grass valley

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Monitoring the K2 Media Server with NetCentral

This document describes how to set up the K2 Media Server for monitoring with NetCentral software.

For information about the overall NetCentral system, read the *NetCentral User Guide*.

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Before you begin monitoring with NetCentral

The following systems must be in place before you can begin monitoring your K2 Media Server with NetCentral:

- NetCentral manager software must be installed and operating correctly on the NetCentral server. Refer to the *NetCentral User Guide*.
- The NetCentral server and the K2 Media Server must be on the network and be able to communicate with one another. To verify, use the *ping* command at the MS-DOS command prompt.
- The K2 Media Server device provider must be installed on the NetCentral server PC. In NetCentral manager, click **File | New | Device Provider** and follow the on-screen instructions to install the **K2 Server** device provider. Refer to the *NetCentral User Guide* for a detailed procedure.
- A license is required for the K2 Media Server SNMP agent. Contact your Grass Valley representative to obtain a license.

When these pre-requisites are met, continue with the next procedure "Adding the K2 Media Server to NetCentral".

Adding the K2 Media Server to NetCentral

There are two ways to add a K2 Media Server to NetCentral, as explained in the following sections:

- "Generating the K2 Storage System view automatically"
- "Manually adding the K2 Media Server to NetCentral"

Generating the K2 Storage System view automatically

The K2 System Configuration application can automatically send information about K2 Storage System devices, such as the K2 Media Server, to NetCentral. This information is sent via a SNMP trap message. When NetCentral receives this information, it automatically adds the K2 Storage System device, creating a unified view for monitoring of the K2 Storage System. When this view is automatically created in NetCentral, it is not necessary to individually add K2 Media Servers or other K2 Storage System devices.

Use the following procedure to automatically generate the K2 Storage System view, which includes adding the K2 Media Server:

1. Monitor (with NetCentral) the control point PC that runs the K2 System Configuration application.

   You must do this before using the K2 System Configuration application to define the K2 Storage System or configure any K2 Storage System devices. This especially means that the control point PC must have its SNMP trap destination set to the NetCentral server PC, so that NetCentral receives the SNMP traps sent by the control point PC. This is true even if the control point PC and the NetCentral server PC are the same machine.

2. Define and configure the K2 Storage System using the K2 System Configuration application.

As you click **Finish** at the conclusion of each configuration wizard, the K2 System Configuration application sends an SNMP trap message to NetCentral. and NetCentral adds the configuration information.A folder created this way displays blue in NetCentral.

Refer to the *K2 Storage System Instruction Manual* for installation instructions that incorporate these steps.

When you use the K2 System Configuration application to reconfigure a K2 Storage system or device, upon saving the configuration the changes are automatically sent to NetCentral, which then updates accordingly. This means that if you manually change K2 Storage System information in NetCentral (designated by the blue folder color), your changes could later be overwritten by an automatic update from the K2 System Configuration application.

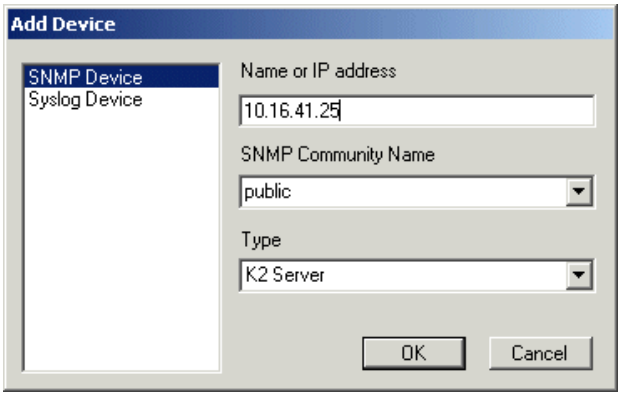
Manually adding the K2 Media Server to NetCentral

When it is necessary to individually add a K2 Media Server to the NetCentral system, use the following procedure. This adds the K2 Media Server to the NetCentral manager tree view and automatically sets the SNMP trap destination on the K2 Media Server. Setting the SNMP trap destination ensures that K2 Media Server status messages are sent to the NetCentral server.

