

# Proposed PWG Usage Counters

Glossary	
Impression:	For a print job, an impression is the passage of the entire side of a sheet by the marker, whether or not any marks are made and independent of the number of passes that the side makes past the marker. Thus a four pass color process counts as a single impression, as does highlight color. Impression counters count all kinds: monochrome, highlight color, and full process color, while full color counters only count full color impressions, and high light color counters only count high light color impressions. One-sided processing involves one impression per sheet. Two-sided processing involves two impressions per sheet. If a two-sided document has an odd number of pages, the last sheet still counts as two impressions, if that sheet makes two passes through the marker or the marker marks on both sides of a sheet in a single pass. Two-up printing is the placement of two logical pages on one side of a sheet and so is still a single impression.. <b>An impression is a media sheet side that has passed by the marker.</b>
N-up Number-up	The placement of two or more pages on one side of a sheet (i.e. impression) so that each side or impressions counts as N pages.
Page	A page is a logical division of the original source document. Number up (N-Up) is the imposition of more than one page on a single side of a sheet.
Sheet	A sheet is a single instance of a medium, whether printing on one or both sides of the medium.

Element Name	reference
<b>Description</b>	
AuxiliaryImpressions	
	The total number of impressions using black or color colorant not submitted as part of the user's job (e.g., administration pages, error sheets, banner sheets).
AuxiliaryBlackImpressions	
	The total number of impressions using only black colorant not submitted as part of the user's job (e.g., administration pages, error sheets, banner sheets).
AuxiliaryFullColorImpressions	
	The total number of impressions using one or more non-black colorants not submitted as part of the user's job (e.g., administration pages, error sheets, banner sheets). This counter does not include HighlightColor (spot) impressions.
<b>CopierImpressions</b>	
	<b>The total number of impressions using black, color or no colorant when using the device as a copier.</b>

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Element Name	reference
Description	
CopierBlack Impressions	
The total number of impressions using only black colorant when using the device as a copier.	
Copier FullColorImpressions	
The total number of impressions using one or more non-black colorants when using the device as a copier. The images may also contain black colorant. This counter does not include HighlightColor (spot) impressions.	
EmailImagesSent	
The total number of scanned sides of stock that are transmitted when using the E-mail service.	
EmailBlackImagesSent	
The total number of scanned sides of stock that are transmitted only in black when using a device's e-mail service.	
EmailFullColorImagesSent	
The total number of scanned sides of stock that are transmitted in color when using the Email service.	
FaxImpressionsSent	
The total number of impressions when using the device as a Public Service Telephone Network (PSTN) fax machine for received faxes.	
FaxBlackImagesSent	
The total number of scanned sides of stock that are transmitted when using a device's PSTN fax service.	
FaxFullColorImpressionsSent	
The total number of impressions using one or more non-black colorants when using the device as a PSTN fax machine for received faxes. The images may also contain black colorant. This counter does not include HighlightColor (spot) impressions.	
FaxBlackImagesReceived	
The total number of black scanned sides of stock that are received by the device's PSTN Fax service.	
FaxBlackImpressions	
The total number of impressions using only black colorant when using the device as a PSTN fax machine for received faxes.	
MaintenanceImpressions	
The total number of impressions using black or color colorant while the device is in service mode.	

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Element Name	reference
Description	
MaintenanceBlackImpressions	
The total number of impressions using only black colorant while the device is in service mode.	
MaintenanceFullColorImpressions	
The total number of impressions using only color colorant while the device is in service mode. This counter does not include HighlightColor (spot) impressions.	
NetworkFaxBlackImages Sent	
The total number of scanned sides of stock that are transmitted only in black when using a device's network Fax service.	
NetworkFaxBlackImagesReceived	
The total number of black scanned sides of stock that are received by the device's network Fax service.	
PrinterImpressions	
The total number of impressions using black or color colorant when using the device as a printer.	
PrinterBlackImpressions	
The total number of impressions using only black colorant when using the device as a printer.	
PrinterFullColorImpressions	
The total number of impressions using one or more non-black colorants when using the device as a printer. The images may also contain black colorant. This counter does not include HighlightColor (spot) impressions.	
ScanTotalImages	
Total number of scanned sides of stock scanned i. (i.e. includes Copy, Fax, NetworkFax, ScanToFile etc.)	
ScanTotalBlackImages	
Total number of scanned sides of stock scanned in Black and White or grayscale Modes. (i.e. includes Copy, Fax, NetworkFax, ScanToFile etc.)	
ScanTotalFullColorImages	
Total number of scanned sides of stock scanned in full color mode. (i.e. includes Copy, Fax, NetworkFax, ScanToFile etc.)	
ScanToFileImages	
Number of scanned sides of stock that are stored locally or remotely when using a network scanning service. An "Image" is defined as an electronic version of a scanned side.	
ScanToFileBlackImages	

