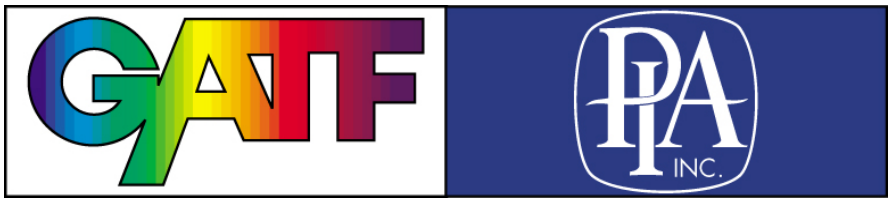
Best Business Practices For the Printing Industry



October15, 2002

Best Industry Business Practices, Terms and Conditions of Sale

Over the past few years digital technology has greatly impacted printers' business practices and relationships with customers and suppliers. Printing Industries of America, Inc. and the National Association for Printing Leadership set up a joint committee including a representative from Idealliance (formerly Graphic Communications Association) to review current business practices and terms and conditions of sale. The information provided is intended as guidelines for use in various business situations and in communications with customers and suppliers.

This information replaces the former set of "trade customs" and is not intended to be legally binding but are offered for use in client and supplier communications as determined by each printer. Four sections are provided:

- **Guidelines for best business practices in digital asset management issues.**
- **Terms and Conditions of sale including quotations, orders, delivery, production schedules, and other issues.**
- **Information on printers' rights and obligations in refusing to print certain materials.**
- **A Glossary with definitions of various workflow terms used in the printing industry based on common usage.**

This material is not intended to be used verbatim. Printers should carefully review this material and select which parts of these documents they wish to incorporate into their specific business practices as they relate to their situation with their customers and prospects.

This material will be monitored by the joint committee and updated and revised as new issues develop. If you have suggestions for changes or new issues that should be included please submit them to Ron Davis at rdavis@printing.org.

THESE BEST INDUSTRY PRACTICES, TERMS AND CONDITIONS OF SALE, AND GLOSSARY OF TERMS ARE VOLUNTARY, AND ARE PROVIDED FOR THE PURPOSE OF HELPING PRINTERS AND THEIR CUSTOMERS AVOID MISUNDERSTANDINGS CONCERNING THEIR RIGHTS AND OBLIGATIONS RELATED TO DIGITAL FILES. ALL ELEMENTS OF PRICE AND ALL OTHER CONTRACT TERMS ARE A MATTER OF NEGOTIATION AND AGREEMENT BETWEEN THE INDIVIDUAL PRINTER AND ITS CUSTOMER. PRINTERS MAY CHOOSE TO MODIFY THESE BEST PRACTICES AND TERMS BEFORE PROVIDING THEM TO A CUSTOMER, BASED UPON THE PRINTER'S INDIVIDUAL SITUATION.

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Section 1: Guidelines for Best Business Practices in Digital Asset Management Issues

This document is intended to identify, define and clarify typical industry practices for digital media management issues and questions.

This document is intended to serve all professionals who use any form of digital media by providing a set of guidelines and examples of digital media use and is divided into four primary areas - Industry Definitions; Digital Asset Management Guidelines; Production and Technical Issues; and Operational Issues.

The itemized business practices outlined are not intended to be legal or binding, but are recommended for reference in client/supplier communications and inclusion in the " terms and conditions" of a business agreement. Each of the points or practices highlights known issues that may involve time, costs, or responsibility on the part of clients, suppliers or both. Also identified are a number of technical issues that should be understood by all digital media users.

Industry Definitions

- **What are Digital Files?**

A digital file is any file that is created by a computer and stored by a computer related device. It can be as simple as a text file or as complex as an entire animated video including sound and computer generated visuals.

It can be a small file - stored or saved on a simple floppy disk or a complex graphic and sound file stored on a server, digital tape or other storage media.

> *Any digital file, no matter how simple, should be named according to an agreed upon standard by all parties in the workflow, and archived on a computer or some removable media if it is intended to be saved or reused.*

- **What is a " Digital Asset"**

A digital asset is a digital file or form of digital media that has some commercial value, production value, "intellectual property" value or identification value.

> *A file with commercial value might be a photograph or illustration.*
> *A file with production value might be a graphics file for an ad or brochure, a text file for a phone directory, a price list, or metadata.*
> *A file with intellectual property value might be a manuscript for a book or play, or a legal brief.*
> *A file with identity value might be a company's logo, trademark or an icon like a flag.*

All digital assets have value, however their value may be determined by their ability or inability to be replaced. The value of a digital asset may not emerge until some time after creation and may exist because of a relationship to other values.

> *A business letter if erased can readily be recreated if a hard copy of the file was saved.*
> *A digital photo if stored and lost or erased, may be irreplaceable.*

- **Who is a client and who is a supplier?**

A client is the end user of digital assets and buys or receives these digital files or that of the organization they represent. The supplier creates and manipulates, provides, or sells these files to the client. A client may work for the same organization or company as a supplier, may be a purchaser of the supplier's materials, or they may have a "virtual relationship." The client and supplier may have an informal or a formal working relationship. Examples:

If a secretary creates a digital file of a letter and provides it to their superior: The secretary is the supplier and the superior is the client.

If a corporate purchasing manager or production manager provides materials to their marketing department, the marketing dept. is the client and the production manager is the supplier.

If an art director downloads photographs from a stock photography web site: The photographer is the client and the stock agency is the supplier.

If the same art director uses those photos in an ad and supplies them digitally with an ad to the agency's account executive for the agency's use: The account executive and the agency are the clients and the art director is the supplier.

Digital Asset Management Guidelines and Practices

1. Formal purchase agreements, use or rights agreements, or archive agreements should accompany any digital file. A sample of what is requested or hard copy proof of that file should also accompany the file. The agreement should note the costs for the use of the file, the period of time the file should be saved or archived, and the ownership of the file in its original and final form. If a formal written agreement is not customary in your business then some informal understanding of expectations should be communicated.

2. Archiving: Practices for archiving should be contracted or negotiated. Certain files may need to be archived for shorter or longer periods of time.

   Archiving should be defined for materials such as general office files, working files, final commercial value files, and identity value files.

   Some suppliers will archive files for a fee as an amendment to their usual business agreements. In those cases the period of time is dictated by the terms of the contract between supplier and client.

3. Versions: All files should be clearly named or clearly dated with relation to their use. All old versions or unnecessary files should be deleted or erased from any storage or transportable media intended for use by a commercial supplier. Properly sized and marked hard copies or laser proofs of those files should accompany the project.

   Costs incurred by the mistaken use of improperly outdated files may be the responsibility of the provider of those files.

   If a poorly labeled or inadequately named file provided by a client is mistaken for a live file and used by a supplier, the parties shall agree whether or not there will be a charge for recreating the work and, if so, how much.

   The supplier should check the supplied file against any supplied proof for accuracy.

4. If a client has contracted with a supplier to archive their files for a defined period of time, that supplier is responsible to recreate or supply those files if they are lost or damaged.

If the original material is no longer available for use, the supplier may be liable for some form of financial restitution to the client for the value of that work. An advance determination of the value of that work and a commitment for payment should be contracted.

5. The setting and communicating of copyright guidelines and usage guidelines for an original image or a file are the responsibility of a client. An indemnification clause is recommended.

6. The copy of the original file given by a client to a supplier remains the property of the client. All other files created or amended by the supplier are the property of the supplier. It is recommended that the supplier make a copy of the file provided.

7. The amended file created by a supplier to achieve an end result or product remains the property of the supplier.

Production or Technical Issues

1. Some files created on different operating platforms may be mutually incompatible. Some files created by different versions of the same software may be unusable. Resolve compatibility issues before electronic mechanicals are output by an imagesetter.

   An Adobe Illustrator file created on a Mac will not be able to be opened on a PC. A MS Word document created in Word 6 will not open on a computer loaded with WORD 5.1 or may not be recognized properly as an e-mail attachment. Macintosh computers can, however save files in PC format.

2. Large image files may take hours to transmit through commercially available access lines.

   A 150 MB image file might take several hours to successfully transmit through an electronic communications line. The parties shall agree whether or not there will be a charge for the time needed to receive and access an unusually large transmitted file and, if so, how much.

3. Some images created by illustrator programs may take an excessive amount of time to output or transmit.

   An illustrator file with many repetitive blends, although appearing to be a small file, may take many hours above the normal processing times to output or to transmit. It is customary in the industry to charge for the time needed to transmit an excessively large file.

