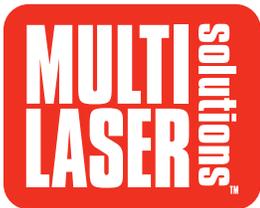


Take Control of Printing Costs™



A white paper
from Multi-Laser Inc.

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Executive Summary

Companies spend a lot of money on paper document generation, and this expense is getting higher every year.

Yet this cost is “under the radar” of many managers. Most large enterprises have trouble answering such fundamental questions as: How many document output devices do we have? How often are they out of service? What is our Total Cost of Ownership of each device? How can I obtain accurate cost-per-copy information?

Despite this lack of clarity, the Help Desk still gets all the calls about issues with printers, copiers, fax machines, and multifunction peripherals. These devices are a major burden to most IT departments, who have never been given the tools or mandate to deal with them.

Now there is an innovative system that can help you take control of this neglected area.

PrintFleet™ Optimizer is a unique system that can provide your firm with a healthier fleet of document output devices, better end-user satisfaction and significant cost savings—with no added burden on your IT staff.

The PrintFleet™ Optimizer system includes:

- A network appliance designed for unattended operation
- Software that monitors all network devices
- A secure Web portal for 24/7 access to real-time reports

The PrintFleet™ Appliance has been carefully designed to be transparent, secure and reliable.

Transparent: designed for automatic detection and polling of network devices, unattended operation, and graceful recovery from unforeseen events such as a power failure or network outage.

Secure: supports the same industry-standard protocols used for online banking (128-bit encryption, RSA and SSL) and stores data in a Class A Data Center.

Reliable: uses field-proven network technology and a locked-down version of Red Hat Linux immune to the vast majority of malicious code targeted at Windows systems.

The system is supplied by a trained partner or reseller who specializes in enterprise document management and/or IT servicing. In effect, PrintFleet™ Optimizer enables you to “outsource” maintenance and provisioning for your document output device fleet.

With no extra effort on your part, PrintFleet™ Optimizer can save your company a significant amount of money through better preventive maintenance and reduced consumable costs.

And at the same time, it can relieve your IT staff of much of the traditional burden of supporting print and copy devices.

In effect, PrintFleet™ Optimizer enables you to “outsource” maintenance and provisioning for your document output device fleet.

The Document Dilemma

Gartner estimates enterprises spend 1 to 3% of their total revenues on printing: a cost spiraling out of control in many firms.

Companies spend a lot of money on paper document generation, and this expense is getting higher every year. Today's typical office employee generates more paper documents than ever before. This is a large cost that continues to increase as pages contain more toner coverage, thanks to the rich graphics of presentations and Web pages.

In fact, Gartner estimates that enterprises spend 1 to 3% of their total revenues on printing. It is fair to say that this is a cost spiraling out of control in many firms.

Containing these costs is in the best interests of the enterprise. But these costs are "under the radar" of many managers. Why? Often because these costs are widely dispersed between departments, falling into a "grey zone" between Finance, Operations and IT.

Many large enterprises have trouble answering such fundamental questions as: How many document output devices do we have? Are they being used at or near capacity? How often are they out of service? How much does each one cost to operate? What is our Total Cost of Ownership of each device? What is the cost-per-copy for each device? Is it more cost effective to purchase a new device, or reallocate an existing one?

Figure 1 shows some industry norms for document output. As these figures reveal, most enterprises already have enough devices, but are not using them at anything close to their rated duty cycle.

In the right-hand column, you can fill in your own company's figures. Not sure about these? You're in good company: most businesses can't answer these questions either. And that's the document dilemma.

Industry Averages	Your Company
Purchase price of network printer, amortized over 3 years: \$800/year	
Purchase price of a network copier, amortized over 5 years: \$XXX/year	
Annual supplies per device: 4 OEM toner cartridges @ \$175 = \$700.	
Annual paper use per device: \$200.	
Annual maintenance per device: \$425.	
Total Cost of Ownership per device per year: \$2,125	
Recommended ratio: 10 staff per printer Typical ratio: 4.4 staff per printer	
Typical use: 10-20% of rated duty cycle (vastly under-used)	

Sources: Gartner, HP, Multi-Laser

Figure 1: Industry Average vs. Your Company's Printing Statistics

Most enterprises already have enough devices, but are not using them at close to their rated duty cycle.

Many IT managers report one of the most common calls to the Help Desk is: "I can't print."

The IT Burden of Document Output Devices

Gaining control over document output devices is difficult for an IT group to achieve. Individual departments often buy their own devices and order their own supplies from numerous sources.

