



News Focus • Opinion Reviews • Techno-Babble Attitude

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...Stalking The Graphic Arts Industry Since April 2003

progress • *noun* 1. gradual development or improvement of something 2. movement forward or onward.

- Encarta World English Dictionary

Dear Reader,

A few months ago, we started putting together a project to help raise awareness of print's carbon footprint. The idea was to look at several media workflows, with a view to understanding more about the resources required to produce them. We realised at the time that this would be a great deal of work, but also that there was much more we could all do to support green awareness within the printing and publishing industries. Even more importantly, there is much to be done to improve print's eco-profile in a potentially hostile media landscape. So we set up Verdigris, a project to develop print's green profile.

With the help of industry, we are preparing a series of articles addressing carbon footprinting and green issues in general. Every month these Verdigris columns will be shared with the leading graphic arts titles worldwide for use in their magazines. The idea is that we develop a common point of reference and a body of material that can be used within and beyond the industry.

Along with Agfa, Canon, Fujifilm, HP and Ricoh, one of the Verdigris partners is drupa. At drupa 2008, the show organisers, along with Zipcon Consulting and the Verdigris project, will have a team of 'Green Scouts' roaming the halls. These scouts will ask visitors for their views on various green issues. The responses will be the basis of a column published in the drupa show daily under the Verdigris banner. So if you see a Green Scout, make sure to tell them what you think!

We'll be at drupa in force, preparing the next issue, and looking forward to seeing you.

Enjoy!

Laurel, Nessan, Paul and Todd

In This Issue

HP gets it together

Last month we mentioned some of the announcements that Hewlett Packard had made in the run-up to drupa. There wasn't space to go through all the announcements and their implications in detail, so Laurel Brunner has brought it all up to date this month.

see page 8

Certifiable Printing Companies

Our very own Paul Lindström has been working with the Swedish Printers Federation to develop a way for printers to easily comply with standards such as ISO 12647, and we are also working with the British Printing Industries Federation to develop a similar scheme in the UK.

see page 16

Transpromo in action

Laurel Brunner visits the Sumitomo Mitsui Card Company in Japan, to see how it's making the most of its data technology to develop effective transpromo marketing, with the help of 24 iGen3 printers.

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Regular Columns

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News Focus

Xerox recently closed on a \$400m offering of senior unsecured notes due in 2013 and bearing a fixed rate return of 5.65 %, plus a \$1bn offering of senior unsecured notes due in 2018 and bearing a fixed rate coupon of 6.35 percent. Proceeds from these offerings will be used to repay the company's borrowings under its 2007 credit facility and for general spending.

In a separate announcement Xerox said it is giving the Rochester Institute of Technology \$2m to become a founding partner of The Golisano Institute for Sustainability. The investment, which will be spread over five years, focuses on developing new sustainable technologies.

Fujifilm has announced a worldwide increase in revenues of 2.3 per cent over 2007 results. On revenues of some ¥284,682,8m (€17,666m) Fujifilm has an operating income up by 83.4 per cent, to ¥207,342m (€1287m) in 2008. This is largely attributed to Fujifilm's Vision 75 management plan. Fujifilm's worldwide graphic arts business has seen a 7 per cent increase in revenue, from ¥288,950m in 2007 to ¥313,580m in 2008.

The Ghent Workgroup (GWG) has released the first free Proof of Preflight specification for verifying a PDF

Spindrift

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file's integrity. The specification lets users review a PDF file's preflight audit trail, including a digital signature, at any point in the design to print workflow and across technologies from different suppliers.

FFEI is introducing new additions to its Alinte CTP range. There will be an entry-level eight page commercial device, of which 300 are expected to be sold, as well as the Alinte News, which can image 225 Berliner plates per hour. FFEI will also show new capabilities for its RealVue3D print simulation software, including versions for developers and system integrators.

Lüscher is introducing updates to its line of drum digital platesetters for imaging conventional UV plates. The 200 series will run faster and will now be available with up to 128 violet diode heads imaging 405nm. The thermal versions of XPose! imaging 830nm will continue to be available.

A reminder that conventional offset doesn't stand still: Komori is introducing the Lithrone SX40 at drupa. This press prints 18,000 sheets per hour, which is 2400 drop dead gorgeous A4s per minute. Plate changing for six plates takes some two minutes, and the time between finishing one job and getting an OK sheet on the next is just over six.

Kodak has introduced the Generation News System, a platesetter with advanced automation features and multiple plate cassettes, to support fast plate loading and unloading of multiple plate sizes. The device images 300 plates per hour at 200 lpi and can hold up to 1,600 broadsheet plates or 800 panorama plates.

A Fujifilm Dimatix Materials Printer (DMP) has been used to manufacture photovoltaic solar cells for converting light to energy. Scientists at Konarka Technologies filled the printer's cartridge with a special fluid as part of its work to commercialise a material to turn light into energy called Power Plastic.

The DMP has also been used for testing and optimising new materials that could help with solar water splitting, whereby sunlight can be converted into an electrical current. This can then be used to divide water into hydrogen and oxygen, for creating transportation fuel.

Blurb, the creator of a web-based digital book publishing platform, has introduced Photobucket Slurper, for its Blurb BookSmart book-making software. It uses a dedicated API, to allow Photobucket's nearly 40m users to connect to their Photobucket accounts and place full-resolution photos into BookSmart to then create their own Blurb book ready for digital printing. This technology enables anyone to affordably make, share, market, and sell books.

Kodak has acquired Danish developers Intermate A/S. This company is a global supplier of remote monitoring, network communications technology and print connectivity systems commonly used in transactional printing. Intermate's expertise in systems using AFP (Advanced Function Presentation) standard and Intelligent Printer Data Stream (IPDS) systems, for linking mid to high volume print systems, extends Kodak's transactional print capabilities.

Ricoh will launch three black and white presses for the production print market at Drupa 2008. The Pro 9006ex, Pro 1106ex and Pro 1356ex run at 90, 110 and 135 ppm and are Ricoh's first machines launched under its Pro brand name for professional printing.

Océ has introduced three new models for its CS9000 series display printers. The CS9160, CS9265 and CS9050 are each specifically designed for different applications. The CS9160 is an entry-level machine for producing indoor and outdoor prints; the CS9265 is a more productive version that prints at up to 80m² per hour; the CS9050 is for outdoor prints only.

