An N value indicates that the sgirs-sgiremote RPM is not installed on a customer system, and a Y value indicates that the sgirs-sgiremote RPM is installed.
SMN	Serial number of managed UVs for an SMN; cmcfind
SN	System serial number; dmidecode, /proc/sgi_uv/system_serial_number, dmidecode
SW_ver	High-level system software versions; cat /etc/SUSE-release, cat /etc/redhat-release, ls /etc/sgi-*-release, sgirs.sh -V
Uptime	System uptime; reading of /proc/uptime
Node_Cnt	Compute node count from Ice leader; wc -l /etc/dsh/group/compute or /etc/dsh/group/ice-compute depending on HPE SGI Management Center version
HA	If the node has a high availability feature; crm_mon -1

4.2 sgirs-iceadmin RPM Additional Requirements

The sgirs-icelead RPM must be installed on all rack leaders.

4.3 Optional RS Remote User

The sgiremote RPM requires one of the monitoring RPMs to be in place before the sgiremote RPM can be
enabled.

The sgiremote RPM adds the following features:

Creates sgiremote user with a home directory of /opt/sgi/Axeda/sgiremote
Installs a .ssh directory in the homedir, which contains a authorized_keys file: /opt/sgi/Axeda/sgiremote/.ssh/authorized_keys

Note: Customer must install or authorize installation of the optional software RPM package to create

the sgiremote user. By installing or authorizing installation of the sgiremote user with its access
credentials and password protection, the Customer permits HPE Support personnel to access the Customer
system through the secure shell protocol for efficient and effective Customer support.

When the sgiremote RPM is removed, the sgirs user will still exist in the system's passwd file. The
sgirs user's home directory is not removed. The sgiremote user is removed and remote access by HPE
is no longer possible via ssh key for sgiremote user.

The Cloud will always allow one to initiate a remote connection from the Cloud to any connected Agent.
The Cloud, base sgirs-universal or sgirs-iceadmin RPMs contain the software to allow remote connections.

Removing the sgiremote RPM disables only sgiremote user login. If one uses another valid user/password,
remote access is still possible as the sgirs-universal, sgirs-iceadmin RPMs contain the software to
allow such connection. To completely dis-allow remote logins prior to the starting or restarting of
the service, set the sgirs sysconfig file entry RSP_REMOTE_ACCESS appropriately.

5.0 Installation

5.1 Gathering Installation Materials and Information

Confirm system requirements are met. Reference System Requirements section.
Obtain Customer Contact name for entry when prompted, to be used for automatic case opening.
NOTE: Automatic case opening will not work if customer contact name is not available.
Obtain RPMs from HPE System Foundation Software repository.

Recommended RPMs
- For HPE SGI Management Suite Cluster admin nodes:
  sgirs-iceadmin and
  sgirs-icelead (for ICE lead installs only)
  and, optionally, sgirs-sgiremote

- For MC990 X, UV, SMN, Compute nodes in HPE SGI Management Center cluster, Rackable Standard Depth
systems:
  sgirs-universal
  and, optionally, sgirs-sgiremote

The software requires access to sgi.axeda.com via port 443/tcp. Refer to Attachment A at the end
of this document for information on how to setup a proxy if needed.

For remote access the Axeda Global Access servers (Cloud) require the same port 443/tcp access.

52.56.106.12	ghuk2.axeda.com	GA Server - UK
52.56.113.192	ghuk3.axeda.com	GA Server - UK
209.202.157.179	ghsom1.axeda.com	GA Server - Boston, MA USA
198.66.245.39	ghsj1.axeda.com	GA Server - San Jose, CA USA
52.192.83.87	ghjap2.axeda.com	GA Server - Japan
122.202.65.179	gas-aus.axeda.com	GA Server - Australia

