



Sun Fire™ Link 1.1 Software Release Notes

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Release Notes for Sun Fire Link 1.1 Software

This document provides information about the Sun Fire™ Link software, including:

- Version dependencies that Sun Fire Link 1.1 software has on other software
- Patch requirements
- Miscellaneous guidelines for configuring Sun Fire Link fabrics
- Instructions for upgrading systems that currently have Sun Fire Link 1.0 software installed
- Significant bugs that are open at the time of this release

Software Requirements

TABLE 1 identifies various dependencies that the Sun Fire Link software has on other software.

Note – New information, such as updated software version numbers, may be added to these release notes after publication. See this document on <http://www.sun.com/products-n-solutions/hardware/docs/Servers>. In the Product Documentation section of this site, follow the links Sun Fire Link -> Software Documentation.

TABLE 1 List of Software Requirements

Operating environment	Solaris™ 8 2/02, Solaris 9 12/02, or Solaris 9 4/03
RSM™ in Solaris 8	Incorporated in the Solaris 8 software distribution
RSM in Solaris 9	Incorporated in the Solaris 9 software distribution
Sun Fire™ 6800 firmware	5.15.0

TABLE 1 List of Software Requirements *(Continued)*

Sun Fire 15K/12K firmware	SMS 1.3
Switch firmware	1.12.31
Sun™ Management Center	3.0 PU4, General Availability 3.0 PU4 adapter (for add-on installation and setup) Sun Fire Link Addons
SunVTS™ for Solaris 8 2/02	4.6
SunVTS for Solaris 9 12/02	5.1 PS1
SunVTS for Solaris 9 4/03	5.1 PS2
Java™ JDK™ for Solaris 8 2/02	Use JDK 1.2.1_06 or later
Java JDK for Solaris 9 12/02 and 4/03	Use JDK 1.4.1_01 or later

TABLE 2 identifies the various patches that are known to be required at the time of publication of these release notes.

Note – If one or more of the patches in TABLE 2 are not available on the installation CD, download them from SunSolve.

TABLE 2 List of Software Patch Requirements

Solaris 8 2/02	Recommended patch cluster (all updates), 112077-07 (ka) 111796-04 (rsmapi)
Solaris 9 12/02 and 4/03	Recommended patch cluster (all updates) 114233-02 (ka)
RSM in Solaris 8 2/02	110838-06, 112158-03, 112159-02, 113655-02, 113656-03
RSM in Solaris 9 12/02 and 4/03	112840-03, 113024-05, 114339-01
Sun Fire 6800 firmware	112884-01
Sun Fire 15K/12K	114608-01, 114609-01, 114640-04, 114662-01, 114869-01, 114870-01, 114871-01, 114872-01, 114656-02
Switch firmware	113916-01
Fabric Manager*	114786-01, 113756-01, 113757-02, 114787-01 (FM server) 114786-01, 113759-02, 113761-01, 114787-01, 114788-01 (FM proxy)

TABLE 2 List of Software Patch Requirements *(Continued)*

Sun Management Center	110938-12, 112499-06
SunVTS for Solaris 8	112336-06
SunVTS for Solaris 9 12/02 and 4/03	none

* FM patches are only needed for upgrading from Sun Fire Link 1.0 software. The FM patches are not needed for new Sun Fire Link 1.1 software installations.

Guidelines for Configuring Clusters With Sun Fire Link 1.1 Software

This section explains various points that are important to understand when configuring clusters with Sun Fire Link 1.1 software.

Note – A chassis cannot contribute domains to more than one fabric. In other words, a Sun Fire 15K/12K chassis cannot have its Sun Fire Link nodes configured into two or more different fabrics.

Use a Consistent Method for Managing Cluster Configurations

If you use the Sun Management Center's graphical user interface (GUI) to configure a cluster, you should continue using the GUI for any subsequent changes you make to the cluster's configuration. In other words, it is recommended that you not use the FM command-line interface to change the configuration data for a cluster that was created using the GUI.

Likewise, you should use the FM command-line interface to change the contents of a cluster that was originally configured using the command-line interface. This consistency will ensure that link mapping will be consistent over the life of the cluster.

Note – You can monitor a cluster's state using either the Sun Management Center GUI or the FM command-line interface regardless of which method was used to configure the cluster.

