1991 COMPUTER SALARY SURVEY AND CAREER PLANNING GUIDE

source edp®

Evening Phone (A/C_



Dear Computer Professional:

Here's our 1991 Computer Salary Survey and Career Planning Guide. We hope it helps you assess your salary and career progress.

If you're wondering whether you're making the most of your career, a Source Edp Career Checkupsm could be just what you need. This unique program is confidential and involves no cost or obligation.

After we review your training and experience, we'll let you know exactly what we feel are your best career options. We might find that your current situation provides excellent exposure and potential. However, if a career change is needed, we'll say so and give you reasons why. We'll tell you about specific opportunities. Or, if the right situations aren't available now, we'll let you know when they are. It will be your decision whether you pursue any situation presented.

In any case, we'll level with you. We want you to stay in the mainstream of career development—whether you change jobs or not—because your success is important to our continued relationship.

To schedule your free Career Checkup, just return the attached card. We'll get back to you right away. Do it now. It could be the most important career decision you'll ever make.

Very truly yours,

Wayne Emigh President

P.S. If you know someone else who you think would benefit from our Salary Survey, please do them a favor and pass along one of the cards attached in back.

YES, I'D LIKE A CAREER CHECKUP

Dear Source Edp: would like to take advantage of your special career appraisal and planning service.	l am particularly intere that can provide (check	sted in an organization k appropriate boxes):
understand there is no charge or other obligation and any discussions we may have will be held in strict confidence. Last First	 □ Greater exposure □ Management training and development □ Better compensation 	 □ Greater hardware/software sophistication □ Promotion outside DP □ Progressive thinking
Name	☐ Recognition for my contributions	management More personal challenge
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To help us assess your background, please provide your relevant experiences

check all that apply)	Data Base/	Operating	Systems
Programming anguages: APL Assembly BASIC COBOL/COBOL II	Data Base/ Telecommunications: □ ADABAS/COM-PLETE □ CICS □ DATACOM DB □ DB2 □ DECNET □ DMS □ IDMS/ADSO	Operating Systems: ACP AOS/VS CPM/MPM DOS/VSE GCOS MCP MCP MVS/XA, MVS	Systems Programming: Capacity Planning Communications Connectivity Performance Monitoring Systems Generation Other
☐ FORTRAN ☐ 4th Generation ☐ PASCAL ☐ PC Packages ☐ PL/1 or PL/M ☐ RPGII ☐ RPGIII ☐ Other	☐ IMAGE/QUERY ☐ IMS DB/DLI ☐ IMS DC ☐ MODEL 204 ☐ NCP/VTAM ☐ PC Data Bases ☐ PC Communications ☐ SNA/SDLC ☐ TOTAL/E1/SUPRA/ULTRA/IDS ☐ Other	☐ PC/MS-DOS ☐ PICK ☐ RSX-11M ☐ UNIX/XENIX ☐ VAX/VMS ☐ VM/XA, VM ☐ Other	I have the following years of experience: under 2 years 2-3 years 4-6 years 15 years or more

A WORD ABOUT US AND OUR SURVEYS

ource Edp is the nation's leading nonfranchised recruiting firm specializing exclusively in the computer profession. Each year we help shape the careers of thousands of people like you.

Computer Professionals First...Recruiters Second

Our professionals have worked extensively in computing at all levels of responsibility. In fact, the typical Source Edp professional has eight or more years of computing experience prior to joining our firm.

With our background in computing and experience in recruiting, we understand computer

people and stay abreast of new developments in the industry. We maintain continuous day-to-day contact with hiring executives from progressive organizations crossing all industry segments and disciplines. This helps us monitor changing trends in career paths and allows us to find you the best opportunities available.

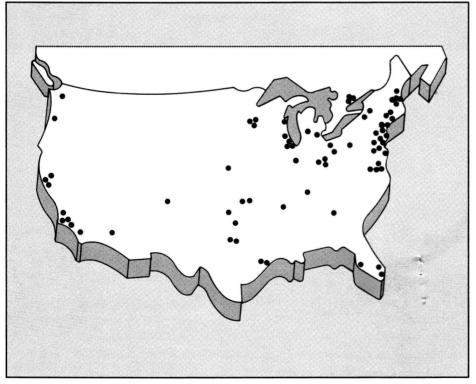
We're Nationwide

Source Edp has more than 70 offices across North America – no other recruiting firm has a larger network (see listing on inside back cover). So, no matter where you want to work or what type of computer career you wish to explore, Source Edp can help.

The 1991 National and Local Metropolitan Salary Surveys

The 1991 Survey numbers are based on an analysis of the current salaries of more than 80,000 computer professionals culled from our nationwide data base and additional sources. Salaries were tabulated by position titles and levels of responsibility. National salaries are presented on page 5; local metropolitan salaries are presented in the center foldout section. This report reviews the structure of the computer profession, trends that we see developing, compensation and strategies for improving your career.

Contents



The Source Edp Network

Source Edp is located in most major metropolitan areas across North America. So no matter where you wish to work, Source can help.

