

## Using Device Counters

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This Knowledge Base examines device counters in SiteAudit; it explains how counts are collected and normalized for the purpose of analysis and billing. A list of SiteAudit v5.0 supported counters by manufacturer is found in the appendix.

### Feature Description

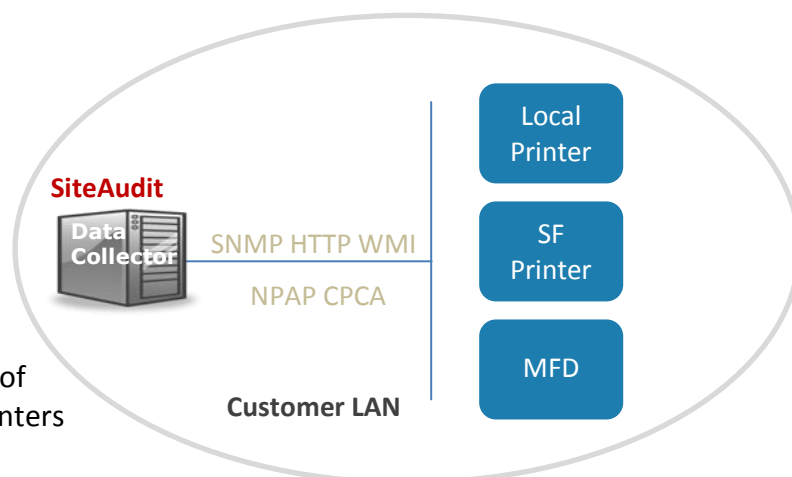
Collecting, processing and displaying counter information is a central capability of SiteAudit. It is not just the collection of counts which is important but what SiteAudit can do with counter information. Beyond the basic meter reads SiteAudit also formulates counters for analysis to measure device utilization, indicate usage trends e.g. color versus black and white printing and estimate supplies replacement dates. This sophisticated analysis capability enables MPS providers to use SiteAudit both as a metering tool and as a consultative tool for managing fleet costs.

### Technical Overview

SiteAudit data collection runs in a customer environment.<sup>1</sup> By default counts are collected every three hours and displayed on a six hour interval. (Data collection intervals are adjustable.)

#### Data Collection

There are a number of mechanisms SiteAudit uses to collect counts. These include standard network protocols like SNMP, HTTP and Windows Management Instrumentation (WMI) but also private protocols such as Lexmark NPAP and Canon CPCA. The benefit of using multiple protocols is more counters can be collected.



#### Normalizing Counts

Before counters can be used for analysis and billing they must be normalized. Normalized means any bad data must be removed and then grouped into a common nomenclature so they are usable. The reason for this is manufactures call counters by different names. For example a Duplex counter called by some manufacturers may be called 'Two Sided' by another manufacturer. Usable counter groups such as Print, Copy, Fax, Scan, B/All, Color All

<sup>1</sup> SiteAudit On-Site and Hosted have installed data collectors, SiteAudit Compact data collection runs without installation.

etc... makes analysis and billing across all manufacturers possible. SiteAudit has grouped over twenty counters for analysis and billing.

SiteAudit displays three types of counts:

- Raw Counts
  - Raw counts show what SiteAudit has collected and time stamped
  - Displayed in the Details tab of every printer
- Monitored Counts
  - Monitored Counts are used for Analysis
  - Displayed in the Volume Analysis view
- Lifetime Counts
  - Lifetime Counts are used for Billing (meters).
  - Displayed in the Lifetime Counter view.

### Raw Counts

Counts collected by SiteAudit and not normalized are called raw counts. Right click on any printer and open the Details tab to Counts to see raw counts data.

**Figure 1** illustrates an example of Raw Counts. Seven Copy counts are collected for the Canon iR-ADV C5030 and time stamped at 08.09.2011.

These counts are then normalized to the following counters:

- Copy
- Color Copy
- B/W Copy

The normalized counters are displayed in the Volume Analysis and Lifetime Counters views.