Xerox is to acquire Veenman B.V. a subsidiary of Corporate Express NV for approximately €43m, stretching Xerox's reach into the Dutch small and mid-sized business (SMB) market. Veenman has six offices in the Netherlands and is one of the country's leading independent distributors of office printers, copiers, and multifunction devices.

Gandi Innovations will have two new superwide format printers at drupa. The company will introduce the NanoJet UV True Flatbed and the Jeti 3348 Jetstream UV RTR devices.

Canon has launched a brace of poster printers for the office and education environments. The ImagePrograf LP17 A2 and ImagePrograf LP24 A1 printers are five-col-

our devices that image 1200 dpi and are compatible with a wide range of media.

Digital Technology International has introduced MediaHarbor, its enterprise-wide SaaS (software as a service) hosted platform. This technology provides hosted environments for the full suite of DTI systems for newspaper production, including editorial, advertising, Web publishing and circulation. It can help reduce overall costs, requires no large up-front capital investment and makes possible faster implementations and upgrades.

Kodak has increased the top speed of its Versamark VX5000 Plus printing system by 50 percent. The Versamark VX5000 Plus's 750 feet per minute mode takes it to a theoretical throughput of 3000 A4 pages per minute.

Epson has won the prestigious EDP award 2008 for the Best Photographic Printer of the Year, for the second consecutive year, for the Epson Stylus Pro 11880. EDP is an association of digital graphic press publishers.

EFI's Digital Storefront is being installed at PostNet's 400 business centres in the US and Canada to provide links and web-to-print services between its customers and printers.

A new company is offering colour and project management services in the UK. **Targetcolour** partners with various companies including Alwan, Samsung, GTI and ICS, to provide all manner of colour services from soft proofing to ISO standards compliance.

Epson has launched a competition to celebrate its 40th birthday. The challenge is to design an image for use on Epson's birthday card and the winner gets what Epson calls "the trip of a lifetime" worth €5,000. With these quote markers, it's not clear whether the prize is travel or mindbending substances. The theme is the essence of 40 years of innovation and all entrants get their work displayed in an online gallery. **www.epson-europe.com/40** for details.

Océ has launched a new printing technology called CrystalPoint, which combines toner and inkjet printing. Océ CrystalPoint technology can print at speeds at least twice as fast as conventional inkjet systems, and on plain paper. The new Océ ColorWaveT 600 takes up to 31 seconds to print a single A0 sheet. Media capacity is up to six rolls with a 42" print width, to produce direct-dry plain paper prints for a wide range of applications.

Spindocs

(Where the spinner gets spun!)

With all the great excitement surrounding all things environmental, there comes the inevitable risk of Green Fatigue. The bunch that sent out this load of old tosh is an outfit called World News Media. We aren't quite sure what they are trying to achieve with this:

"Why Eco-leadership sounds the death knell for dinosaurs of management

A New Economy needs a new kind of business leader. Control freaks and messianic visionaries are out - make way for the Eco-leaders. Look at 100 years of research on management, and mismanagement, and you'll find four main approaches to leadership. Three are past their sell-by dates; there's just one suited to the businesses of the future. Here's the lowdown:

1. The Control Freak

Management by clipboard was the model in the early 20th century. The Control Freak believes that a business can be run along scientific lines. Factories and markets are rational and predictable places: gather enough data about what employees do and how long it takes, for example, and you can make a business super-efficient. Some businesses still work this way - call centres are the obvious examples. But then people hate to work in call centres for a reason.

2. The Caring Sharer

Don't time how long your staff spend on their breaks, try to empathise with them. Develop your emotional intelligence to coach management, staff and your fellow co-leaders. This is the way of The Caring Sharer. People might feel better, but does the business make any more money?

3. The Visionary

This is - or was - the dominant leadership style of American capitalism. Beloved of politicians, too. It's hero worship, pure and simple. The Visionary is the man with the persuasive personality and a Big Idea, if not always the plan to make it happen. Think Bernie Ebbers at WorldCom.

4 The Eco-leader

The collapse of WorldCom, Enron and others, is helping to usher in something new. All that nefarious wrongdoing prompted a paradigm shift. Companies now need to share leadership around - let teams of people lead, not the guy with the biggest ego; let people make their own decisions. Don't milk the bottom line for shareholders; build networks and relationships with stakeholders.

This is Eco-leadership. Is this the future? The trick, it seems, is to make sure the leader - or leaders - of a business has the same values as its customers. Not much new about that, but the things customers believe in have changed a lot over the last 100 years."

Perhaps the real test is, if the American Democrats applied this rot to the process of picking a candidate for the presidency, would the race would be any less comic?

Acrobites

(Something to get your teeth into)

RAID

Redundant Array of Independent Disks. This is about combining several hard drives together for faster performance, automatic back-up, or both. You can buy dedicated RAID boxes, or use a software solution such as OS X's built-in RAID utility to join existing disks together.

There are six main levels of RAID. RAID 0 strips data across at least two disks for faster performance. RAID 1 mirrors disks, so that the same data is copied to at least two disks, which halves the capacity but provides automatic backup.

RAID 3 uses striping, but with an additional disk set aside as a parity disk so that if one disk fails the data can be reconstructed. RAID 4 is almost identical to level 3, but uses block level, rather than byte-level striping. RAID 5 uses data striping but with distributed parity, with the parity check spread over two disks for greater fault tolerance. RAID 6 is a striped set, but with dual distributed parity so

that it can cope with two drives failing simultaneously.

In addition to these basic levels, some storage controllers allow for nested RAID levels, with one RAID using another RAID rather than the individual drives as its basic element, which creates a multi-layered RAID system. RAID 10, for example, consists of multiple level 1 arrays stored on physical drives with a level 0 array on top, striped over the level 1 arrays.

If anyone is thinking of using a RAID with an Apple Time Capsule or Extreme Base Station, be warned, as the controller with these devices is not sophisticated enough to work with two or more separate drives. However, they will work with a RAID unit which is self-contained in a single unit as this will have its own controller.

The Spindrift Quiz

(An occasional test of your knowledge, served up irregularly to keep you on your toes.)

