

The True Cost of Operating HP Laser Printers

(Including Detailed Operating Cost Analysis of HP's Ten Most Popular Laser Printers)

An Arista Business Imaging Solutions White Paper
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Introduction

In the past ten years, laser printers have moved from being low volume workgroup printing tools to producing the bulk of print output for most companies, except high volume publishing and copying. During the same period, the cost to purchase networked printers has continued to decline and reliability has continued to increase. As a result, many Office Managers and IT Professionals fail to calculate the Total Cost of Ownership (TCO) when comparing different manufacturer's printer models prior to buying a printer nor do they track the Printer Operating Cost (POC) of running these printers after the purchase of a printer. They simply fail to recognize that the cost of operating networked printers continues to eat away at their office operating budgets.

Many studies and reports on the Total Cost of Ownership (TCO) of Printers have been produced from printer manufacturers such as IBM, Tally, Kyocera, Xerox and HP, as well as information research firms such as IDC and testing labs such as Charisco and Quality Logic. Rather than simply repeat previous work, this White Paper discusses and provides detailed analysis on the one area that is still within the control of each business, Printer Operating Costs (POC), after the purchase of a printer. This report reveals that by focusing on the three largest operating costs: toner cartridges, maintenance kits and printer service, IT Managers and Purchasing Managers can still reduce printer operating costs as much as 40% without sacrificing print quality and printer uptime.

According to Print Auditor (www.print-auditor.com) *"The true cost of network printing has always been extremely difficult, if not impossible, to determine. That has now changed. Up to 15% of a company's budget can be spent on IT and document production. **If you could clearly identify 20%, 30% or even higher annual savings on the cost of network printing would you make changes? Of course you would. But first you have to identify where the time and money is being lost. ...**"*

The detailed analysis in this white paper covering HP's 10 most popular laser printers for business clearly shows the reader where the time and money is being lost and how to save from 32% to 40% per year on their printer operating costs.



Definitions

Total Cost of Ownership (TCO). Generally stated by printer manufacturers, Total Cost of Ownership (TCO) is defined as the calculation of the entire costs surrounding the ownership and operation of the printed document on a device such as a printer over its life. TCO should take into account factors that relate as much to time and overheads as to the cost of purchasing the printer and the cost of consumables throughout its use. TCO is specifically vulnerable to the vagaries of reliability and durability of the printer - how much time is lost/wasted/used when the device is out of action for any reason. Here is a list of the main factors that should be taken into account when considering TCO.

Purchase price of printer. While the printer purchase price is just one of the cost categories associated with TCO, it is nevertheless important to consider when evaluating a printer. In a large organization it is also important to consider the mix of devices, color, monochrome, personal or networked as well as the life of these products and future use. The cheapest product does not always offer the best price/performance ratio and may not be suitable for future applications.

- 1. Work Management.** Network Management and administration are among the indirect costs associated with TCO and are virtually impossible to calculate. Fortunately for users most network printers come complete with network management, offering simple configuration and notification of status such as; paper-out, toner-out, etc.
- 2. Maintenance/Warranty/Support.** In addition to any maintenance contract price required throughout the life of the product, the general reliability of the product must be taken into account. In a large organization printer related help desk calls will incur some cost. With regards to warranty, "more is better" as it offsets future maintenance contracts thus having a direct effect on lowering TCO.
- 3. Wear items.** Other significant costs to be considered are items such as Maintenance Kits, Transfer Belts, Drum Units, and Developer Units that are replaced at different page intervals. Often these costs are overlooked when calculating TCO and are not generally covered by a maintenance contract.
- 4. Ratio of printers to users.** The more printers an organization has the greater its costs for supplies, maintenance, support, management and space. Although some smaller lower cost desktop color printers are available, they do not offer the cost savings of a true network device, which on average would be shared by four to five people.
- 5. Consumables.** Generally described as toner or toner cartridges, these supply expenditures can total to more than four to five times the actual acquisition cost of the printer over the life of the printer. Moreover, supplies expenditures are on the increase due to increased graphics use, mainly due to presentation handouts and web page printing. The percent of page coverage will directly affect the supplies use and simple changes such as the font in a document can have an enormous effect on the percentage of page coverage.



“Total Cost of Ownership” Conclusion. The cost of printing is likely to be far more than the user estimates or realizes. Though the cost of a new printer may seem significant, this cost pales in comparison to the continued cost of operation for maintenance, wear items, and the most significant cost, the toner. Controlling these operating costs will have the most significant effect on reducing TCO.

Printer Operating Cost (POC) is defined as the sum of the annual cost of operating a printer. As previously stated, whenever possible, having some degree of control over these costs will have a significant effect in lowering the overall printer operating cost. Again, these costs are the consumables (toner cartridges), service agreements (labor and parts), the cost of replacing worn parts (maintenance kits), plus a Preventative Maintenance per the recommended schedule. To make meaningful comparisons, we must first agree upon a set of standard measurements for each of these. So we have used HP’s published rates and service/replacement recommendations.