Applying Multiple Changes to a Fabric Can Result in Out-of-Sync Configuration Data

If you apply multiple changes to an existing fabric's configuration, an error part way through the reconfiguration process may result in one or more nodes in the cluster becoming out of sync with the configuration data stored by the FM server. This condition is illustrated by the following example:

- Begin with a two-node cluster that has already been successfully configured. It consists of `testnode1` and `testnode2`.
- Attempt to add the `testnode3` and `testnode4` to the cluster. These additions can be made either by editing an XML file or through the Add Node dialog in the Sun Management Center/FM console. The issue is the same in either case.
- Assume that `testnode3` is added successfully to the cluster, but the process fails for some reason with `testnode4`.
- When the FM detects that the reconfiguration process failed, it leaves the fabric configuration data as it was before the reconfiguration operation began.
- However, the local configuration data kept by the `testnode3` RSM controller has been updated with information about the cluster it attempted to join. This means the configuration data on `testnode3` is inconsistent with the data maintained by the FM server.

How you recognize and deal with this situation will depend on whether you used the Sun Management Center/FM console or the FM command-line interface to perform the reconfiguration. These different situations are described separately below.

Reconfiguration Failure Using Sun MC

If, using the Sun Management Center/FM console, you attempt to add multiple nodes or nodes and switches to an existing cluster and the reconfiguration attempt fails, an error will be reported. When this happens, you need to clear the configuration data for the affected cluster from the FM server and repopulate the cluster. The steps for doing this are summarized below:

- 1. When the reconfiguration failure is reported, manually refresh the cluster data.**
This will provide an updated view of the cluster configuration as it is represented in the FM server's fabric description.
- 2. Remove all the nodes that are shown to be included in the cluster.**
- 3. Either repair the fault that prevented the reconfiguration from completing or omit the node(s) responsible for the reconfiguration failure the next time the cluster is configured.**

4. Use the Add Node dialog to repopulate the cluster with the desired nodes, including the original set (`testnode1` and `testnode2` in the example).

Reconfiguration Failure Using FM Command-Line Interface

If you attempted to reconfigure an existing cluster by editing an XML file, the recovery steps are somewhat simpler:

1. When the configuration failure is reported, examine the error report to determine the point in the reconfiguration process at which the failure occurred.
2. If the failure was caused by an error in the XML file, edit the file to correct the error. If the failure was caused by faulty hardware in a node, either replace the hardware or delete the portion of the XML file that specifies the faulty hardware.
3. Once the source of the error has been corrected, run the `wcfmconf` command again with the XML file specified as the target configuration.
4. If the XML configuration file contains multiple errors and you correct the first encountered error, the second reconfiguration attempt will fail at the next error in the file. Simply repeat Step 2 and Step 3 until the reconfiguration process completes successfully.

Mixed Clusters Require Sun Fire Link 1.1 Software on the FM Server and on All Nodes

If you want to configure a cluster containing a combination of Sun Fire 6800 and Sun Fire 15K/12K systems, Sun Fire Link 1.1 software must be installed on the FM server as well as on all nodes in the cluster.

If you are using Sun Management Center software to manage your Sun Fire Link clusters, you must also upgrade the Sun Fire Link add-ons to version 3.5. You can upgrade the Sun Fire Link add-ons in either of two ways:

- On systems with Sun Management Center 3.0 PU4 software installed, use the Sun Management Center 3.5 adapter script, `install`, to install and set up the Sun Fire Link 3.5 add-ons in a Sun Management Center 3.0 PU4 environment. Refer to the *Sun Fire Link Software Installation Guide for Sun Fire 15K/12K Systems* for instructions.
- On systems with Sun Management Center 3.5 software installed, use the installation tools, `es-guinst` and `es-guisetup`, to install and set up the Sun Fire Link 3.5 add-ons. Refer to the *Sun Fire Link Software Installation Guide* for instructions.

Note – Clusters containing both Sun Fire 6800 and Sun Fire 15K/12K nodes were not supported by Sun Fire Link 1.0 software.

Flow Control is Not Provided by the `wrsmd` DLPI Interface

The `wrsmd` device driver presents a type II DLPI interface to support IP-based communication over the Sun Fire Link network. The `wrsmd` DLPI interface does not implement flow control, which means that under high-load conditions, it will drop packets. Consequently, if you want to use the `wrsmd` DLPI interface as a reliable communications channel, use TCP/IP streams or otherwise implement mechanisms to appropriately handle dropped packets.