Yet IT still gets all the calls about issues with printers, copiers, fax machines, and multifunction peripherals. In fact, many IT managers report one of the most common calls to their Help Desk is: "I can't print." This is often surpassed only by those perennial favorites: "I forgot my password" and "The network is down."

As you well know, document output devices are a major burden that soak up resources from most IT departments. Despite this, IT has never been given the tools, the training, or the mandate to deal with them effectively.

What if someone created an automated system that could give your team a "dashboard" showing every device in your fleet?

What if this system could also monitor device operations and warn you about service problems before they occurred?

What if it could save your company a significant amount of money, by showing you the actual cost-per-copy on each device and offering you effective ways to manage these costs?

And what if it could also significantly lighten the IT burden traditionally caused by these devices?

In fact, an innovation that does all this is now available.

Introducing PrintFleet™ Optimizer

PrintFleet™ Optimizer is a unique system that can provide your enterprise with:

- A "dashboard" showing every device on your network
- A healthier fleet of output devices with fewer breakdowns
- Effective asset management to reduce your document output costs
- Significant savings every year through better preventive maintenance and reduced consumable costs
- No added burden on your IT staff.

PrintFleet™ Optimizer combines proven network technology with advanced document output management services to help you take control of this neglected area of your IT infrastructure.

PrintFleet™ Optimizer can help you take control of this neglected area of your IT infrastructure.

How PrintFleet™ Optimizer Works

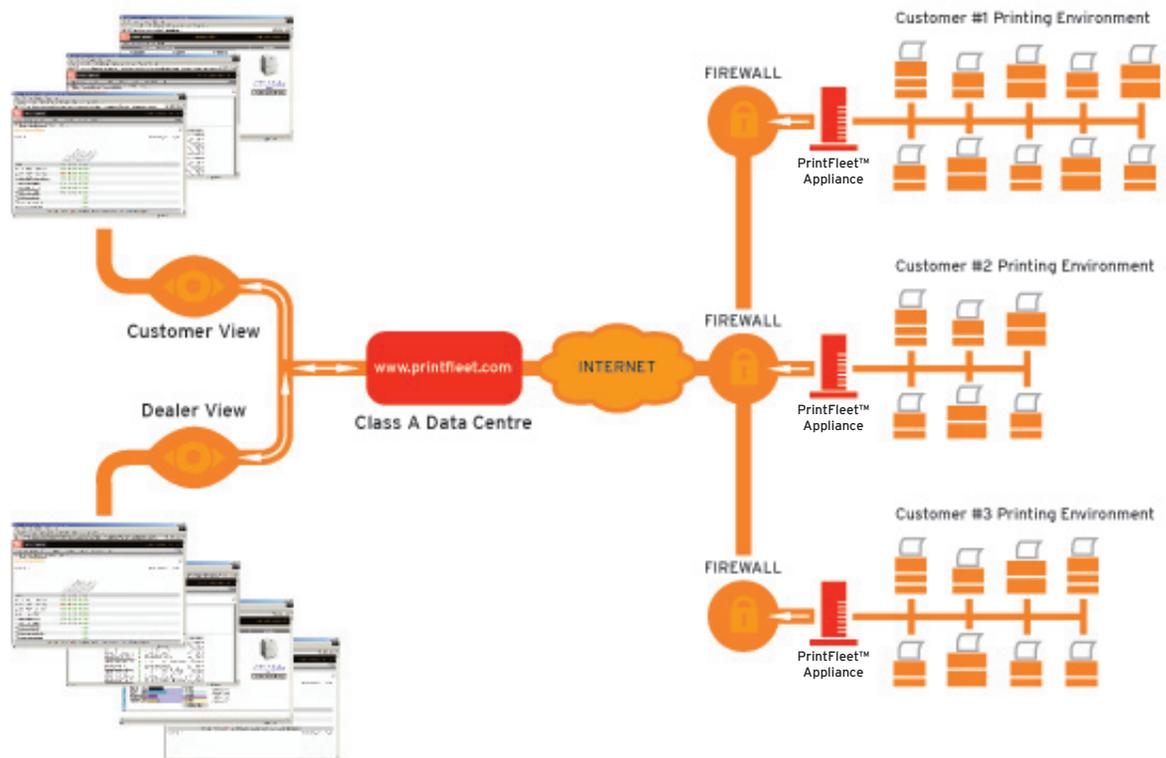
The purpose of PrintFleet™ Optimizer is to monitor the status of all networked document output devices, collect metrics in an automated fashion, and display the results on-demand through the Web.