To add the K2 Media Server to the NetCentral tree view:

1. If you have not already done so, log on to NetCentral manager with NetCentral administrator-level access rights. Refer to the *NetCentral User Guide* for information about logging on and application security.
2. In NetCentral, click **File | New | Device**.

   The Add Device dialog box opens.



3. Enter the K2 Media Server IP address.
4. Select **K2 Server** in the Device Type drop-down list, then click **OK**.

   NetCentral Manager attempts to communicate with the K2 Media Server. When contact is made, the K2 Media Server is added to the NetCentral tree view and NetCentral automatically sets the SNMP trap destination address on the K2 Media Server. This may take a few moments.
5. In the tree view, hover your cursor over the K2 Media Server, identify the tooltip displayed, and proceed as follows:

- If the tooltip only identifies the device as a K2 Media Server and has no message regarding trap validation, it means that NetCentral successfully entered the IP address of the NetCentral server as an SNMP trap destination on the K2 Media Server and then successfully received a test trap message from the device. A K2 Media Server with this tooltip is fully monitored by NetCentral and requires no further steps.
- If a K2 Media Server has a "…Traps not validated…" tooltip message, one of the following conditions applies. In the Messages view, check the K2 Media Server's SNMP Trap Target Status message to determine which condition applies and then proceed as indicated:
  - NetCentral is in the process of testing the K2 Media Server to validate its SNMP trap messages. After a few minutes check the K2 Media Server again for a change in its SNMP Trap Target Status message reflecting the test results.
  - NetCentral tried to configure SNMP properties but was not successful. In most cases this means you must configure SNMP properties manually as in "What if NetCentral cannot validate K2 Media Server SNMP messages?" on page 4.

What if NetCentral cannot validate K2 Media Server SNMP messages?

If message reporting (SNMP trap messages) is not automatically validated, there may be a problem with the SNMP configuration settings on the K2 Media Server. Use the following procedure to check and configure K2 Media Server SNMP settings. You'll need the IP address or host name of the NetCentral server PC.

To check SNMP settings on the K2 Media Server:

1. Connect a mouse and keyboard to the K2 Media Server, then restart Windows.
2. In Windows, select **Start | Settings | Control Panel**, then open **Administrative Tools**.
3. In the Administrative Tools dialog, open **Services**.
4. Double-click **SNMP Service** to view the properties dialog box.
5. Select the Traps tab.
6. For the community name, enter `public` or the SNMP community name that you use, then click **Add to list**. Also, the SNMP community should have RW access permissions. Do not configure permission settings otherwise.
7. Under "Trap destinations", click **Add**.
8. Enter the IP address or host name of the NetCentral server PC, then click **Add**.
9. On the Security tab, verify that **Send authentication trap** is selected.
10. Click **OK** to save changes and close.
11. On the NetCentral server PC, in the NetCentral tree view, right-click the K2 Media Server and select **Validate Trap Messages**.
12. In the tree view, hover your cursor over the K2 Media Server, identify the tooltip displayed, and proceed as follows:

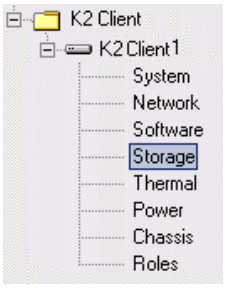
- If the tooltip only identifies the device as a K2 Media Server and has no message regarding trap validation, it means that NetCentral successfully received a test trap message from the device. A K2 Media Server with this tooltip is fully monitored by NetCentral and requires no further steps.
- If a K2 Media Server has a "…Traps not validated…" tooltip message, NetCentral is still not able to receive messages from the K2 Media Server. Refer to the troubleshooting information in the *NetCentral User Guide*.