1. **Toner consumption** is measured in pages printed per cartridges assuming 5% print coverage per page. Each printer toner cartridge is rated on this basis, such as HP LaserJet 4000 printer cartridge with an expected page yield of 10,000 pages. If your printing applications have greater than 5% coverage, then the toner in your cartridges will be consumed faster.
2. **Printer Service** is measured as the annual cost for providing onsite printer service and includes labor, travel, and replacement of broken parts except for maintenance kits.
3. **Maintenance Kits** are expected to be replaced at certain page intervals in order to maintain high print quality. This number differs by printer model based on the wear characteristics of that printer’s print mechanism and its paper handling and has been established by the manufacturer for optimum printer performance. As an example, HP recommends that you install a maintenance kit every 200,000 pages for their LaserJet 4000.
4. **Preventative Maintenance.** A yearly preventative maintenance will insure improved reliability of printer performance. Though HP does not include this service in their extended warranty agreement, most agree this is a wise investment that will maximize uptime.
5. **Amortized Operating Cost per Cartridge.**¹ This is simply a definition of convenience as a consistent and easy way of analyzing and comparing printer operating costs on a per toner cartridge basis. This is consistent from printer to printer and is easy to understand. It further serves to uncover The True Operating Cost of a printer and makes comparison between printers much easier than other comparisons we have studied.

¹ Based on our own market research at Arista, we found that IT professionals, Office Managers and Purchasing Managers don’t have a good feel for how many pages each of their printers actually print per month, but they do have a good feel about the number of cartridges consumed. So we have chosen to amortize the costs of maintenance kits, annual service and preventative maintenance on a per cartridge basis. This is consistent from printer to printer and is easy to understand. It further serves to uncover The True Operating Cost of a printer and makes comparison between printers easier than other methods.



Let's look at an example of operating expenses for an HP LaserJet 4000 printer during the consumption of a toner cartridge:

- a) **Cost of the toner cartridge.** The toner cartridge is expected to yield 10,000 pages.
- b) **Amortized cost of a Maintenance Kit.** A maintenance kit is expected to be replaced every 200,000 pages. Therefore 20 toner cartridges will be consumed during the life cycle of a maintenance kit. We then simply divide the cost of the maintenance kit by 20 to determine the amortized cost of a maintenance kit per cartridge consumed.
- c) **Amortized cost of an Annual Service Contract.** HP's published quote for an annual service contract for the HP 4000 (includes parts and labor but not maintenance kits) is \$289. We would then divide the number of cartridges (6) consumed per year into the yearly cost to derive the amortized cost of \$48.17 per cartridge consumed.
- d) **Amortized cost of an Annual Preventative Maintenance.** Based upon the cost of \$75 for an annual preventative maintenance, we would then divide the number of cartridges (6) consumed per year into the yearly cost to derive the amortized cost of \$12.50 per cartridge consumed.



Conclusions

The following pages provide the detailed Printer Operating Costs on an annualized basis and on an amortized per cartridge consumed basis for HP's 10 most popular laser printers. The analysis further shows the average savings customers will experience under the Arista PrinterShield Program versus buying cartridges from HP Online or Office Depot and contracting for Onsite Printer Service separately.

The PrinterShield program saves from a minimum of 31% to as much as 40% of printer operating cost, depending on printer model, when following HP printing standards and recommended usage and service rates. For further information about PrinterShield contact Arista Customer Service Department at 800-888-1718 or go online to www.printershield.com.

POC Analysis for the HP5si/8000

PrinterShield savings per cartridge-**\$82.75**

PrinterShield savings per printer, per year- **\$827.50**

PrinterShield delivers a **32% savings** for the HP5si/8000 with a typical annual usage of 10 cartridges. Your savings will differ depending upon your HP 5si/8000 annual cartridge consumption.

For a detailed analysis, please refer to the HP5si/8000 charts and graphs on page 9 of this report.

POC Analysis for the HP2100

PrinterShield savings per cartridge-**\$47.22**

PrinterShield savings per printer, per year- **\$283.32**

PrinterShield delivers a **32% savings** for the HP2100 with a typical annual usage of 6 cartridges. Your savings may differ depending upon your HP2100 annual cartridge consumption.

For a detailed analysis, please refer to the HP2100 charts and graphs on page 10 of this report.

POC Analysis for the HP2200

PrinterShield savings per cartridge-**\$47.22**

PrinterShield savings per printer, per year- **\$283.32**

PrinterShield delivers a **32% savings** for the HP2200 with a typical annual usage of 6 cartridges. Your savings may differ depending upon your HP2200 annual cartridge consumption.

For a detailed analysis, please refer to the HP2200 charts and graphs on page 11 of this report.



POC Analysis for the HP4000/4050

PrinterShield savings per cartridge-**\$68.98**

PrinterShield savings per printer, per year- **\$413.88**

PrinterShield delivers a **35% savings** for the HP4000/4050 with a typical annual usage of 6 cartridges. Your savings may differ depending upon your HP4000/4050 annual cartridge consumption.

For a detailed analysis, please refer to the HP4000/4050 charts and graphs on page 12 of this report.

POC Analysis for the HP4100

PrinterShield savings per cartridge-**\$73.63**

PrinterShield savings per printer, per year- **\$441.78**

PrinterShield delivers a **36% savings** for the HP4100 with a typical annual usage of 6 cartridges. Your savings may differ depending upon your HP4100 annual cartridge consumption.

For a detailed analysis, please refer to the HP4100 charts and graphs on page 13 of this report.

POC Analysis for the HP4200

PrinterShield savings per cartridge-**\$79.05**

PrinterShield savings per printer, per year- **\$474.30**

PrinterShield delivers a **34% savings** for the HP4200 with a typical annual usage of 6 cartridges. Your savings may differ depending upon your HP 4200 annual cartridge consumption.

For a detailed analysis, please refer to the HP4200 charts and graphs on page 14 of this report.

