21st Century Printer Business

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Abstract

As we enter a new century, not just the economy alone, but also society at large is starting to form a foundation for information technology that is centered on the Internet. The quality of information is becoming more varied and the amount of information is increasing geometrically. Also, it is presumed that all information passed along some kind of network. Consequently, a more advanced human interface is of paramount importance. Printers will further strengthen their role of providing information in the form of documents that are either attractive and easy to read or easy to look at.

In preparation for the 21st century, Oki Data changed its business model from one in which the printer business was a stand-alone business, to one in which it becomes a solution business that also includes system software and applications. Through our vision of "providing printing solutions," we will aim to further increase our customer value and our corporate value.

Printer Market Environment

It was said that the spread of the Internet and e-mail would do away with paper, but the certainty, reliability and convenience of paper as a medium continues to expand the printer market (Figure 1). Furthermore, as cameras, video equipment, copiers, and TVs become digital, printer applications as an image output for such devices are expanding. On the other hand, ink jet printers spurred the color sector of the market, which is also expanding more rapidly than expected.

Looking at the printer formats, we see that impact printers have entered a period of decline while ink jet printers and monochrome page printers have entered a period of stability. Color page printers are continuing to grow rapidly at an annual rate of more than 30%. New printer markets such as multi-functional machines, light printing, and Web printing that have color page printers as their core are expected to expand.
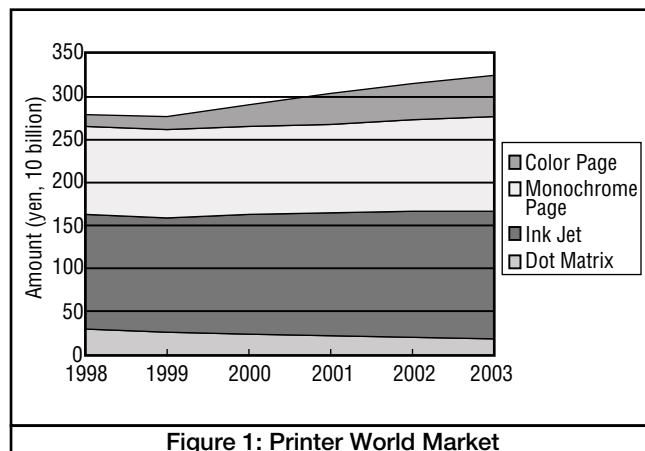
Figure 1: Printer World Market

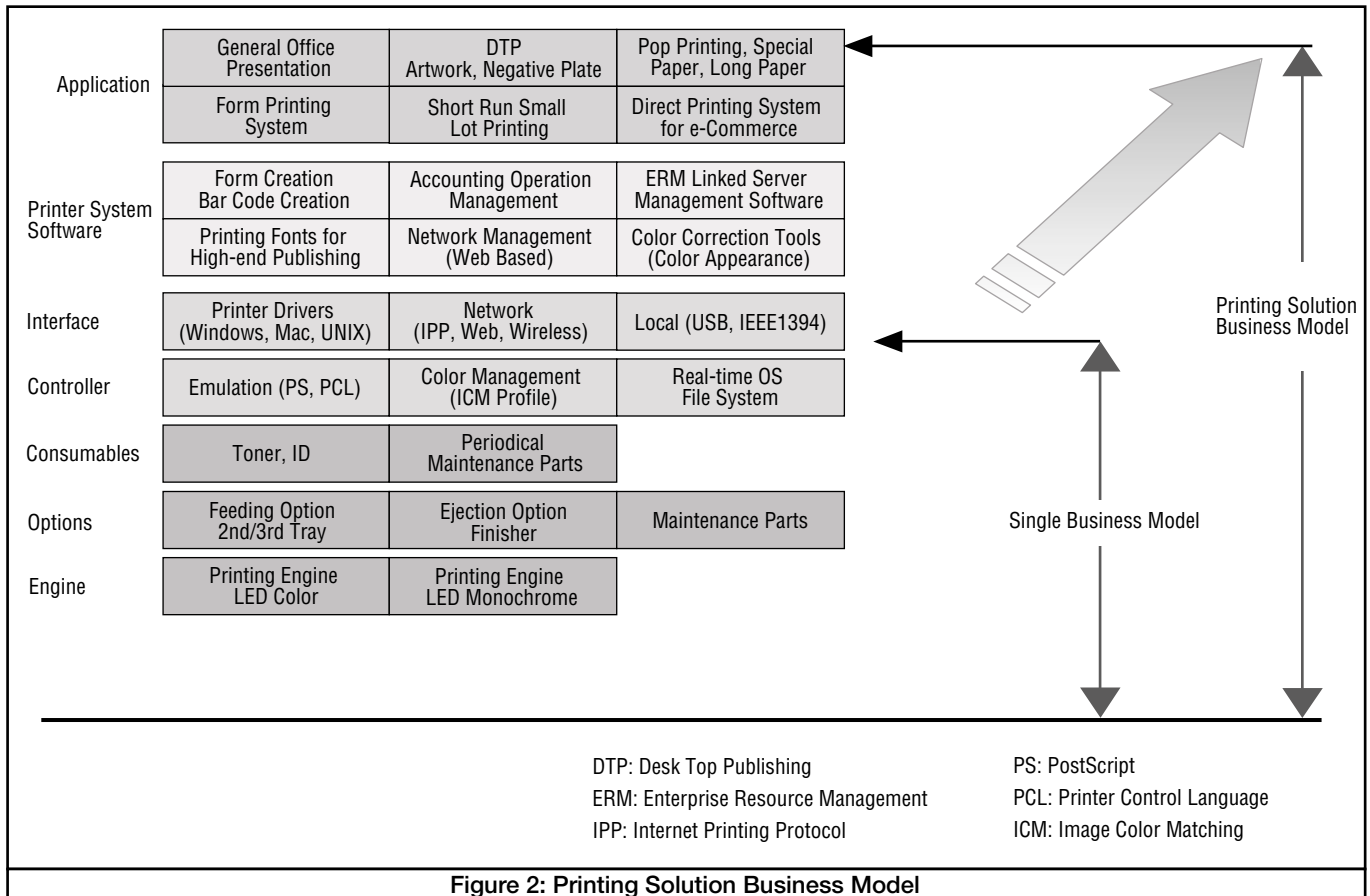* President, Oki Data Corp.