IT

1. What is a server?

- (a) A computer
- (b) A waiter of indeterminate sex in a trendy bistro with an indeterminate menu
- (c) Software for managing tasks
- (d) Something to do with farming

2. How do operating systems and application software differ?

- (a) One controls the other
- (b) Both control each other
- (c) Neither is in control, it's just a dream
- (d) Applications run according to the operating system resources available

3. Which thing in your house has most in common with a hierarchical data store?

(a) The wardrobe

- (b) A sock drawer
- (c) The loft
- (d) A filing cabinet

4. What is the difference between Mac OSX and Windows Vista?

- (a) Apple and Microsoft
- (b) The spelling
- (c) One's crap and one's not
- (d) All of the above

5. What is a bit?

- (a) A bipolar integral
- (b) A byte indicator
- (c) A binary integer
- (d) A binus indicter

6. What is a graphical user interface?

- (a) A data protocol for accessing porn sites
- (b) Windows, icons, a mouse and pointing are used to operate the computer
- (c) A monitor technology
- (d) A tool for opening image files

7. What is Linux?

- (a) A version of Unix
- (b) A character in the Peanuts cartoon strip
- (c) An operating system
- (d) A computer brand name

8. Why is Unix special?

- (a) It's a multi-tasking operating system
- (b) It's designed for powerful computers
- (c) It's open source software, so it's free
- (d) It's expensive

9. What makes the most difference to a computer's speed?

- (a) The operating system
- (b) The processor and RAM
- (c) The PROM
- (d) The hard drive

10. How many clients can one server support?

- (a) There is no limit
- (b) As many as the processor can handle
- (c) However many the operating system allows
- (d) It depends

Answers

- 1. a
- 2. d
- 3. b
- 4. d
- 5. c
- 6. b
- 7. c
- 8. a
- 9. b
- 10. d

Each correct answer gets you four points for a maximum of 40.

A score of 0-10 suggests that you are clearly living in a world where the digital revolution is of no interest to you. This is probably because you don't need to know anything about digital technology to do your job. However at some point you will need to be at least vaguely aware of digital production so you might want to consider paying a tad more attention to what's going on around you.

11-20 suggests you're sort of into digital prepress but that there are some serious gaps in your knowledge. The time to start rectifying that is now, before the industry undergoes its next major upheaval and digital production methods take an even bigger jump forward. For your

customers things will be even worse, so take the plunge and keep yourself ahead of the game.

21-30 says you are well clued up on digital production, but get a bit confused sometimes. It is probably worthwhile taking some time each day to read more about technologies you're not so sure of, and get in touch with your technology suppliers to get them to present their latest development ideas. It's a great way to get an inside track.

If you've scored 31-40 we need to make these quizzes tougher or hire a new quizmaster. You are clearly in no need of any help or guidance and have the digital world at your fingertips. Hats off to you for your dedication to learning, your commitment to your work and your superior ability to turn information into knowledge.

Say What?

(Iffy Writing Award Presented in the Ether for Obfuscation, Confusion, Misinformation or All Out Pretentiousness)

This month's Say What award goes to John Straw, digital strategist with All About Brands plc for some rambling tosh, loosely entitled 'Web 3.0: Victims named'.

The only victims would appear to be anyone who took this rubbish seriously. It starts off:

"Barely has Web 2.0 established itself than digital strategists are looking at how to make the next leap to Web 3.0 - and the victims of change will be the big publishers, some of whom may vanish with some rapidity."

According to Straw:

"With Web 3.0 everyone becomes a publisher of content with the net result that many traditional publishing businesses simply being drowned by the crowd of amateur publishers [sic]."

Straw obviously knows little about big publishers, many of whom have successfully survived wars, famine and recessions,

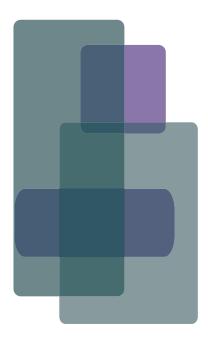
and are unlikely to be frightened by a lot of web-related hocus-pocus.

His advice is:

"They have to bridge the gap between getting out of analogue - traditional - publishing and going totally digital in their delivery.

"And they can't suddenly make the change because they have to pay off their investments, and switch resource into digital. Some will simply disappear."

If Straw had been reading Spindrift regularly he would have known that many publishers have proven adept at adopting web-driven technologies. We like the idea of publishers being able to expand their businesses by adopting new technologies. The only victims here are those that realise too late that publishers are not frightened about advances in web technology.



HP Gets it Together

The significance of HP's announcements at its pre-drupa press conference go beyond product. HP's announcement of a common writing technology supported by a heady mix of IT and graphics expertise is a wind of change for today's graphic arts reality. These announcements set new operating parameters where the ability to leverage IT expertise and output device knowledge can exploit two key fundamentals of digital prepress and print production.

The first has been implicit ever since the advent of desktop publishing in 1984. The introduction of device-independent output of integrated text and graphics, using tools that mimicked professional publishing software functionality was about much more than process democratisation. Following the DTP revolution, it soon became clear that there would eventually be a continuum of digital print production technologies across all areas of application. Simple DTP at home, increasingly sophisticated word processing and layout in offices, corporate reprographics departments and professional print production share common data standards – variants of PostScript and PDF – to image full colour integrated text and graphics.

The second reality of modern prepress is IT. Prepress is a highly specialised IT application: information technology drives output decisions, data production and management, and is vital for all digital prepress and media production. In bringing together these two realities, HP has redefined the framework for print media supply chains.

Those Announcements

HP has announced several new presses, new Digital Front Ends and a new Latex Ink designed for use with HP's Edgeline scaleable printing architecture. HP has also announced rationalisation of products that came with its Scitex Vision, MacDermid and NUR wide format shopping spree and a new division, Inkjet High Speed Production or IHPS. IHPS is responsible for the new web press and subsequent devices based on the same technology. All this has unsurprisingly caused more than a ripple of excitement and no little anxiety amongst HP's competitors. But the new Inkjet Web Press especially so.