# Proposed PWG Usage Counters

Element Name	reference
Description	
	Scanned sides of stock that are stored locally or remotely in black only when using the Network Scanning service. In the context of billing meters and counters, an “Image” is defined as an electronic version of scanned side.
ScanToFileFullColorImagesSent	
	Scanned sides of stock that are stored locally or remotely using one or more colors when using the Network Scanning service. In the context of billing meters and counters, an “Image” is defined as an electronic version of scanned side.
TotalImpressions	
	The total number of sheet sides of stock that have passed the marker.
TotalBlackImpressions	
	The total number of impressions that have an image using black colorant only. No differentiation is made between black and white and gray scale.
TotalBlankImpressions	
	The total number of impressions for which no colorant is placed on a side of a piece of media. Note: Impressions that contain watermarks or forms are not counted as blank even if the watermark or form is not part of the job data.
TotalFullColorImpressions	
	The total number of impressions that have an image that uses one or more non-black colorants. The image may also contain black colorant. This counter does not include HighlightColor (spot) impressions.
TotalHighlightColorImpressions	
	The total number of impressions that have an image that uses one (spot) non-black colorant. The image may also contain black colorant. Highlight color impressions are produced only on devices that are highlight color capable.
TotalSheets	
	The total number of pieces of stock on which black or color images are placed, independent of the service that initiated the job.
TotalBlankSheets	
	The total number of pieces of stock on which no colorant is placed on either side of a piece of media. Note: Sheets that contain watermarks or forms are not counted as blank even if the watermark or form is not part of the job data.
TotalTwoSidedSheets	
	The total number of media on which impressions are placed on both sides of the stock, independent of the service that initiated the job.
TotalBlackTwoSidedSheets	

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Element Name	reference
Description	
	The total number of pieces of stock on which only black images are placed on both sides of the stock, independent of the service that initiated the job.
TotalFullColorTwoSidedSheets	
	The total number of pieces of stock on which images that use one or more non-black colorants are placed on both sides of the stock, independent of the service that initiated the job. The image may also contain black colorant. This counter does not include HighlightColor (spot) impressions.
TotalHighlightColorTwoSided Sheets	
	The total number of pieces of stock on which images that use one (spot) non-black colorant are placed on both sides of the stock, independent of the service that initiated the job. The images may also contain black colorant.
ProcessingTime	
	Cumulative time (ticks), since power-on, that the device or service has been engaged in some form of “processing”. Processing can include receiving and buffering data or resources either as part of a job or as a resource download, ripping, imaging, finishing etc. Responding to management queries should not be considered processing unless management and job protocols are indistinguishable. A simple way to tally ProcessingTime is to mark the tick at the start and end of “processing”, accumulate these differences and compare against the running power-on counter. ProcessingTime is intended to be a low overhead metric that enables (via inverse) calculation of idle time. This information can be useful for capacity planning in a managed environment.
DownTime	
	Cumulative time (ticks), since power-on, that the device or service has existed with an error requiring intervention or preventing operation of all or part of the device. (Do we need PrinterDownTime, ScannerDownTime, etc?). A simple way to tally DownTime is to mark the tick at the leading and trailing edges of an event, accumulate these differences and compare against the running power-on counter. DownTime is intended to be a low overhead metric that enables (via inverse) calculation of availability time. This information can be useful for service level validation in a managed environment.
MaintenanceTime	
	Cumulative time (ticks), since power-on, that the device or service has existed in a condition where maintenance personnel have logged-in via whatever mechanism they do so for that device. (Maintenance time may be hard to calculate for a “service”). A simple way to tally MaintenanceTime is to mark the tick when personnel logs in and out, accumulate these differences and compare against the running power-on counter. MaintenanceTime can be useful for service level validation in a managed environment.