

people in the organization what the business processes are, the better they'll do. Communication skills are very important."

Stay Loose

Flexibility, as well as skills in change management, are also important, notes Griffin. "Data warehousing is not rocket science, but it's different from the typical development life cycle. It's not something where you can design a spec and build it to the T. You have to be willing to deal in some ambiguity, and take that ambiguity and make it real and tangible. It's a very iterative process. It deals in data structures that aren't traditional."

A typical engagement for Griffin's company ranges from six months to two and a half years, depending upon the scope of the project. She says she prefers to hire consultants as full-time employees, but as her company designs for many different hardware platforms, databases and tools, they often contract for specialized talent. Depending on experience, contractors and consultants can demand anywhere from \$60 to \$200 an hour, she says.

Linda Gallotto, manager of IT recruiting at Oxford & Associates, Inc. in Peabody, Massachusetts, which has over 1,000 consultants placed in engagements around the country, says demand is high for Oracle skills for enterprise and data warehouse work, as well as for experience tying Baan and SAP enterprise resource planning (ERP) applications into the warehouse. She says her organization looks for contractors who also have worked with users in past implementation projects, have five to 10 years of business experience in the IT world, and have previously built a data warehouse or been part of a project.

John Ladley, program director at Meta Group, a market research firm in Stamford, Connecticut, adds that data warehouse contractors should also possess client/server skills, a "strong knowledge of data-driven processes like modeling or RAD [rapid application development], a solid knowledge of decision support systems and approaches, and good knowledge of physical database design alternatives like star schema."

Davis, whose firm has been helping the Big 6 and other large consulting firms staff up with full-time consultants, says he is just starting to see the field open up for shorter-term contractors. "There is a reservoir [of opportunity]

after the Big 6 come in for people trained in the nuances of data warehouse management," he says. In addition, he says, short-term contractors will find opportunities in employee training, front end programming, and ongoing maintenance.

Industry experts agree that on-the-job training is the best way to gain data warehousing skills. But there is also a plethora of information available today compared to just a few years ago, says Griffin. In addition to numerous articles available via the Internet, Griffin also suggests attending seminars and vendor road shows.

With the right skill set, many independent contractors "can stay busy with just personal referrals" because demand is so high, says Oxford's Gallotto. ■

Colleen Frye is a freelance writer based in Bridgewater, Massachusetts.

Data Warehouse Resources

On-Line:

The Data Warehouse

(<http://www.data-warehouse.com>)

On-line resource featuring forums with industry experts, news, software demos and vendor information.

Data Warehousing Career Newsletter

(<http://www.softwarejobs.com/dataware.html>)

Weekly newsletter featuring career opportunities and informational articles.

Publications:

Data Management Review

(<http://www.dmreview.com>)

Powell Publishing Inc., 617 South 94th St., West Allis, WI 53214-1222. Tel: (414) 771-7687; fax: (414) 771-8058.

Practical Techniques for Building Dimensional Data Warehouses, by Ralph Kimball. John Wiley, New York.

Building the Data Warehouse, by John Inmon.

John Wiley, New York.

Data Warehousing & Decision Support, Vols. 1 and 2. Spiral Books, Bedford, New Hampshire.

Atre's Road Map for Data Warehouse/Data Mart Implementation. Atre, Inc., InfoEdge, Stamford, Connecticut (<http://www.info-edge.com>).

Data Warehousing: Tools & Solutions, Bloor Research, U.K., InfoEdge, Stamford, Connecticut

(<http://www.info-edge.com>).

Industry Trade Shows:

DCI's Data Warehouse World, Toronto, Oct. 28-

30, 1998.

DCI's Database & Client/Server World, Chicago,

Dec. 9-11, 1997.



Contractors Find New Assignments as Teachers

Anne Martinez



With new technologies arriving at a rate that threatens to make your head spin faster than the platters of a disk drive, technical education is becoming an increasingly critical factor in business success. Although the very nature of IT contracting has ensured that you've learned to learn, not everyone is so lucky. The world of business is filled with people who need to get up to speed on everything from object-oriented development to intranet bridging. Someone has to teach people all that new stuff—and who better than contractors?

Help Wanted

As long as the computer industry keeps rolling out new products and technologies, there will be a demand for related education. "It's just a natural result of the growth in software industry," says Cynthia J. Boyle, technical placement consultant at Clear Point Consultants in Peabody, Massachusetts. Boyle, whose company specializes in placing trainers, says that there aren't enough solid technical trainers to meet client needs.

In the Atlanta area, Joe Upshaw, a consultant for Winter, Wyman Contract Services, has identified two trends apparently fueling the training market. "Companies are beginning to train existing staff a lot more," says Upshaw. "Good documentation is woefully absent from most development projects, and the knowledge kind of walks out the door with the contractor," he says.

Upshaw also feels that contracting companies are increasingly using training as an incentive for company loyalty. "You don't really care who's taking a chunk of your paycheck," says Upshaw, "so it might as well be this current company as long as they're finding you contracts." Investing in education for contractors is becoming easier for consulting firms as training increases con-

tractors' skills and, in time, makes them more employable.