4. Software: Files used by clients for production work may be created and saved in the latest accepted industry version.

   Many clients or suppliers may be using older or outdated working versions of software. Different versions can cause compatibility problems that affect output.

   A supplier may only want to use the latest updated version of a working program. If that supplier uses that version to correct or edit a client supplied older version original, that document may take on the characteristics of the newer version and may only be opened by the latest version of the program. If a client uses a brand new or beta version of a program, it is wise to check with suppliers and clients if they have that latest version before sending them files. Everyone should be working on the same version so that opening the document will not change its integrity.

5. "High end prepress computer equipment" may not be able to improve the quality of low resolution original images.

Sophisticated image manipulation software and hardware have limited abilities to sharpen, correct, or reasonably correct poor or low resolution images. It is customary in the industry to charge for the time and materials provided by a supplier to correct these images.

6. Corrupt files: A corrupted file, or a file that can't be read or laser printed by a client may not be able to be used or accessed by a supplier.

Sophisticated image manipulation software and hardware may have limited abilities to correct and utilize corrupted files. It is customary in the industry to charge for the time spent by a supplier and media provided to correct these files.

7. Use of photographs or illustrations is dictated by a rights agreement or negotiated ownership agreement. Subtle changes to those images using computer-generated techniques or changes in their final format may infringe on the artist's rights and contractual agreements.

If you scan a photo from a magazine, colorize it, flop it, and use it for a commercial venture you may be liable for infringement of usage rights. If a photo is contracted for use in a publication but is also used for a national ad or on an internet site, you may be liable for infringement of usage rights.

8. An image or file downloaded from the web and used or repurposed for a commercial application, may infringe on the rights of the creator or originator of that image or file.

Several map publishers have legal teams searching print documents and internet sites for illegal copyright infringement of their product for commercial uses.

9. It is customary in the industry to charge for the time or materials used by a supplier to recreate an original file into a usable file for production or for a client's use.

A supplier may recreate art or transfer graphics into other programs in order to use the file. If a client needs a "working file" for other uses or projects, the supplier may have to spend additional time or resources to re create it. It is customary in the industry to charge for these services.

10. The parties shall agree whether or not there will be a charge for storage or archiving of images or files by a supplier and, if so, how much.

Any charges for these services should be contracted at the beginning of a project. Some suppliers charge on an hourly basis, a per page or image basis, or on a contracted monthly or yearly fee basis.

11. It is customary in the industry to charge for special digital retouching or image manipulation to photographic or illustrative images.

It is customary in the industry to charge for the supplier's time and material cost to match the color, as close as commercially possible and any time spent, or proofs pulled, to change colors or manipulate the image away from its original form.

12. The parties shall agree whether or not there will be a charge for uploading or copying a file to transportable or transmittable media for a current job and, if so, how much.

Those costs include the time needed to find the archived file, the time to copy the file, the storage media if any, and a delivery fee, if any.

13. Transmission of some digital files through commercial e-mail or Internet service providers may be limited. Attachments to those files may also be limited in quality to text or to small image files.

    An attached and compressed transmission through America Online or other commercial Internet providers oftentimes may be limited in size.

14 - Media: Popular storage media can get quickly outdated. Keep track of where files are stored and have them copied to the newer form of media used. Suppliers may be responsible for this if they have been contracted by a client for archiving services.

    10 years ago the 51/2" floppy was the common storage media for PC's. Few PC's have capabilities to read those discs today. In 1995 the 44 - 88 MB SyQuest was the preferred storage media for Macintosh. SyQuest is now out of business and few industries are using those formats for storage or archiving. Apple Computer is no longer designing floppy drives in their computers, and the ZIP is slowly being outmoded as the costs for CD writers have come down.

    It would be difficult to retrieve an important document such as a will if it was archived in an outdated storage format.

Operational Issues

1. Some transportable media, if dropped or passed through certain magnetic fields, may become corrupted or unusable.

    These files may have to be copied or recreated by the client in order to be usable.

2. Some graphic or business software applications should only be used for desktop or low resolution creative or design work. A written specification of the programs intended to be used for a project should be agreed upon.

    Programs such as PowerPoint are difficult to use for high-end creative work. Additional time and resources may be needed to repurpose these programs for other than their specific use. It is customary in the industry to charge for these services.

    Programs such as MS Word, WordPerfect or Excel are essentially word processing or spreadsheet programs and should not be used for sophisticated design ***or*** *high resolution printing or output work. They are not readily able to be used for printing impositions and their font and image management tools are limited.*

3. Storage Media: Different "storage media" have different cost bases.

4. Resolution: Different image file resolutions are needed for proper use with different media. All participants in the production workflow should be aware of file sizes as delivered and expected with regards to anticipated use.

    A 72 dpi photographic image will be acceptable for use on a video monitor or internet uses.
    A 150-dpi image will be acceptable for use in a newspaper ad.
    A 250-dpi image may be acceptable for a magazine ad.
    A 300 - 600 dpi image may be acceptable for use in a traditional printed brochure or outdoor billboard.

5. Enlargements: A "high resolution file" remains high resolution only if it is used at close to the same size in which it was created.

A 600 dpi scanned image at 4" x 5" becomes 300 dpi if used at 8" x 10".
That image would "look better" if it had been scanned at 300 dpi for 8" x 10".

6. Some graphic files, if not compressed properly for transmission, may output only as text files. Some graphic files if compressed using the latest version of a compression program may not expand or open if that latest version is not used by the recipient of that file. Some compressions may also lose data.

7. Designs or illustrations created electronically can only be proofed properly by using some form of high resolution output and proof devices.

Illustrations created by Adobe Illustrator and similar programs can only be proved for color accuracy and fidelity by outputting the file and creating a high resolution digital or analog proof Desktop or low resolution proof or laser devices may not show accurate colors and details.

Section 2: Terms and Conditions of Sale

This section covers terms and conditions of sale for quotations, orders, delivery, scheduling and other issues. The practices covered are listed in alphabetical order.

Accuracy of Specifications:
Quotations are based on the accuracy of the specifications provided. The supplier can requote a job at time of submission if copy, film, tapes, disks, or other input materials do not conform to the information on which the original quotation was based.

Alterations/Corrections:
Client alterations include all work performed in addition to the original specifications. It is customary in the industry to charge for these services.

Color Proofing:
A color proof is used to simulate how the printed piece will look. Because of differences in equipment, paper, inks, and other conditions between color proofing and production pressroom operations, a reasonable variation in color between color proofs and the completed job is to be expected. When variation of this kind occurs, it will be considered acceptable performance and the proof becomes a contract between the client and supplier.

Creative Work:
No use shall be made, except by written permission of the supplier for all use of this work and for any derivation of ideas from it and compensation (if any) to be determined by the supplier.

Client-Furnished Materials:
Materials furnished by clients or their representative are verified by delivery tickets. The supplier bears no responsibility for discrepancies between delivery tickets and actual counts. Client-supplied paper must be delivered according to specifications furnished by the supplier. These specifications will include correct weight, thickness, pick resistance, and other technical requirements. Artwork, film, color separations, special dies, tapes, disks, or other materials furnished by the client must be usable by the supplier without alteration or repair. Items not meeting this requirement may be repaired by the client, or by the supplier and may be billable.

Client's Property:
The supplier will only maintain fire and extended coverage on property belonging to the client while the property is in the supplier's possession. The supplier's liability for this property will not exceed the amount recoverable from the insurance. Additional insurance coverage may be obtained if it is requested in writing, and if the premium is paid to the supplier.

Delivery:
Unless otherwise specified, the price quoted is for a single shipment, without storage, F.O.B. supplier's platform. Proposals are based on continuous and uninterrupted delivery of the complete order. If the specifications state otherwise, the supplier will charge accordingly at current rates. Charges for delivery of materials and supplies from the client to the supplier, or from the client's representative to the supplier, are not included in quotations unless specified. Title for finished work passes to the client upon delivery to the carrier at shipping point, or upon mailing of invoices for the finished work or its segments, which ever occurs first.

Electronic Manuscript or Image:
It is the client's responsibility to maintain a copy of the original file. The supplier is not responsible for accidental damage to media supplied by the client or for the accuracy of furnished input or final input. Until digital input can be evaluated by the supplier, no claims or promises are made about the supplier's ability to work with jobs submitted in digital format, and no liability is assumed for problems that may arise.

Experimental Work:
It is customary in the industry to charge for experimental or preliminary work performed at client's request. This work cannot be used without the supplier's written consent.