POC Analysis for the HP4300

PrinterShield savings per cartridge-**\$118.87**

PrinterShield savings per printer, per year- **\$713.22**

PrinterShield delivers a **37% savings** for the HP4300 with a typical annual usage of 6 cartridges. Your savings may differ depending upon your HP 4300 annual cartridge consumption.

For a detailed analysis, please refer to the HP4300 charts and graphs on page 15 of this report.



POC Analysis for the HP5000/5100

PrinterShield savings per cartridge-**\$99.00**

PrinterShield savings per printer, per year- **\$594.00**

PrinterShield delivers a **37% savings** for the HP5000/5100 with a typical annual usage of 6 cartridges. Your savings may differ depending upon your HP5000/5100 annual cartridge consumption.

For a detailed analysis, please refer to the HP5000/5100 charts and graphs on page 16 of this report.

POC Analysis for the HP8100/8150

PrinterShield savings per cartridge-**\$88.26**

PrinterShield savings per printer, per year- **\$882.60**

PrinterShield delivers a **31% savings** for the HP8100/8150 with a typical annual usage of 10 cartridges. Your savings may differ depending upon your HP8100/8150 annual cartridge consumption.

For a detailed analysis, please refer to the HP8100/8150 charts and graphs on page 17 of this report.

POC Analysis for the HP9000

PrinterShield savings per cartridge-**\$183.45**

PrinterShield savings per printer, per year- **\$1834.50**

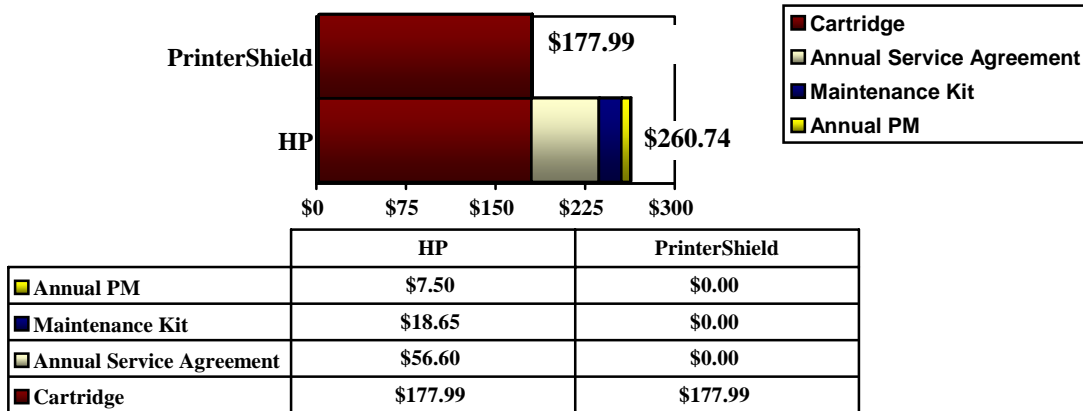
PrinterShield delivers a **40% savings** for the HP9000 with a typical annual usage of 10 cartridges. Your savings may differ depending upon your HP9000 annual cartridge consumption.

For a detailed analysis, please refer to the HP9000 charts and graphs on page 18 of this report.



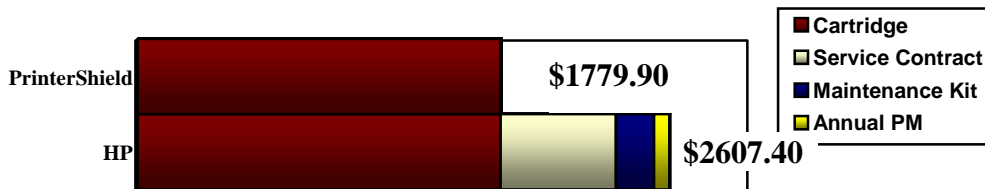
HP LaserJet 5si/8000 Printer Operating Cost

Amortized Total Cost Per Cartridge



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming ten cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and Maintenance Kits are amortized per cartridge.

Annualized Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming ten cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

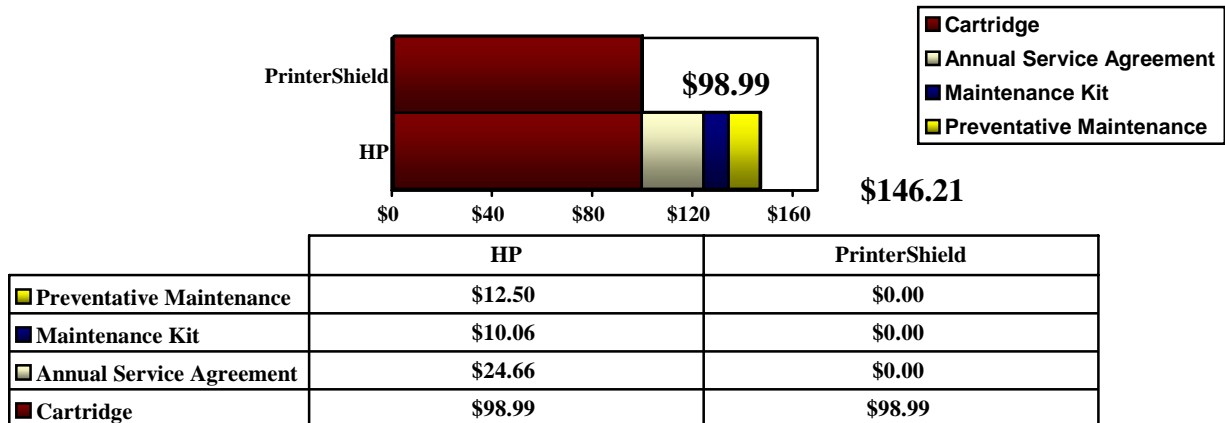
Amortized Costs of Maintenance Kit and Annual Service Contract

