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FreeFlow® Print Server
Dry Ink Estimation

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1 Estimation for a Job

Summary

The Xerox FreeFlow® Print Server 9.0 SP1 in a color system includes a new job operation called **Estimate Toner Usage**, developed to generate an estimate of how much dry ink toner a job will use. The toner usage is expressed as a percentage of bottles of toner used for a job. The customer has the ability to enter or modify the expected yield for each dry ink. This feature helps the Xerox Color Press customers understand how print job costs are impacted when the Clear effects option is applied. If the Clear effects option is applied through **Flood** or **Object** job programming, the operator has the control to adjust the **Clear Level**.

Background

Xerox Supplies sells dry ink in cartons. These cartons are not specified by weight or volume. They are specified by the number of US Letter size impressions or prints that can be made from the specific coverage area for the carton's dry ink. For example, the Clear dry ink used for the Xerox Color 800/1000 Press, 6R1479, has an approximate yield of 55,000 pages of US Letter size impressions at 7.5 percentage of coverage area.

Workflow Scenarios

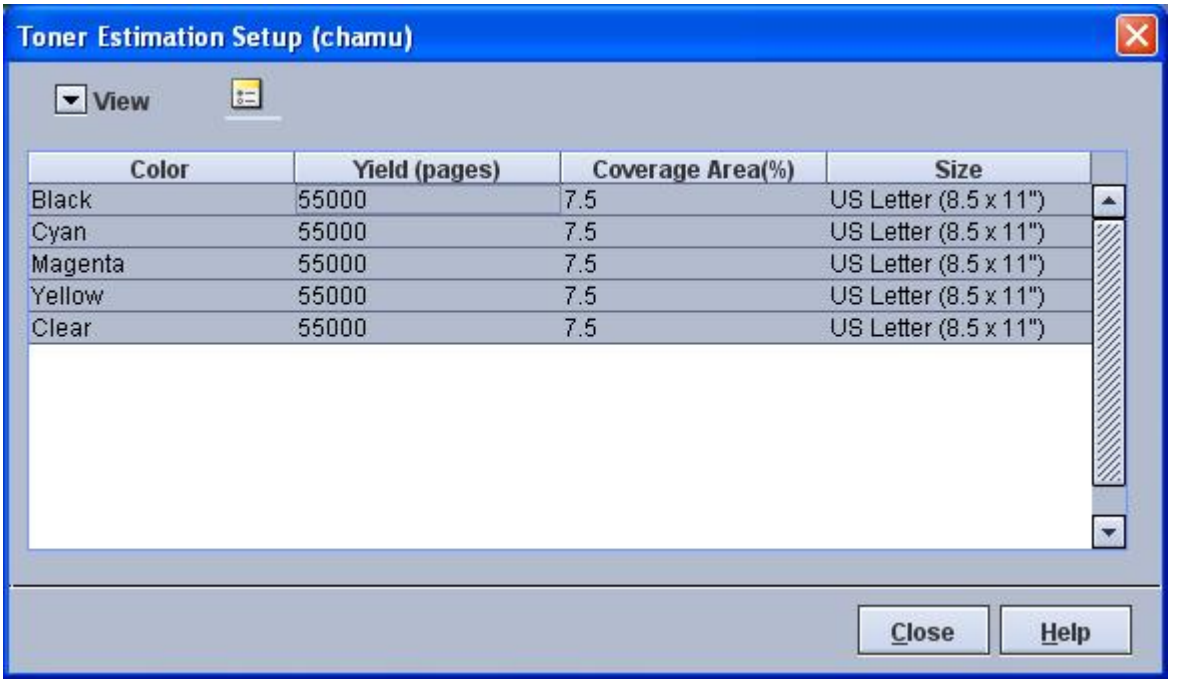
Basic usage

The System Administrator sets up a Held queue by setting the queue to **Do Not Release Jobs**. The **Process and Hold** option must be enabled in **Automatic Job Processing** under the **Queue** settings. In the queue process, held jobs can be estimated. The jobs are submitted to the queue overnight. The next morning, when the operator selects one of the jobs and clicks the **Estimate Toner Usage** operation, the system evaluates the **RIP**-ped images, makes calculations, and displays the estimates. The estimates are saved in the **Job Properties->Settings** tab. Select the new **Toner Estimation** button to access the estimates. The Estimate Toner Usage operation can be done only for one job.