Instructions for Upgrading From Sun Fire Link 1.0 Software to Sun Fire Link 1.1 Software

The *Sun Fire Link Software Installation Guide for Sun Fire 15K/12K Systems* provides instructions for installing Sun Fire Link 1.1 software on Sun Fire 15K/12K systems. It does not explain how to prepare a Sun Fire 6800 system that has previously installed Sun Fire Link 1.0 software to be upgraded to Sun Fire Link 1.1 software.

This section describes two procedures for Sun Fire Link software upgrades:

- Upgrade Sun Fire Link 1.0 software to Sun Fire Link 1.1 software when Sun Management Center software will *not* be used to manage the FM clusters.
- Upgrade Sun Fire Link 1.0 software to Sun Fire Link 1.1 software when Sun Management Center software *will* be used to manage the FM clusters. In this case, the Sun Fire Link add-ons must be upgraded to version 3.5.

Note – If you do not upgrade the RSM driver software, you do not need to bring down any links that have been established for an existing fabric. In other words, existing clusters can remain configured while the FM software packages are upgraded.

Upgrading Sun Fire Link Software When Sun Management Center Software Will Not Be Used

If you plan to manage the Sun Fire Link clusters entirely through the FM command-line interface, you can upgrade the Sun Fire Link 1.0 software to 1.1 simply by adding the required FM patches, as listed in TABLE 2. The following procedure outlines the steps associated with this simple upgrade procedure.

Note – Managing Sun Fire Link 1.1 clusters with Sun Management Center software requires the Sun Fire Link 3.5 add-ons to be installed. The procedure for upgrading the Sun Fire Link software in a Sun Management Center environment is summarized in “Upgrading Both Sun Fire Link Software and Sun Fire Link Add-ons” on page 8.

▼ To Upgrade Sun Fire Link 1.0 Software to Version 1.1

1. Stop the RSM proxy daemons on all the cluster nodes.

```
# /etc/init.d/wrsm_proxy stop
```

2. Stop all fabrics on the FM server.

In the following example, fabrics `testfab1` and `testfab2` are running.

```
# cd /opt/SUNWwcfm/bin
# ./listfabrics
Retrieving Objects From: //localhost:1099/
Registry Contains 2 Objects
    rmi://localhost:1099/testfab1
    rmi://localhost:1099/testfab2
./stopfabric testfab1
Found FM at [rmi://localhost:1099/testfab1]
Fabric "testfab1" stopped, the FM process may not exit for several seconds
./stopfabric testfab2
Found FM at [rmi://localhost:1099/testfab2]
Fabric "testfab2" stopped, the FM process may not exit for several seconds
```

3. Apply the required FM patches to the nodes and FM server.

These are listed in the Fabric Manager row of TABLE 2. The FM server patches and node patches are listed separately and labeled accordingly.

4. Start the RSM proxy daemons on all the cluster nodes.

```
# /etc/init.d/wrsm_proxy start
```

5. Start the fabrics that were stopped in Step 2.

```
# cd /opt/SUNWwcfm/bin
# ./startfabric testfab1
...
Fabric "testfab1" configured correctly
RMI registry up and running on port 1099
...
Fabric Manager Started
...
testfab1 Bound To Registry
# ./startfabric testfab1
...
Fabric "testfab2" configured correctly
RMI registry up and running on port 1099
...
Fabric Manager Started
...
testfab2 Bound To Registry
```

Upgrading Both Sun Fire Link Software and Sun Fire Link Addons

If you want to replace the Sun Fire Link version 3.0 addons with version 3.5 addons, you will need to remove and install the Sun Fire Link server and proxy packages rather than just applying the latest FM patches. This is necessary because the script that adds the Sun Fire Link 3.5 addon packages automatically adds the FM software packages as well.

The following procedure outlines the steps required to upgrade the Sun Fire Link 1.0 software to version 1.1 and to replace the Sun Management Center 3.0 Sun Fire Link addons with version 3.5 Sun Fire Link addons.

Note – This procedure applies to a special installation situation where core Sun Management Center software will remain at version 3.0, but using version 3.5 addons. Instructions for upgrading Sun Fire Link addons when the core Sun Management Center software is version 3.5 are provided in the *Sun Fire Link Software Installation Guide*.