Manufacturer	Model	IP Address	Pages Printed
Canon	Canon iR C2380 90.03	10.89.24.77	40,185
Canon	Canon iR-ADV C5030 60.39	10.24.8.37	32,034

Counter	Value	Time
Total Impressions	229,956	8/9/2011 10:15:05 PM
Total	229,956	8/9/2011 10:15:05 PM
Total 2	231,668	8/9/2011 10:15:05 PM
Total large	1,712	8/9/2011 10:15:05 PM
Total B/W	103,431	8/9/2011 10:15:05 PM
Total B/W large	1,325	8/9/2011 10:15:05 PM
Duplex	6,657	8/9/2011 10:15:05 PM
Total (full color + mono color) large	387	8/9/2011 10:15:05 PM
Total (full color + mono color) small		8/9/2011 10:15:05 PM
Copy total		8/9/2011 10:15:05 PM
Copy usage		8/9/2011 10:15:05 PM
Copy large		8/9/2011 10:15:05 PM
Copy B/W		8/9/2011 10:15:05 PM
Copy (full color + mono color) large		8/9/2011 10:15:05 PM
Copy (full color + mono color) small		8/9/2011 10:15:05 PM
Copy (full color + mono color)		8/9/2011 10:15:05 PM
Print total		8/9/2011 10:15:05 PM
Print (full color + mono color) large		8/9/2011 10:15:05 PM
Print (full color + mono color) small		8/9/2011 10:15:05 PM
Print (full color + mono color)		8/9/2011 10:15:05 PM
Scan total		8/9/2011 10:15:05 PM
Fax print total	1,057	8/9/2011 10:15:05 PM

Figure 1: Raw Counts

### Monitored counts

MPS cost reduction programs require a thorough analysis of device volume. Tracking the mix of color version black and white output or duplex versus simplex printing helps to set and track cost goals. Monitored counts provide the data for such analysis and billing.

Counters are derived by sampling device counts. SiteAudit provides monitored counters for both local and networked printers and are displayed in the Volume Analysis view. They provide an accurate measure of output during discrete periods of time. For example, selecting a time span of the first 15 days of the month and comparing this with the last 15 days of the month can identify peak period printing.

### Custom Time Period – August 1 – 31 August

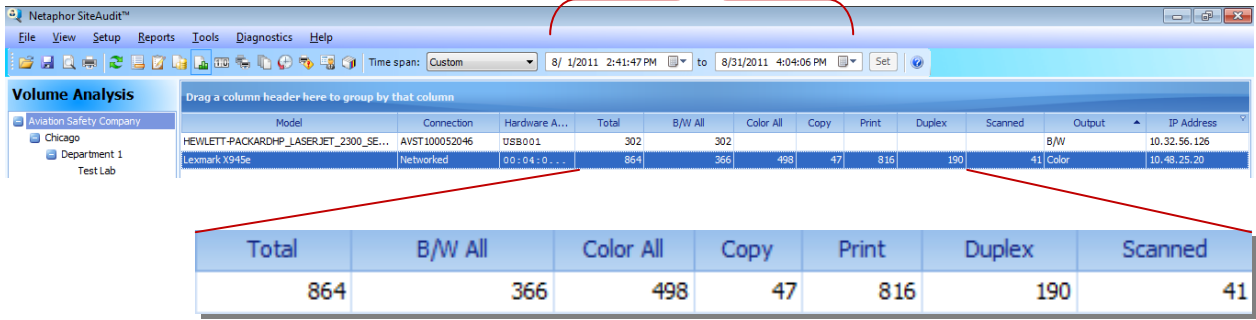


Figure 2: Monitored Counts

**Figure 2** illustrates the monitored counters for a local printer (HP LaserJet 2300) and a networked printer (Lexmark C945e) for the selected time period August 2011. Specifically, the Lexmark X945e (an MFP) is utilized mostly as a color printer. Only 5% of output is by copy and over 55% is color print and duplex is less than 20% of output. A quick analysis suggests a cheaper color printer with mandatory duplex and with copying consolidated elsewhere would better serve the cost goals. In short, monitored counters provide the analysis data to formulate more cost effective output strategies.