Description

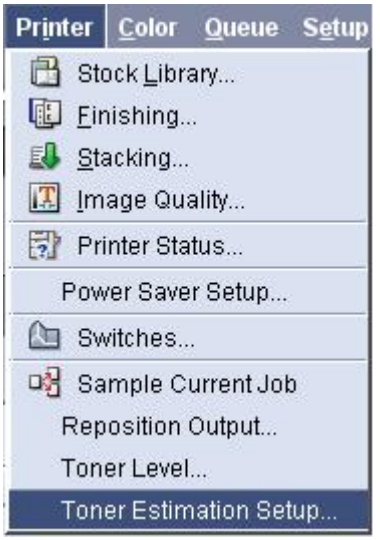
Estimation Setup

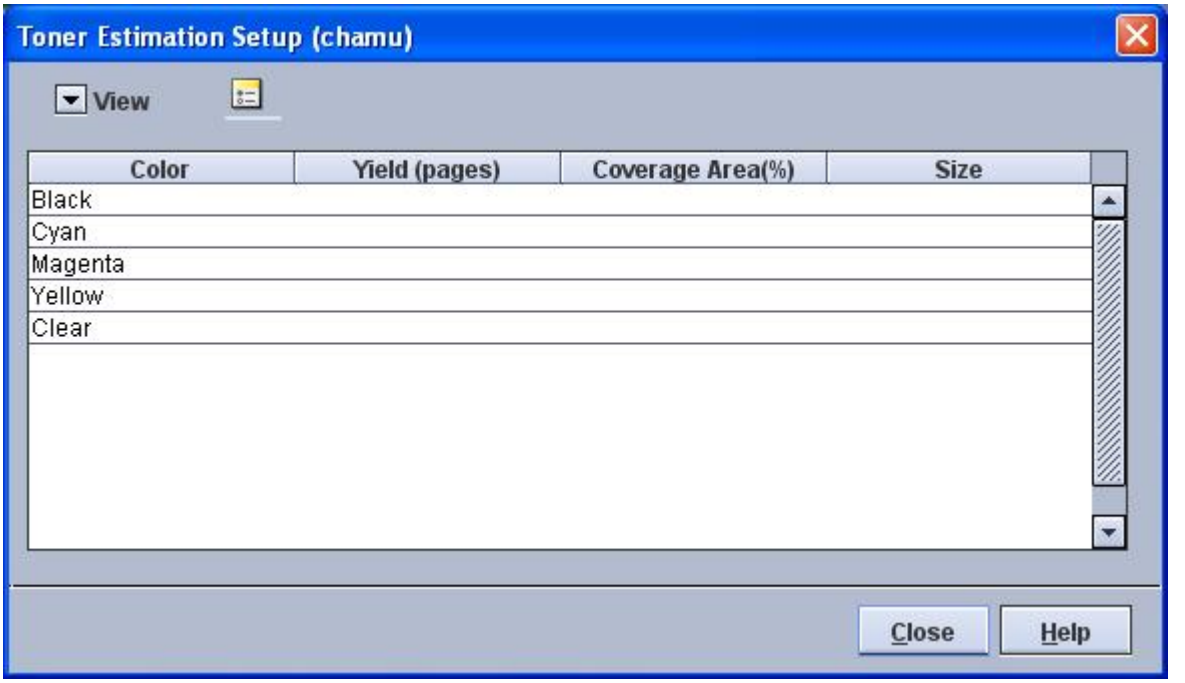
The operator or administrator must pre-enter in the system the expected yield for each dry ink: Cyan, Magenta, Yellow, Black, and Clear by to enable the calculations. The **Toner Estimation Setup** option in the **Printer** menu enables the user to enter the information for each color. The **Toner Estimation Setup** window displays a table that lists the colors available on the system, and allows the user to provide the information for each color in the type-in fields.