▼ To Upgrade Sun Fire Link 1.0 Software to 1.1 in a Sun Management Center 3.5 Environment

1. Stop the RSM proxy daemons on all the cluster nodes.

```
# /etc/init.d/wrsm_proxy stop
```

2. Stop all fabrics on the FM server.

In the following example, fabrics `testfab1` and `testfab2` are running.

```
# cd /opt/SUNWwcfm/bin
# ./listfabrics
Retrieving Objects From: //localhost:1099/
Registry Contains 2 Objects
    rmi://localhost:1099/testfab1
    rmi://localhost:1099/testfab2
./stopfabric testfab1
Found FM at [rmi://localhost:1099/testfab1]
Fabric "testfab1" stopped, the FM process may not exit for several seconds
./stopfabric testfab2
Found FM at [rmi://localhost:1099/testfab2]
Fabric "testfab2" stopped, the FM process may not exit for several seconds
```

3. Use `pkgrm` to remove all FM packages on the nodes and FM server.

On the cluster nodes:

```
# pkgrm SUNWwcfms SUNWrsmpr SUNWrsmpr
```

On the FM server:

```
# pkgrm SUNWwcfms SUNWwccmn SUNWwcfmr SUNWwcfmu
```

4. Use `pkgrm` to remove all add-on packages from the nodes, FM server, and Sun Management Center console.

On the cluster nodes:

```
# pkgrm SUNWswrsm
```

On the FM server:

```
# pkgrm SUNWeswcx SUNWeswfm
```

On the Sun Management Center server:

```
# pkgrm SUNWswsrv SUNWwhelp
```

On the Sun Management Center console:

```
# pkgrm SUNWeswci
```

5. Apply the required Sun Management Center patches, as indicated in TABLE 2.
6. Use the Sun Management Center 3.5 adapter script to install the FM software and Sun Management Center 3.5 add-on packages.

Instructions for using the Sun Management Center 3.5 adapter script are provided in the *Sun Fire Link Software Installation Guide for Sun Fire 15K/12K Systems*.

Note – During the Sun Management Center setup of the Sun Fire Link module, you will be asked to specify a directory where the fabric data will be stored. If you plan to continue using fabric configurations that were created before the upgrade, be certain to specify the same data directory that was used by those fabrics.

7. Restart the fabrics that were stopped in Step 2.

Noteworthy Bugs

FM Bugs

The following bugs are listed under the category/subcategory `wildcat/fm`.

Missing Solaris Patches Cause RSM Proxy to Dump Core [BugID 4719746]

The RSM proxy requires the patches listed in TABLE 2. If these patches are missing, attempts to configure a Sun Fire Link cluster may result in a core dump on the compute nodes.

Workaround/Recovery: Ensure that all the required RSM patches listed in TABLE 2 are added before configuring a cluster.

Attempts to Remove a Node From a Sun Fire 15K/12K Chassis May Fail When the Chassis Has Multiple Nodes In the Same Partition [BugID 4856525]

When a Sun Fire 15K/12K chassis has two or more nodes configured into the same partition, attempts to remove the next-to-last node from the partition will fail if there is no other chassis with multiple nodes in that partition.

This problem is caused by the need to create memory mapping aliases when multiple nodes from a chassis are configured into the same partition. This aliasing is done independently by every chassis that contributes multiple nodes to a common partition. When you remove all but one of a chassis' nodes from a partition, the aliasing created for that chassis will become invalid. Consider the following example:

- Begin with a partition consisting of three nodes:

```
xc1-a, xc1-b, xc2-a
```

where `xc1` and `xc2` are two Sun Fire 15K/12K systems.

- If you remove either `xc1-a` or `xc1-b` from the partition, the memory map aliasing for the `xc1` system will become invalid.

However, if the partition includes two or more chassis that contribute multiple nodes, the memory map aliasing created for the other chassis will compensate for the loss of aliasing in the first chassis, allowing continued use of the partition. This is shown by the following example:

- Begin with a partition consisting of four nodes:

```
xc1-a, xc1-b, xc2-a, xc2-b
```

- If you remove either `xc1-a` or `xc1-b` from the partition, the aliasing created for chassis `xc2` will provide valid memory map aliasing for the entire partition, allowing the partition to continue operation.