As shown in Figure 2, PrintFleet™ Optimizer includes:

- A network appliance designed for unattended operation
- Software that monitors all networked output devices
- A secure, one-way communication link via the Internet
- Off-site data storage in a Class A Data Center
- A secure Web portal for 24/7 access to real-time reports.

The PrintFleet™ Appliance is installed as a node on the network with a unique internal IP address. The Appliance is a single-purpose device with a limited range of functions running under a locked-down version of Red Hat Linux. (For more details on the Appliance, see Appendix A.)

The network monitoring software running on the Appliance polls the network at user-defined intervals, typically every 30 to 60 minutes. The device statistics gathered from each poll are packetized and encrypted before being forwarded.



No special configuration of the network or firewall is needed.

The polling initiated by the PrintFleet™ Appliance does not add any significant traffic to a network. The typical SNMP request generates a 30-byte packet of data per device, generally once every 60 minutes. Even in a large network with 100 devices polled every 30 minutes, the resulting bandwidth would be negligible.

PrintFleet™ Optimizer employs OpenSSL, the most widely used secure socket layer implementation. This protocol provides encryption, authentication and data integrity over TCP/IP.

All packets are routed to the PrintFleet™ Optimizer server, running in a Class A Data Center. The Appliance establishes a connection to the PrintFleet™ Optimizer server using TCP/IP through the customer's choice of one of two standard network ports:

- Port 80 using http, the standard Web protocol
- Port 443 using https for encryption

No special configuration of the network or firewall is needed.

All device metrics are then integrated into an SQL database running in the Data Center. This Data Center is built to withstand both natural and man-made disasters, featuring redundant power, HVAC, network connections, and provisions for physical security, virus scanning, backups and so on.

Authorized users can access the password-protected Web portal www.printfleet.com with their credentials.

Authenticated users can generate dynamic reports from the database to see real-time metrics about any or every document output device on the network.

All parts of the PrintFleet™ Optimizer system have been carefully designed to be transparent, secure and reliable.

All parts of the PrintFleet Optimizer have been carefully designed to be transparent, secure and reliable.

*PrintFleet Appliance
detects up to 150
network devices and
compiles metrics
on each one.*

Designed for Transparency

The PrintFleet™ Appliance is designed to be a transparent node on your network that works unattended. The Appliance, data communications, and Web portal all operate 24/7 with no user intervention.

On first bootup, the PrintFleet™ Appliance automatically detects up to 150 networked document output devices. Then it begins to compile metrics on each device, automatically relaying the results to the secure server. After its initial installation, the Appliance should never need to be reset, rebooted or reconfigured.

The PrintFleet™ Appliance recovers routinely from unforeseen events such as loss of power or a network outage. If any device becomes unplugged from the network, PrintFleet™ Optimizer will report that unit is out of contact. If the same unit is later reconnected anywhere in the network, the system will recognize its serial number and resume compiling statistics for it.

If operations are ever interrupted for any reason, no device information is "lost." Once the Appliance is restored to service, its next poll will update the status, page counts, toner level, and all other statistics for every device on the network.

Built for Security

PrintFleet™ Optimizer supports the same industry-standard protocols used for online banking (128-bit encryption, RSA and SSL). What's more, the Linux operating system running on the Appliance is immune to the vast majority of malicious code targeting Windows.

In terms of network security, the Appliance has an internal IP address that cannot be pinged from outside the firewall. PrintFleet™ Optimizer uses your choice of two standard ports to access the Internet, so no special network configuration is required.

Engineered for Reliability

The Appliance is an industry-standard PC built around an Intel CPU and other name-brand components. In addition, the system uses proven network technology with more than five years of trouble-free operation in the field.

This software runs under a locked-down version of Red Hat Linux immune to the vast majority of malicious code targeted at Windows systems. Anyone familiar with Linux (or UNIX) knows that these systems routinely operate reliably for years without being rebooted.

*PrintFleet™ Optimizer
supports the same
industry-standard
protocols used for
online banking*

*Detailed reports
are available 24/7
updated with the most
recent statistics.*

Detailed Reports Available 24/7

PrintFleet™ Optimizer provides a detailed set of reports available through the Web portal www.printfleet.com.

All reports are available 24/7 updated with the most recent statistics, typically every 30 to 60 minutes. All reports are suitable for both IT and Finance personnel.