This **Toner Estimation Setup** window lists all the available dry inks. Enter the corresponding values for each color and save. To view or modify values for each color do the following:

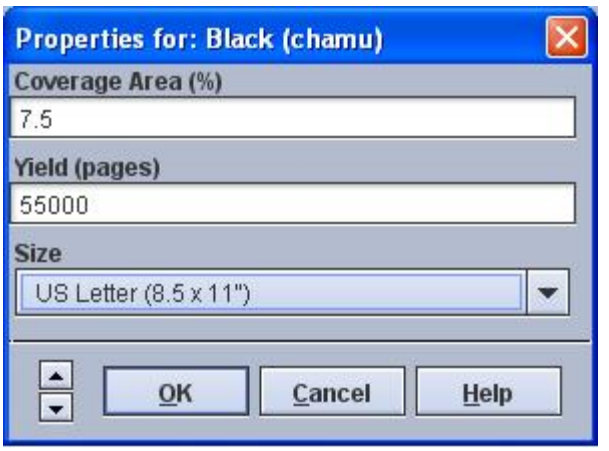
1. From the **FreeFlow® Print Server** user interface, select **Printer>Toner Estimation Setup**. The **Toner Estimation Setup** window opens.



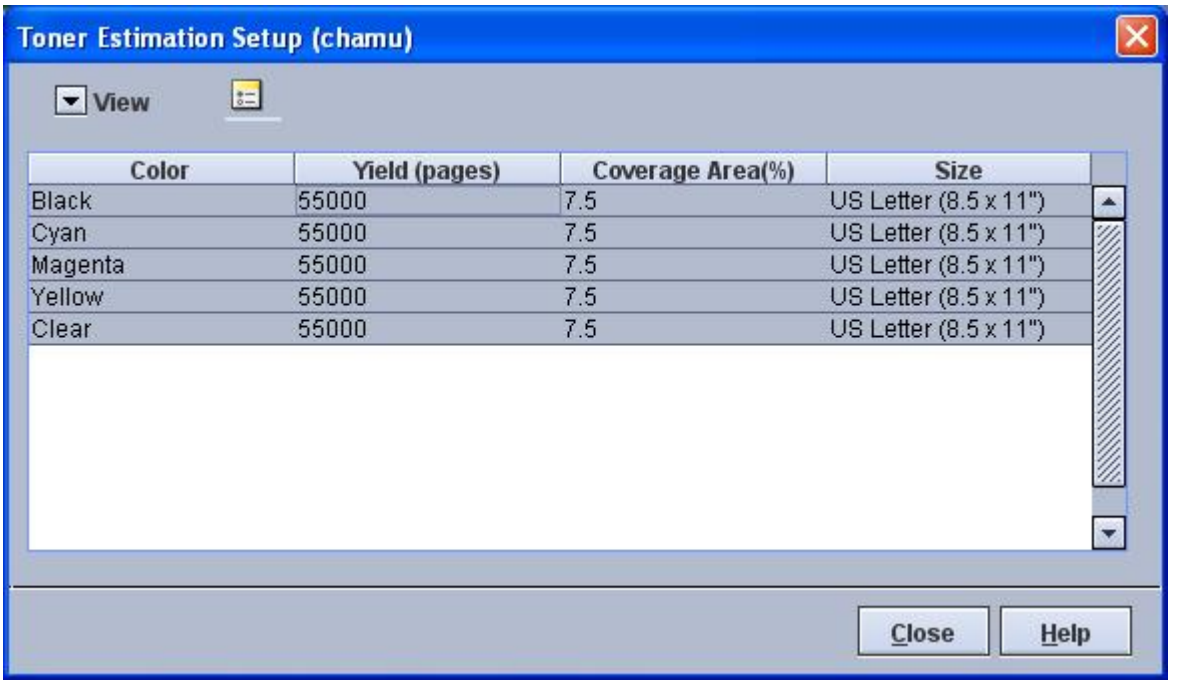


If the values are blank or need to be modified, then perform the following:

2. Right-click on a color to open the **Hue Properties** window.



3. Enter the values for the corresponding color and click **OK**. The **Toner Estimation Setup** window displays the added or modified values.