5.2 Installing and starting a UniversalGateway on MC990 X, UV, SMN, ICE-Service, Rackable Standard Depth

Example of MC990 X or UV install to show the added step of configuration for CMC.txt as noted below:

```
# rpm -i sgirs-universal-2.0-sgi716r2.rhel6.x86_64.rpm
Shutting down syslog services                                              done
Starting syslog services                                                   done
# service sgirs start
sgirs: ERROR. /opt/sgi/Axeda/sgi_conf//Cooling_Technique.txt does not have the right setting (2).
```

```
Please edit /opt/sgi/Axeda/sgi_conf//Cooling_Technique.txt and uncomment the method for cooling
(Air or Water).
CMC is not reachable. Please verify settings for CMC in /opt/sgi/Axeda/sgi_conf//CMC.txt
Starting sgirsd                                                    done
For all systems sgirs wants to know how the installation is cooled.

For RS to monitor the environmentals of an MC990 X or UV system, it needs to be able to ssh
to the principal CMC/RMC.  The file /opt/sgi/Axeda/sgi_conf/CMC.txt provides on line 1 the host to use
(CMC/RMC name or IP).

The sgirs user requires read access to the file. If there is an SMN it can be used instead of CMC/RMC.
To do this change the variable RSP_AUTH_KEY in /etc/sysconfig/sgirs to the SMN root ssh key.

This is an optional feature and sgirs will function without it.

If you are using the UniversalGateway
 Check for sgirs daemon  # ps -e | fgrep xGate
 17605 pts/3 00:00:00 xGate

 cat /opt/sgi/Axeda/UniversalGateway/xGate.log and look for the string "registered":
 INFO xgEnterpriseProxy: Server is available: https://sgi.axeda.com/eMessage
 INFO xgEnterpriseProxy: Device registered with server https://sgi.axeda.com/eMessage: model: UV,
 serial number: UV-00000182

 Above indicates the Axeda platform connected is sgi.axeda.com, and the MC990 X or UV's serial number.

 xGate is not configured to dump a core file if an issue should occur that would otherwise produce a
 core. See ulimit comments and setting in the sgirs init script for more details.

5.3  Installing and starting an ICEAdminGateway on ICE-Admin
-----------------------------------------------------------------------
# rpm -i sgirs-iceadmin-2.0-sgi716r2.rhel6.x86_64.rpm
Shutting down syslog services                                      done
Starting syslog services                                           done
# service sgirs status
Checking for service
sgirsd                                                             running

If you are using the ICEAdminGateway
 cat /opt/sgi/Axeda/ICEAdminGateway/xGate.log and look for
 INFO xgEnterpriseProxy: Server is available: https://sgi.axeda.com/eMessage
 INFO xgEnterpriseProxy: Device registered with server https://sgi.axeda.com/eMessage: model: ICE-Admin,
 serial number: Z1000013
 Above indicates the Axeda platform connected is sgi.axeda.com, and the ICE-Admin model's serial number.

After starting the service on the admin node, it's possible that leaders may not be online or booted to
a running operating system.  In order to avoid any issues of sgirs startup on the admin, sgirs leader
discovery is done 30 minutes after admin startup then once every 24 hours.  This results of the
updating of the file /opt/sgi/Axeda/ICEAdminGateway/ManagedDevices.xml.

5.4  Installing on ICE-Leaders
# rpm -i sgirs-icelead-2.0-sgi716r2.rhel6.x86_64.rpm
Shutting down syslog services                                      done
Starting syslog services                                           done

5.5  Installing sgiremote RPM
# rpm -i sgirs-sgiremote-2.0-sgi716r2.rhel6.x86_64.rpm

5.6 Enter Customer Contact
```

Run /opt/sgi/Axeda/scripts/RS_Registration.py after installation in order to enter customer contact
information. Note that automatic case opening will not be possible if customer contact information is
not available.

The registration script can be rerun at any time the customer contact information needs to be updated.

Note - /opt/sgi/Axeda/sgi_conf/RS_Registration.xml should match for all systems within the same
management domain and at the same site. It can be copied between systems rather than run the
configuration script.

Additionally: If a system with HPE RS installed is reinstalled please restore /opt/sgi/Axeda/monitor_work
and /opt/sgi/Axeda/sgi_conf from the prior installation. This will preserve the contact details and the
state of the system with respect to prior events found by RS.

5.7 Configuration of optional features in RS.
/etc/sysconfig/sgirs has configuration variables for sgirs features. See the file for all variables and
options. See sgirs man page for additional details.

6.0 Troubleshooting install problems

Confirm system requirements are met. Reference System Requirements section.