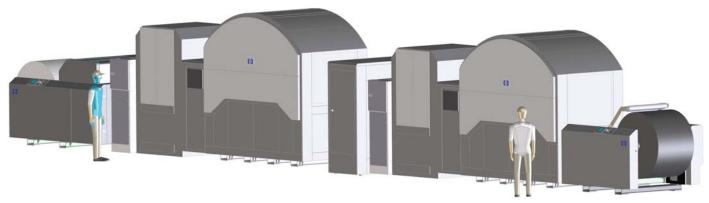
Inkjet Web Press

The Inkjet Web Press uses a 108mm printhead based on HP's Scaleable Printing Technology (SPT). Each printhead has a native resolution of 1200 nozzles per inch, 10,560 nozzles per colour, which gives the Inkjet Web Press a resolution of 600 dpi. Similar printheads are used in HP's office products, such as the CM8060 MFP and the 50ppm CM8050, but with different HP inks and different drop volumes. The HP Inkjet Web Press uses only a single colour of ink per printhead, instead of two, as in the office products. It can therefore achieve high nozzle redundancy because any

HP's announcement of a common writing technology supported by a heady mix of IT and graphics expertise is a wind of change for today's graphic arts reality. one of eight nozzles can print a dot in a 600dpi pixel. The development of this technology has cost HP \$1.4bn (\in 0.9bn) and four years of research and development but HP reckons it has a \$30bn (\in 19.4bn) market opportunity with it.

Each SPT printhead can theoretically print up to 250m drops per second and because of its nozzle density, pigment inks and a colourless bonding agent for uncoated papers, this system provides high productivity and quality. The printheads can be stacked both along and across the web to give, for example, a wider web for larger formats, additional colours and the bonding.

SPT printheads are incredibly simple to use: they snap in and snap out. The writing system automatically aligns the printheads using an inline vision system, so no mechanical adjustment is needed. Each head is pre-



The new Inkjet Web Press

configured, hence the snap-in and out replacement and each nozzle on the printhead fires up to 24000 droplets per second.

Although the new Inkjet Web Press shares printhead technology with other HP devices, drop generators on the printheads are customized for the water-based pigment inks and the required drop volumes. With a width of 762mm the new Inkjet Web Press has seven heads per colour. Its unique format creates a completely new product class. The press prints up to 122 metres per minute, which is nearly 2600 A4 pages per minute at 600×600 dpi.

The Inkjet Web Press leverages the Edgeline pigment ink system, combined with a bonding agent applied to the substrate's surface. The bonding agent is only applied where paper is to be printed, and the printed inks react with the bonding agent to be immediately fixed. This provides tight control over dot gain, so that it is the same on uncoated and coated stocks with minimum dot feathering or loss of saturation. The press includes continuous quality assurance during and across print runs, and combines automation with simplicity of use, with an inline machine vision system that measures and evaluates writing system operation on-the-fly.

There is no need for the bonding agent on coated stocks and no need for special media. The bonding agent optimises the interaction between the surface and the ink pigments because it is only applied where it is

needed. HP claims that its substrate-independent ink reduces consumables usage and can be printed on a broader range of surfaces including recycled papers.

In the new Inkjet Web Press each printhead in the array prints a 108mm swathe. Each comprises five printhead chips with integrated CMOS circuitry. Each printhead has integral pressure regulators supplying ink to the drop generator arrays. In the unit to be demonstrated at drupa the heads are configured as a four-colour system with a bonding agent.

With its 762mm format size this web press creates a new category of device. The size is suitable for transpromo, newspaper and book printing applications and at drupa HP will be printing 4-up 7 x 10ins portrait book pages creating 16 page signatures, to produce 1000 booklets per hour, plus 200 full colour double sided 2-up Berliner format (315 - 330 x 475 mm) newspaper pages per minute. A Hunkeler 600mm width offline finishing solution for a newspaper version of the new press will also be introduced at drupa, as well as technology for book production and other finishing options for HP technology.

This press's closest competitor for digital newsprint is Kodak's Versamark VL2000 which prints up to 1090 A4 ppm at 600 dpi and has a web width of 520mm. This machine is due out in 2010 and pricing has yet to be announced. Other machines to compete with the HP engine are the Océ Jetstream 2200 (2148 per minute) and the Xerox FX 980 (980 pages per minute) neither of which are as wide or as cheap as HP's new web inkjet press.

It's cheap to purchase and run because it vertically integrates several areas of HP expertise and benefits from its economies of scale in every aspect, from manufacturing to sales and marketing. Consumables pricing reflects this with a four colour page (A4, with 30% coverage) printing 4/0 at less than half a Euro cent, and about €0.001 cents per page for an A4 black page with 5% coverage printing 1/0. A dual engine duplex press will be priced at less than €1.6 million and consumables will be sold on an as-needed basis, so there will be no click charge.

These are breakthrough economics with which HP is aiming to extend the reach of the HP graphic arts portfolio of applications to include newspapers, books and 'mailstream' (HP-speak for direct mail and transaction print). A dedicated team is developing applications and working with partners to get the new press to market. It will be available in the second half of 2009 with test placements later this year. IHPS is also expected to introduce a large format engine at drupa, perhaps to compete with the Screen/Inca Onset. There will also be a new top-end Designjet shown at drupa.

Mood Indigo

Almost as impressive is the new Indigo 7000, designed for companies printing one million pages per month, and needing high productivity

In the new Inkjet Web
Press each printhead in
the array prints a 108mm
swathe. Each comprises
five printhead chips
with integrated CMOS
circuitry. Each printhead
has integral pressure
regulators supplying ink
to the drop generator
arrays.

with low Total Cost of Ownership (TCO) and high quality. The press outputs at 2.15 metres per second to print 120 four-colour pages per minute at 600dpi, which is twice the speed of the highly successful 5500 press. This has also been much enhanced with an additional feeder to support seven different paper drawers, and an inline UV coater.

The 7000's productivity effectively doubles the breakeven point for pages to 14,000 A4 colour pages, based on uptime and the total cost of ownership. The new press's print area is 14mm longer than that of the 5500 so it has more flexibility in the number of page images it can print up, or the 'number of ups'. The press has a new charging mechanism and a new writing head with 22 laser beams that makes 80,000 laser scans per second to image eight bits per pixel at 775Mpix/second or 812dpi. A new high-speed paper handling system has been added to keep up with the imaging rate. The press uses 25% less electricity than the 5500,

with on-board oil recycling. The 7000 is rated for a duty cycle of three million 4+ colour pages per month. It is in advanced beta and will be commercially available at drupa. The press will be available with or without a DFE, depending on the customer's requirement.