Indemnification:
The client agrees to protect the supplier from economic loss and any other harmful consequences that could arise in connection with the work. This means that the client will hold the provider harmless and save, indemnify, and otherwise defend him/her against claims, demands, actions, and proceedings on any and all grounds. This will apply regardless of responsibility for negligence.
Copyrights: The client warrants that the subject matter to be printed is not copyrighted by a third party. The client also recognizes that because subject matter does not have to bear a copyright notice in order to be protected by copyright law, absence of such notice does not necessarily assure a right to reproduce. The client further warrants that no copyright notice has been removed from any material used in preparing the subject matter for reproduction. To support these warranties, the client agrees to indemnify and hold the supplier harmless for all liability, damages, and attorney fees that may be incurred in any legal action connected with copyright infringement involving the work produced or provided.
Personal or economic rights: The client also warrants that the work does not contain anything that is libelous or scandalous, or anything that threatens anyone's right to privacy or other personal or economic rights. The client will, at the client's sole expense, promptly and thoroughly defend the supplier in all legal actions on these grounds as long as the supplier promptly notifies the client of the legal action and gives the client reasonable time to undertake and conduct a defense. The client reserves the right to use his or her sole discretion in refusing to print anything he or she deems illegal, libelous, scandalous, improper, or infringing upon copyright law.

Liability:
Disclaimer of Express Warranties: The supplier warrants that the work is as described in the purchase order. The client understands that all sketches, copy, dummies, and preparatory work shown to the client are intended only to illustrate the general type and quality of the work. They are not intended to represent the actual work performed.
Disclaimer of Implied Warranties: The supplier warrants only that the work will conform to the description contained in the purchase order. The supplier's maximum liability, whether by negligence, contract, or otherwise, will not exceed the amount specified in the contract. Under no circumstances will the provider be liable for specific, individual, or consequential damages.

Order:
Acceptance of order shall not be effective until acceptance by supplier. Acceptance by supplier may be either by notification to client or by commencing to produce work on the merchandise ordered. Canceled orders require compensation for incurred cost and related obligations.

Outside Purchases:
Unless otherwise agreed in writing, all outside purchases as requested or authorized by the client are chargeable.

Over-runs or Under-runs:
Over-runs or under-runs will not exceed the percentage specified in the contract. The supplier will bill for actual quantity delivered within this tolerance. If the client requires a guaranteed quantity, the percentage of tolerance must be stated at the time of quotation.

Preparatory Materials:
Artwork, type, plates, negatives, positives, tapes, disks, and all other items supplied by the supplier remain the supplier's exclusive property.

Prepress Proofs:
The supplier will submit prepress proofs along with original copy for the client's review and approval. Corrections will be returned to the supplier on a "master set" marked "OK," "OK With Corrections," or "Revised Proof Required" and signed by the client. Until the master set is received, no additional work will be performed. Supplier will not be responsible for undetected production errors if:

- proofs are not required by the client;
- the work is printed per the client's OK;
- requests for changes are communicated orally.

Press Proofs:
Press proofs will not be furnished unless they have been required in writing in the supplier's quotation. A press sheet can be submitted for the client's approval as long as the client is present at the press during makeready. It is customary in the industry to charge for any press time lost or alterations/corrections made because of the client's delay or change of mind.

Production Schedules:
Production schedules will be established and followed by both the client and the supplier. There will be no liability or penalty for delays due to state of war, riot, civil disorder, fire, strikes, accidents, action of government or civil authority, acts of God, or other causes beyond the control of the supplier. In such cases, schedules will be extended by an amount of time equal to delay incurred.

Quotation:
A quotation not accepted within 30 days may be changed.

Storage:
The supplier will retain intermediate materials until the related end product has been accepted by the client. If requested by the client, intermediate materials will be stored for an additional period for additional charge. The provider is not liable for any loss or damage to stored material beyond what is recoverable by the supplier's fire and extended insurance coverage.

Taxes:
It is customary in the industry to charge for all amounts due for taxes and assessments and are the responsibility of the client. No tax exemption will be granted unless the customer's "Exemption Certificate" (or other official proof of exemption) accompanies the purchase order. If, after the client has paid the invoice, it is determined that more tax is due, then the client must promptly remit the required taxes to the taxing authority, or immediately reimburse the supplier for any additional taxes paid.

Telecommunications:
Unless otherwise agreed, it is customary in the industry to charge the client for all transmission charges. The supplier is not responsible for any errors, omissions, or extra costs resulting from faults in the transmission.

Terms/Claims/Liens:
It is customary in the industry that payment is net cash in calendar days from date of invoice as specified. Claims for defects, damages, or shortages must be made by the client in writing no later than a specified number of calendar days after delivery. If no such claim is made, the supplier and the client will understand that the job has been accepted. By accepting the job, the client acknowledges that the supplier's performance has fully satisfied all terms, conditions, and specifications.
It is customary in the industry that the supplier's liability will be limited to the quoted selling price of defective goods, without additional charge for special or consequential damage or as specified. As security for payment of any sum due under the terms of an agreement, the supplier has the right to hold and place a lien on all client property in the supplier's possession. This right applies even if credit has been extended, notes have been accepted, trade acceptances have been made, or payment has been guaranteed. If payment is not made, the client is liable for all collection costs incurred.

Section 3: Refusal to Print

What rights and obligations do printers have in refusing work? The following information from PIA Management Portfolio, September 2002, Business Management Advisory provides guidance on this issue:

Political printing
A political candidate your company does not agree with or support offers a print job. Do you have to accept it? No. Printers may have political beliefs or positions and are free to associate and do business with any political party while excluding others.

Antitrust laws
Printers and publishers are under no legal duty to do business with everyone who asks. However, a printer or publisher who dominates a particular market in circulation and advertising could violate federal antitrust laws by refusing work. For instance, a publisher could be seen as establishing a monopoly by refusing to accept advertisements from a customer because that customer advertises with the publisher's competitors.

Discrimination
May a printer refuse a job because the customer is part of a specific minority group or of a certain national origin, a particular religion, creed, or other protected category? No. State laws and public policy forbid discrimination on these grounds. Printers have a right to select customers as they please, but this right is not absolute and may, in many jurisdictions, be limited by state anti-discrimination statutes. Printers may reject a job as long as the reasons are not based on discriminatory grounds. You should not refuse to bid on or print a job based on the customer's characteristics. Seek legal advice before refusing to bid on or print any job where discrimination might be claimed.

Conscientious objection
What if a printer disagrees with the message or content of the material to be printed? PIA believes that a printer's decision about what to print is protected by the First Amendment's freedom of speech and press provisions. However, this area hasn't been fully addressed by the courts, so seek experienced legal counsel before using these grounds to refuse a job that could bring a complaint or legal challenge based on discrimination.

Even when the real reason for refusing to print a job is that the printer finds the material itself objectionable, rather than any racial, ethnic, or other bias against the customer, a substantial risk remains that the courts might find the printer liable of prohibited bias against the customer. Again, act cautiously and seek legal advice before refusing business in circumstances that might implicate anti-discrimination statutes.

Printers who refuse a job because they object to its content should be on good standing because First Amendment interests should prevail over any applicable antidiscrimination statutes or ordinances, even before the federal courts.

It's advisable to establish written policies reserving the right to refuse to print certain material. Such policies alert customers about the potential for refusal and should help defend against lawsuits based on alleged "implied" contractual obligations to provide service. Also, the existence of an established, published policy should strengthen a printer's claim of editorial discretion under the First Amendment's prohibition against "compelled speech." A written right-to-refuse policy might also help defend against claims that the printer's real reason was not, in fact, objection to the content but bias against the individual customer.

Nonpayment
Suppose a new customer places a big job. According to the credit report, it seems worthy to extend credit, but even after 90 days the customer still hasn't paid the bill. Then the customer submits another large job.

Do you have to accept and print the job? Generally, no. While it is a pure business decision to extend extra credit to this customer, you don't have to accept the second job until you receive payment for the first one. You may want to demand at least partial payment before beginning the second job.

Copyright

A job comes in with questionable photographs, text, illustrations, or other content that doesn't have appropriate credit or any indication that reprint permission has been granted. Do you have to print the job? No. While printing business practices (formerly called trade customs) indicate that the customer should ensure that copyright permission has been secured, this doesn't shield printers from copyright law liability.

Printers may require customers to sign a special release stating that they take full responsibility for all copyright liability. This release may still not protect the printer. You are best protected by asking for written proof that the customer has permission (written) to reprint the material.

Union label

Suppose you are a union-free printer and a customer requests you to reprint a job containing the union label. Should you? No! Only unionized printers with a specific agreement to print the union label may do so. The union may obtain through court order damages equal to three times your profits for the job, possibly more.