Estimation for a job

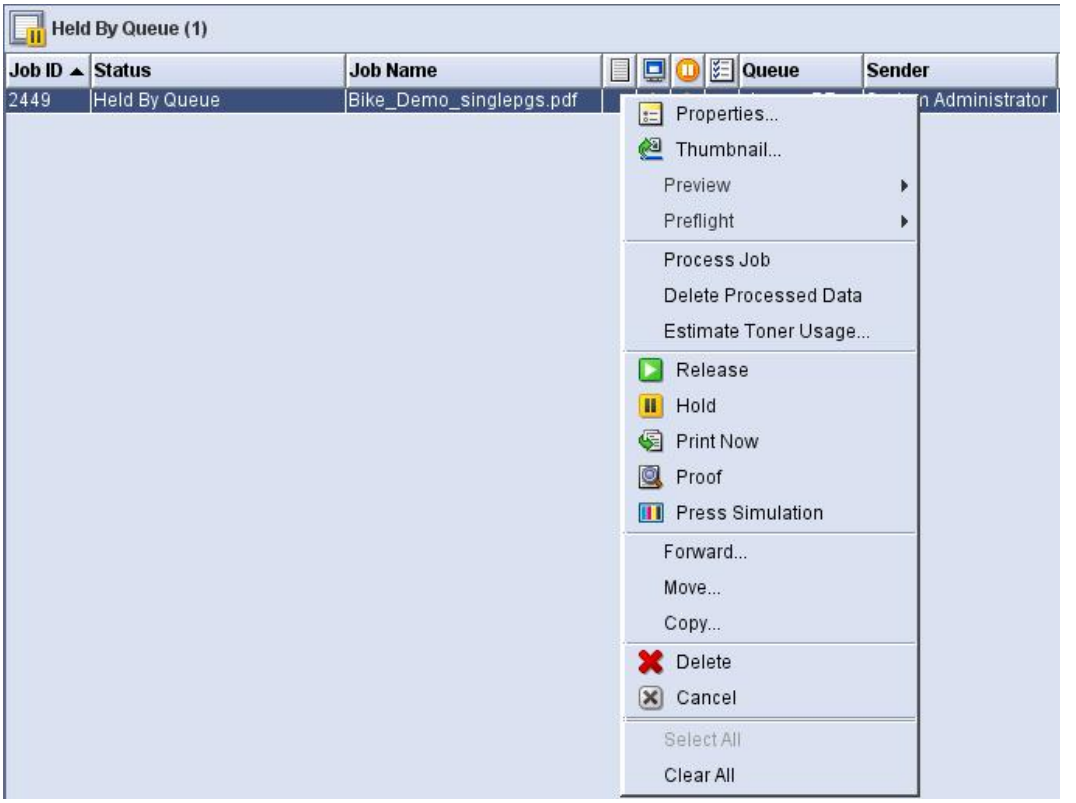
The operator can navigate to **job** > **Estimate Toner Usage** to calculate and display the **Toner Usage**. This menu item is available only on jobs which are **Paused**, **Held by Queue**, or **Completed**. Jobs that are previously **RIP**ped and **Held** can also be estimated.

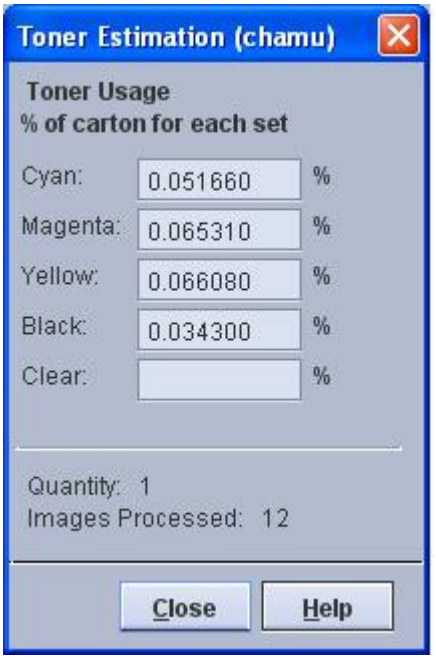
Use the **Saved Job** list or the **Print From File** option to estimate **Saved Jobs** in Fast Reprint Format (FRF).