Then there's the education gap. The growth of the Internet has really opened up a new era of computing, one where complex heterogeneous environments are rapidly replacing the single-platform operations of old. Managing, operating, and developing software in this environment requires an expanded technical repertoire—and a constantly changing one. It also requires continuing education.

What Trainers Do

Contractors interested in working as technical trainers will find a variety of career options. One of the more common is to contract with training centers. The training center schedules the class, enrolls the students, and equips the lab. You show up and teach the appropriate curriculum. Classes last from a few days to a week, and payment is by the day. To teach a vendor-approved course, you must be certified as a trainer from that

To be a good trainer, you'll need to be a technical expert on the subject you want to teach. You'll be expected to handle questions that pop up during a class, as well as troubleshoot any problems in the lab environment.

vendor. Microsoft authorized training and education centers (ATECs) and Novell authorized education centers (NAECs), for example, will require contractors to be certified.

Another option is to teach at colleges and universities. There is an increasing push by the computer industry to bring up-to-the-minute IT training to the college level, and the efforts seem to be succeeding. Opportunities are opening up for contract trainers to teach or advise on computer curriculum, especially at community and technical colleges.

On-site training for businesses and organizations continues to be a strong market for trainers, and it is one that Upshaw taps successfully. For example, after a recent development project, the company that hired Upshaw extended his stay so he could train

existing staff in object-oriented analysis and design.

Rates

Rates for training seem fairly consistent across the country. Paul Rector, recruiting manager for NewData Strategies in Dallas, reports that his company pays contract trainers between \$800 and \$1,200 per day. These are high-end people, he says, certified by Microsoft or Powersoft.

Matthew Chan, owner of Intrepid Network Concepts in Maitland, Florida, travels outside of his area for many of his contracts. He does primarily Microsoft and Novell training, and reports daily rates ranging from \$400 to \$800 per day for Novell classes, and from \$500 to \$1,200 for Microsoft training. "Because there are more trainers, rates are coming down," says Chan. "What I've had to do is shift myself to the higher end stuff," he says.

Upshaw reports that trainers in the Atlanta area, as elsewhere, will find that rates vary based on the type of training and the instructor's credentials. Powerbuilder trainers earn \$75 an hour, PeopleSoft in the high \$80s or \$90s, and a senior SAP trainer can command \$150 an hour or more.

Skills You'll Need

Technical trainers come from various backgrounds, including software engineers, customer support people, and technical writers who have done the more technical product work. "If they are comfortable standing up in front of a class, and they have the ability to be articulate and think on their feet, they can also make good technical trainers," says Boyle.

To be a good trainer, you'll need to be a technical expert on the subject you want to teach. You'll be expected to handle questions that pop up during a class, as well as troubleshoot any problems in the lab environment. But computer know-how is only one half of the equation. You need to be a people person too. If you aren't, then training probably isn't for you. "A lot of [would-be trainers] really don't have any idea how much people interaction they are going to be getting. Or the ridiculous questions that turn up. For example, somebody points at the mouse and says, 'What's this?' A lot of patience and people skills are needed," says Rector.

Another thing you'll need is packing skills. Most trainers spend quite a bit of time at sites away from home. Chan estimates he takes about 24 trips a year and

admits that the extensive travel can be wearing. If you're located in a major metropolitan area, you may be able to avoid life on the wing. Or you can augment class sessions with work you can do from home, such as course development.

To try out your skills as a trainer, you might consider putting on an informal seminar or two, or joining Toastmasters to hone your presentation skills. You may also want to do as Upshaw does, and advise former contracting clients that you're moving into training, as well as spread the news to professional colleagues. It also helps to read lots of books about learning styles, presentation skills, and training issues. And no, it wouldn't hurt to take a "train the trainer" class.

Both trainers and those who hire them agree that the best technical trainers are able to blend their human relations skills with hands-on technical experience in a variety of business environments. Let's see...who would have just that kind of broad-based work experience? Oh, yes, contractors. ■

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Teaching the Teachers

There's no single book you can turn to for information on a career as a technical trainer. Many hardware and software vendors do offer courses about how to be a trainer for their particular products. To find out about them, your best bet is to visit that company's Web site or call the support and education department. You can also consider enrolling in one or more college classes on the principles of teaching.

You'll also find some useful resources on the Web: <http://train.ed.psu.edu/trdev-l/welcome.html> is the Training and Development Listserv Welcome Page. This Listserv is an excellent place to get a feel for what's going on in the training industry and to ask any questions you have about becoming a trainer.

The TrainingSuperSite (<http://www.trainingsuper.site.com/index.htm>) is, as its name implies, a resource center for all things training. You'll find a directory of training associations, job opportunities for trainers, a discussion board, and other tools and links related to training.

<http://www.lakewoodpub.com/trg/index.htm> is the web site of *TRAINING Magazine*, where you can read past articles and sign up for a free trial subscription. You can also write or call at: Lakewood Publications, 50 S. Ninth St., Minneapolis, MN 55402, (800) 328-4329 or (612) 333-0471.