What if yours is a combination shop and only part of your production facility is unionized? Can you print the union label? No. The union label means that all operations to produce the goods bearing the label were handled by the members of a union, or those unions who are affiliated with a particular trades council. Only printers with a specific agreement with the union may print the union label. Only employees who are part of the collective bargaining unit may work on a union label job.

Can you print the union label if you are a completely unionized printer but have no union label agreement? No. You can print the union label only if you have a union label agreement. The union label agreement is often separate from your collective bargaining agreement.

What if you are a quick print shop and a customer comes in with preprinted letterhead containing the union label. The customer only wants you to photocopy a letter onto the preprinted letterhead. May you print the job? Yes, as long as you are not manipulating the union label or binding it.

The Graphic Communications International Union (GCIU) has allowed union-free binderies to work on union label jobs when no union binderies are within a reasonable geographic distance. However, this has happened rarely and probably only on the authority of the local union president or trades council.

Sexual content

What if a customer wants you to print a job that includes pornography. Do you have to print it? No. The First Amendment does not require a printer to print a job.

What if one of your employees refuses to print a job containing pornography? The employee may claim religious grounds or a hostile work environment under Title VII of the 1964 Civil Rights Act. While it may be wise to maintain the morale and respect of your employees by reassigning the job to another worker, a printer maintains the right to conduct business no matter what the content.

Section 4: Printing Workflow Glossary of Terms

This Glossary provides definition of terms used in graphics communication based on common usage.

A

AI Adobe Illustrator's metafile format, which is actually a type of Encapsulated Postscript.

ablation. Method of imaging digital proofs or CTP plates by vaporizing small amounts of material, typically with a thermal laser. Also refers to the process of writing data to optical memory with a laser that burns holes into thin metal film.

abort. A computing command that instructs the system to abandon a program or ignore all data transferred after a given point.

access. To retrieve data from a hard drive or other physical storage medium or another computer connected via network or modem.

access control. In a network, a means of ensuring the system's security by requiring users to supply their names and passwords each time they log on.

access control list. In a network, a database that holds the names of the valid system users and notes the level of access that each has been granted.

access time. The interval between the instant at which a call for data is initiated and delivery of the data is completed.

address. (1) A character or group of characters that identifies a particular part of computer storage or some other data source or destination. (2) In data communication, the unique code assigned to each device or workstation connected to a network.

addressability. In a line of printed digital information the number of positions per unit length, usually per inch, at which successive pixels are placed.

Adobe Acrobat. A popular software program for the conversion of documents into the portable document file (PDF) format. Through Acrobat or another PDF, users can read electronic versions of printed documents that maintain the attributes (bold and italic type and other formatting choices) assigned to a printed original.

alias. An alternate or duplicate label for a data element in a computer system. For example, one email address may have several aliases representing different departments or individuals. On a Macintosh, an alias icon makes a program, such as Microsoft Word or QuarkXPress, accessible from different areas on the desktop instead of just where the actual program is stored.

aliasing. A jagged or "staircase" effect in a raster image, caused by an insufficient number of image samples. See also: anti-aliasing.

alpha channel. An eight-bit channel reserved by some image-processing applications for masking or retaining additional color information.

analog device. A computer or other device that uses continuous signals of varying intensity rather than digital signals that can only be "on" or "off." Some color scanners use hard-wired electronic circuits to perform analog color correction and tone reproduction, while other scanners use digital data to perform similar functions. See also: digital.

antivirus program. The essential software that is used to detect and destroy rogue applications designed to damage a computer. See also: virus.

application program. The computer software designed to perform actual jobs as opposed to the system programs that manage equipment operation.

applications program interface (API). System software that allows computer programmers to create interface features or, in a network, determine how the various features will be used.

archival 1.A document that can be expected to be kept permanently as closely as possible to its original form. An archival document medium is one that can be "expected" to retain permanently its original characteristics (such expectations may or may not prove to be realized in actual practice). A document published in such a medium is of archival quality and can be expected to resist deterioration. Permanent paper is manufactured to resist chemical action so as to retard the effects of aging as determined by precise technical specifications. Durability refers to certain lasting qualities with respect to folding and tear resistance. 2.Data preserved in its original state for a long period of time. The definition of length is flexible - anywhere from five to more than 100 years - depending on the storage medium.

archival image An image meant to have lasting utility. An "archival" digital image is generally an image kept stored.

archival standards The standards to be met by a type of recording material or process in order for this material to have and retain specified characteristics necessary for permanent records .

archival storage. The long-term storage of image information on photographic, magnetic, or other media.

archive. 1. A group of compressed computer files. 2.a repository specifically designed for preservation, storage, display and use of archival records. 3.A collection of permanently valuable historical records documenting a particular subject or activity or transaction. Also the repository where such a collection is kept. 4.A repository that intends to preserve information for access and use by one or more Designated Communities.

artifact. A visible defect in an electronic image, caused by limitations in the reproduction process (hardware or software). Aliasing patterns are an example of artifacts.

artwork, comprehensive. Design produced primarily to give the client an approximate idea of what the printed piece will look like. Alternative terms: comprehensive; comp.

ASCII file. A text file containing ASCII characters only. The lowest common denominator for exchanging text among programs. Almost any word processor or desktop publishing program can read or write ASCII files. Also known as text-only files.

assembling. Collecting individual sheets or signatures into a complete set with pages in proper sequence and alignment. Assembling is followed by binding.

asset management. Wrapper formats must support indirect references to content ‹ that is, references to objects which are themselves references to Content. This is a basic requirement used to support all manner of different material management systems. Effective asset management is required by the users. This may be provided by either manual or automatic methods as appropriate. Wrapper referencing of Content can work most effectively where automation tools are provided for storage administration tasks and to ensure cohesive referencing when files are moved or copied.

assets. Things that a user sees or hears, e.g., bit map, audio ,text.

audit trail. An established method for tracing the changes made to pictorial or text data during each stage of processing.

author's alterations (AA). Changes requested by the author or author's representative after the original copy has been typeset. Alternative terms: author's corrections; artist's alterations.

author's proof. Prepublication copy sent to the author for approval. It is returned marked "OK" or "OK with changes."

automatic indexing. Indexing of a text done by computer without human intervention (usually by finding the words occurring most frequently within the document).

automatic picture replacement (APR). Computer technology that enables the operator to replace for-position-only artwork with the actual images that will be used during printing.

autotrace. A feature found in some graphics programs that allows conversion of bitmapped images into an object-oriented format. See also: bitmap; object-oriented.

B

background processing. Procedure by which a computer can execute one function, such as printing, while the user simultaneously executes another function, such as word processing or image editing.

backup. The act of saving information on a computer system to tape or disk for safekeeping.

banding. An electronic prepress term referring to visible steps in shades of a gradient.

bandwidth. A frequency measurement expressed in cycles per second (hertz) or bits per second (bps) of the amount of information that can flow through a channel.

bandwidth on demand. A concept in which a user can obtain more bandwidth as the application warrants. It enables users to pay for only the bandwidth they use, when they need it.

bar code. A binary coding system using a numerical series and bars of varying thicknesses or positions that can be read by optical character recognition (OCR) equipment. Bar codes are used in printing as tracking devices for jobs and sections of jobs in production.

baseband. A frequency band that uses the complete bandwidth of a signal. See also: broadband.

baseband transmission. Transfer of a digital or analog signal in its original form without modulation. See also: broadband transmission.

basic input/output system (BIOS). The code that controls basic hardware interactions, such as the keyboard and hard drive, on a computer system.

bit. The smallest unit of binary information. It has one of two possible values—zero or one—used to indicate "on" or "off" or "yes" or "no" in the storage and transfer of electronic information and images. A contraction of the term "binary digit."

bitmap. An image represented by an array of picture elements, each of which is encoded as one or more binary digits.

bleed. Pictures, lines, or solid colors that extend beyond the edge or edges of a page so that when margins are trimmed, the image is trimmed even with the edge of the page.

bleed tab. A bleeding ink square at the edge of a page that functions as a guide for locating specific material.

body. (1) The printed text of a book not including endpapers or covers. (2) The size of type from the top of the ascenders to the bottom of the descenders.

body type. Text set in paragraph or block form, as distinguished from heads and display type matter. Alternative term: body matter.

boilerplate. Standard text that is stored electronically and can be rearranged and combined with fresh information to produce new documents.

boot. To start up a computer. During the boot-up sequence, the computer carries out hardware diagnostic tests, determines what peripherals are connected, and loads the operating system.

breakacross. A photo or other image that extends across the gutter onto both pages of the spread. Alternative terms: crossover; reader's spread. See also: spread.