Monitoring the K2 Media Server with NetCentral

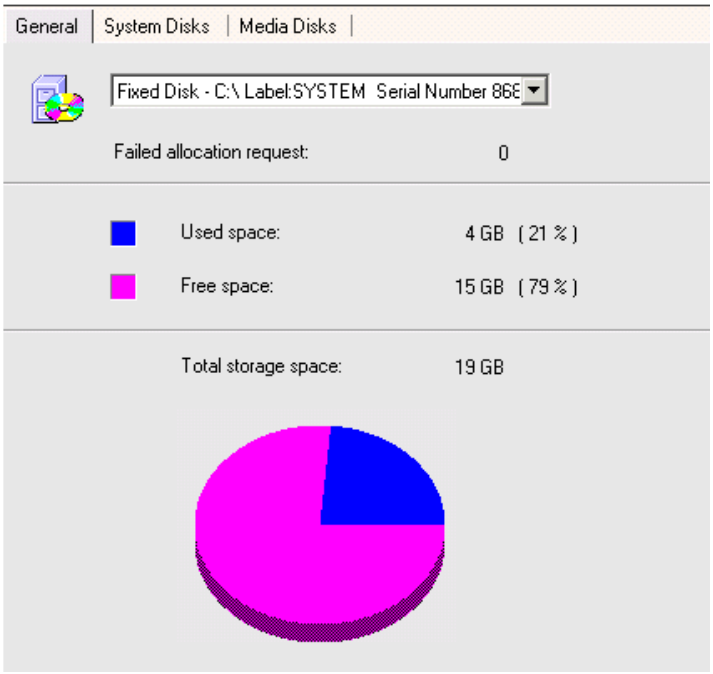
After completing the setup procedure, you are ready to monitor the K2 Media Server using NetCentral. Most monitoring features are common for all types of monitored devices and are explained in the *NetCentral User Guide*. The monitoring features explained in the following sections are unique to the K2 Media Server.

Monitoring K2 Media Server Media Disks

1. In NetCentral, select **Facility**.
2. Expand the NetCentral tree view and locate the K2 Media Server device icon.



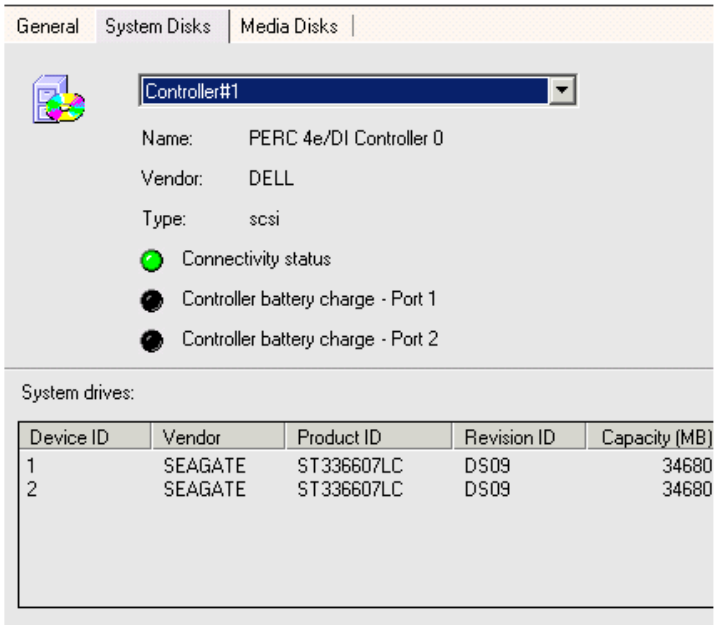
3. Expand the K2 Media Server device icon, then select the **Storage** subsystem.
4. Click the **General** tab.



This subsystem property page provides information on the partitions of the K2 Media Server system disk. You can select C:, D:, or E: partitions and view storage