Item	HP Spec	Amortized Cost
Page Yield of Maintenance Kit	350,000	
Page Yield of Cartridge	17,500	
Cartridges consumed per kit	20	
Cost of Maintenance Kit	\$373	
Amortized Cost of Maintenance Kit		\$18.65 per cartridge
Annual Cost of HP 4 Hour response service contract, (does not include maintenance kit or yearly preventative maintenance)	\$566	
Average cartridges consumed yearly	10	
Amortized Cost of Service Contract		\$56.60 per cartridge
Annual Preventative Maintenance	\$75	\$7.50 per cartridge



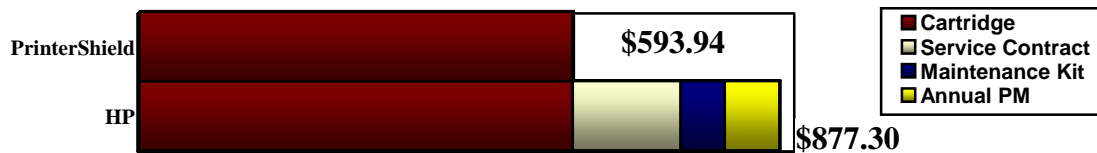
HP LaserJet 2100 Printer Operating Cost

Amortized Total Cost Per Cartridge



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and Maintenance Kits are amortized per cartridge.

Annualized Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

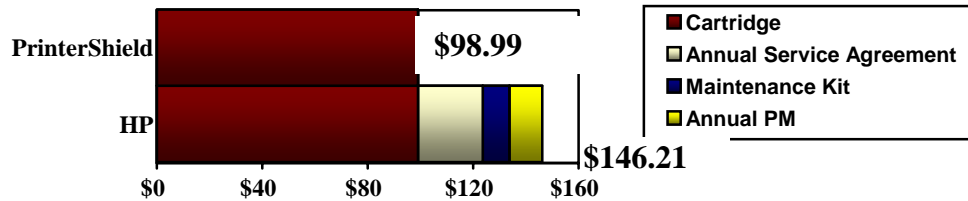
Amortized Costs of Maintenance Kit and Annual Service Contract

Item	HP Spec	Amortized Cost
Page Yield of Maintenance Kit	150,000	
Page Yield of Cartridge	5,000	
Cartridges consumed per kit	30	
Cost of Maintenance Kit	\$302	
Amortized Cost of Maintenance Kit		\$10.06 per cartridge
Annual Cost of HP Next Day onsite service contract, (does not include maintenance kit or yearly preventative maintenance)	\$148	
Average cartridges consumed yearly	6	
Amortized Cost of Service Contract		\$24.66 per cartridge
Annual Preventative Maintenance	\$75	\$12.50 per cartridge



HP Laser Jet 2200 Printer Operating Cost

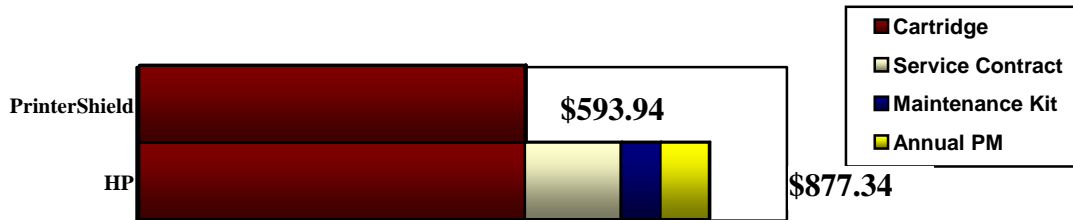
Amortized Total Cost Per Cartridge



	HP	PrinterShield
■ Annual PM	\$12.50	\$0.00
■ Maintenance Kit	\$10.06	\$0.00
■ Annual Service Agreement	\$24.66	\$0.00
■ Cartridge	\$98.99	\$98.99

Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and maintenance kits are amortized per cartridge.

Annualized Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

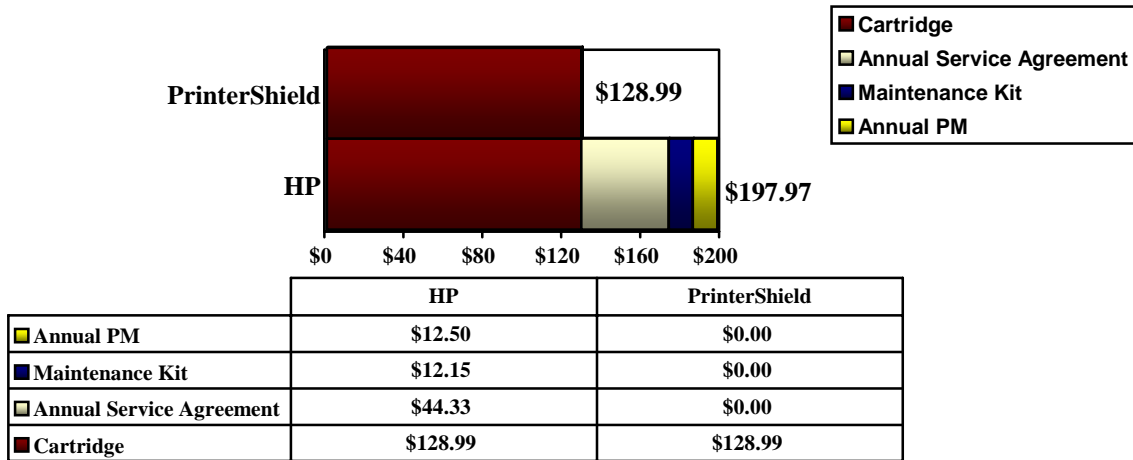
Amortized Costs of Maintenance Kit and Annual Service Contract