bridge. The unit that interconnects two or more local-area networks that use the same logical link control protocol but may use different medium access control protocols. The term can also refer to the equipment used in a connection of local loops, channels, or rings to match circuits and facilitate data transmission.

broadband. A frequency band that can be divided into several narrower ones to support simultaneous transfer of voice, video, and data. See also: baseband.

broadband transmission. Using analog signals, carrier frequencies, and multiplexing techniques to permit more than one node on a network to broadcast at a time. See also: baseband transmission.

browse. To search the Internet's World Wide Web or another computer network or database for information.

browser. A browser is a program that provides a way to look at, read, and even hear all the information on the World Wide Web. The word "browser" seems to have originated prior to the Web as a generic term for user interfaces that let you browse text files online. By the time the first Web browser with a graphical user interface was invented (it was called Mosaic), the term seemed to apply to Web content, too. Technically, a Web browser is a client program that uses the Hypertext Transfer Protocol (HTTP) to make requests of Web server s throughout the Internet on behalf of the browser user. Currently, the most popular browser is Netscape Navigator. Microsoft's Internet Explorer is gaining usage as Windows 95 installations grow. A commercial version of the origin al browser, Mosaic, is in use. Other browsers include the browsers for the online services, America Online, Compuserve, and Prodigy, but these are beginning to offer Netscape or Internet Explorer in addition to or as a replacement for their own. Lynx is a text-only browser for UNIX shell and VMS users.

buffer. (1) A device that separates the other devices in a system. (2) An intermediate area for the storage of electronic data.

buffer capacity. A measurement of the amount of data that can be stored in a frame buffer in a computer system.

bug. A computer program error.

bulletin board systems (BBSs). Small, often local or regional repositories for electronic files and text messages related to a very specific topic. A certain BBS may or may not be accessible through the Internet or may require a long-distance phone call via computer modem to establish contact.

byte. A single group of bits (most often eight) that are processed as a unit. Also the smallest addressable unit of main storage in a computer system.

C

CGM Computer Graphics Metafile, an American National Standards Institute/International Standards Organization metafile format for images of pretty much any kind.

cache. Small portion of high-speed memory used for the temporary storage of frequently used data.

calibrate. To adjust the scale on a measuring instrument such as a densitometer to a standard for specific conditions.

calibration. A process by which a scanner, monitor, or output device is adjusted to provide a more accurate display and reproduction of images.

callout. A portion of text, usually duplicated from accompanying text, enlarged, and set off in quotes and/or a box to draw attention to what surrounds it.

cassette. (1) A portable housing or container for daylight transportation of either exposed or unexposed photographic materials, which makes it possible to operate an imagesetter in a daylight environment. (2) In magnetic tape applications, a plastic cartridge that contains tape which is 1⁄4 in. or narrower, takeup reels, and a read/record head pressure pad.

catalog. 1.a list of items that records, describes, and indexes the resources of a collection, a library, or a group of libraries. cataloging: the process of preparing a catalog or entries for a catalog. This includes the classification and assignment of subject headings for books and materials and determining all points of access to the record. 2.When the library and information community discuss metadata , the most common analog y given is the library catalogue record. Priscilla Caplan, for example, has defined metadata as a neutral term for cataloguing without the "excess baggage" of the Anglo-American Cataloguing Rules or the MARC format s [1]. The most well-known metadata initiative, the Dubin Core Metadata Element Set, has the specific aim of supporting resource discovery in a network environment.

CD-ROM (compact disk—read-only memory). An optical data storage device that consists of a platter in which data is etched as a series of pits and lands (the space between the pits) in a continuous spiral. Derived from the compact audio disk (CD), a typical CD-ROM holds 650 MB of digitally encoded computer data, which the user can retrieve (but not alter) using a laser-based reader. See also: Photo CD™.

character generation. Constructing typographic images electronically as a series of dots, lines, or pixels on the screen of a cathode-ray tube (CRT).

character recognition. The function of systems that automatically read or recognize typed, printed, or handwritten characters or symbols and convert them to machine language for processing and storing in electronic systems. See also: optical character recognition.

charge-coupled device. A component of an electronic scanner that digitizes images. A CCD consists of a set of image-sensing elements (photosites) arranged in a linear or area array. Images are digitized by an external light source that illuminates the source document, which reflects the light through optics onto the silicon light sensors in the array. This generates electrical signals in each photosite proportional to the intensity of the illumination. See also: CCD array.

client. A networked personal computer or workstation that requests information or applications from a centralized server.

client/server environment. A network system that uses a designated computer for centralized resource access.

clipboard. A temporary electronic storage area in a computer software program where text or graphics can be held for reuse.

cloning. A retouching function available on a color imaging system or in an image-editing program. It is normally used to remove image defects by replacing pixels in the defective areas with duplicate pixels from adjacent, nondefective areas. It can also be used to duplicate sections of an image. Alternative term: pixel swopping.

closed loop. A process in which all control functions have been automated, including sensing output errors and correcting the input to compensate for the error.

compression. Reducing the size of a file for storage purposes or to enhance the speed of data transfer by eliminating the redundancies and other unnecessary elements from the original. See also: data compression.

Computer To Plate (CTP) Computer To Plate is a completely electronic system that produces printing plates for direct mounting on the printing press without the use of film. Compared with traditional methods, the production time using CTP technology is much faster. All documents and files are electronically processed in Computer To Plate systems, eliminating several time consuming and labor intensive steps in the process. By eliminating film and by using Computer To Plate technology you get first-generation printing plates with better resolution and fewer possibilities for plate errors. With Computer To Plate technology your art is digitally transferred directly from the computer to the print plate, making the image on the plate a potentially more accurate reproduction.

content provider. One who owns or is licensed to sell content.

conversion. The process of preparing document s, capturing, and indexing current files for use on an imaging system.

copyfitting. Adjusting copy to the allotted space, by editing the text or changing the type size and leading.

creep. The slight but cumulative extension of the edges of each inserted spread or signature beyond the edges of the signature that encloses it. This results in progressively smaller trim size on the inside pages. Alternative terms: pushout; shingling; binder's creep.

crop. To opaque, mask, mark, cut, or trim an illustration or other reproduction to fit a designated area.

cropping. (1) Indicating what portion of the copy is to be included in the final reproduction. (2) Trimming unwanted areas of a photograph film or print.

crossover. A photo or other image that extends across the gutter onto both pages of the spread. Alternative term: breakacross.

cursor. The blinking line approximately the length of one character that, as displayed on a computer screen, marks the current working position in a file and can be moved to any other point in the file by shifting the position of the mouse and clicking on the new position, by clicking on a command in a dialog box, or by executing function key commands.

D

DCS1, DCS2 Desktop Color Separation. Developed by Quark. A DCS1 file is composed of five files. The main file is a composite with a low-resolution preview and pointers to the separation files. There are four separations files, one for each process color. DCS2 adds spot color capabilities, and single file as well multi-file formats.

data. Text, audio, video, and images stored in a form that can be understood by a computer.

data blocks. The maximum size of continuous data blocks that can be recorded as a single block of data. Larger data blocks transfer and store data more efficiently.

data compression. A software or hardware process that reduces the size of images so that they occupy less storage space and can be transmitted faster and easier. This process is accomplished by removing the bits that define blank spaces and other redundant data, and replacing them with a smaller algorithm that represents the removed bits. Data must be decompressed before it can be used. See also: compression.

data conversion. Technique of changing digital information from its original code so that it can be recorded by an electronic device using a different code. Data created in one software format may be converted to another before printing. Data must also be converted for various output devices, such as when RGB colors are converted to CMYK.