Workaround/Recovery: The following procedure explains how to reduce the number of nodes a Sun Fire 15K/12K chassis contributes to a chassis to one when it is the only multiple-node chassis in the partition:

1. **On the chassis with multiple nodes in the partition, remove all the chassis' nodes from the partition.**
2. **Add back the one node you want to have in the partition.**

For example, if you have a partition consisting of the nodes `xc1-a`, `xc1-b`, and `xc2-a`, where `xc1` and `xc2` are two Sun Fire 15K/12K systems, and you want the partition to include only nodes `xc1-a` and `xc2-a`, do the following:

1. **Remove `xc1-a` and `xc1-b` from the partition.**
2. **Add `xc1-a` back into the partition.**

Removing the RSM Proxy Packages Does Not Stop the Associated Proxy Process [BugID 4762511]

If you remove the RSM proxy packages (`SUNWrsmpx` and `SUNWrsmpu`) without first stopping the proxy process, the proxy process will continue to run. That is, removing the proxy packages does not stop the proxy process.

Workaround/Recovery: Use `wrsm_proxy stop` to stop the process before removing the packages.

```
# /etc/init.d/wrsm_proxy stop
```

If the packages are removed before the RSM proxy is stopped, use `kill -9` to forcibly stop the process.

Pressing CTRL-C During Active FM CLI Process Kills Fabric Instance [BugID 4744208]

Pressing CTRL-C while an FM CLI process is running kills the associated fabric, leaving it in an unfinished state. It may also kill the `rmiregistry`, which would invalidate all fabrics that are currently running.

Removing SUN MC Also Removes the SUNWwccmn Package [BugID 4824529]

The Sun Management Center `es-uninst` tool automatically removes the `SUNWwccmn` package from the System Controller. This package contains software that is required by the Sun Fire Link software. In an SMS 1.3 environment, if the `SUNWwccmn` package is not present on the System Controller, `wcapp` cannot be restarted, which will cause SMS 1.3 to fail.

Workaround/Recovery: If the `SUNWwccmn` package is removed from the System Controller, use `pkgadd` to reinstall it on the System Controller. The `SUNWwccmn` package is provided on the Sun Fire Link software distribution CD. See the *Sun Fire Link Software Installation Guide for Sun Fire 15K/12K Systems* for more details.

Deleting a Zombie Fabric Before Stopping It Causes `killfabrics` and `listfabrics` to Fail [BugID 4753317]

A *zombie* fabric is a fabric that stops in an unfinished state (that is, it is not removed from the `rmregistry`). This is usually the result of an error of some kind. If you attempt to delete a zombie fabric, the `killfabrics` and `listfabrics` commands will subsequently fail.

Workaround/Recovery: To delete a zombie fabric successfully, restart the fabric, stop the fabric, and then delete it. For example, if the zombie fabric is named `testfab`, enter the following:

```
# cd /opt/SUNWwcfm/bin
# ./startfabric testfab
# ./stopfabric testfab
# ./deletefabric testfab
```

Note – If you restart the fabric, but do not then stop it, you can, if desired, resume monitoring and managing the fabric.

Sun MC/FM Interface Bugs

The following bug is listed under the category/subcategory `sunmc_sf1/fm_api`.

Sun MC Is Slow to Update Link Status Display When a Cluster Node Goes Down [BugID 4644785]

If a cluster node goes down while link status is being displayed in the Fabric Details window, the Sun Management Center console may not automatically update the status of the affected links for an hour or more. Moreover, if the cluster node is restored and the links reestablished, the Fabric Details display may continue to show the links as down.

Workaround/Recovery: Manually refresh the status information.

SunMC/FM Graphical User Interface Bugs

The following bugs are listed under the category/subcategory `sunmc_sf1/fm_gui`.

Data Missing From Route Properties Window [BugID 4771419]

When displaying route properties data in a Fabric Details context, some data may be missing from the table's To and From fields.

Scrolling Bar Does Not Display on Right Side of Fabric Details Window [BugID 4856536]

The Fabric Details window does not include a scrolling bar in the large icon view of the Chassis & Links perspective. The scrolling bar should always be displayed when the image is larger than the Fabric Details window to allow viewing of all the nodes in a large partition.

Workaround/Recovery: Change from the large icon view to the small icon view. The scrolling bar will appear. Then change back to the large icon view. The scrolling bar will remain.

Note – Changing to the Nodes & Routes perspective from the large icon Chassis & Links perspective will display the scrolling bar. However, changing back to the large icon Chassis & Links perspective will cause the scrolling bar to disappear.