Here are the available reports:

- Toner Levels
- Cost-per-copy
- Page Coverage
- Device Errors
- Device Total Cost of Ownership
- Customer Total Cost of Ownership
- Device Usage vs. Duty Cycle (% Utilization)
- Introduction Date vs. Page Count
- Print Activity by Network Device
- Device Diagnostics Report

Additional customized reports are also available.

As shown in Figure 3, any report can be easily downloaded or emailed.



Figure 3: The Report Export Toolbar

Any report can be downloaded in comma-separated values (CSV) format suitable for importing into Excel for further manipulation.

Any report can also be exported in PDF format to preserve its graphical or tabular appearance.

Any report can be customized with a start and stop date, a range of devices to include, and other factors.

If required, the system administrator can set up user-defined events or thresholds to trigger an automated notification sent by email or pager to your designated IT staff.

Why not get the same results for 30 to 40% less?

Why Compatible Supplies Make Sense

PrintFleet™ Optimizer is supplied and monitored by a trained partner who can provide timely preventive maintenance and provisioning for all your document output devices. In effect, this enables you to “outsource” your device maintenance and provisioning.

Your VAR will ensure that all your output devices give top-quality results for all your users. With your document output devices better maintained, your IT team will get fewer calls related to issues with these devices.

What’s more, PrintFleet™ Optimizer opens the door to saving a significant amount of money by using compatible supplies. Over the past decade, most companies have accepted the use of compatible consumables for laser printers.

What was once a cottage industry is now a full-fledged manufacturing sector with its own publications, trade shows, and well-defined supply chains to link manufacturers through distributors and dealers to corporate buyers.

For example, Multi-Laser is an ISO 9001:2000-certified supplier that has been in business for more than 15 years in North America. During that time, the company has manufactured more than 2 million compatible toner cartridges and produced more than 12 billion page impressions with a documented quality rating of 99.2%.

This is essentially the same quality as an OEM supplier like HP or Lexmark. Now that compatibles match OEM supplies in quality, the only question is why not get the same results for 30 to 40% less?

If your company spends 1 to 3% of its annual revenues on in-house printing, and can save 40% by using compatible supplies, it can save between 0.4 and 1.2% of annual revenues every year.

That’s why using compatible supplies makes good business sense today.

Conclusions

PrintFleet™ Optimizer is a transparent, secure and reliable system that can help your enterprise get better document output results by “outsourcing” the maintenance and provisioning of document output devices.

With no extra effort on your part, PrintFleet™ Optimizer can immediately start saving your company a significant amount of money, up to 1.2% of total revenues every year.

And at the same time, it can relieve your IT staff of much of the traditional burden of supporting document output devices.

Why not get the same results for 30 to 40% less?

Appendix A: Specifications

PrintFleet™ Optimizer Highlights

- On initial boot-up, automatically detects up to 150 network devices
- Transparently monitors all devices
- Updates reports at user-defined interval (recommended 1 poll ~30 to 60 minutes)
- Transmits device status to secure server in Class A Data Center
- Provides real-time reports through www.printfleet.com

PrintFleet™ Appliance Highlights

- Plug-and-play install
- Designed for unattended operation
- Simple reconfiguration menu accessible only to network administrator (if needed)
- Auto-recovery after power interruption
- Designed for zero maintenance

PrintFleet™ Appliance

- Intel Celeron CPU at 2.4GHz
- 128MB PC266 DDR memory
- Maxtor 40GB 7200RPM hard drive
- 10/100 Ethernet support
- No monitor, keyboard or mouse
- Red Hat Linux Release 9.0 (locked-down)
- Power, heat, cooling and space requirements: same as any PC

Typical Appliance Network Settings

Hostname: localhost.localdomain
IP address: 192.168.1.50
Netmask: 255.255.255.0
Gateway: 192.168.1.1
DNS1: 192.168.1.2
DNS2: 24.226.1.90

Secure Communications

- Uses industry-standard communications protocols (as secure as online banking)
- Supports HTTPS, OpenSSL, RSA and MD5
- Linux server immune to vast majority of malicious code targeting Windows OS

Supported Devices

- Any network-ready, SNMP MIB-compliant printer, copier, fax machine, or multifunction peripheral from any vendor, including but not limited to:
 - Brother
 - Canon
 - Epson
 - Hewlett-Packard
 - IBM
 - Konica-Minolta
 - Kyocera
 - Lexmark
 - Panasonic
 - Ricoh
 - Samsung
 - Sharp
 - TallyGenicom
 - Xerox
 - Zebra