Item	HP Spec	Amortized Cost
Page Yield of Maintenance Kit	150,000	
Page Yield of Cartridge	5,000	
Cartridges consumed per kit	30	
Cost of Maintenance Kit	\$302	
Amortized Cost of Maintenance Kit		\$10.06 per cartridge
Annual Cost of HP Next Day onsite service contract, (does not include maintenance kit or yearly preventative maintenance)	\$148	
Average cartridges consumed yearly	6	
Amortized Cost of Service Contract		\$24.66 per cartridge
Annual Preventative Maintenance	\$75	\$12.50 per cartridge



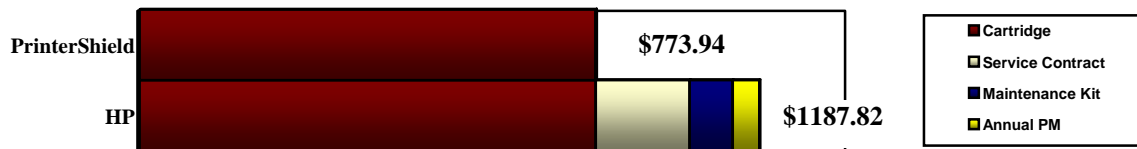
HP Laser Jet 4000/4050 Printer Operating Cost

Amortized Total Cost Per Cartridge



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and Maintenance Kits are amortized per cartridge.

Annualized Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

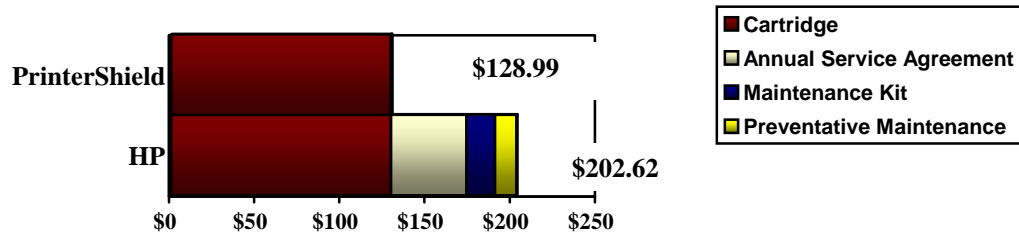
Amortized Costs of Maintenance Kit and Annual Service Contract

Item	HP Spec	Amortized Cost
Page Yield of Maintenance Kit	200,000	
Page Yield of Cartridge	10,000	
Cartridges consumed per kit	20	
Cost of Maintenance Kit	\$243	
Amortized Cost of Maintenance Kit		\$12.15 per cartridge
Annual Cost of HP 4 Hour response service contract, (does not include maintenance kit or yearly preventative maintenance)	\$266	
Average cartridges consumed yearly	6	
Amortized Cost of Service Contract		\$44.33 per cartridge
Annual Preventative Maintenance	\$75	\$12.50 per cartridge



HP Laser Jet 4100 Printer Operating Cost

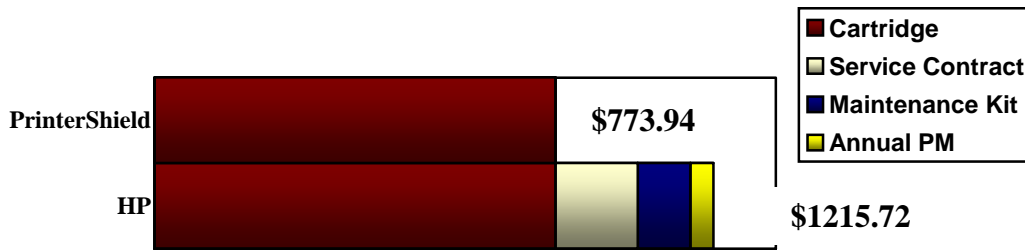
Amortized Total Cost Per Cartridge



	HP	PrinterShield
Preventative Maintenance	\$12.50	\$0.00
Maintenance Kit	\$16.80	\$0.00
Annual Service Agreement	\$44.33	\$0.00
Cartridge	\$128.99	\$128.99

Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and Maintenance Kits are amortized per cartridge.