Empty Grey Box Might Show in Fabric Details Window, Chassis and Links Perspective [BugID 4856884]

In the Sun Management Center Fabric Details window, Chassis and Links perspective, an empty grey box might show in several situations, including:

- Before you have added a switch to a newly created partition object
- After you have deleted the last switch from a single partition when unconfiguring the fabric

Workaround/Recovery: Ignore the empty grey box. If you add a switch to that partition, the grey box will contain a switch graphic.

Sun MC Interface Bugs

The following bug is listed under the category/subcategory `sunmc_sfl/sunmc_api`.

Fire Link Interconnect Fabric Name Is Not Updated When A New Fabric Is Loaded [BugID 4771624]

If you unload and stop a fabric and then load another fabric with a different name, the SFL object icon displayed by the Sun Management Center console window will retain the name of the removed fabric. The Fabric icon label will show the name of the new fabric.

Workaround/Recovery: After unloading and stopping the fabric you want to replace, delete the corresponding composite object.

SunMC/Sun Fire Link Bugs

The following bugs are listed under the category/subcategory `sunmc_sf1/other`.

Using the Manage XML Configurations Option to Apply an XML File to a New Fabric Produces an Invalid Error Message [BugID 4855354]

You can use the Sun Management Center console's Manage XML Configurations option to open an XML file for editing or to apply any configuration information it contains to an unconfigured fabric. The term *unconfigured fabric* means a fabric that has been created and started, but does not yet contain any member data, such as descriptions of compute nodes.

Note – An XML file can be opened for editing without being associated with an unconfigured fabric. However, if it will be used to configure a fabric, that fabric must first be created and started as described in the release note: “Instructions Are Needed for Importing Preconfigured XML Files Using the Manage XML Configurations Option [BugID 4841740]” on page 21.

When you select the Manage XML Configuration option, two dialog windows appear. The active window is labeled Error and the inactive window is labeled Configuration. The Error window contains the following message:

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This message is generated because the newly created fabric name does not yet contain fabric data. Ignore this message and proceed with importing the XML configuration file as described in the following Workaround/Recovery section.

Workaround/Recovery: The following steps explain how to get past the invalid error message and finish applying the fabric data contained in an XML file to an empty fabric.

- 1. Press the Ok button on the Error dialog window**

This closes the Error window, making the Configuration window the active window.

- 2. In the Look In field of the Configuration dialog window, enter the full path to the directory containing the XML configuration file you want to import and press Return.**

A scrolling list of the files contained in the specified directory are displayed in the scroll window.

3. Select the XML configuration file that you want to import. Its name appears in the File Name field.

Note – You *must* press Return in Step 2 and then select the XML file of interest as described in Step 3. Do *not* bypass the scroll list and enter the name in the File Name field by hand. The file will not open if you do.

4. Click on the Open button to open the selected file.

This displays the contents of the selected file in the viewing area. If you want to change the file, you can edit it here. If you want to use the contents to configure a fabric, go on to Step 5.

5. Click on the Configure button to apply the XML file contents to the fabric.

Node Failure During Link Bringup May Freeze the Sun MC Console and Fabric Details Windows [BugID 4857941]

If a node fails after a cluster has been configured, but before all the links have been brought up, the Sun Management Center console and Fabric Details windows may freeze.

Workaround/Recovery: If a node failure occurs while you are creating a partition and the Cancel button on the Add Node dialog does not work, perform the following steps:

1. Use the command `stopfabric` with the `-f` option to stop the fabric. In the following example, the fabric to be stopped is named `testfab`.

```
# /opt/SUNWwcfm/stopfabric -f testfab
```

2. Restart the stopped fabric.

```
# /opt/SUNWwcfm/startfabric testfab
```

You can now resume management of the fabric from the Sun Management Center console.

FM Implements Requests for Link Stripe Level 1 as Link Stripe Level 2 But Sun MC Console Shows Them as Level 1 [BugIDs 4858050 and 4836295]

If you select a striping level of 1 for a Sun Fire Link switch configuration, the striping level is automatically upgraded to a 2, but that is not reflected in the Fabric Details window.

Workaround/Recovery: Do *not* specify a striping level of 1 in any Sun Fire Link configuration that includes a switch. Stripe level 1 is *not* supported for any switch-based Sun Fire Link configuration.

Manage Registered Nodes Dialog Box Might Not Appear When Selecting It [BugID 4855259]

If you select the menu option Manage Registered Nodes from the fabric icon's right-click pop-up menu within Sun Management Center's Fabric Details window, the Manage Registered Nodes Dialog box does not appear.