### Lifetime Counts

Lifetime counts provide the sequential counters used for metering and device billing. Counting begins with the first page printed, most likely when the printer was first installed, and continues adding pages to the last page printed throughout the lifetime of the printer.

Typically for billing purposes a counter or ‘meter’ read is made at the start of the month and then again at the end of the month. The difference between the two reads is the monthly billable volume. Sometimes MPS providers use quarterly or ‘last 30 days’ as the meter period. These billing periods as well as others are supported by SiteAudit.

Lifetime counters are displayed in the Lifetime Counter view.

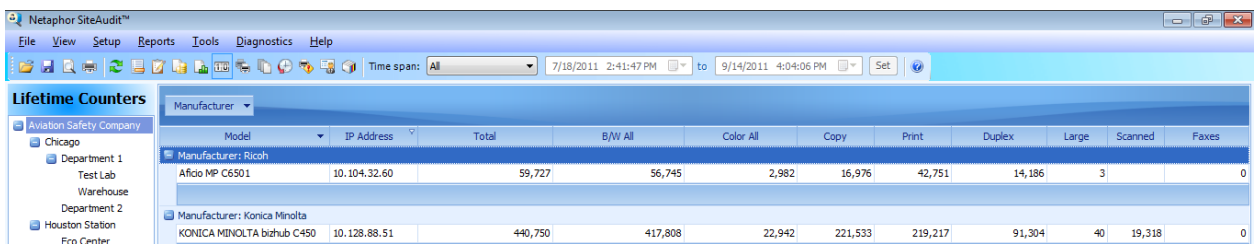


Figure 3: Lifetime Counters

As an example the meter read between August 31<sup>st</sup> and September 14<sup>th</sup> for a Konica Minolta bizhub C450 is shown in **Figure 4** below.

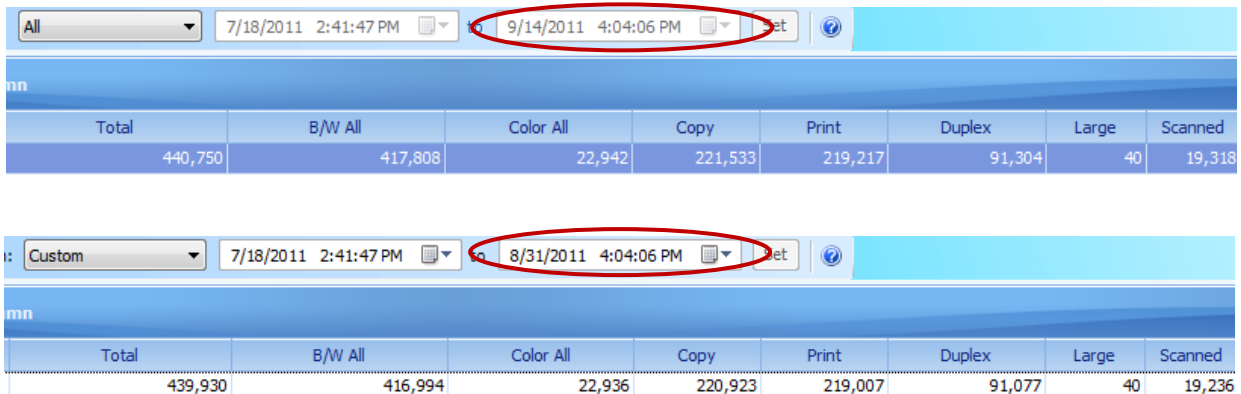


Figure 4: C450 Meter Read

Sept 14	August 31	Total	
• 440,750	- 439,930	= 820 page	Total
• 22,942	- 22,936	= 6 pages	Color
• 417,808	- 416,994	= 814 pages	B/W
• 221,533	- 220,923	= 610 pages	Copy
• 219,217	- 219,007	= 210 pages	Print

As expected the Total of 820 pages is equal to the sum of the total B/W (814 pages) and total Color (6 pages) for the period between August 31<sup>st</sup> and September 14<sup>th</sup>. Likewise the Print Total (210 pages) and Copy Total (610 pages) sum to the total output for the period.