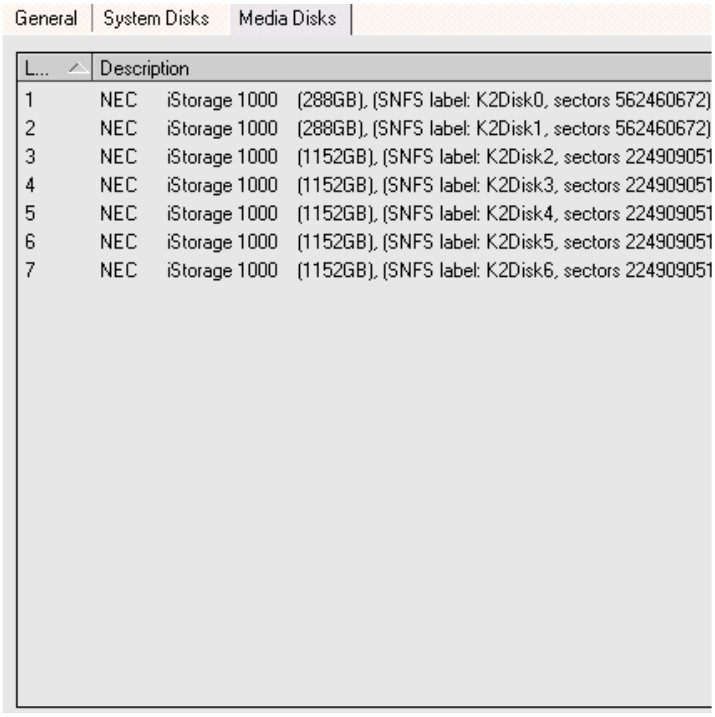
space. You can also select the V: partition, but since this is the media storage, you will get better information from the Media Disks tab, as explained later in this section.

5. Click the **System Disks** tab.



This subsystem property page provides information on the RAID storage system that is internal to the K2 Media Server. This system consists of two or more disks bound as a RAID Logical Unit Number (LUN), and a RAID controller that provides the redundant RAID functionality. This storage system provides the system disk functionality for the K2 Media Server.

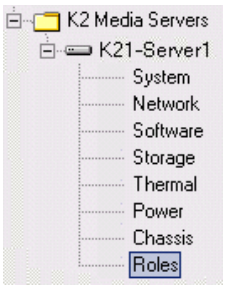
6. Click the **Media Disks** tab.



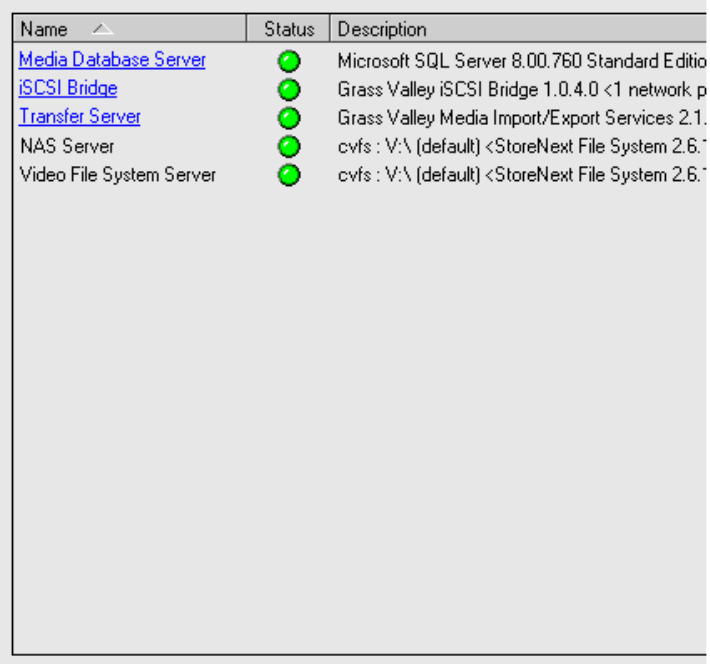
This subsystem property page provides information on logical drives that provide the media storage. These logical drives are the RAID LUNs, each of which is made up of multiple physical disks. These disks are in the RAID storage device chassis.