Data integrity. 1.the fact that data are not modified. 2.Refers to the validity of data . Data integrity can be compromised in a number of ways: Human errors when data is entered Errors that occur when data is transmitted from one computer to another Software bugs or viruses Hardware malfunctions, such as disk crashes Natural disasters, such as fires and floods There are many ways to minimize these threats to data integrity. These include: Backing up data regularly Controlling access to data via security mechanisms Designing user interfaces that prevent the input of invalid data Using error detection and correction software when transmitting data.

data file. Text, graphics, or pictures that are stored electronically as a unit.

data processing. (1) Changing raw data or information into a usable format by using a computer. (2) The systematic manipulation of information; for example, handling, merging, sorting, computing.

data transfer rate. The sustained speed at which data can be written or read and conveyed by a device, generally given in kilobytes per second (KBps) or megabytes per second (MBps).

database. An electronic program that is used to efficiently organize, store, retrieve, and modify information, such as a mailing list. The data can be quickly rearranged and sorted or searched alphabetically or numerically.

database 2. 1.large compilation of information that can be immediately accessed and operated upon by a computer data processing system. Any organized collection of data, gathered and stored in a computer. 2.In electronic records, a set of data, consisting of at least one file or of a group of integrated files, usually stored in one location and made available to several user s at the same time for various applications.

decompress. To return compressed data to its original size and condition.

dedicated telephone lines. Specially leased lines than provide constant and direct access to a network at high speeds (1.544 or 45 Mbps).

default. A method or value that software will use in processing information unless the computer operator specifies otherwise. For example, a scanning program has default settings for variables like brightness and contrast that apply unless the user requests something else.

desktop. (1) Any computer or peripheral small enough to fit on top of a desk, as opposed to a mainframe computer. (2) The Macintosh (and now Windows) graphical user interface where screen elements are cast as icons or other representations that are meant to be analogous to a literal desktop. Examples of these elements include representing computer files as manila folders, and file delete functions as trash cans or recycling bins.

desktop color separation (DCS). A color file format that creates five PostScript files, one for each color (CMYK) and a data file about the image.

desktop publishing. The creation of fully composed pages with all text and graphics in place on a system that includes a personal computer with a color monitor; word processing, page-makeup, illustration, and other off-the-shelf software; digitized type fonts; a laser printer; and other peripherals, such as an optical image scanner. Completely paginated films are output from an imagesetter.

digital. Method of representing information in numerical (binary) code. Unlike analog signals, digital ones are either "on" or "off." See also: analog device.

digital archive 1.a digital library which is intended to be maintained for a long time, i.e. periods longer than individual human lives and certainly longer than individual technological epochs. (Sometimes formerly also "digital research library.") 2.The Task Force envisions the development of a national system of digital archive s, which it defines as repositories of digital information that are collectively responsible for the long-term accessibility of the nation's social, economic, cultural and intellectual heritage instantiated in digital form. Digital archive s are distinct from digital libraries in the sense that digital libraries are repositories that collect and provide access to digital information , but may or may not provide for the long-term storage and access of that information.

digital asset. Digital data stored in a file. It can be either data that was digitized, such as video frame data and audio samples, or data created in digital form, such as title graphics or animation frame s. It can be stored in either a Media Data object or a raw data file. Also called Digital media data.

digital color proof. Proof printed directly from computer data to paper or another substrate without creating separation films first. Proof made with computer output device, such as laser or inkjet printer.

digital media data. Digital data stored in a file. It can be either data that was digitized, such as video frame data and audio samples, or data created in digital form, such as title graphics or animation frame s. It can be stored in either a Media Data object or a raw data file. Also called Digital asset.

digital transmission. A communications mode in which the data to be transferred is represented as discrete (and discontinuous) electronic pulses or signals, the values of which are stored as a series of zeros and ones, otherwise known as binary digits.

digitize. To convert an image or signal into binary form.

digitized information. Text, photographs, and illustrations converted into digital signals for input, processing, and output in an electronic publishing system.

digitizing tablet. A device using a stylus and an x-y coordinate system to trace or draw images for input to a computer graphics system.

direct-to-plate technology. Those imaging systems that receive fully paginated materials electronically from computers and expose this information to plates in platesetters or imagesetters without creating film intermediates.

disk, floppy. A thin, flexible, removable magnetic disk used to store computer data. An example is a high-density 3 1/2-in. computer disk.

disk, hard. A platter-like magnetic storage device permanently encased in a computer system.

disk drive. The mechanism that rotates the magnetic disk and positions the read/write head(s) at the desired location.

disk track. One of several concentric circular recording bands where data is stored on a magnetic disk. Each track may consist of several sectors with a fixed memory capacity.

document .(1) Recorded information regardless of physical form or characteristics. Often used interchangeably with record. (2) An individual record or an item of nonrecord materials or of personal papers 2.A collection of information that is processed as a unit.

document content. Document Content refers to the substance of the material or information within the document that is intended to be communicated.

dots per inch (DPI). A unit that describes the resolution of an output device or monitor.

download. To transfer a file or files from a remote computer to a local computer's hard drive.

E

EPS . Encapsulated PostScript is a type of Postscript which can be imported into page layout and vector graphics programs.

EPS. Abbreviation of Encapsulated PostScript. Pronounced as separate letters, EPS is the graphics file format used by the PostScript language. EPS files can be either binary or ASCII. The term EPS usually implies that the file contains a bit-mapped representation of the graphics for display purposes. In contrast, PostScript files include only the PostScript commands for printing the graphic.

Electronic Data Interchange (EDI) 1.The communication or transmission of data as electronic messages according to established rules and format s in order to transact business. 2.Electronic Data Interchange (EDI). The computer-to-computer exchange of formatted, transactional information between autonomous organizations. 3.EDI is the exchange of routine business transactions in machine readable format . It covers many areas including, ordering, pricing, quoting, backordering, shipping, receiving, planning purchases as well as invoicing and payments. There are two competing standards : EDIFACT and ASC X12. ASC X12 and EDIFACT consider their format differences to be minor and are pursuing reconciliation.

encapsulated PostScript™ (EPS). A file format used to transfer PostScript™ image information from one program to another.

encapsulation. In programming, the process of combining elements to create a new entity. For example, a procedure is a type of encapsulation because it combines a series of computer instructions. Likewise, a complex data type, such as a record or class, relies on encapsulation. Object-oriented programming languages rely heavily on encapsulation to create high-level objects . Encapsulation is closely related to abstraction and information hiding.

F

file. A collection of digital information stored together as a unit on a computer disk or other storage medium and given a unique name, which permits the user to access the information. A file may contain text, images, video, sound, or an application program.

file allocation table (FAT). A hidden record of how files are stored in clusters on a hard or floppy disk.

file server. A workstation primarily responsible for redirecting resources across the network. Dedicated file servers require that the computer running the server software not be used for other tasks. Nondedicated servers permit the administrative tasks and the shared resources to be spread over various network nodes.

file transfer protocol (FTP). The tool used to retrieve information in the form of electronic files from any number of computer systems linked via the TCP/IP protocol. Users in effect transfer copies of information found on remote computers either directly to their own computers or to a service provider's network and then to their own computers.

firewall. The layer of security that protects internal computer networks from outside intrusions, particularly from the Internet.

format. 1.The sequential organization of data in terms of its components. Also: A specific arrangement of data . 2.(1) The shape, size, style, and general makeup of a particular record. (2) In electronic records , the arrangement of data for computer input or output, such as the number and size of data fields in a logical record or the spacing and letter size used in a document . Also called layout. See also FILE LAYOUT, RECORD LAYOUT. (3) In microform records, the placement of microimage s within a given microform (image arrangement) or the arrangement of images in relation to the edges of the film (image orientation).

G

gigabit (Gb). One billion bits.

gigabyte (GB). One thousand megabytes or one billion bytes.

H

Hub. A local area network device that provides centralized relaying between connected devices. Unmanaged hubs broadcast incoming traffic to all hub locations, which only pick up the transmission if it is addressed to that specific site. Managed hubs route traffic from the originating machine directly to the destination, thereby significantly reducing LAN traffic. Most prepress shops have, or should have, migrated to managed hubs by now.

hypertext markup language (HTML). The hypertext document format used on the Internet's World Wide Web.

hypertext transfer protocol (HTTP). The Internet standard supporting the exchange of information on the World Wide Web.