## Key MPS Applications

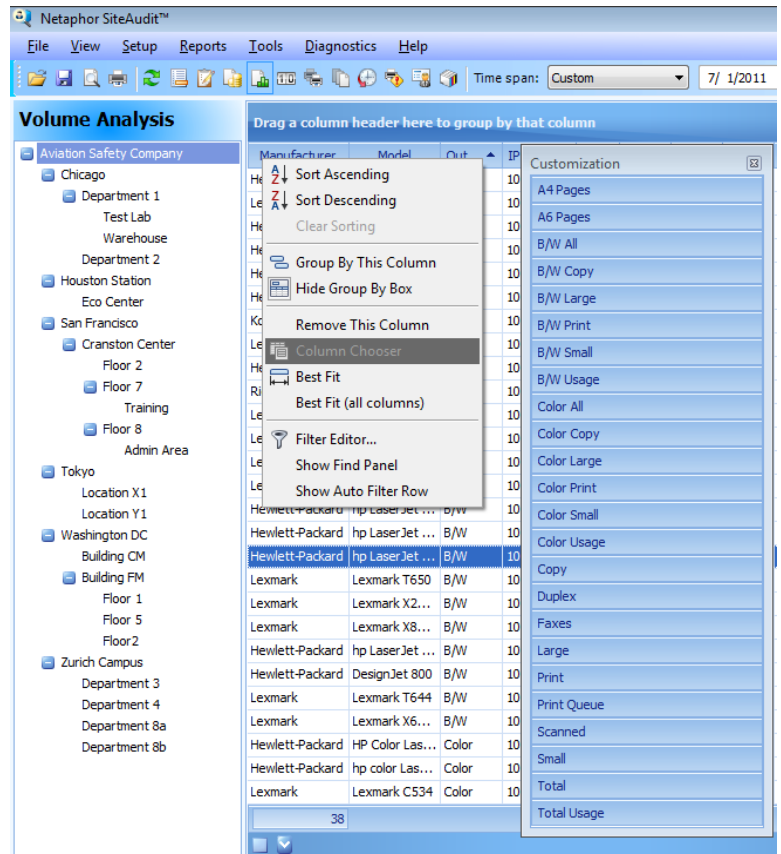
SiteAudit counters serve multiple MPS applications. While the primary use of counters is for analysis and billing, counters are used to estimate consumable replacement dates, measure device utilization and to meet other assessment and fleet management tasks also.

SiteAudit Views	Key MPS Applications
<b>Volume Analysis</b>	• <i>Output Analysis - B/W versus Color and Billing</i>
<b>Lifetime Counters</b>	• <i>Customer Billing</i>
<b>Assessment Details</b>	• <i>Cost Analysis - Device Utilization and Cost per Page</i>
<b>Incident History</b>	• <i>Service Analysis – Correlating Critical Errors to Lifetime Total</i>
<b>Consumables</b>	• <i>Estimated Replacement Date; Consumable Yields</i>
<b>Threshold Counters</b>	• <i>Alerting – Notify When Contract Limits Have Been Exceeded</i>

Figure 5: Key MPS Applications

SiteAudit provides multiple views for making analysis and report. Each view pertains to different aspects of the fleet. **Figure 5** above lists the views where counters are used. Both the Volume Analysis and Lifetime Counter views contain 24 separate counters. A complete list of these counters is below. The view allows counters to be summed, averaged, grouped and sorted for reporting purposes.

1. Total Impressions
2. Print
3. Copy
4. Duplex
5. Scan
6. Fax
7. Small
8. Large
9. A4 Pages
10. A6 Pages
11. Total Usage (Paper Size Counter)
12. B/W All
13. B/W Copy
14. B/W Large
15. B/W Print
16. B/W Small (A4 and Letter)
17. B/W Usage (Paper Size Counter)
18. Color All
19. Color Copy
20. Color Large
21. Color Print
22. Color Small (A4 and Letter)
23. Color Usage (Paper Size Counter)
24. Print Queue



Currently SiteAudit v5.0 comes with 70 standard reports. The standard reports related to counters includes the following:

#### Volume Analysis Reports

- General Volume Analysis
- Volume Analysis Color versus Monochrome
- Volume Analysis Copy versus Printer Last Month
- Volume Analysis by Manufacturer And Color Printers

#### Lifetime Counters Reports

- General Lifetime Counters
- Lifetime Counters Small/Large Last Month
- Lifetime Counters by Departments
- Lifetime Counters Last 30 Days
- Lifetime Counters Last Quarter

#### Consumables Reports

- Estimated Pages Remaining Between <500
- Consumables Estimated Replacement Date
- Toner Yields Greater Than 1000 Pages

#### Assessment Details Reports

- Assessment Details Less than 250 Pages
- Top Printers By Utilization

Any view can be a custom report and this provides the flexibility to create an unlimited number of reports. A report can be scheduled for delivery to an email address or file archive. Reports come in six different formats including CSV, XLS, XML and others.

## Frequently Asked Questions

The list of frequently asked questions below are intended to provide practical answers to many of the questions SiteAudit users and fleet managers have.

### 1- *How can I check if the counter is accurate?*

SiteAudit uses the SNMP protocol as its primary means of collecting data from printers. In most cases, one can compare the counts shown on the printer web page with the counts shown in SiteAudit. The thing to bear in mind is that SiteAudit collects the raw counts every 3 hours and this data is shown in the Device Details. The Lifetime Counters are updated every 6 hours. So the counts shown in SiteAudit can be slightly behind what is shown on the device. Another thing to keep in mind is that some printers may show different values than what they report via SNMP. The only way to confirm that SiteAudit is displaying the correct value in this case is to query the counter using an SNMP tool such as the Device Object Browser in the SiteAudit Viewer.

### 2- *Why are some counters not supported in SiteAudit?*

The counter is based on the raw count(s) collected by SiteAudit from the device. If specific counts are not supported by a device, for example fax count, then SiteAudit can not provide counter information on fax.

### 3- *What if a counter is not supported by SiteAudit?*

If a counter is not supported by SiteAudit, then we need to determine how the information can be obtained. To start, the customer should take a screen shot of the printer counts and immediately afterwards, run the Device Object Browser tool to collect data from the printer. Both of these should be submitted to [support@netphor.com](mailto:support@netphor.com) with a description of which counter support is desired. If further information is needed, NETAPHOR support will indicate what is needed.

### 4- *What is the difference between Volume Analysis and Lifetime Counters views?*

The Lifetime Counters view displays the total counts that have been printed since the device was purchased. The Volume Analysis view shows only the number of counts since SiteAudit first started monitoring the printer. For example, suppose a printer had printed a total of 500 pages (200 print and 300 copy). When SiteAudit starts monitoring this printer, these counts will be shown in Lifetime Counters. However, the value of each of these counts will be zero in Volume Analysis. Now suppose 10 more pages were printed. The Lifetime Counter counts would be 510 Total, 210 Print, and 300 Copy. The Volume Analysis would display 10 Total, 10 Print, and 0 Copy.

## Appendix: Supported Counters by Manufacturer (OEM)

	Canon	HP	Lexmark	Ricoh	Xerox	Kyocera	Konica Minolta
<i>Total Impressions</i>	X	X	X	X	X	X	X
<i>Print</i>	X	X	X	X	X	X	X
<i>Copy</i>	X	X	X	X	X	X	X
<i>Duplex</i>	X	X	X	X	X		X
<i>Scan</i>	X		X	X <sup>1</sup>	X	X	X
<i>Fax</i>	X	X		X	X	X	X
<i>Small</i>	X	X		X	X	X	X
<i>Large</i>	X	X		X	X	X	X
<i>A4 Pages</i>			X			X	X <sup>2</sup>
<i>A6 Pages</i>						X	
<i>Total Usage</i>	X	X					X
<i>B/W All</i>	X	X	X	X	X	X	X
<i>B/W Copy</i>	X	X	X	X	X	X	X
<i>B/W Large</i>	X	X		X	X	X	X
<i>B/W Print</i>	X	X	X	X	X	X	X
<i>B/W Small</i>	X	X		X	X	X	X
<i>B/W Usage</i>	X	X					
<i>Color All</i>	X	X	X	X	X	X	X
<i>Color Copy</i>	X	X	X	X	X	X	X
<i>Color Large</i>	X	X			X		X
<i>Color Print</i>	X	X	X	X	X	X	X
<i>Color Small</i>	X	X			X		X
<i>Color Usage</i>	X	X					