Mentioned files below reside in the Gateway home directory which is either:

/opt/sgi/Axeda/UniversalGateway/ or /opt/sgi/Axeda/ICEAdminGateway or
/opt/sgi/Axeda/ICElead or /opt/sgi/Axeda/sgiremote

If you are using the UniversalGateway or ICEAdminGateway look for the ERROR string in xGate.log file.
 Confirm sgi.axeda.com resolves for the Axeda platform server.
 Confirm the correct Axeda platform server is listed in xgEnterpriseProxy.xml
 Confirm system date and time are correct
 Confirm Axeda Global Access servers are added to the Firewall rules.

7.0 Bugfixes

Logical flaw in file comparison function.
monitor_processing
De-ICE naming in sgirs for SMC based clusters
try and deal with duplicate asset alarms at Axeda cloud
sgirs init script does not properly detect missing OP server, burns cpu cycles
RS not reading SSN correctly via dmidecode
init script shows unary operator expected message

7.1 New features

Add script and notes referencing script, to collect customer contact information.
Add MC990 X system support
Add Lustre monitoring support
RS sgiremote should be [dis-en]abled on-demand by customer
NetApp cli tool for sgirs only
Add new '-s' option with memlogd command
Track retired pages from /proc/meminfo
Make "Memory Demand Scrub not enabled" an event
Clean up & update handling of MEMlog errors
Gather output of 'slabtop -o'
Investigate RAID_Event for software raid using mdadm detail command
Remove OnPremise from RS environment
__get_repotools_info needs to account for new tar options in YAST2 output file
The change to drop sshpass has made externalstorage.txt configuration for DDN invalid.
Please see the HPE System Foundation Software Guide for how to configure for DDN.

8.0 Related Documentation

None at this time.

9.0 Reader Comments & Feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs.
To help us improve the documentation, send any errors, suggestions, or comments to Documentation
Feedback docsfeedback@hpe.com. When submitting your feedback, include the document title,
"Remote Services 2.0 - Release Notes". For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

You can contact us by sending e-mail to remoteservices@groups.ext.hpe.com

Accessing Hewlett Packard Enterprise Support

For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

http://www.hpe.com/assistance

To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

http://www.hpe.com/support/hpesc

We value your comments.

Attachment A

Configure HTTP Proxy for SGI Remote Services Agent
To configure HTTP proxy for SGI Remote Services agent:

```
# service sgirs stop
# cd /opt/sgi/Axeda/ICEAdminGateway OR cd /opt/sgi/Axeda/UniversalGateway
# export LD_LIBRARY_PATH=.:$LD_LIBRARY_PATH
# ./DUModifier -httpproxy <proxy hostname>:<proxy port>
# service sgirs start
```

If the proxy requires authentication, run the fourth step above as follows:

```
# ./DUModifier -httpproxy <proxy hostname>:<proxy port>,<proxy username>,<proxy password>
```

Check the following file to see if it is connecting to the Axeda Platform cloud service:

/opt/sgi/Axeda/{UniversalGateway|ICEAdminGateway}/xGate.log
If there is a script URL, then you can:

-proxyconfigscript .

Either disable or specify the script URL.

Also, there are more options on the command for user,
-httpproxy (Either disable or specify server information)
-socksproxy (Either disable or specify server information)

Finally, should you run into strange behavior, confirm that the default proxy configuration of the SLES
OS is correct and not interfering.

The following document from the SUSE Knowledgebase provides information on how to troubleshoot that
configuration:
https://www.novell.com/support/kb/doc.php?id=7006845

In the case of clusters, the usual configuration involves the use of NAT, so that the cluster nodes
can access external information. However, there are cases where that configuration may not be in place.
A possible solution is the use of a xinetd redirect directive, where they point to http://master-node:port, the xinetd daemon is configured to listen on that port and then redirect to

https://sgi.axeda.com:443.

This can be accomplished by creating a file /etc/xinetd.d/sgirs on the proxying node with the
following contents (using port 5553 in this example):

```
service sgirs { disable = no type = UNLISTED socket_type = stream protocol = tcp wait = no
redirect = sgi.axeda.com:443 port = 5553 user = nobody }
```