I

IFF Electronic Arts' Interchange File Format, and is the image format used by Amiga and Atari ST personal computers. There are multiple IFF formats, the most popular are the image and sound files. A file with the .IFF suffix may, therefore, be a sound, not a picture - and it might be any one of a number of other types of data. IFF images may rarely have the suffix .ILBM, for InterLeaved BitMap, or just .LBM on DOS-based systems.

icon. In a computer system, a picture or drawing, such as a paint brush or trash can, that represents a file or function. Clicking the mouse on the icon activates the procedure or opens the file.

image processing. The alteration or manipulation of images that have been scanned or captured by a digital recording device. Can be used to modify or improve the image by changing its size, color, contrast, and brightness, or to compare and analyze images for characteristics that the human eye could not perceive unaided. This ability to perceive minute variations in color, shape, and relationship has **opened up many applications for image processing.**

imposition. The process of placing graphics into predetermined positions on a press-size sheet of paper. Page layout is the process of defining where repeating elements such as headlines, text, and folios (page numbers) will appear on multiple pages throughout a document, while imposition can be thought of as defining where these completed pages will appear on much larger sheets of paper.

imposition, head-to-head. Arranging pages on a form during stripping so that the top of one page is located adjacent to the top of the opposite page.

imposition layout. A guide that indicates how images should be assembled on the sheet to meet press, folding, and bindery requirements.

imposition systems. Step-and-repeat imaging cameras or computerized methods of assembling the units of pages into signatures for printing. The latter method is often referred to as digital imposition.

indexed color image. An image where each pixel value is used as an index to a palette for interpretation before it can be displayed. Such images must, therefore, contain a palette which has been initialized specifically for a given image. The pixel values are usually 8-bit and the palette 24-bit (8-red, 8-green, and 8-blue). See also eight-bit image.

integrated services digital network (ISDN). A communication network intended to carry digitized voice and data multiplexed onto the public network. ISDN uses a group of channels to provide for the simultaneous digital transmission of voice, text, images, and multimedia traffic. It is available in three categories: Basic Rate ISDN (BRI), Primary Rate ISDN (PRI), and Broadband ISDN (B-ISDN). Basic Rate ISDN is a baseband network bundle of two 64-Kbps B (bearer) channels for the transfer of voice, graphics, and data, plus one 16-Kbps D (delta) channel that carries data and call setup information. In the U.S., Primary Rate ISDN provides 23 baseband transmission channels (and one channel for call setup) with data transfer rates starting at 1.544 Mbps.

intelligent character recognition (ICR). A sophisticated form of optical character recognition (OCR) in which the computer determines the probable meaning of a character not by looking for an exact match with a character pattern stored in memory but by analyzing the shape of the character. ICR is, therefore, able to interpret a wide range of different typefaces and point sizes, thus differing from OCR, which is restricted to the specific face and point size combinations stored in the memory. See also: optical character recognition.

interface. (1) The electronic device that enables one kind of equipment to communicate with or control another. (2) The combination of hardware and software that allows different electronic devices to share resources.

J

JPG Joint Pictures Expert Group. The committee which set standards for a file format for graphics. The JPEG file format is a compressed format, with some loss of quality during compression. A popular web format do to the generally small size of pictures. File formats of .jpg, .jpeg, and .jpe..

JDF JDF is a comprehensive XML-based file format/proposed industry standard for end-to-end job ticket specifications combined with a message description standard and message interchange protocol. JDF is designed to streamline information exchange between different applications and systems. JDF is intended to enable the entire industry, including media, design, graphic arts, on demand and e-commerce companies to implement and work with individual workflow solutions. JDF will allow integration of heterogeneous products from diverse vendors to seamless workflow solutions. Basic Idea upon which JDF is based: To develop an open, extensible, XML-based job ticket standard, as well as mechanism that provides new business opportunities for all individuals and companies involved in the process of creating, managing and producing published documents in the new economy. Building on existing technologies of CIP3's PPF and Adobe's PJTF, the Job Definition Format supplies a means for printing businesses to streamline the process of producing printed material. The most prominent features of JDF are: 1.Ability to carry a print job from genesis through completion. This includes a detailed description of the creative, prepress, press, postpress and delivery processes. 2.Ability to bridge the communication gap between production and Management Information Services. This ability enables instantaneous job and device tracking as well as detailed pre- and post calculation of jobs in the graphic arts. 3.Ability to bridge the gap between the customer's view of product and the manufacturing process by defining a process independent product view as well as a process dependent production view of a print job. 4.Ability to define and track any user defined workflow without constraints on the supported workflow models. This includes serial, parallel, overlapping and iterative processing in arbitrary combinations and over distributed locations. 5.Ability to do so (1,2,3&4) under nearly any precondition.

K

kilobyte. A measurement unit used to describe the size of computer files. A kilobyte is equivalent to 1024 bytes or characters of information.

L

Lithography A printing process in which the image carrier is chemically treated so that the onoimage areas are receptive to water (i.e. dampening for foutain solution) and repel ink while the image areas are receptive to ink and repel water. The image carrier is said to be planographic, or flat and smooth.

M

MNG (pronounced "ming") The proposed Multiple Network Graphics format is a multi-image extension of the existing PNG format.

MacBinary II. Mac Binary II (sometimes simply called MacBinary) is a format for representing all the information in a Macintosh file in one binary file. It is useful for storing a Macintosh file on a non-Macintosh system for later retrieval. Unlike BinHex, MacBinary II is a compact format that cannot be passed through most e-mail systems. MacBinary II files usually have names ending in ".bin". Most FTP programs can get and put files in MacBinary II format. Most FTP programs can also get files in MacBinary I format (an earlier version of the MacBinary standard).

markup language encoding. 1.A computer markup language is a means for describing, for an electronically stored document , the complete positioning, format , and style of text and image segment representations within the document. When combined with textual representation, it is a means for achieving fully formatted text . When combined with relevant image information about document graphics material , it may be a means of archiving fully reversible compression of the document . An example of a markup language is SGML (Standard Generalized Markup Language) that has been adopted by the United States Government and by many publishers as a pseudo-standard. 2.Markup. Text that is added to the data of a document in order to convey information about it.

megabit. One million bits.

megabyte. One million bytes.

menu-driven. The graphical user interface of a computer program that allows the user to direct operations by selecting from a series of hierarchical choices displayed on the monitor.

modem (modulator/demodulator). A communications device that converts digital information into - analog signals suitable for transfer over (analog) telephone lines. It also converts the analog signal from phone lines into digital information.

mouse. A small, hand-held device used to position the cursor on the computer screen. When the mouse is rolled across its pad or another flat surface, the cursor moves a corresponding distance across the display monitor.

multitasking. The ability of a computer to run more than one application at a time.

N

near-line archiving. 1.A near-line archive is a mid-way archive containing copies of the content and metadata. Typically, browse mode images and metadata will still be stored in the on-line archive for rapid access whereas content will be stored off-line on a remote server . Full editing capability of near-line archive content is still possible.

network. A computer system that allows several users at remote terminals to exchange data electronically through a common central computer or with a modem over conventional telephone lines. See also: local-area network.

network interface card (NIC). The device that links one workstation to another in a network.

O

online. The state of a computer being connected to and communicating with another electronic device for the purpose of distributing or retrieving information.

online archiving. 1.Online archive s will generally directly record compressed bit streams to avoid the concatenation effects of another compression system. The archive may also be associated with highly compressed browse mode images and metadata to aid recovery of archive content. The quality level of the browse mode images is only required to support picture recognition, with no expectation that these pictures will be used for any other purpose. Metadata and browse mode images will normally be located on the same storage device for rapid access to the content. Full editing capability should be possible with on-line archive content.

open prepress interface (OPI). A set of standardized protocols that allows desktop equipment to be linked with color electronic prepress systems (CEPS). High-resolution color images are stored on a central network server, and low-resolution files are used for positioning, scaling, etc. in the page layout program. At output time, the high-resolution images are swapped for the low-resolution images.

Open system. Hardware and software components that are not dependent on any vendor's proprietary architecture.

operating system. The master program that a computer needs to start up and perform basic tasks. It allows the computer to control itself and perform other functions, such as managing memory allocation for application software and data files.

optical character recognition (OCR). A technique in which any printed, typed, or handwritten copy or graphic images are scanned by an electronic reader that converts the information into a form that can be read, interpreted, and displayed by computers.

P

PS Adobe Systems Postscript isn't an image format, per se - it's a page description language, originally conceived so computers could send very accurate page descriptions to the then new high resolution laser printers. You can save black and white or even color pictures as Postscript, but you'll end up with a very large file. Postscript is not a very efficient format, but its advantage is all plain text - you can modify a Postscript file with any text editor, if you know what you're doing. PSD Adobe Photoshop's native format, which stores all of its layer and selection and miscellaneous other image data.

Photo CD™. A format developed by Kodak for storing compressed still photographic images on CD-ROM disks. See also: CD-ROM.

pixel. Picture element. The smallest tonal element in a digital imaging or display system. Alternative term: PEL.

pixel interleave. System of organizing color data within a computer pixel-by-pixel (i.e., a pixel of yellow, a pixel of magenta, a pixel of cyan, a pixel of black, etc.). See also: pixel.

pixelization. A technique used to represent areas of complex detail as relatively large square or rectangular blocks of discrete, uniform colors or tones.

platform 1.a computer hardware usually incorporating a specific operating system. 2.The underlying hardware or software for a system. For example, the platform might be an Intel 80486 processor running DOS Version 6.0. The platform could also be UNIX machines on an Ethernet network. The platform defines a standard around which a system can be developed. Once the platform has been defined, software developers can produce appropriate software and managers can purchase appropriate hardware and applications. The term is often used as a synonym of operating system. The term cross-platform refers to applications, formats, or devices that work on different platforms. For example, a cross-platform programming environment enables a program mer to develop programs for many platforms.

plug-and-play. The ability of a computer to detect and configure a new piece of hardware automatically, without the user having to reconfigure the hardware elements.

point-and-click access. Use of graphical-user-interface (GUI) software and a mouse to execute computer commands.

port. The connecting point between an electronic device and the equipment that transfers data to the rest of the system.

portable document format (PDF). A computer file format that preserves a printed or electronic document's original layout, type fonts, and graphics as one unit for electronic transfer and viewing. The recipient uses compatible "reader" software to access and even print the PDF file.