Annualized Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

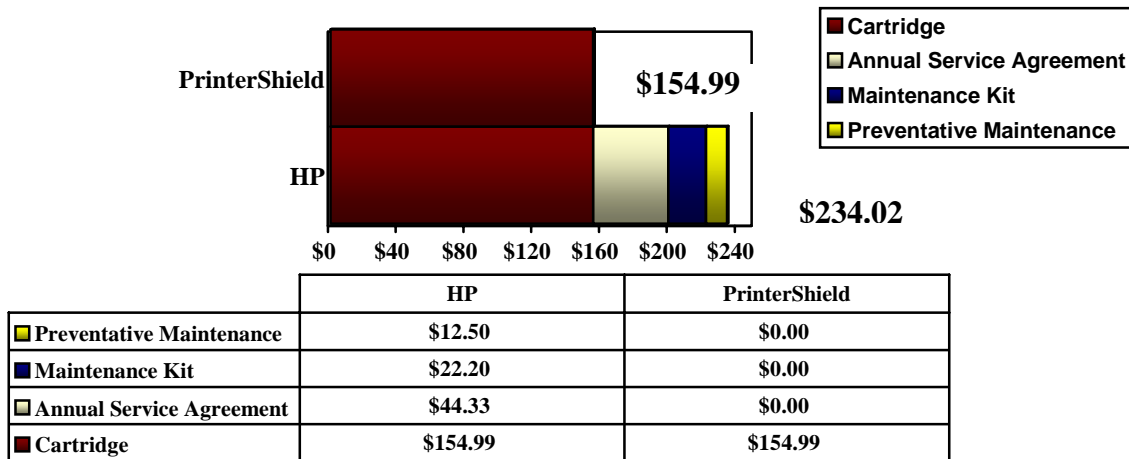
Amortized Costs of Maintenance Kit and Annual Service Contract

Item	HP Spec	Amortized Cost
Page Yield of Maintenance Kit	200,000	
Page Yield of Cartridge	10,000	
Cartridges consumed per kit	20	
Cost of Maintenance Kit	\$336	
Amortized Cost of Maintenance Kit		\$16.80 per cartridge
Annual Cost of HP 4 Hour response service contract, (does not include maintenance kit or yearly preventative maintenance)	\$266	
Average cartridges consumed yearly	6	
Amortized Cost of Service Contract		\$44.33 per cartridge
Annual Preventative Maintenance	\$75	\$12.50 per cartridge



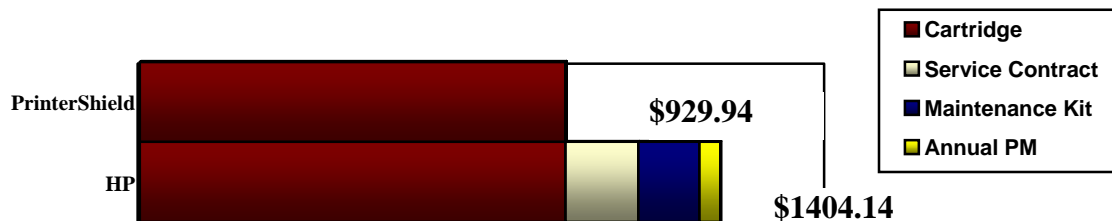
HP Laser Jet 4200 Printer Operating Cost

Amortized Total Cost Per Cartridge



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and Maintenance Kits are amortized per cartridge.

Annualized Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

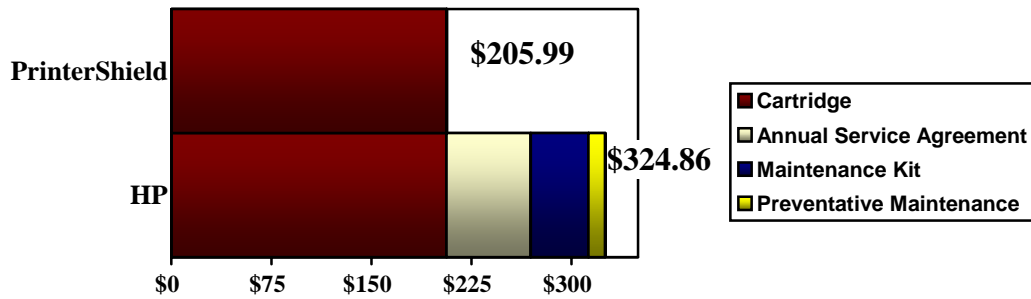
Amortized Costs of Maintenance Kit and Annual Service Contract

Item	HP Spec	Amortized Cost
Page Yield of Maintenance Kit	200,000	
Page Yield of Cartridge	12,000	
Cartridges consumed per kit	16.7	
Cost of Maintenance Kit	\$370	
Amortized Cost of Maintenance Kit		\$22.20 per cartridge
Annual Cost of HP 4 Hour response service contract, (does not include maintenance kit or yearly preventative maintenance)	\$266	
Average cartridges consumed yearly	6	
Amortized Cost of Service Contract		\$44.33 per cartridge
Annual Preventative Maintenance	\$75	\$12.50 per cartridge



HP Laser Jet 4300 Printer Operating Cost

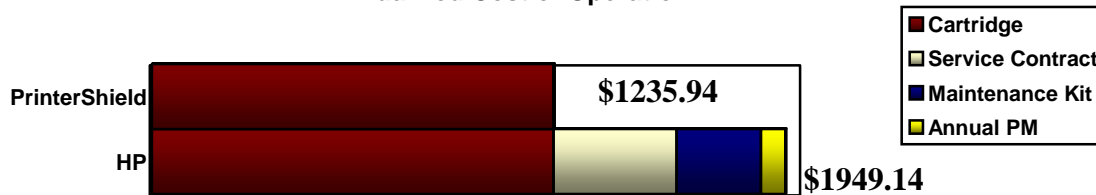
Amortized Total Cost Per Cartridge



	HP	PrinterShield
Preventative Maintenance	\$12.50	\$0.00
Maintenance Kit	\$43.20	\$0.00
Annual Service Agreement	\$63.17	\$0.00
Cartridge	\$205.99	\$205.99

Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and Maintenance Kits are amortized per cartridge.