Jobs which have the **Waiting for Printer** or **Printing** statuses cannot be estimated. No active jobs can be estimated.

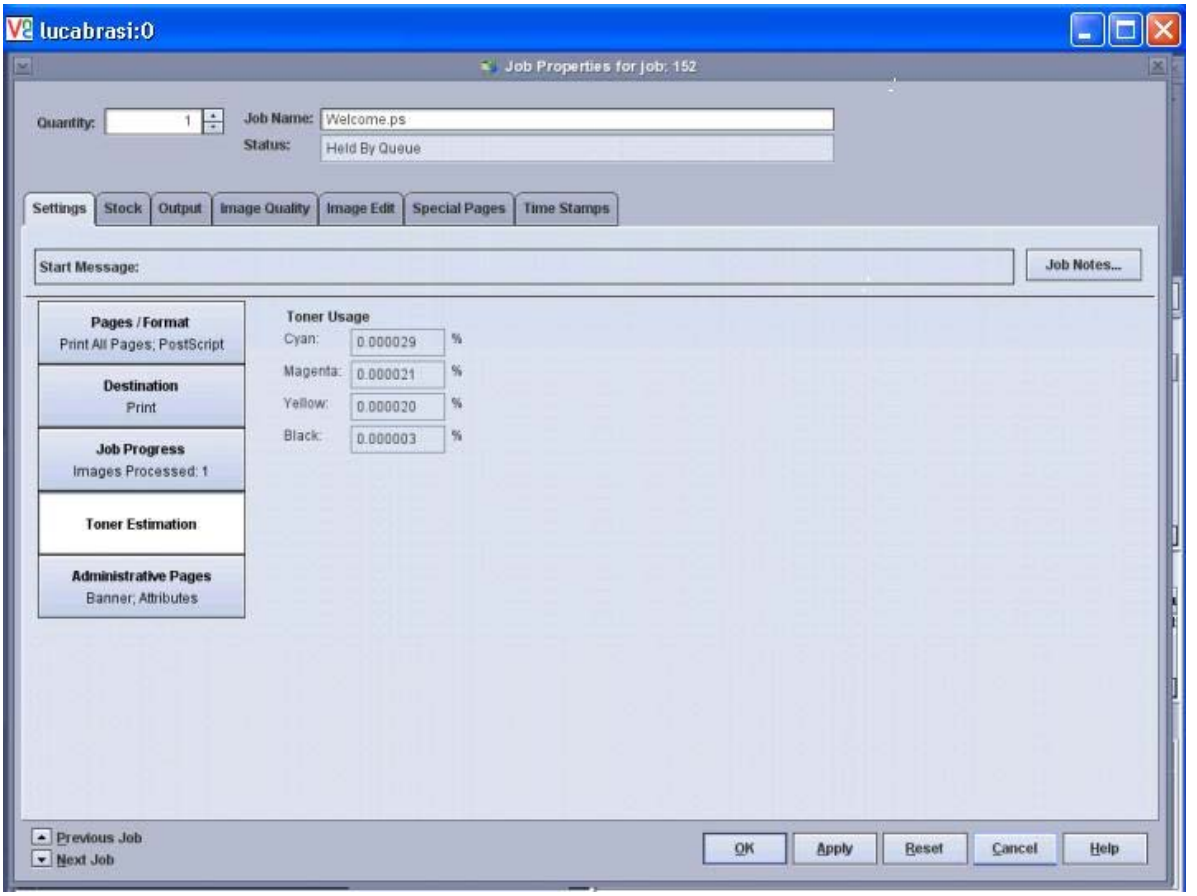
Estimation of a job in a Hold Queue

1. Submit the job to a **Queue** and set **Release** to **No**.
   a. If the Hold Queue attribute: **Automatic Job Processing** is set to **Process and Hold**, then proceed to **step 3**.
2. If the job has not yet been processed then right click on the job and select **Process Job**.
3. Right click on the job and select **Estimate Toner Usage**. The **Toner Estimation** window opens with the estimated values for the toner.