X Supported Counter

X<sup>1</sup> Supported in 5.1

X<sup>2</sup> Bizhub only

Large = A3 and B size

Small = A4 and Letter size

Usage = Page size count not impression count

## Appendix: Supported Counters by Manufacturer (OEM)

	Brother	Sharp	Panasonic	Toshiba	Dell	Samsung	Oki Data
<i>Total Impressions</i>	X	X	X	X	X	X	X
<i>Print</i>	X	X		X	X	X <sup>1</sup>	
<i>Copy</i>	X	X		X		X <sup>1</sup>	
<i>Duplex</i>		X	X	X		X	
<i>Scan</i>	X	X		X		X <sup>1</sup>	
<i>Fax</i>	X	X	X	X		X	
<i>Small</i>				X	X	X <sup>1</sup>	
<i>Large</i>				X	X	X <sup>1</sup>	
<i>A4 Pages</i>	X				X		
<i>A6 Pages</i>							
<i>Total Usage</i>							
<i>B/W All</i>	X	X	X	X	X	X	X
<i>B/W Copy</i>		X		X		X	
<i>B/W Large</i>				X			
<i>B/W Print</i>		X		X	X	X	
<i>B/W Small</i>				X			
<i>B/W Usage</i>							
<i>Color All</i>	X <sup>1</sup>	X	X	X	X <sup>1</sup>	X	X
<i>Color Copy</i>		X		X		X <sup>1</sup>	
<i>Color Large</i>				X			
<i>Color Print</i>			X	X		X <sup>1</sup>	
<i>Color Small</i>				X			
<i>Color Usage</i>							X

X Supported Counter

X<sup>1</sup> Supported in 5.1

Large = A3 and B size

Small = A4 and Letter size

Usage = Page size count not impression count

## Appendix: Supported Counters by Manufacturer (OEM)

	EFI	RISO
<i>Total Impressions</i>	X	X
<i>Print</i>	X	X
<i>Copy</i>	X	
<i>Duplex</i>	X	
<i>Scan</i>		
<i>Fax</i>	X	
<i>Small</i>	X	X
<i>Large</i>	X	X
<i>A4 Pages</i>		
<i>A6 Pages</i>		
<i>Total Usage</i>		
<i>B/W All</i>	X	X
<i>B/W Copy</i>	X	
<i>B/W Large</i>		
<i>B/W Print</i>	X	X
<i>B/W Small</i>		
<i>B/W Usage</i>		
<i>Color All</i>	X	X <sup>1</sup>
<i>Color Copy</i>	X	
<i>Color Large</i>		
<i>Color Print</i>	X	X
<i>Color Small</i>		
<i>Color Usage</i>	X	

X Supported Counter

X<sup>1</sup> Supported in 5.1

Large = A3 and B size

Small = A4 and Letter size

Usage = Page size count not impression count

## Appendix: Supported Counters by Manufacturer (Non-OEM)

More print vendors are supported. Vendors such as OCE, Imagistics, Olivetti, Lanier, Sagemcom, Olivetti and Triumph-Adler offer rebranded devices from Original Equipment Manufacturers (OEMs). Counter support for these devices depend on the OEM source. In most if not all cases these are OEMs listed in the above tables.

### Netaphor Software, Inc

15510 Rockfield Blvd, C-100,

Irvine, Ca 92618 USA

Phone: 949-470-7955

Fax: 949-470-4966

Sales email address: [sales@netaphor.com](mailto:sales@netaphor.com)

Support email address: [support@netaphor.com](mailto:support@netaphor.com)

Federal Tax ID: 33-0780176

DNB Number: 024408622

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