Annualized Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

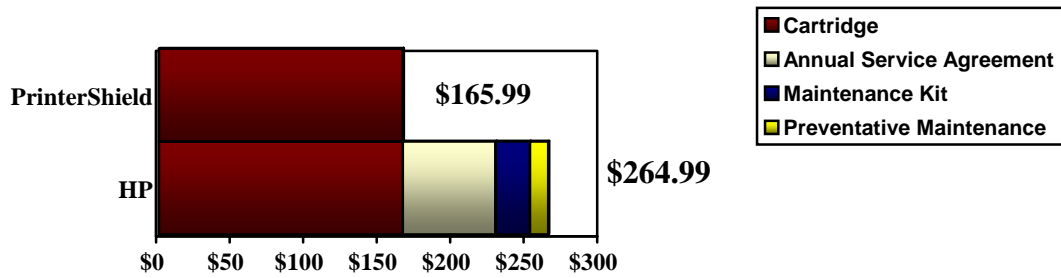
Amortized Costs of Maintenance Kit and Annual Service Contract

Item	HP Spec	Amortized Cost
Page Yield of Maintenance Kit	200,000	
Page Yield of Cartridge	18,000	
Cartridges consumed per kit	11.1	
Cost of Maintenance Kit	\$480	
Amortized Cost of Maintenance Kit		\$43.20 per cartridge
Annual Cost of HP 4 Hour response service contract, (does not include maintenance kit or yearly preventative maintenance)	\$379	
Average cartridges consumed yearly	6	
Amortized Cost of Service Contract		\$63.17 per cartridge
Annual Preventative Maintenance	\$75	\$12.50 per cartridge



HP Laser Jet 5000/5100 Printer Operating Cost

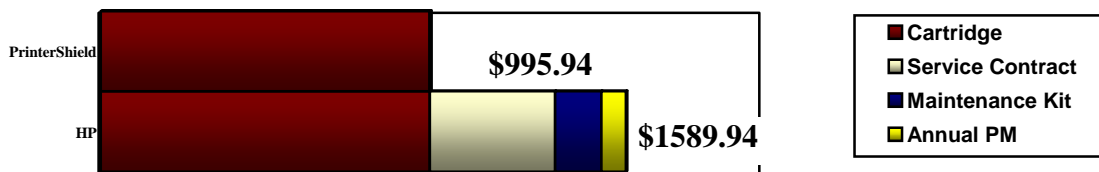
Amortized Total Cost Per Cartridge



	HP	PrinterShield
Preventative Maintenance	\$12.50	\$0.00
Maintenance Kit	\$23.33	\$0.00
Annual Service Agreement	\$63.17	\$0.00
Cartridge	\$165.99	\$165.99

Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and Maintenance Kits are amortized per cartridge.

Annualized Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming six cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

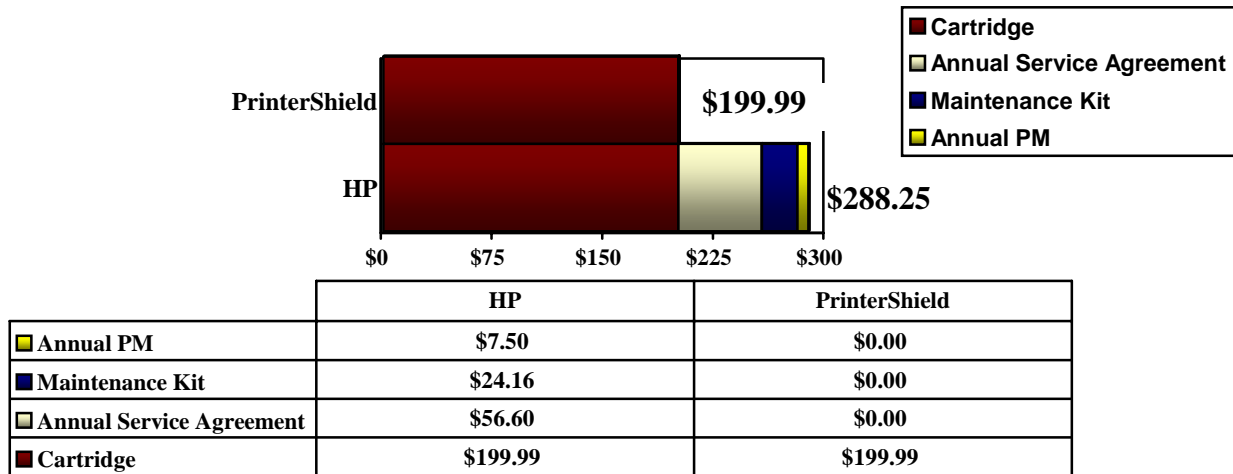
Amortized Costs of Maintenance Kit and Annual Service Contract

Item	HP Spec	Amortized Cost
Page Yield of Maintenance Kit	150,000	
Page Yield of Cartridge	10,000	
Cartridges consumed per kit	15	
Cost of Maintenance Kit	\$350	
Amortized Cost of Maintenance Kit		\$23.33 per cartridge
Annual Cost of HP 4 Hour response service contract, (does not include maintenance kit or yearly preventative maintenance)	\$379	
Average cartridges consumed yearly	6	
Amortized Cost of Service Contract		\$63.17 per cartridge
Annual Preventative Maintenance	\$75	\$12.50 per cartridge