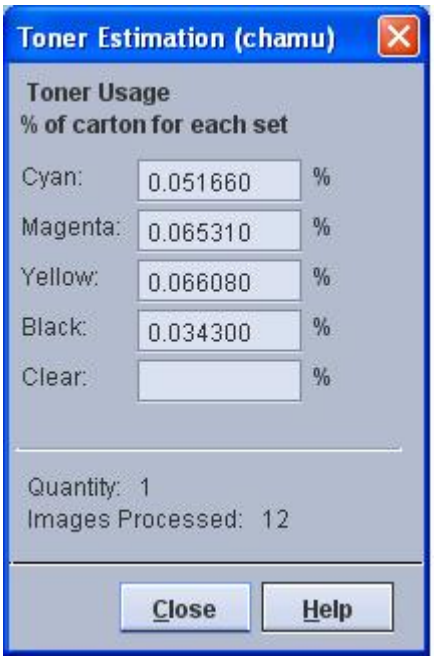
4. Under **Job Properties** of the job that has been estimated, **Toner Estimation** is displayed in the **Settings Tab**. After estimating the toner for the job, the same values reflect in this tab.



Toner Estimation for a Job in Reprint

Estimate the Toner Usage for a job using **Reprint**. However, the toner estimated values are not stored in the Job Dictionary.

1. Navigate to the **Saved Job** list.
2. Right click on a job with an **frf** extension and select **Estimate Toner Usage**. The **Toner Estimation** window opens with the estimated values for the toner.



Limitations/Considerations

- Jobs in the system that are previously **RIP**-ped through the **Process Job** operation can be estimated.
- Use the **Saved Job** list or the **Print From File** option to estimate **Saved Jobs** in Fast Reprint Format.
- Before estimating toner usage for jobs, the **Toner Estimation Setup** should be completed.
- The toner estimation does not take the following into account:
- User TRCs/Color Balance controls, which are applied while printing.
- Image shift and other print time image manipulations which may move image content off the printable page.

What this tool does not do

- Allow the tool to be downloaded to a local computer.
- Provide information for any other product besides the Xerox Color Press because the algorithms are customized to the product.
- Compute the cost of estimated dry ink usage.
- Track external variables that influence dry ink consumption.

- Process images at the same rate as the Xerox Color Press.

The results given by the Estimation Tool may not directly match the amount of dry ink used by a specific Xerox Color Press. The tool algorithm assumes that the Xerox Color Press system is operating within optimal specifications to estimate toner usage. The tool does not attempt to predict variability in the amount of dry ink the Xerox Color Press delivers to a substrate.

For example, the amount of dry ink used is directly proportional to the set print density. So, if K is set at a higher density, expect the amount of K dry ink used to be proportionally higher than predicted by the tool. Inversely, if K is set at a lower density, expect that the amount of K dry ink used to be proportionally lower than predicted by the tool. This is true for Cyan, Yellow, Black, and Clear dry ink as well.

Factors affecting the results

The tool uses default settings of the Xerox Color Press to calculate the results. In addition to the normal machine variation, other factors can impact the dry ink consumption of the Xerox Color Press. The following factors are not accounted for during the calculation of the estimated usage:

- Print density compared to a nominal setting:
  - Normal machine variation
  - Environment–Temperature and humidity are factors to consider.
  - Density setting
  - Calibration
- Halftone screen used.
- Dry ink usage is predicted based on the content of the uploaded file and an assumption that the printer is calibrated for the paper being used.