Oki Data Business Strategy

Up until now, the three pillars of Oki Data's business were impact printers, page printers, and facsimiles. Oki Data secured the position of top supplier in the impact printer field due to their strengths of high performance, durability (tank-tough), and high quality. There continues to be a strong market demand for impact printers, which can simultaneously copy documents. Oki Data will continue selling and maintaining these printers in over 120 countries worldwide. Digital LED (Light Emitting Diodes) heads made it possible for us to provide monochrome page printers that were compact, fast, and highly reliable. Digital LED color page printers had a greatly improved printing speed over previous models and are attracting attention as full-fledged business color printers. We had been marketing plain paper facsimiles based on LED printers, but we are now proceeding with a proposal that uses the Internet.

Oki Data will concentrate on color page printers, which will take full advantage of the characteristic high speed, compactness and high reliability of digital LED heads, and will respond to market requests.

Providing Printing Solutions

Color page printers that are used in a network environment must be able to make on-demand printing possible and be able to respond to demands from a wide range of customers. Therefore, we are enhancing the following aspects of our business and are trying to become an organization that can always propose valuable printing solutions from our customers' standpoint.
1. Global marketing,
2. Provide printer system software, applications, service that is suitable to our customers' usage environment,
3. Support TCO (Total Cost of Ownership) including maintenance, and management costs of printers for large volume printing.

Application	General Office Presentation	DTP Artwork, Negative Plate	Pop Printing, Special Paper, Long Paper
	Form Printing System	Short Run Small Lot Printing	Direct Printing System for e-Commerce
Printer System Software	Form Creation Bar Code Creation	Accounting Operation Management	ERM Linked Server Management Software
	Printing Fonts for High-end Publishing	Network Management (Web Based)	Color Correction Tools (Color Appearance)
Interface	Printer Drivers (Windows, Mac, UNIX)	Network (IPP, Web, Wireless)	Local (USB, IEEE1394)
Controller	Emulation (PS, PCL)	Color Management (ICM Profile)	Real-time OS File System
Consumables	Toner, ID	Periodical Maintenance Parts	
Options	Feeding Option 2nd/3rd Tray	Ejection Option Finisher	Maintenance Parts
Engine	Printing Engine LED Color	Printing Engine LED Monochrome	

Printing Solution Business Model

Single Business Model

DTP: Desk Top Publishing
ERM: Enterprise Resource Management
IPP: Internet Printing Protocol

PS: PostScript
PCL: Printer Control Language
ICM: Image Color Matching

Figure 2: Printing Solution Business Model

TIPS

Digital LED Heads

The Digital LED Head is a technology that we have fostered for many years. We constructed these heads so the LED (Light Emitting Diode) arrays are precisely arranged in rows and the light from each LED is collected onto the photodetecting plane by a magnification optics system. Since each LED is electronically scanned, there are no moving parts and the unit is very reliable. Compared to mirror scan type laser scanners, the position accuracy of each light spot is high and does not change over long periods of time. This characteristic makes possible the Single Pass Color (TM) format that requires precise color overlapping. Furthermore, digital LED heads have high resolution, high speed, and are compact, making it possible to realize color page printers that have great picture quality and are fast.

Technical Strategy

Oki Data's color page printers employ the Single Pass Color(TM)*1 method that uses digital LED heads. This method, which is simple in structure compared with the intermediate transfer method that is currently used in many color machines, has the advantage of quicker printing speed.

A new product we started selling last year realized high-speed printing of 21 pages per minute at the high resolution of 1200 DPI (Dots Per Inch). We will focus our efforts on developing technology that makes our Single Pass Color(TM) page printers even sharper and faster, and will make our printers realize image quality and printing speed on a par with offset printing.

In order for us to provide printing solutions that are easy to use, convenient, and highly satisfying for our customers, we have developed direct printing systems for e-Commerce, applications such as special paper pop printing, printer system software such as accounting operation management, and color correction tools. (Figure 2) We are now actively making proposals.

World Environmental Protection Efforts

We at Oki Data are quick to deal with environmental problems and institute our own product environment

*1 Single Pass Color is a trademark of Oki Data Corp.

assessment. In addition to saving energy, we are providing products through our product recycling design that place less of a burden on the environment. Furthermore, in order to reduce the burden on our customers and efficiently utilize all resources, we started collecting used up consumables last year at no charge. As a corporation, we are also participating in and sponsoring forestation movements. From now on however, we would like to continue to strive for zero emissions and actively pursue world environmental protection.

References

1. Japan Electronic Industry Development Association: Investigative Report on Printers, 00-Peripheral-3, Pgs. 10-19, 2000.