For 2009 HP is introducing a label version of this press, the ws6000 to provide twice the productivity of the existing ws4500. The ws6000 prints 60 metres per minute for two colour jobs and 30 metres per minute for full colour with a 980mm continuous print length, which is the imaging drum's circumference. Colour accumulates on the blanket differently

on web and sheet-fed presses, so this process has been adapted to suit the web-fed ws6000. The ws6000 is designed for volume-driven customers, providing greater productivity than the 4500, but it isn't a replacement for it. EskoArtworks has developed a dedicated DFE for this press, with bi-directional communications to MIS systems. The ws6000 can print on 12 micron to 450 micron substrates and is the basis for a double edge and roll-to-roll sheetfed press printing at 240 colour pages per minute and 960 mono, the Indigo 7200.

To be shown at drupa, the Indigo 7200 leverages 7000 and ws6000 technologies and is due for commercial availability in 18 months. This press has two print engines each with an inline densitometer on both engines plus a special buffer unit to manage data delivery to the optical system. The engines operate independently to match front to back speeds according to coverage. This press is rated for duty cycles of 7.5m A4 colour pages per month or 30m mono per month. It also has an Inline Printing Unit so it can use low cost substrates: primer is applied to paper during the print process to make it ElectroInk compatible for printing up to seven colours.



HP Indigo 7000 Digital Press.

on 40-350 gsm substrates with no show through. The Indigo 7200 will replace the ws3250 press and is largely based on the wish lists of its users. It is therefore very productive and supports a wide range of applications from bible to postcard printing. Its DFE will have AFD and IPDS support, with customisable finishing.

Up Front & Personal

Driving all these engines will be a new Digital Front End, the Smart-Stream. With SmartStream, HP is decoupling the RIP and output engine,

a move which may seem a bit weird at first glance. It isn't. SmartStream can be configured to drive multiple distributed devices, providing complex output management for all devices in a workflow. This could theoretically include office printers and proofing devices.

SmartStream leverages HP's IT expertise, plus partner components. HP has introduced a comprehensive print server portfolio, at the top end of which is the SmartStream Production Pro Print Server. This can drive up to twelve Indigo output devices (but only six 7000s and not the 7200). HP is also providing a version of SmartStream based on Creo technology,

the SmartStream Production Plus Print Server for those customers who prefer it. Altogether there are five of the SmartStream Designer (which replaces the Yours Truly server) systems as well as five SmartStream Print Servers.

HP is the world's number one provider of blade servers, which are servers on single boards that include the bare minimum of electronics to provide full server functionality. They have a processor and memory plus connection to the blade environment which handles networking, power, storage and the like. HP is introducing SmartStream Ultra based on this server technology for its very largest customers. With SmartStream Ultra, HP is offering additional services to support customer needs for data management across complex print production environments. SAP engagement (Service Access Point) is based on HP Indigo's SmartStream Scaleable Print Server and RIP solution and will be available for strategic account engagement at drupa. Customers producing high volume photo album output for example, or those with printing systems using 60-80 RIPs and 20+ presses are candidates for this service.

SmartStream helps customers to leverage the Indigo product portfolio by configuring servers based on its own technologies plus those of its partners. SmartStream is designed to help customers capture new and developing digital markets, and to manage production processes as they scale up their businesses. This is an open data processing environment \rightarrow



HP Indigo WS6000 Digital Press for labels and packaging.

and has connectivity and scaleability to provide workflow commonality across HP technologies.

The SmartStream portfolio of components supports everything from job creation to finishing with HP products, plus those from HP's 40 or so partners. Partners are selected on the basis of being best in class and having the ability to integrate with HP technologies to create robust print servers. SmartStream has connection to MIS technologies and elsewhere via JDF.

HP intends to sell these print servers independent of print engines. It has decoupled RIP and press in order to meet the many different output speeds in the market. The top end Production Pro Print Server is designed to drive up to six 7000 or twelve non-7000 engines and is pre-configured for scaleability. There are a couple of interesting tools available here which are specific to the 7000 press. The Commercial Job Estimator is a costing tool for comparing time, cost and margins with offset, based on SG&A costs, prepress information, substrate and the click charge. Print Care was developed for the 7000 because of the increasing cost of downtime, inevitable as presses get more productive. Print Care comprises HP's IT expertise plus Indigo-developed press tools to make it quick and easy for a customer to get back into production. The toolset includes failure detection tools and remote support with diagnostic tools and a webcam.

Customers can add new RIPs or printer controllers as needed which rather suggests the SmartStream technology could be configured to drive office printers and MFDs as well as digital presses. The rack-mounted technology could easily be set up to manage all enterprise printing. Network attached storage can be added along with an additional control station, multiple power supplies and managed network switches for data distribution. The additional control station provides a front end to the front end, so it can then be housed off of the press floor or even offsite.

HP SmartStream technology is based on HP's Proliant server family which is available for Windows and Linux. It provides real time data streaming for full data variability, sheet to sheet, using HP's scaleable Ultra RIP solution based on the Harlequin 8 server technology. SmartStream Production Plus Print Server powered by Creo is also expandable by adding extra Creo Fusion boards.

This technology will be sold specifically configured for different applications. The entry level SmartStream Designer server will allow users for example to import PDFs into graphic objects for short run personalisation. The SmartStream Photo Enhancement Server will be available as either a tower unit, which is not scaleable, or as a scaleable rack-mounted system. There will be an SDK for third parties and SmartStream is designed to support all HP graphic arts output paths, including both Scitex and Designjet lines and devices coming from the IHPS division.

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HP Scitex & HP Designjet

And what of those monster printers? Apart from the changes to the product mix, HP is leveraging its IT expertise for large format output. Larger sized output means increased data processing and so greater IT clout in order to drive output devices at full speed.

As for the engines, the NUR products and Scitex products overlap so HP will drop the XL2200, in favour of the NUR equivalent. All NUR solvent devices are to be discontinued because Scitex has a much stronger solvent based line, such as the recently launched TJ8500.

HP has also announced its new Latex ink for solvent based applications. Latex ink is a combination of pigment and durability-enhancing polymer, which is in latex form in the ink, that covers with less ink and that has the same general substrate compatibility as solvent-based inks. HP is still fine-tuning the printing modes as of this writing; the ink coverage efficiency will be less than UVC but will provide a per square metre cost comparable to low solvent OEM solutions, such as the Designjet 10000s. Test placements have been established and availability is expected late 2008.

The scope of HP's ink interests gives it the means to match technologies closely to markets. Latex ink was designed to take HP's thermal printing technology into new markets, leveraging its R&D and manufacturing economies of scale. It is a development of HP's existing indoor ink technology and a key design goal was to match solvent ink's attributes. The ink is aqueous (70% water) with dispersed polymers that are synthetic and not the same as natural rubber so the ink is non-allergenic. It contains some eco-solvents for water-based inks, widely used in HP's office inks, which improve compatibility with the uncoated vinyl substrate and work well with HP thermal printheads.