Workaround/Recovery: Use the Fabric menu* to select the Manage Registered Nodes option.

Man Pages for the FM Command-Line Interface Do Not Describe All Command Options [Bug ID 4863803]

The man pages for the FM command-line interface (CLI) have incomplete descriptions of the command options.

Workaround/Recovery: Refer to Appendix A of the *Sun Fire Link Fabric Administrator's Guide*, which describes the FM CLI commands, including their respective options.

RSM Bugs

The following bugs are listed under the category/subcategory `wildcat/rsm`.

`wrsmd` DLPI Driver does not support RIP and/or RDISC [BugIDs 4826368 and 4830425]

On Solaris 9 Update 2 systems, when the `in.routed` daemon is running, if many collisions occur because of barrier failures, the associated `wrsmd` interfaces will be listed as sick then broken for approximately 40 seconds.

Workaround/Recovery: Add the following entry to the `/etc/gateways` file:

```
if=wrsmd0 no_rip no_rdisc
```

As an alternative workaround, add the following entry to the `/etc/gateways` file:

```
if=wrsmd0 passive
```

`kstat` Shows Incorrect `free_cmmu_entries` Value [BugID 4850691]

When `wrsm` is not in use, the value of `free_cmmu_entries` reported by `kstat` *should* be 256 pages less than the system's total memory size. This value represents the largest segment size that can be created. Instead, the `free_cmmu_entries` value is reported as 5 pages less than the total memory. This error indicates a maximum segment size greater than can actually be allocated.

Workaround/Recovery: To determine the actual maximum segment size, subtract 251 from the `free_cmmu_entries` value reported by `kstat`.

SMS/WCAPP Bugs (Sun Fire 15K/12K Systems Only)

The following bugs are listed under the category/subcategory `sms_starcat/wcapp`.

`wcapp` Returns an Incorrect Error Code for Authentication Errors [BugID 4834708]

`wcapp` uses the `SC Illegal Argument` error code for all exceptions it catches, including authentication errors. In other words, if you see the `SC Illegal Argument` code and have determined that an illegal argument was not used, consider the possibility that an authentication error has occurred—that is, incorrect username or password information has been entered.

Note – If you are using an XML configuration file to define your fabric, examine the contents of the user and password fields in the XML configuration file for the node reporting the error. For example, ensure that the username contained in the `<host_user> </host_user>` field is a member of the group `/etc/group/sfladmin`. Likewise, verify that the password for that user is correctly specified in the field `<host_password> </host_password>` for that node.

Only the First User Name Listed in the `dmnXadm` Group is Recognized [BugID 4834867]

A bug in the `wcapp` parsing routine prevents the recognition of any username after the first name listed in the `SC` domain administrator group, `/etc/group/dmnXadm` of any domain. For example, if `user1` and `user2` are listed as members of `dmnaadm` in that order, only `user1` will pass authentication and be able to register domain `a`. If `user2` attempts to register the domain, authentication will fail.

Workaround/Recovery: Edit `/etc/group`, moving the username of interest to the first position in the `dmnXadm` group.

SunVTS Diagnostics Bugs

The following bug is listed under the category/subcategory `diag/sunvts_tests_hese`.

SunVTS Testing Fails When Multiple Instances of `wrsmttest` Transmit Concurrently [BugID 4717601]

Running `wrsmttest` simultaneously on more than one cluster node causes SunVTS to fail.

Workaround/Recovery: Run only one instance of `wrsmttest` in a cluster at a time.

Documentation Bugs – Sun Fire Link

The following bugs are listed under the category/subcategory `wildcat/doc`.

Instructions Are Needed for Importing Preconfigured XML Files Using the Manage XML Configurations Option [BugID 4841740]

The Sun Management Center console's Fabric Details window includes a menu option called Manage XML Configurations. You can use this option to open an XML file for editing or to apply any configuration information it contains to an unconfigured fabric. Instructions for using this option are not provided in the *Sun Fire Link Fabric Administrator's Guide*.

Note – The term *unconfigured fabric* means a fabric that has been created and started, but does not yet contain any member data, such as descriptions of compute nodes.

An XML file can be opened for editing without being associated with an unconfigured fabric. However, if it will be used to configure a fabric, that fabric must first be created and started as described in the Workaround/Recovery section below.

Workaround/Recovery: The following steps explain how to use the Manage XML Configurations option.