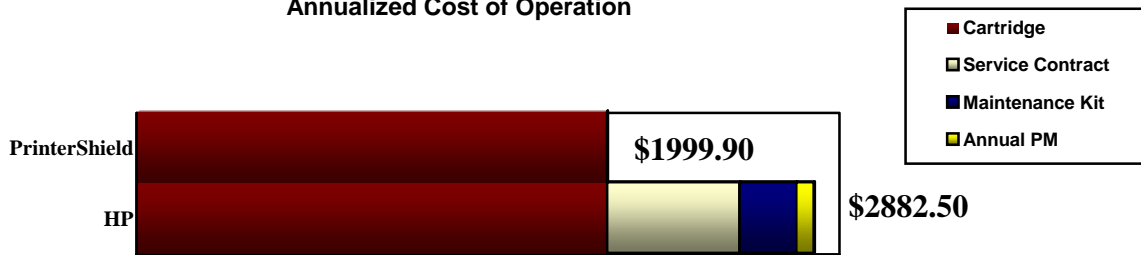
HP Laser Jet 8100/8150 Printer Operating Cost

Amortized Total Cost Per Cartridge



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming ten cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and Maintenance Kits are amortized per cartridge.

Annualized Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming ten cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

Amortized Costs of Maintenance Kit and Annual Service Contract

Item	HP Spec	Amortized Cost
Page Yield of Maintenance Kit	350,000	
Page Yield of Cartridge	20,000	
Cartridges consumed per kit	17.5	
Cost of Maintenance Kit	\$423	
Amortized Cost of Maintenance Kit		\$24.16 per cartridge
Annual Cost of HP 4 Hour response service contract, (does not include maintenance kit or yearly preventative maintenance)	\$566	
Average cartridges consumed yearly	10	
Amortized Cost of Service Contract		\$56.60 per cartridge
Annual Preventative Maintenance	\$75	\$7.50 per cartridge



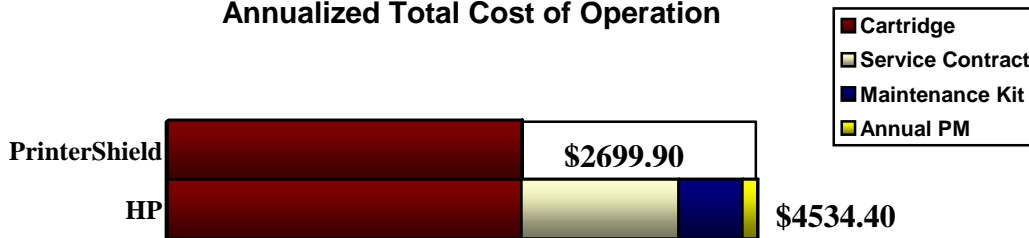
HP Laser Jet 9000 Printer Operating Cost

Amortized Total Cost Per Cartridge



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming ten cartridges per year. Hewlett Packard toner cost based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004. *Annual Service Agreement and Maintenance Kits are amortized per cartridge.

Annualized Total Cost of Operation



Calculations based on Hewlett Packard's rated page yield at 5% coverage and consuming ten cartridges per year. Toner cartridge price based on published web pricing from Hewlett Packard and Office Depot as of January 1, 2004.

Amortized Costs of Maintenance Kit and Annual Service Contract

<i>Item</i>	<i>HP Spec</i>	<i>Amortized Cost</i>
Page Yield of Maintenance Kit	350,000	
Page Yield of Cartridge	30,000	
Cartridges consumed per kit	11.7	
Cost of Maintenance Kit	\$568	
Amortized Cost of Maintenance Kit		\$48.55 per cartridge
Annual Cost of HP 4 Hour response service contract, (does not include maintenance kit or yearly preventative maintenance)	\$1199	
Average cartridges consumed yearly	10	
Amortized Cost of Service Contract		\$119.90 per cartridge
Annual Preventative Maintenance	\$150	\$15.00 per cartridge



About Arista

At Arista, the ability to understand a client's imaging needs and provide them with innovative solutions that work successfully in their business have been the hallmark of our success since 1989. Combine our reputation for service, precision and reliability and you have a proven track record that leads to one conclusion - competency.

As our clients know, we are more than just a provider of printer supplies and service. We partner with clients to develop customized solutions to their imaging needs and keep them apprised of the latest innovations in the rapidly evolving world of office technology. If you're looking for an office technology company that truly puts its customers first...Arista does!

When we founded Arista, Inc. in 1989, we offered an unsurpassed level of personalized service to a small group of customers. Today, with offices in California and New York, we are recognized as one of the largest imaging solutions companies in the United States, and our basic philosophy still holds true. We understand that when you have a problem with your office equipment, business is in jeopardy. You need help quickly, not a recorded message.

When you call Arista, Inc. you get an immediate response from our friendly customer service representatives. In fact, we'll even deliver supplies to you by the same day courier if necessary. If we don't have what you need in stock, we'll locate one - at a competitive price. We drive our business by the motto "whatever it takes".

By always using state of the art parts and updated technology, we offer unconditional guarantees. Every one of our products and services comes with our personal guarantees for your satisfaction. You won't find any fine print or loopholes in our warranty – if you're not happy with any of our products, for whatever reason, we will gladly refund your money with no questions asked.

Arista, Inc. will continue to strive to be the best in providing our clients with high quality compatible toner cartridges, supplies and quick service for office equipment, together with superior customer services. Our focus, as a team, is on truly aiding our clients with timely and accurate services by exceeding your expectations. We are also dedicated to maintaining a fun filled and exciting work environment while treating each other and our clients with integrity and respect.