Latex ink also includes wetting agents and humectants for drying and pigment colorants. Heaters in a printer's Print Zone Heater evaporate the water to create a thin liquid ink film with dispersed pigment particles. Imaging dots are thus fixed by the Print Zone Heater to prevent colour bleed and dot coalescence. A Curing Zone Heater then converts the latex polymer to a continuous film that encapsulates the colorant and bonds to the substrate surface.

Latex ink is supplied in a new type of ink container that looks rather like a wine box. Unlike a wine box the container has an integrated circuit to monitor ink usage, which is something the wine industry might want to consider. Latex ink prints on uncoated, solvent-compatible media, and is scratch, smudge and water resistant with a wide colour gamut. It is specifically designed for use in devices that print outdoor quality at 70m² per hour and 35m² per hour at indoor quality print mode setting. It produces dry, odourless prints, which are nonhazardous with very low VOC (Volatile Organic Compound) emissions, so there is no need for special ventilation.



HP Scitex TJ8500.

Compared to its other inks, HP's Latex Inks represent an entirely different technology platform for HP. They are designed for printing outdoor prints on standard uncoated substrates, for instance, vinyl banner materials that are viewed at moderate or long viewing distances. HP Vivera Inks will still be available for home inkjet customers, where outstanding photo quality, indoor durability and versatility are needed.

The new Latex ink platform can work on machines costing from \in 45,000 to \in 64,000+ and printing up to 100m^2 per hour. HP has also said that it will introduce an ink mixing and matching service in line with customer demand. HP is introducing three new Latex ink compatible substrates at drupa with an emphasis on recyclability.

Boundless Ambition

HP is bringing together its considerable resources to support all types of print, from home photos to building wraps and pretty much everything in between. It has a couple of gaps, such as not having a real answer to the Xerox light production machines like the Docutech 8000. But it claims it isn't interested in this market, preferring instead to concentrate on capturing pages where the margins make it worth the effort. The company has a dedicated support programme to help its sales people to accelerate the so-called analogue to digital conversion, capturing pages from offset, but more importantly creating new applications. The programme involves people, courses and a website and by drupa 2012 or 2016 HP estimate that 1000 billion pages will have been printed by HP Indigo customers. This amounts to 35% continued page growth, although what that's based on is anybody's guess. But that doesn't matter. The real point is that HP is pulling out all the stops to gain a dominant position in the graphic arts business.

Whether or not HP succeeds depends on its competitors, especially digital press manufacturers such as Canon and Xerox. However for digital and conventional manufacturers alike, HP's vice president for the graphic arts and imaging business, Steve Nigro spoke for the whole industry when he said: "We've hardly started ... this industry is on the verge of an explosion". Let battle commence.

- Laurel Brunner



Certifiable Printing Companies

Demands for faster turnaround, less waste and higher quality are encouraging more and more printers to automate prepress processes. Printing by the numbers may seem anathema to traditionalists, but in the face of rising competition and changing market dynamics the importance of digital data for automated workflows can't be ignored. For many printers the problem isn't so much to do with automation and data management, as how to be sure that the data you print, yields the results your customers want.

This is why throughout the printing industry interest in standards is growing. Printers can get certified for standards such as ISO 14001 for being environmentally friendly by bodies such as the British Accreditation Bureau. This organisation has a series of comprehensible and straightforward criteria against which to check a printer's compliance, so it's not complicated. To make it even easier, ISO has a standard (ISO 17021) for checking the certifiers that outlines the 'requirements for the competence, consistency and impartiality' of the body carrying out audits and certification procedures. The standard is for management systems and covers everything from quality assurance (ISO 9001) to environmental management (ISO 14000). So if you want to get certified for 9001 or 14000 there are organisations with the competence to do the job.

But when it comes to checking standards of a rather more esoteric nature, matters aren't quite so simple. Quality control for printed output, for example, needs to manage a complexity of criteria and procedures. Digital prepress and print production processes have to produce an accurate dataset, and rely on the interplay of different digital systems. In this context certification for standards compliance is rather less straightforward.

Hard as it is, printers increasingly want some means of proving their competence for high quality work, particularly compliance to ISO 12647, the standard for Graphic Technology Process Control for the Production of Half-tone Colour Separations, Proofs and Production Prints. Unfortunately only FOGRA in Germany and UGRA in Switzerland have certification programmes in place for this standard and the certification process is quite expensive and time consuming. In the UK, FOGRA has authorised Bodoni Systems and two consultants (Dan Wilson and Neil Barstow) to carry out ISO 12647-2 certification on its behalf. FOGRA's fees start at several thousand Euros and can rise to quite giddy heights.

Nonetheless, certification is important because it gives printers some formal means of proving their outstanding competence to print buyers.

Printing by the numbers may seem anathema to traditionalists, but in the face of rising competition and changing market dynamics the importance of digital data for automated workflows can't be ignored.

Customers are becoming increasingly concerned with value for money and are looking for some means of judging quality, so ISO 12647 is a good place to start. Certification is proof that a printer can produce predictable print results, reach well-defined target values and work with standard device profiles. For print buyers it should also mean that their work is not tied to a specific printer, and that over time the same quality of work will be produced, for example for reprints, wherever it is printed.

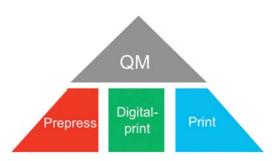
There are benefits all round: the print buyer can rely on consistent quality, the press operator can be confident that the proofs and print match, the printing company owner can expect reduced costs, and consultants have a means of extending their services. In these straitened times perhaps the most compelling is the cost reduction bit. Costs will come down through optimised paper, ink, dampening solution and other consumables usage, and faster makereadies. Printers working to ISO 12647 will be able to offer better print quality on cheaper paper, and reduce the number of faulty plates both of which also reduce costs.

But certification has to be totally impartial to be valid, and compliance to ISO 12647-2 is only part of the story as far as quality control goes. Output quality should be managed within an overall quality assurance framework. Two organisations are working on certification of ISO compliance within the framework of ISO 9001, the basis of a complete quality management system for businesses, taking things further than just ISO 12647. The Swedish Printers Federation in Sweden and the BPIF in the UK are looking at ways of certifying their members, because both organisations want to improve the overall quality of the work their members produce.