Monitoring K2 Media Server Roles

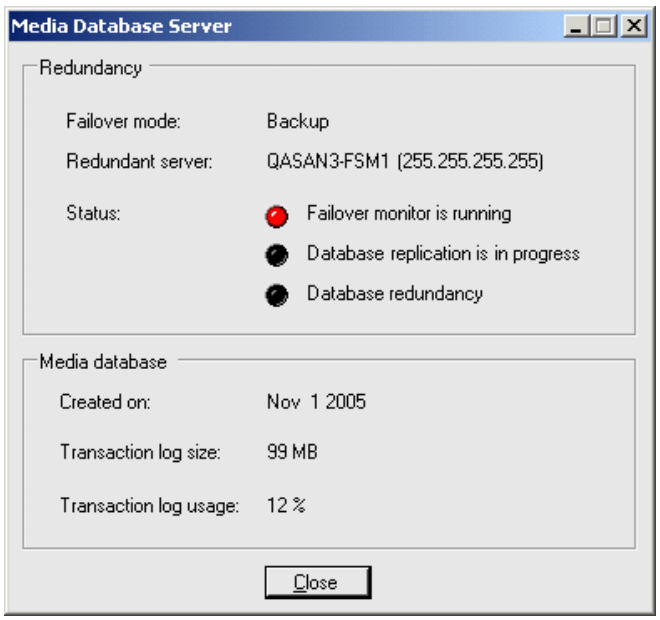
1. In NetCentral, select **Facility**.
2. Expand the NetCentral tree view and locate the K2 Media Server device icon.

