

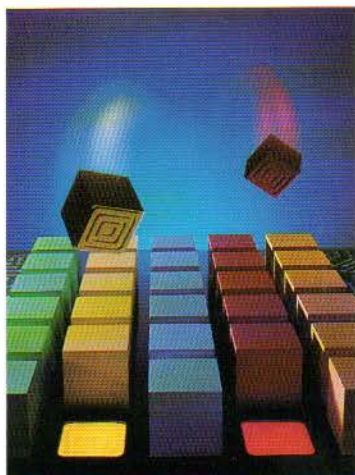
FOCUS NEWS

INFORMATION BUILDERS, INC.

WINTER 1990

THE 90s
INFORMATION
ARCHITECTURES





FOCUS NEWS

WINTER 1990

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The systems of the 90s, it is clear, will be global in scope, even within smaller businesses. To implement these systems, in the context of historical developments in systems methodology, the role of FOCUS in an architecture founded on a common data model is clear. Its interoperability and conformance to standards provide the glue that puts it all together.

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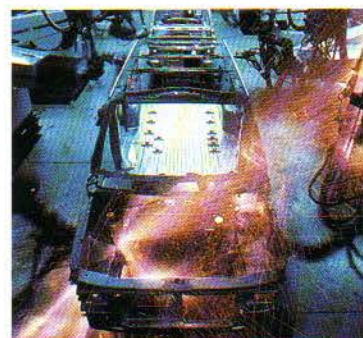
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Betting The Company

Wagner & Teldon was enjoying explosive growth, but straining to manage it in a complex environment with obsolete technology. The solution? Run the whole business with PC/FOCUS-MultiUser.



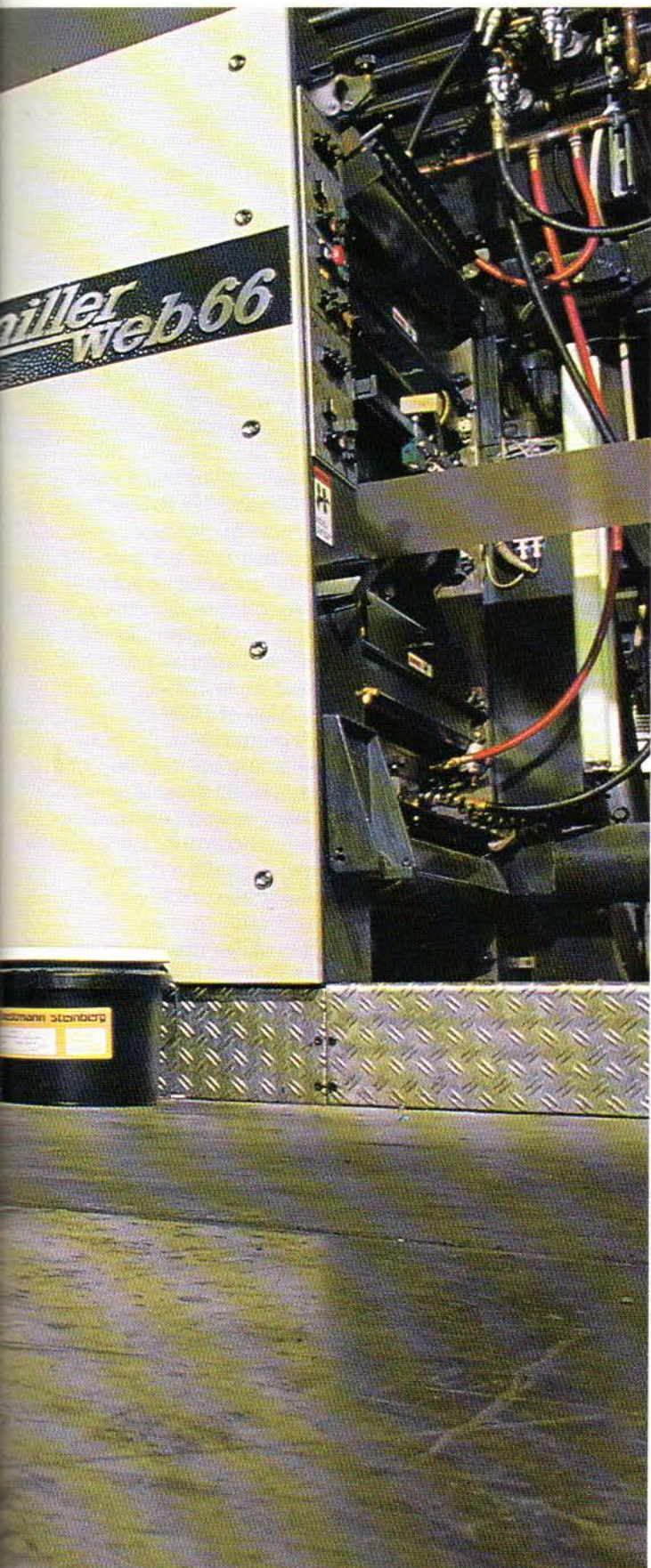
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An American in Cannes