Swedish printers are not always comfortable reading technical standards such as ISO 12647 in English so their methodology is obviously in Swedish and includes added explanations of key passages in the ISO standards, clarified for local relevance. The Swedes have been working in conjunction with Digital Dots in Sweden and the UK and Medit Consult in Denmark.

Both national federations want to come up with a procedure against which printers can be assessed for certification. Through Digital Dots in the UK the work done in Sweden is being shared with the BPIF. Surprisingly, both organisations have come up with similar ideas about how certification should work and are developing accredited and inexpensive methodologies that can be formally endorsed, and which have real validity and teeth.

The United Kingdom Accreditation Service (UKAS) in the UK and Norske Veritas (DNV) in Scandinavia are among the bodies providing this endorsement. UKAS is the only organisation of its kind recognised by the British government to assess providers of testing, inspection, certification, testing and calibration services compliant with internationally agreed standards. Along with Lloyd's Register and the American Bureau



The Swedish ISO 12647 certificate includes processes within prepress and quality management, not only print related technical issues.

of Shipping, DNV is one of the three major organisations dedicated to providing risk management services for maritime insurance, plus certification, consulting and training for a variety of industry sectors. Both organisations essentially underwrite the competence and impartiality of evaluators.

The Swedish version of the standards compliance procedures is now complete and the parties involved have started working towards defining certification methodologies. This document is currently under review by the Swedish Printers Federation. As with the UK certification, it will include compliance to ISO 9001. An ISO 9001 certificate is not mandatory, but much of the terminology and methodology in the Swedish Printers Federation certification is borrowed from ISO 9001. It also includes an obligatory formal audit from an accredited certification body, and assessment of the printer's knowledge of preflighting and PDF/X, hard and soft copy proofing and general prepress knowledge. This is important because printers should be expected to understand the hows and whys of their own quality control mechanisms, at least in principal, if they are to take responsibility for continued quality improvements.

Besides print and process quality assurance, these certification processes will assess such things as error handling and customer complaints, so that if there are problems, print buyers (and printers!) have an audit trail to identify who is responsible and how the complaint was sorted out. They also assess a printer's competence to make and interpret density and colour measurements in-house. This is a crucial difference from the FOGRA and UGRA methods which require printers to send away prints for evaluation and measuring. This obviously has a cost implication and doesn't really help printers to learn and improve on their own procedures, so the Swedes have elected to let printers do their own measuring. The results are of course evaluated by a knowledgeable auditor.

Certification is also open for digital printers in Sweden and assumes ISO 12647-2 as the target rather than 12647-7. It is also open for prepress agencies, who focus on both ISO 12647-2 and -7 as well as quality management. The Swedes are basing compliance on a scoring system, with different parts of the process given different maximum scores. The categories are prepress, digital print and offset, plus quality management. A company can't be certified if it hasn't reached a certain level for both the quality management and prepress modules. The Swedish Printers Federation hopes that by using this scoring system, printers will be inspired to strive for constant improvements. In Sweden the certificate is planned to be valid for three years, with annual external and internal audits.

The BPIF is now working to define criteria to include in its certification process for British printers. The plan is to set up two or three test sites this summer and there are obviously many issues to resolve in the meantime. These range from the relatively simple, such as the frequency of self-validation checks to the complex. For instance, how do we train



The Swedish Printers Federation (GFF) help their members get certified according to the ISO 12647-2 print standard, by providing guidelines and technical references in Swedish. individuals skilled in certification procedures to be colour management competent as well?

There is obviously a tremendous amount of work to be done and for those doing it, that is the bad news. The good news for printers is that the work is underway and progressing with good speed. Key to this project is to ensure that for printers, gaining certification should not involve too much work. Those printers who already have their workflows under control are obviously at an advantage, and none of what's involved in certification should come as much of a surprise. For the rest, ISO certification is a good place to start with gaining efficiencies and savings throughout the business.

- Laurel Brunner



Transpromo in Action

Judging by the growing hype surrounding the transpromo market, one might think it's something completely new. But one would be wrong. This market was recognised, if not immediately in its present form then near enough to it, by a credit card company in Japan. In March 2005 Sumitomo Mitsui Card Company Limited (SMCC) unveiled a new service to provide full colour digitally printed statements for its credit card customers, a first for the industry. The service is in partnership with Fuji Xerox and JAIS, a subsidiary of the Japan Research Institute providing systems integration, operation and printing services. The objective was to increase business to its merchant customers, but in so doing SMCC created a new print sector: transpromo print.

SMCC has its origins in 1876 when the Mitsui Bank was established in Japan. The company grew steadily both organically and through numerous acquisitions to become one of Japan's largest financial institutions. The present entity was formed in 2001 and is currently valued at ¥665bn and employs 16,407 people. Sumitomo Mitsui Card Company (SMCC) was established in 1967 and in 2002 the bank established a holding company, the Sumitomo Mitsui Financial Group (SMFG), with the card company being a wholly owned subsidiary of this entity. SMCC started life as a credit services company and began providing credit card services in 1968 and is now one of Japan's leading credit card companies. It employs around 1900 people.

Over the years, SMCC has continued to lead innovation in the financial services market by providing innovative, globally competitive services that meet customer needs, both internet-based and for conventional purchasing. SMCC has consistently led its market, through innovation and through developing synergies across its products and with business partners. The group offers VISA and Mastercard credit cards domestically and internationally, and in the eighties was one of the first banks in Japan to place cash dispensers in Tokyo and Osaka as well as credit authorisation terminals with merchants. SMCC's range of services has developed over the years to include various credit card services designed for different markets such as women, businessmen, students and young people.

In 1999 the bank moved into digital media and set up its internet-based payment systems. It was the first company in the financial industry to obtain the license for using a privacy mark based on the Japanese Institute of Standards' Q15001 standard. Q15001 stipulates the requirements for personal information protection and certification requires passing a series of strict checks, carried out by the Institute to ensure the control and protection of personal information held within the certified company. SMCC has a customer call centre in Osaka to provide financial advice and

Judging by the growing hype surrounding the transpromo market, one might think it's something completely new. But one would be wrong.

also has a new financial service, One's Style, established in collaboration with SMCC in 2003. This service was among the first in Japan to combine internet banking and credit card functionality.

