



Tungsten Equitrac

Equitrac Performance Monitors Setup Guide

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TUNGSTEN
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Table of Contents

Performance Counters Overview.....	4
List of counters and thresholds.....	4
Configuring performance counters.....	5
Creating a Data Collector Set.....	6
Creating a Data Collector.....	6
Setting up data collector directories.....	7
Collecting data.....	7
Creating a collected data report.....	8
Exporting and importing data collector sets.....	8
DCE Health Monitoring.....	9

Performance Counters Overview

Tungsten Equitrac supplies performance counters to monitor and provide information on how your Equitrac solution is performing. The Equitrac counters provide base performance metrics in real time, collect data logs to analyze at a later time, generate reports, and define thresholds for alerts and automatic actions. The real-time Equitrac counter data is displayed in a graphical view of how your system is performing. Collected data can be viewed in various layouts and data type (e.g. line, histogram bar, text report).

Equitrac counters are standard Microsoft Windows performance counters and can be viewed and managed in the Windows Performance Monitor console or any other third party monitoring tool which can access and read these counters. The information provided in the Equitrac performance counters allow customers to analyze and predict potential Equitrac service failure, and leverage real-time performance metrics to determine the correct system size and deployment setup required to ensure proper performance. Equitrac counters can be used to automatically identify a failed service before users need to contact support for assistance to correct the issue.

Equitrac performance counters are available after installing Equitrac 5.7 or later, and there is no additional installation requirements. Every server in your deployment has its own performance counter and different servers are measured differently. For example, two DREs on two different servers will produce different results when monitoring print submission time and print release time based on DRE traffic rate and print queue status. Login time is on the DCE side, and the Equitrac counters measure the time when a login request comes to DCE and the time when the authentication response is sent from DCE.

List of counters and thresholds

Equitrac performance counters are used to monitor specific times or thresholds that are indicative of good or bad performance. Equitrac provides Warning and Critical threshold values to use as a guide for when action may need to be taken to resolve longer than normal time for a task to complete. The Warning value is usually just above the acceptable or “Normal” time to complete the desired task, indicating that the task should be monitored and corrected as needed. The Critical time is above the Warning time range indicating that there is a potential serious performance issue with the specific task, and it should be addressed immediately.

Performance counter data can be viewed and collected in a variety of time intervals. Shorter polling time intervals collect more data points.

Some Equitrac performance counters report time—time to successfully login, time to fail a login, time to accept a job, time to release a job, and time to update a job list. The counters report time in milliseconds. The performance counters report the time of the last event. For example, how long it took for the last successful login at a device or how long it took for the last job to be released at a printer after it was received from the print queue.

The following Equitrac performance counters are available when DCE is installed.

i There are separate counters available for different device types and manufacturers within each main level performance counter that can be selected individually or in multiples.

Counter Name	Description	Warning Time	Critical Time
Tungsten Endpoint Successful Authentication Time	Reports on how long it took for the last successful login to complete at a specific device.	7 seconds	14 seconds
Tungsten Endpoint Failed Authentication Time	Reports on how long it took for the last failed login to fail at a device.	10 seconds	20 seconds
Tungsten Job List Retrieval Time	monitors how long it takes the device to update the list of available print jobs. The job list retrieval time depends on the embedded device and how many print servers are accessible to that device.	7 seconds	14 seconds

The following performance counters are available when DRE is installed. System administrators may want to adjust the Warning and Critical times based on their system's print traffic patterns.

Counter Name	Description	Warning Time	Critical Time
Tungsten Document Routing Time: Job Submitting Time	Monitors the length of time between when a print job is received and when the job is accepted and put into the print queue. Job submission time depends on the type and size of the job being sent, the client vs server side rendering and the print driver used. Job submission time is averaged over across a 15 time period.	15 seconds	30 seconds
Tungsten Document Routing Time: Job Release Time	Monitors the duration between when a print job is retrieved from the print queue and when it is released to a printer. The job release time metric is the data sent to and accepted by the printer.	10 seconds	20 seconds

Configuring performance counters

Equitrac performance counters are created using standard Windows performance counters and can be viewed and managed in the Windows Performance Monitor console. Equitrac counters can also be used by other third party monitoring tools using a similar process to read these counters, such as Nagios or Tivoli. The information provided in the performance counters allow users to analyze

the reported data to help determine if an issue with print throughput or device authentication time is due to system infrastructure or Equitrac services. Users can leverage real-time metrics to determine the correct system size and deployment setup required to ensure proper performance.

The following configuration uses the Window Performance Monitor. To use a compatible third party monitoring tool, refer to the configuration documentation for the desired tool.

Creating a Data Collector Set

A Data Collector Set is the basis of performance monitoring and reporting in the Windows Performance Monitor. It organizes multiple data collection points into a single component to review or log performance. A Data Collector Set can be customized to monitor various aspects of performance. For example, you can have one Data Collector Set to monitor user authentication time across all supported endpoints, a second set to monitor how long a specific device takes to update its job list, and a third to monitor how long it takes for print jobs to be accepted into the print queue.

To create an Equitrac Data Collector Set in the Windows Performance Monitor, do the following:

1. From the Start menu, select **Administrative Tools > Performance Monitor**. Alternatively, enter **perfmon.exe** in the Start menu search field, or from a command prompt.
2. Right-click **Performance Monitor** under Monitoring Tools and select **New > Data Collector Set**.
3. Name your data collector set (e.g. Equitrac Performance) and click **Next**.
4. Enter the location to save the Data Collector Set files and click **Next**.

By default, the data collector set is in the Root directory. The root directory will contain data collected by the Data Collector Set. If you want to store your Data Collector Set data in a different location other than the default, click Browse and select the desired directory.