Attendees of FOCUS World and FUSE International in Cannes were treated to a dizzying array of renowned speakers, new technologies, and the charms of the Mediterranean. One reporter's look at a watershed event.



PHOTOGRAPHY BY JOHN TERENCE TURNER



Betting the Company

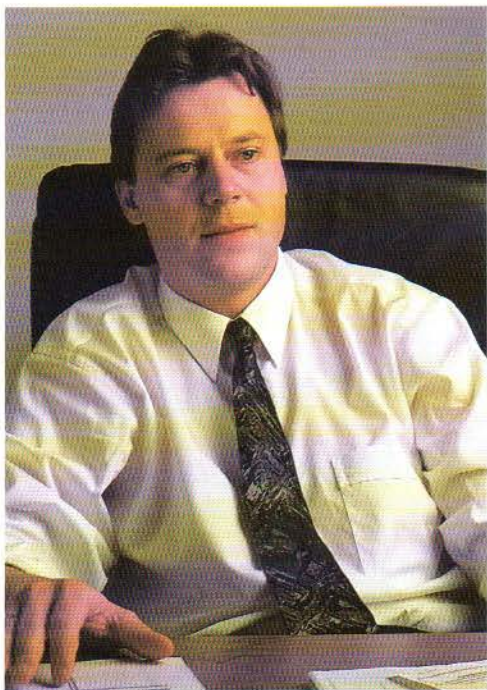
PC/FOCUS-MultiUser helps Wagner & Teldon grow to up to 500 orders a day with an integrated LAN-based system, replacing an overburdened minicomputer with low cost hardware and software.

Supporting the growth of a dynamic, expanding company is an exciting role for information technology. Sometimes, lack of support can make the difference between success and failure. In the best case, systems support becomes the enabling technology that leads to realization of an entrepreneur's dream. Implementing technology in manufacturing, where capital resources can be strained, requires vision, creativity, and often a willingness to gamble to achieve advantage. Wagner & Teldon, a printing company specializing in calendars, is a case in point.

Today, W&T is a major player in the advertising calendar market in its native British Columbia; they sell over 1 million calendars there alone—more than one calendar per household. Many realtors in BC, and through the rest of Canada and the United States, obtain advertising calendars from Wagner & Teldon. The firm has also penetrated the credit union market very well, and a variety of other small and large businesses throughout North America are customers.