SMBC's commitment to digital data processing has obviously been central to the development of its business goals. The company is strengthening its earnings power through a range of initiatives that are increasing the number of credit card holders and affiliated merchants. Working with NTT DoCoMo, Inc. a mobile telecommunications company, in 2005 SMCC developed a mobile phone-based electronic credit settlement service. NTT DoCoMo is the company behind i-mode which was launched in 1999 and is now the world's most popular mobile internet service, providing e-mail and internet access to over 47m subscribers.

In 2001 NTT DoCoMo introduced FOMA the world's first 3G mobile service based on Wideband Code Division Multiple Access (W-CDMA) for delivering multimedia content. This technology can manage a wide range of content including sound, video, text and still images. It uses spread spectrum technology which uses a wider frequency band to transmit radio signals, plus multi-rate technology that selects the speed and transmission channel, according to the requirements of the data type and file sizes.

SMCC is also actively marketing services in the field of payment of utility charges, hospital bills and so on, and matching its credit card services to its customers' lifestyles. The bank has been quick to recognise the need to offer services designed for different segments of the population, and all of this is intended to encourage as much use as possible of the company's credit cards. It also provides payment collection agency services and is an operational service provider handling card issuance, cardholder invoicing, and settlement of accounts of other cards.

In addition to its highly sophisticated cardholder services, SMBC also offers internet-based account management with user experiences personalised to individual account holders.

Operations

Central to the bank's operations is the printing and distribution of monthly statements to its customers, summarising the month's credit card activity and notifying customers of what they owe the bank and when they need to make payment. Transaction documents are generally printed with variable data using high speed digital data processing, generating data quickly enough to run digital printing engines at rated speed. This can be as many as several hundred A4 pages per minute. The colour components of these pages used to be traditionally preprinted using conventional printing techniques and is limited to the individual customer's account activity. SMCC's service, the first of its kind, uses digital colour presses to print both colour and monochrome variable data elements in a single pass, thereby allowing the bank to customise

In addition to its highly sophisticated cardholder services, SMBC also offers internet-based account management with user experiences personalised to individual account holders.

all content on the page and so leverage its highly complex and detailed customer information.

The colour printed statements provide Visa cardholders with the latest information on products and services customised to the individual purchasing patterns of each cardholder. This information is advertising content tailored to the individual customers' personal details, such as address and age, as well as their past credit card usage. Although SMCC's original intention was to encourage sales through its merchant network, the company has an opportunity for advertising sales which it is exploiting.

Technology Base

A key partner in this project is JAIS Ltd., the Japan Research Institute's outsourcing centre. JAIS provides online printing of mainframe computer output data and offline printing for detailed data, depending on the needs of individual customers. A new printing centre for JAIS has

been created based on Xerox's iGen3 digital print production press and is the basis for JAIS's entry in the digital printing service (DPS) market, which it expects to expand rapidly.

JAIS expects that companies such as financial institutions will use its print-on-demand (POD) services to produce low cost, high quality variable data printing and to use this medium for direct and personalised marketing and advertising services. The organisation's digital printing system includes 24

A fleet of iGen3s at JAIS's facility in Japan.

Xerox iGen3 four-colour digital presses, and is one of the world's most innovative digital on-demand print systems. JAIS combines digital output with unprecedented, highly advanced information in data management services.

The Fuji Xerox technology is designed to image A4 pages, full colour, high quality digital print at a rate of 110 A4 pages per minute. JAIS has the capacity to print 2640 pages per minute, or 158,400 pages per hour. The printing of credit card statements is a key part of the company's business strategy with full colour transactional/promotional printing on the iGen3. Fuji Xerox's new cold flash fusion continuous feed (web) colour engine, the FX980 prints 980 full colour variable data A4 pages per minute and enables the combination of highly sophisticated variable

data colour images and text, and output at extreme speeds. It is specifically positioned for the JAIS and SMCC type of application.

The use of colour enhances the visibility and recognition of information for the reader and SMCC is closely matching extra content on customer statements to the reader's interests. The idea is to increase the likelihood of a positive response, so photos and colour illustrations can also be added to provide additional information such as locations of Sumitomo Mitsui Card member stores, or goods available in exchange for card loyalty points. These features add further visual appeal to the statements as well as value-added information, mirroring the customer's internet-based experience.

SMCC sends its customers itemised credit card statements monthly. This is one of the closest possible contact channels an organisation can have with its customers. According to Xerox Corporation research, 98% of people read statements at least once and 85% read them twice. Thirteen percent of people re-read statements three times, making transactional documents a highly effective communications medium, and so a highly efficient vehicle for advertising. Transactional documents are unique in their ability to offer highly personalised information tailored to individual needs.

Linking its data systems with statement printing systems has made it possible for SMCC to further segment its customer categories according to individual attributes and an individual's credit card history. This allows SMCC to deliver even more personalised information to each member. Sumitomo Mitsui Card is also conducting enhanced one-to-one marketing based on rich customer information analysis. This information is based on data collected in its Customer Relationship Management (CRM) system, and offers information to specific target groups. This is advertising on behalf of the merchant customers, designed to increase the credit card usage. This earns the card commission on sales from merchants and very often interest as well from credit card customers.

The definition of criteria for the target customer groups can be highly refined, such as female office workers in their 20s living in Tokyo and who use their card frequently in boutiques. Or it could target men in their fifties who use their card to pay green fees, and live near a golf course. This finer segmentation and information offering lets Sumitomo Mitsui Card strengthen its relationship with members, and it is also likely to lead advertisers away from traditional media such as newspapers, radio and television. Alternatively it could be an excellent means of leveraging existing advertising campaigns.

Sumitomo Mitsui Card was the first in Japan to issue the Visa card, and it aspires to become the main credit card for more than 13m of its members. This service is expected to help it grow its credit card business and provide the basis for new media driven services, particularly incorporating the internet.



This venture has already proved a success for SMCC, however, the company will not share information about its plans to develop this business. Amongst the considerations is monitoring of patterns and changes in credit card usage, in order to better match content to readers, or even to anticipate their interests. A logical extension of the service would be the addition of advertising to internet-based customer accounts, plus related merchant services to yet further strengthen the relationship between the bank and its customers. The bank would not comment on any of its plans in this direction, however, it is clear that transpromo marketing is already happening and successful on a substantial scale. This bodes well for its future.

- Laurel Brunner



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