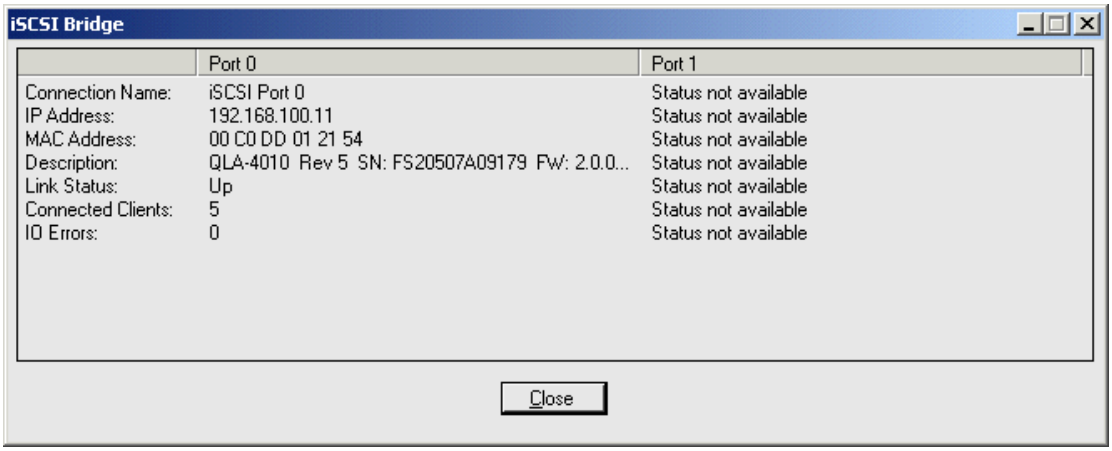


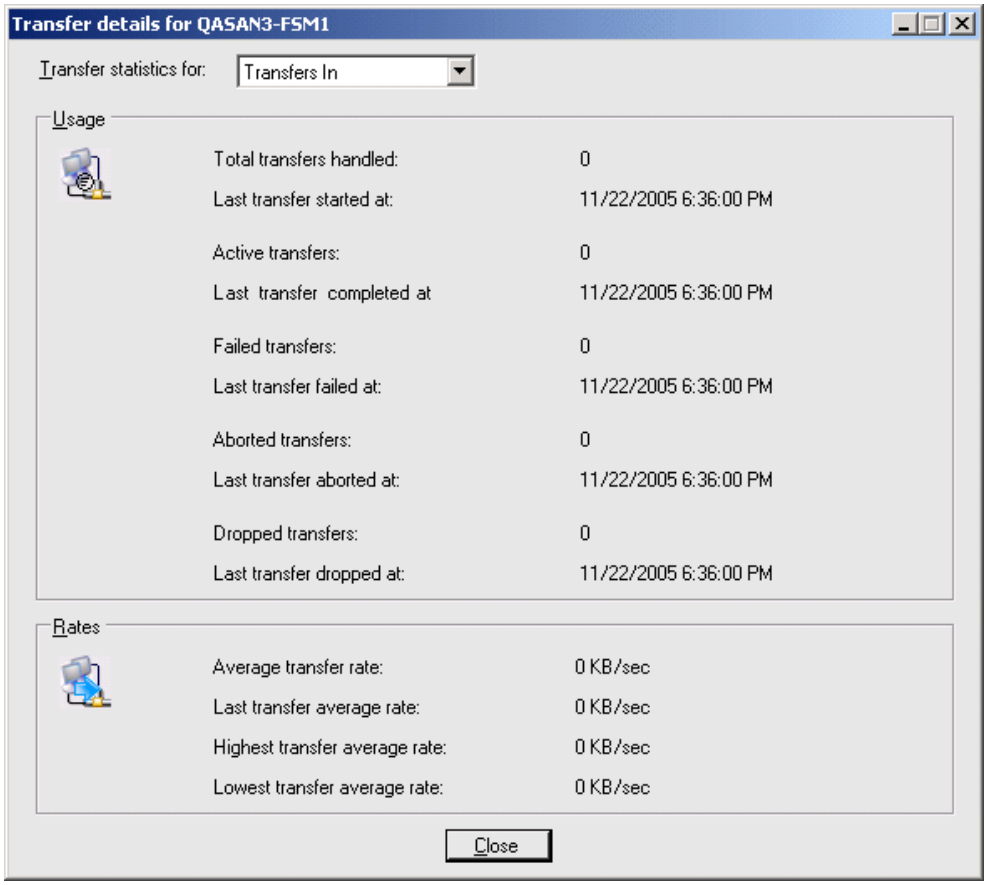
3. Expand the K2 Media Server device icon, then select the **Roles** subsystem.



This subsystem property page provides information on roles for which the K2 Media Server is currently providing functionality. These are the roles that were assigned to the K2 Media Server in the K2 System Configuration application when the K2 Storage System was configured. You can click the links for roles and view detailed property pages, as in the following examples.




iSCSI Bridge
Port 0
Port 1
Connection Name:
iSCSI Port 0
Status not available
IP Address:
192.168.100.11
Status not available
MAC Address:
00 C0 DD 01 21 54
Status not available
Description:
QLA-4010 Rev 5 SN: FS20507A09179 FW: 2.0.0...
Status not available
Link Status:
Up
Status not available
Connected Clients:
5
Status not available
IO Errors:
0
Status not available
Close


Transfer details for QASAN3-FSM1
Transfer statistics for:
Transfers In
Usage
Total transfers handled:
0
Last transfer started at:
11/22/2005 6:36:00 PM
Active transfers:
0
Last transfer completed at
11/22/2005 6:36:00 PM
Failed transfers:
0
Last transfer failed at:
11/22/2005 6:36:00 PM
Aborted transfers:
0
Last transfer aborted at:
11/22/2005 6:36:00 PM
Dropped transfers:
0
Last transfer dropped at:
11/22/2005 6:36:00 PM
Rates
Average transfer rate:
0 KB/sec
Last transfer average rate:
0 KB/sec
Highest transfer average rate:
0 KB/sec
Lowest transfer average rate:
0 KB/sec
Close

Monitoring K2 Media Server Trends

Click the **Trends** button to see the Trends view. The Trends view pulls specific device parameters and provides you with a daily, weekly, monthly, and yearly view of selected parameters. The following table lists the Trends view graphs for the K2 Media Server and provides explanations:

Name of Trend graph	Explanation of Trend graph
System\ Up Time	Up time essentially is an ever incrementing value that indicates the system is up and running and is measured as an absolute value in minutes; given that the polling rate is more than a minute. Though the value itself is of less significance, it is the ramp graph obtained by plotting these values that proves significant where a downward edge on the ramp indicates a device going offline and a flat line at zero indicating the device downtime. Multiple ramps indicate how often the device was taken down for activities like maintenance or servicing, or simply how many times it was restarted to handle a complete device failure. If the ramps do not coincide when the device was taken down, it could indicate conditions like automatic restarts, and the device may need attention.
System\ Processor Usage[*CPUn*]	Processor usage is a primary indicator of processor activity. It is the average percentage of elapsed time that the processor spends executing non-idle programs during that sampling period. Sustained value over 90% (5 minutes or more) indicates an excessively busy system and may result in the system appearing unresponsive. If the usage is associated with a single program, the program may be faulty and need a restart. Upper Threshold: 90
System\ Processes	Processes indicates the number of processes running on the system during that sampling interval. A Windows system creates one or more “process” when a program is run. A process contains computer instructions. The number of processes running on the system is a secondary indicator of the processor loading. A sustained increase in the number of processes indicates suspicious processing activity on the system.
System\ Memory Usage	Memory usage is the percentage of total (physical memory and page file space) memory used by programs running on the system during that sampling period. Sustained increase in this value could indicate a memory leak in one or more running programs and might eventually lead to system failure due to unavailability of more memory.

Name of Trend graph	Explanation of Trend graph
Storage\ Disk Usage[*diskname*]	Disk usage is the percentage of the total usable storage space on the logical fixed (hard) disk that was used to store programs and data during that sampling period. Sustained increase in this value over 90% may start degrading system performance and eventually lead to a disk full condition causing failures while saving data to the disk. Note, this also includes media disk usage. Upper Threshold: 90
System\ Object Handles	The number of object handles owned by all running programs. A handle is a value used by a program to uniquely identify and access a kernel object such as a file or a registry key. A sustained increase in this number typically indicates a system resource being leaked by a program.
Network\ Network Link Bandwidth[*linkname*]	Network link bandwidth is the amount of actual data transferred on the port during that sampling period measured in bits per second. Bandwidth is used to measure the quality of service (QoS) of the network link. Higher values indicate faster data transfers and better performance. Note, this also includes network links used for media transfers.
Network\ Network Link Errors [*linkname*]	Network link errors is the number of frames discarded on the link due to errors when receiving network data. Note that transmit errors are not accounted because a network interface never knowingly places frames with errors on the network. This is indicative of network problems. When errors occur, typically attempts would be made to retransmit the data potentially causing more errors. Note, this also includes network links used for media transfers.
Thermal\ Temperature[*location*]	Temperature indicates the reading of a temperature probe located at a specific location on the motherboard in degrees Centigrade during that sampling interval. Sustained increase in temperature could indicate malfunctioning hardware or HVAC. Temperatures above 55 degrees Centigrade could damage the system. Upper Threshold: 55

Name of Trend graph	Explanation of Trend graph
Roles\ Transfer Requests	This is a primary indicator of current transfer activity on the system. Transfer requests indicate the total number of transfers requests made to the transfer system during that sampling interval.
Roles\ Transfers Failed	Transfers failed in the number of transfer requests that failed after the transfer request was honored by the transfer system. This should typically be zero. If ramps are observed here, check the transfer system and associated system components such as status of the transfer source/destination, storage space, network connectivity, and so on.
Roles\ Transfers Dropped	Transfers dropped in the number of transfer requests that were dropped, or not honored by the transfer system during that sampling interval. Transfer requests are dropped when the transfer system is processing the maximum allowed number of simultaneous transfers and does not possess enough resources to process the new transfer request. This should typically be zero. If ramps are observed here, the transfer controlling applications need to be adjusted to throttle their transfer requests based on the maximum concurrent transfer requests supported by the system.
Roles\ Average Transfer Rate[*transfertype*]	Average Rate is the average transfer speed obtained in bytes per second of all successfully completed transfers of that type during that sampling interval. This is an indicator of the transfer performance obtained from the system.

Troubleshooting the K2 Media Server with NetCentral

NetCentral reports status, warnings, and alarms using messages that are easy to understand. Suggested corrective actions are presented along with failure information. If you have any trouble interpreting any of the problems or suggested solutions, contact Grass Valley Support.

For more information

For more information about NetCentral, how it works, and how to configure and use its features, refer to the *NetCentral User Guide*. You can find an online Help version of this manual on the NetCentral Help menu.