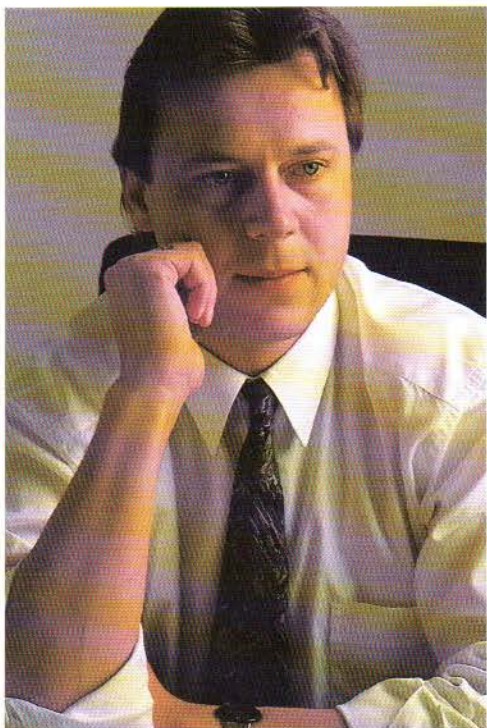
The specialty advertising market is a substantial one—over \$4 billion in 1988, according to Cate Brennan, manager of external communications for Specialty Advertising Association International, headquartered in Irving, Texas. Advertising calendars were the backbone of the industry in the first half of the century, according to *The Counselor*, a leading trade journal. In recent years, they have slipped to fourth place, behind wearables, writing instruments and business-related products, but are holding their own. Brennan adds, "There are over fifteen thousand products in the specialty advertising market, but calendars hold 10%." Wagner & Teldon's unique die-cut

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If you service the customer well, you can count on more than five repeats."

To break in, Wagner gambled on sample mailings.



We emphasized that we want to use the latest, low-cost micro technology ... any information you'd want is available."

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window (produced on a custom-made machine) in the center of the calendar, and its creation of customizable, unique local and regional products, are dramatically different approaches that have generated substantial volumes of new business for the firm. Calendars remain a mainstay of the specialty advertising industry because "it delivers the message 365 days a year."

CREATING THE MARKET

Originally, Wagner & Teldon imported and produced calendars exclusively for retail, typically book and stationery stores, as well as a small amount of advertising calendar business. Company president Volker Wagner joined his father's business in 1980. Over the next year, he learned the business, which at that time did none of its own printing. "At times, there were three of us," he says. "My father, my wife Elke, and me. We got our first computer, and Elke put in long hours getting that side of the business in order. In 1982, we shifted our emphasis to the advertising market. We got a contract from the Greater Vancouver Real Estate Board for 500 orders, and things began to take off." Until now, the emphasis had been on scenic, upscale product, including imported materials. The new ventures were a gamble; the firm had to create samples, have them printed, and begin selling them into a market that differed greatly from their retail base.

W&T found that they were able to compete with older firms by using its innovative ideas like regional calendars and customized imprinting, and the firm realized a rapid expansion in sales. They did their own calendar imprinting while still farming out general printing, die cutting and binding of the end product. On a personal level, Wagner gambled too—he took on the role of President in 1983, tying his personal fortunes firmly to

those of the company.

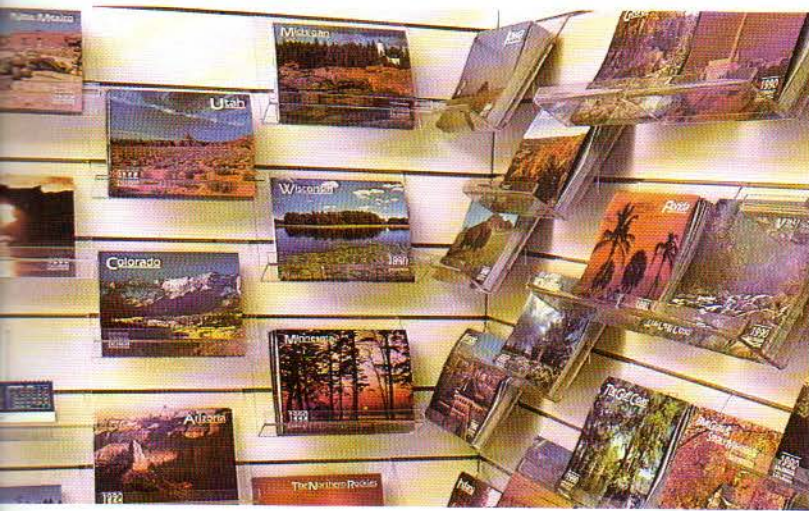
Recognizing its opportunity, the firm moved aggressively; more products and staff were added, and by 1984 regional calendars for all of Canada had been created. They began to field a direct sales force to market the products.