Creating a Data Collector

A Data Collector determines what type of data the Performance Monitor collects. For example, performance counter data, event trace data, configuration data or performance counter alerts.

To create a Data Collector, do the following:

1. Open the Windows Performance Monitor, and right-click on the newly created **Data Collector Set** in the **User Defined** folder and select **New > Data Collector**.
2. Name your Data Collector (e.g. Equitrac Performance Counters), select the **Performance Counter data collector** option and click **Next**.
3. Click **Add**. The performance counters list will populate after adding the counters.
4. Select the performance counters you would like to see in the reports. The Equitrac related counters are listed under Tungsten in the list of available counters. Click **Add** to add these to the Data Collector, and click **OK** when finished.
5. The selected performance counters are listed. Change the sample interval if desired and click **Finish**.

Setting up data collector directories

If you plan to run multiple data collections or reports on the server, it is recommended that a subdirectory for each data collection is created. Reports use a fixed filename and cannot be overwritten. In order to create another report, you must first delete the existing report file before starting a new data collection.

1. Right-click the **Data Collector Set**, select **Properties** from the menu and click the **Directory** tab.
2. Use any of the following naming options:
 - Enter a name for the subdirectory.
 - Provide a Subdirectory name format. Click the Arrow button on the right side of the subdirectory field to browse for format variables (i.e. date and time).
 - Select the **Prefix subdirectory with computer name** checkbox to place the computer name at the start of the subdirectory name.
3. Click **OK** to save the settings.

Collecting data

Data collection can be scheduled over a defined period of time or it can be run manually to immediately gather the desired performance information. Performance counter data can be viewed and collected in a variety of time intervals. It is recommended not to leave the performance monitor running for long periods of time, as it will generate large log files, making it difficult to analyze the data. Shorter polling time intervals collect smaller log files across more data points.


To start collecting data manually, do the following:

1. Open the Windows Performance Monitor, and right-click the **Data Collector Set** and select **Start**.
2. Perform the actions related to performance counters in the selected data collector set.
3. Stop the Data Collector after you are finished collecting the performance information. If the collection is not stopped, it will run indefinitely.

Scheduling data collection

To schedule a data collection, do the following:

1. Right-click the **Data Collector Set**, select **Properties** from the menu, click the **Schedule** tab, and then click **Add**.
2. Set a **Beginning date**, **Start time**, and **day** for data collection. When configuring a new data collector set, ensure that this date is after the current date and time.
3. Select **Expiration date** to stop collecting new data after a certain date.

 Selecting an expiration date does not stop the data collection in progress on that date. The expiration date prevents new instances of data collection from starting after the expiration date. You must use the *Stop Condition* tab to configure how data collection is stopped.

4. Click **OK** to save the data collection schedule.

Stop a data collection schedule

To stop a data collection schedule, do the following:

1. Right-click the **Data Collector Set**, select **Properties** from the menu, click the **Stop Condition** tab.
2. To stop collecting data after a period of time, select the **Overall duration** checkbox and set the quantity and units. Do not select an overall duration if you want to collect data indefinitely.
3. Select the **Restart the data collector set at limits** checkbox to stop or restart when the first limit is reached.
4. Select **Duration** to set a time period for data collection to write to a single log file.
5. Select **Maximum Size** to restart the Data Collector Set or to stop collecting data when the log file reaches the limit.

 If an overall duration is configured, it will override the limits.

6. Select **Stop when all data collectors have finished** to let all data collectors finish recording the most recent values before the overall duration is reached.
7. Click **OK** to save the schedule.

Creating a collected data report

To create a report, right-click the Data Collector Set and select Latest Report.

After selecting the Latest Report, navigate to **Reports > User Defined > Data Collector Set** and click on the Data Collector. This displays the report graph based on the data collected during the collection period. Reports can be viewed in various layouts and data type (e.g. line, histogram bar, text report). These settings are available through the reports menu.

If you plan to run another data collection and you did not define a subdirectory name for the Data Collector Set, you will need to delete your Report file before starting another the collection. Reports use a fixed filename and cannot be overwritten, and the Data Collection is unable to start due to the fixed filename in the report. See [Setting up data collector directories](#) for details.

Exporting and importing data collector sets

Data Collector Sets can be exported and imported between servers.

To export a Data Collector Set, do the following:

1. Right-click the Data Collector Set and select Save Template.
2. Name the Data Collector Set list and save it as an XML file.

To import the XML file on another server start by creating a new Data Collector Set, but choose to browse a template during the creation.

1. Right-click User Defined folder under Data Collector Sets and select New > Data Collector Set.

2. Name your data collector set, select the Create from a template option, and click Next.
3. Select System Performance as the type and then Browse to the exported XML file.
4. Click Finish to import the pre-configured Data Collector Set and Collectors

DCE Health Monitoring

In addition to performance counters, Equitrac also supports a “DCEHealthCheck” URL for active TCP monitoring of the DCE service to determine if DCE can respond to the request in a timely manner. The DCE HealthCheck monitor continually pings the DCE server on port 2939 and takes it offline on failure. Clients with existing connections to the failing DCE may have to wait for a connection timeout. The DCE HealthCheck monitor can be used by any third party tool to monitor the DCE service.

The following basic configuration settings are required:

- Interval: 15 seconds (how often the monitor sends a request to the DCE server)
- Timeout: 15 seconds (how long the monitor waits for a successful response before taking the failed DEC server offline).
- Send String: `GET /DCEHealthCheck HTTP/1.1\r\nConnection: close\r\n`
- Receive String: `HTTP/1.1 200 OK`