PostScript™. Adobe Systems, Inc. tradename for a page description language that enables imagesetters and other output devices developed by different companies to interpret electronic files from any number of personal computers ("front ends") and off-the-shelf software programs.

PostScript™, encapsulated. A file format used to transfer PostScript™ image information from one program to another.

preflighting. An orderly procedure using a checklist to verify that all components of an electronic file are present and correct prior to submitting the document for high-resolution output.

Printer Control Language. (PCL) the page description language (PDL) developed by Hewlett Packard and used in many of their laser and ink-jet printers. PCL 5 and later versions support a scalable font technology called Intellifont.

program. A systematic series of software instructions designed to direct a computer to perform a specific task.

property rights. Metadata recording the ownership of Content and the history of ownership may be stored in the wrapper in order to facilitate the establishment and preservation of copyright.

proprietary systems. Computer workstations that are custom-designed for one specific task such as color correction, dot etching, or page layout. Proprietary systems rely on specific hardware and software components, and they are often not easily linked to modular systems that use off-the-shelf software and hardware components from several different manufacturers.

protocol. A set of rules (conventions) that governs format of data and control of information exchange between two communications devices.

Q

R

RAS SUN Raster format. The default image format for SUN workstations. Only lightly compressed and so a rather large format, but it supports up to 36 bit images.

RAW This may be a Photoshop RAW file, which is a PSD file with no identifying header. Or it may be a minimally formatted image data dump.

RTF Microsoft's Rich Text Format, which is normally used as a well-understood cross-platform word processing document format, but which can store pictures as well as text. As image storage formats go, though, this one is as inefficient as Postscript.

random access. A system of data file management in which a record is accessible independent of its file location or the location of the previous record accessed. In other words, records need not be accessed sequentially.

random-access memory (RAM). Solid-state computer memory that is essentially the "working" memory a computer uses to store temporary information. RAM can be read from and written to, as the name indicates, in a random sequence, and it is used to store data from open applications as well as the operating system itself. See also: read-only memory.

raster. An image composed of a set of horizontal scan lines that are formed sequentially by writing each line following the previous line, particularly on a television screen or computer monitor. See also: bitmap; object-oriented; vectors.

raster image processor (RIP). The device that interprets all of the page layout information for the marking engine of the imagesetter or platesetter. PostScript or another page description language serves as an interface between the page layout workstation and the RIP.

rasterization. The process of converting mathematical and digital information into a series of variable-density pixels.

read-only memory (ROM). Nonerasable, permanently programmed computer memory. It can be accessed and "read" by the user but it cannot be edited. See also: random-access memory.

resolution. (1) The density of dots or pixels on a page or display usually measured in dots per inch. The higher the resolution, the smoother the appearance of text or graphics. (2) The precision with which an optical, photographic, or photomechanical system can render visual image detail. Resolution is a measure of image sharpness or the performance of an optical system. It is expressed in lines per inch or millimeter.

rich text format. A standard developed by Microsoft Corporation for specifying formatting of documents. RTF files are actually ASCII files with special commands to indicate formatting information, such as fonts and margins. Other document formatting languages include the Hypertext Markup Language (HTML), which is used to define documents on the World Wide Web, and the Standard Generalized Markup Language (SGML), which is a more robust version of HTML

routers. Devices that connect separate networks that use the same physical network standard.

S

server. A device on a computer network that allows networked users (clients) access to a specific service on the network. An example is a file server, which allows the users to share data files and application software.

software. The stored instructions (programs) that initiate the various functions of a computer (the hardware). Instructions may be written in machine language or in another programming language, then compiled, interpreted, or assembled into machine language. Word processing, page layout, and drawing programs are a few of the software programs used in the graphic arts. There are also other more specialized software programs that control high-end color electronic prepress systems and even some presswork applications. See also: hardware.

system. The combination or configuration of software and hardware components, consoles, peripherals, and connections necessary to perform specific processing operations electronically.

system architecture. The particular configuration in which computer hardware is connected to various other components so that it fulfills its primary purpose.

T

TIFF, TIF TIFF stands for Tag Image File Format; TIFF was a large, unwieldy, 24 bit format until version 6 came out, which supported compression and made it less painful. The fact that its compression was somewhat broken and might or might not be compatible with different programs on different computers somewhat reduced the bonus. The compression is LZW and thus owned and licensed out by Unisys (see GIF) is another problem. TIFF is, nonetheless, a very popular professional graphics

format. A TIFF file permits the image to be edited in other applications (ie, QuarkXpress, and Macromedia Freehand)

T1/T3. AT&T specifications for high-bandwidth, leased digital transmission. Unlike switched lines in which the printer pays just for the time required to complete a transmission, T1 and T3 lines are dedicated to continuous data transfer and thus more costly. Data rates are 1.544 Mbps for T1 and 44.21 Mbps for T3. A fractional T1 line has its bandwidth partitioned into smaller channels for point-to-point communications.

tagged image file format (TIFF). A file format for exchanging bitmapped images (usually scans) between applications.

terabyte. One thousand gigabytes or one million megabytes.

terminal. A peripheral computer system device, consisting of a monitor and keyboard. It is usually connected to the mainframe through some sort of network.

terms and conditions. This is metadata that describes the “rules” for use of an object. Terms and conditions might include an access list of who can view the object, a "conditions of use" statement that might be displayed before access to the object is allowed, a schedule (tariff) of prices and fees for use of the object, or a definition of permitted uses of an object (viewing, printing, copying, etc.).

text processing. Computer systems, stand-alone devices, and application software products that are used to enter, modify, rearrange, format, display, and print out text.

tracks. The parallel recording channels on a memory device (such as magnetic tape); the concentric recording channels on disk drives and high-performance optical drives; or the spiral recording patterns on devices such as a CD-ROM.

Transmission Control Protocol/

-FOOTNOTE 1-

Internet Protocol (TCP/IP). The system that monitors and performs data transfer over the Internet. TCP sends data and IP receives it. On individual computers TCP/IP is the software component that enables users to access the graphical aspect of the World Wide Web and utilize other features of a SLIP or PPP account.

Type 1. A format for storing digital typefaces developed by Adobe Systems. The most popular typeface format for PostScript printers.

U

uniform resource locator (URL). The World Wide Web address of a company, service, or other information resource.

UNIX. The computer environment in which the Internet has been and continues to be developed. It is used to run powerful workstations and networks where multitasking and multiuser access is essential. UNIX is also the parent operating system of DOS, which, in turn, spawned the Windows operating systems prevalent on PCs today.

V

W

WMF Windows Metafile format, which is an intermediate vector format for Windows programs to use when interchanging data and, generally speaking, should never be seen anywhere else.

WPG WordPerfect metafile format, used by WordPerfect software on various platforms. It supports bitmapped, vector and Encapsulated Postscript data.

what-you-see-is-what-you-get. See WYSIWYG.

wide-area network (WAN). Two or more related LANs that are linked across a great distance, such as one state to another.

WORM (write-once, read-many). An optical digital storage medium useful for archiving purposes. It receives and stores information permanently on the disk. While, it cannot be erased or altered it can be “read back” many times.

WYSIWYG (what-you-see-is-what-you-get). Computer screen displays that approximate the true size and true shape of typographic characters, rules, tints, and graphics.

WYSIWYP Short for What You See Is What You Print, and pronounced wizzy-whip, refers to the ability of a computer system to print colors exactly as they appear on a monitor. WYSIWYP printing requires a special program, called a color management system (CMS) to calibrate the monitor and printer.

X

XML. Short for eXtensible Markup Language, a new specification being developed by the W3C(World Wide Web Consortium). XML is designed especially for Web documents, basically it is a lite version of SGML. It gives designers the ability to create their own customized tags to provide functionality not available with HTML. For example, XML supports links that point to multiple documents, as opposed to HTML links, which can reference just one destination each. Whether XML eventually replaces HTML as the standard Web formatting specification depends a lot on whether it is supported by future Web browsers. Right now the only major browser vendor to endorse XML is Microsoft, which has stated that XML will be supported in a future version of Internet Explorer.

Y

Z