At about this time, Jörg Wagner, a lawyer, joined the firm. Mr. Wagner senior, semi-retired, and together his two sons conceived the business plan needed to expand into their own printing operation. The older product line was essentially flat, and they wanted to take more risks, seeking new market segments. Printing their own product would make this more achievable. "Jörg's role was critical," says Wagner. "He provided many of the manufacturing ideas, and we installed our first press in May of 1985."

The first attempt at printing was not as successful as hoped; the secondhand press purchased was inexpensive, and the results showed it. Again, it was time to gamble—if quality results were to be achieved, the firm would have to take financial risks to obtain better equipment. In January 1986 they installed a \$1.4 million Miller 6-color sheet-fed press, and created their first U.S. state calendars on a trial basis. "We printed 12,500 for the state of Washington," says Wagner. "In 1989, we sold 200,000." That result was spectacular, of course, but others did well also; in the very first year, response to trial mailings for marketing purposes was sufficient to break even on the expense of printing the samples blind. And that meant success: the first sale is the critical step. "If you service the customer well, you can count on more than five repeats," Wagner notes. The strategy of getting favored supplier status from industry groups, real estate boards, etc. was also pursued.

COPING WITH SUCCESS

By late 1988, business growth was so explosive that



The creation of customizable, unique, local and regional products has generated substantial volumes of business.

the business' resources were becoming increasingly strained. In addition to direct sales, the firm began to add distributors, greatly adding to the complexity of the billing, shipping, and production issues. They did more direct mail marketing, spending upwards of \$50,000 to send some 800,000 pieces out to potential customers.

The firm moved to new quarters in Richmond, British Columbia in 1989 and acquired a new Miller web press, which provided a 6-fold increase in printing capacity, with the ability to print both sides of a sheet simultaneously, add coating during the run, and do folding on the press itself. They also installed a customized die cutting machine, which was online by September. With this advanced equipment, it became economical to provide specialized calendars at very competitive prices in quantities as low as 100.

But there was another problem: the growth had overwhelmed the capacity of the Centurion minicomputer which had been bought in 1980 for handling retail orders. The six PC-compatible machines acquired in late 1987 to handle the advertising calendar business had succeeded beyond expectations—the bulk of business was already in this new market. Coordinating the activities had rapidly

become the bottleneck.

The majority of the calendar business is, of course, in the later part of the year; typically, the production and shipping parts of the business peak from August to December. With thousands of orders moving through the plant, it became critical to manage and integrate all the information needed to schedule and coordinate design, production, shipping, and invoicing. Simple order entry had become significant; on the Centurion, adding a new customer was very time-consuming. Today, 200 orders a day are routinely processed, with peaks of 500.

Order entry had been processed using PC/FOCUS on the micros already installed, and many of the inter-system issues that had arisen called out for a more global role for the business systems. One example was the time problem—order entry and shipping may be separated by months. Orders may be received in February for shipment in, say, November.

The simple approach would be to just solve the immediate problem. But the entrepreneur looks for ways to *improve* business with technology as well. One of Wagner's "bets" was to adopt and expand an incentive pricing scheme. Customers could reduce their bill through a variety of scheduling schemes that simplified W&T's production

scheduling and shipping plans, as well as by paying at appropriate times. The gamble was whether the firm's systems would be able to handle the increased complexity.

SOLUTION:

PC/FOCUS MultiUser

At this point, Wagner turned to Herb Spencer of Spencer-Pacific Systems, Inc. (SPSI). Dr. Spencer recommended a totally revamped approach; "It was clear that W&T need a fully integrated approach. We agreed in February 1989 to develop a comprehensive system and have it operational by August." The agreed-upon system was to handle all aspects of the business: Order Entry, Order Tracking, Inventory Control, Shipping, Billing, Cash Control, Receivables, and Sales Analysis. This was indeed "betting the company"; Wagner was gambling that a system could be delivered to run virtually the entire business, and that it could be put in place during peak season.