1. If you plan to use the XML file to configure a fabric, create and start the fabric of interest using the FM commands `createfabric` and `startfabric`.

```
# cd /opt/SUNWwcfm/bin
# ./createfabric fabricname
# ./startfabric fabricname
```

Note – The name of the created fabric must match the value specified for the `<fname>` tag in the XML file.

2. Use the Sun Management Center console to load an FM agent module for the fabric. The Loading FM Agent Modules discussion in the *Sun Fire Link Fabric Administrator's Guide* provides detailed instructions for this step.
3. In the Fabric Details window, right-click on the fabric icon and select the Manage XML Configurations option from the pop-up menu that is displayed or choose that option from the Fabric menu.

The following invalid error message is displayed at this point.

```
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```

This is caused by a bug in the Sun Management Center/FM interface when an empty fabric exists. See the description of BugId 4855354 in “SunMC/Sun Fire Link Bugs” on page 16 for more information. You can safely ignore this error message.

4. Press the Ok button on the Error dialog window.
This closes the Error window, making the XML Configuration dialog the active window.
5. In the Look In field of the Configuration dialog window, enter the full path to the directory containing the XML configuration file you want to import and press Return.
A scrolling list of the files contained in the specified directory are displayed in the scroll window.
6. Select the XML configuration file that you want to import. Its name appears in the File Name field.

Note – You *must* press Return in Step 5 and then select the XML file of interest as described in Step 6. Do *not* bypass the scroll list and enter the name in the File Name field by hand. The file will not open if you do.

7. Click on the Open button to open the selected file.

This displays the contents of the selected file in the text area of the window. At this point, you may edit the XML file if desired. If you want to save your changes to a new XML file, click on the Save As button and enter a new file name. If you want to use the contents to configure a fabric, go on to Step 8.

Note – Refer to Appendix B of the *Sun Fire Link Fabric Administrator's Guide* for examples of XML configuration files. Appendix B also describes the DTD used for Sun Fire Link XML configuration files.

8. Click on the Configure button to apply the XML file contents to the fabric.

Information About a Link Striping Restriction is Missing From the Documentation [BugID 4836295]

In all configurations except three-node direct-connect with dual controllers, the FM always implements a link striping level of 2. Three-node direct-connect configurations with dual controllers require the link striping level to be 1.

Although it is possible to specify a link striping level of 1, either through the Sun Management Center/FM console's Create Partition dialog or in an XML configuration file, the FM will ignore the specification and implement a link striping level of 2.

Workaround/Recovery: Assume that all link striping is at level 2, unless the partition is three-node direct-connect with dual controllers.

Note – The FM will not inform you that it has implemented level-2 link striping instead of the requested level 1 striping. Also link status reports for the partition will indicate a link stripe level of 1.

Procedure for Creating Automatic Notification of Link State Changes Includes Incorrect References [BugID 4864760]

Chapter 10 of the *Sun Fire Fabric Administrator's Guide* describes two methods for setting up automatic generation of email messages when links change state.

The first method—using the Sun Management Center's alarm handler—contains the following incorrect references:

- Step 2 incorrectly refers to the Fabric Details window. It should instead refer to the Node Details window, which is under Hardware -> WCI WRSM -> Wnode -> Rsm Info.
- Step 3 incorrectly states, “In the Link Table, select the data property cell ...” This should say, “In Link Status Table, select the link status column.”

Documentation Bugs – Sun Management Center

The following bug is listed under the category/subcategory `sunmc_starcat/doc`.

Incompatible IP Name Resolution Methods Result in Name Resolution Failures. [BugID 4860801]

When the Sun Management Center 3.5 adapter script is used to install and set up Sun Fire Link 3.5 addons on a subset of domains on a Sun Fire 15K/12K system, host name resolution failures will occur. These failures happen because the adapter script configures the Sun Fire Link addons to use a different name resolution method than is used by the Sun Management Center 3.5 core software. That is, if some domains have Sun Fire Link 3.5 addons installed by the adapter script and other domains do not, name resolution will not work across the system.

These errors will produce the following console error message:

```
cannot communicate with agent process
```

The following message will be written to the platform log:

```
error May 08 15:00:26 platform Config-ReaderStarcat : topologyRoot  
resolveHostName failed. invalid command name "resolveHostName"
```

Workaround/Recovery: Upgrade the Sun Management Center core software to version 3.5. This will allow the Sun Fire Link 3.5 addons to use the same host name resolution procedure as the Sun Management Center core software.