SPSI determined that the optimal approach was to use PC/FOCUS MultiUser. A critical factor in the decision was the ease of development: "We created over 400 programs in 4 months using only 2 programmers," says Dr. Spencer. "FOCUS provides a development environment that permits rapid prototyping, and the network aspects are completely transparent." The comprehensiveness of the design was a good test of Dr. Spencer's approach to systems development, which includes a data modeling methodology that was described in *Extending the Entity-Relationship Model*, FOCUS Systems Journal, May 1988.

The system today stores 25,000 addresses, and in early October had over 20,000 order lines. Orders are monitored through the systems with dockets, used at various points in the design and production process to track various stages of manufacture and shipping. The tracking is done

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The growth overwhelmed the Centurion minicomputer... today, peaks of 500 orders a day can be processed.

with a bar code scanner; some 200,000 scans are expected by yearend, and when FOCUS News visited the plant, over 75,000 had already been entered.

Part of the system's complex-



With FOCUS we can get all the information we need to run this business whenever we need it—without having to make huge investments in traditional computerized solutions.”

ity is attributable to the interactions among order, ship-to, and bill-to addresses. These may all be different, and the order must be linked to the appropriate logo files for printing, as well as to a variety of options on each order. In the case of sales through distributors, the customer must be linked to the distributor as well. A single order for 10,000 calendars can easily involve 100 different ship-to locations, logos, and shipping labels (which are generated automatically.)

All this information is critical to production and shipping, and the accounting needs are very different in terms of data

organization. Moreover, sales analysts might want another view of the data entirely. “Our biggest marketing advantage can come when we can track which previous customers have not ordered and alert the appropriate distributor. By making their job simpler, we can get more business.”

KEY ISSUES:

COST AND RELIABILITY

A key decision factor was cost. “The fact that we could implement a system like this on seven superfast, low-cost 80386-based clone machines linked in to the older machines already in place was a major factor,” says Wagner. “We told SPSI that we wanted all the users to have access to all the data all the time. We emphasized that we want to use the latest low-cost micro technology to service our growth. Herb was able to do everything I asked him to do; any information you’d want to get out is available.” The new equipment was brought in for less than \$60,000.

A robust system is critical for W&T’s business, because the volume of individual orders during the 4-month peak period is in excess of 70,000, involving over 20,000 customers, consumers, and shipping locations.

“This is a production environment,” Dr. Spencer adds. “FOCUS’ background in mainframe- and mini-based mission-critical systems for over 15 years clearly differentiates it from the other micro-based solutions we looked at. Micro software vendors are new to this sort of system—its transaction processing requirements, access for multiple users, version control, development tools, etc. FOCUS has a long history of proven effectiveness in that area. We have been pushing the product to the limits of our network operating system platform in the current release; the new version for OS/2 will substantially improve performance for us through its improved use of memory that we already have

but were unable to tap. OS/2’s removal of memory-based limits and ability to multitask will let us develop more sophisticated designs that are not constrained by DOS memory limitations.”

In addition to the brute force issues of handling large transaction volumes, FOCUS is being used in a number of inventive ways. For example, a customized interface was created in assembly language to create and read bar codes. These are created uniquely for each individual order, and used to track work either at terminals or at low cost scanner sites along the production line, enabling tighter control of materials in process.

In the future, Wagner hopes to use the new system for more analytical tasks that will allow him to continue to evolve new ideas for promoting and selling the company’s products. He is eager to put Dr. Spencer to work on some of these plans, now that feasibility has been demonstrated and the reliability of the system has been tested. “As you get more sophisticated, accuracy becomes critical because so many things are driven by the system,” he says.

Putting up such a vital system rapidly, while production was going on, was a huge risk. Moreover, the use of low-cost software and hardware added substantially to the uncertainty. Wagner never looked back. The decision to scrap the increasingly overburdened mini for a LAN-based system was made with eyes open, and has paid great dividends. The firm has tripled in size in the past three years, employing over 100 people at peak times, and the new systems provide a platform for the continuation of that growth. “With FOCUS, we can get all the information we need to run this business whenever we need it—without having to make huge investments in traditional computerized solutions,” Wagner says today. “It was a big bet, but it has paid off beyond my expectations.” ♦

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