A Word About Us and Our Surveys 1 The Career Planning Cycle: Developing a Strategy for Success 2 Career Development: Six Steps to Top Computing A Look at New Trends: Technology and Your Career4 1991 Professional Compensation Data: Computer Careers: Career Planning Case Studies: Source Edp: Your Partner in Career Planning......9 We Speak from Experience: The Executive and Management Staff 1991 Local Metropolitan

Salary Survey Statistics .. Center Foldout



THE CAREER PLANNING CYCLE

DEVELOPING A STRATEGY FOR SUCCESS

f you want to get the most out of your career and maximize your chances for growth, it's important to develop a plan.

Career planning is like solving a business problem—you must define objectives, develop strategies, monitor progress and take corrective action when needed.

It is essential that computer professionals are aware of the steps involved in career planning and refer to them periodically to check their progress. The Career Planning Cycle (see Exhibit I) involves these steps:

1. Know the Structure

You must understand the structure of the computing profession before you can establish realistic, long-term goals. This includes a thorough knowledge of various position levels of responsibility within the field, the experience and training required for each position and the logical alternative career paths.

2. Establish Goals

Long-term career objectives must be realistic in terms of the professional environment and consistent with personal ambition. A series of intermediate goals can be set and used as stepping stones toward the achievement of long-term goals.

3. Evaluate Current Position

It is necessary to evaluate where you currently stand in relation to your long-term goals. Your experience and the level of responsibility you've achieved should be reflected in your salary. The assessment of your position should be objective and not obscured by personal bias.

4. Assess Needed Exposure

You must determine what type of experience you need in order to progress along your chosen career path. As will be discussed, areas of new exposure are not limited to the development of technical computing disciplines, but include others as well.

5. Develop a Plan of Action

The next step is to develop a plan of action that will result in new exposure. This may involve a change in employment, a redirection of your career path or an industry shift.

6. Implement the Plan

You must put your plan into action within a reasonable time frame to ensure that your goals are in line with the current market conditions. Otherwise, you could hinder your career progress.

7. Evaluate Results/ Take Corrective Action

It is essential to evaluate your achievements in comparison to your intended objectives. Has the new exposure you sought actually been gained? Has your responsibility level increased? Is your current working environment conducive to your continued progress along your career path? If, for any reason, you have not met your objectives, it is necessary to return to Step 1 in the Career Planning Cycle.

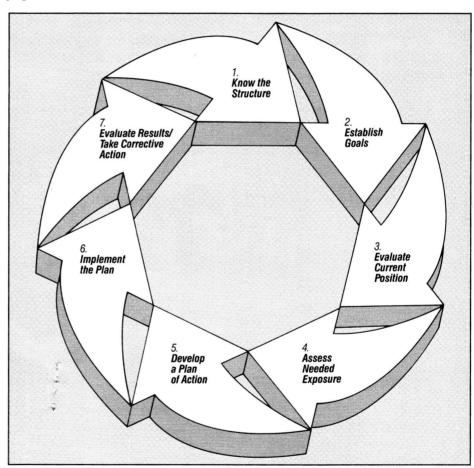


Exhibit I: The Career Planning Cycle

Career planning is an evolutionary process. Professionals must constantly evaluate, plan and replan their careers since organizational structures, rates of salary progression and market conditions can shift unexpectedly. The ability to recognize special opportunities as well as unfavorable trends and to react to circumstances taking place around you is essential to thoughtful career planning.

CAREER DEVELOPMENT

SIX STEPS TO TOP COMPUTING MANAGEMENT

Ithough you may not be interested in pursuing a high-level management position, you probably want to go beyond your current status. Therefore, it's important that you understand what skills are required to achieve your desired level of responsibility.

We have found that those who stretch their abilities and experiences to the utmost are generally able to achieve their desired goals.

In this section, we will define a typical career path from entry-level to top computing management. In most cases, computer professionals in a user environment are separated into six levels, each progressing into a higher level of responsibility. Although these levels may overlap to some degree, each requires learning a new set of skills (see Exhibit II).

1. Programming and Programming Analysis

Programmers and Programmer/Analysts represent the initial level of responsibility. Specific duties at this level are defined on pages 6 and 7.

2. Systems Analysis and Senior Programming Analysis

This level includes Senior Programmer/Analysts, Systems Analysts, Systems Programmers, Systems Engineers, Edp Auditors and Data Base Specialists. In addition to performing the duties in Level 1, these individuals typically provide technical guidance and assistance to junior-level professionals and participate in basic systems design feasibility studies and cost justifications.

3. Project Leadership

This level includes Senior Analysts and Project Leaders. In addition to performing the duties previously described, these people should have the capability of preparing oral and written management presentations and assume responsibility for supervising other professionals. Project leadership allows individuals to develop the supervisory skills needed to be promoted.

4. First Line Management

This level includes position titles such as Project Manager, Programming Supervisor, Systems Supervisor or Software Manager. These individuals assume direct responsibility for implementing major functional system projects to meet the overall computing objectives established by higher levels of management. Management responsibilities include hiring, firing, manpower planning, salary administration and budgeting.

5. Second Line Management

This level involves supervising other managers and includes position titles such as Systems Director and Manager or Director of Software Engineering. These professionals are responsible for directing the systems and programming efforts to insure compatibility and integration of all functional application areas (i.e., engineering, manufacturing, finance, administration and

sales) or technical components (i.e., operating systems, data bases, I/O drivers and communications). In addition to the management duties defined in Level 4, the ability to define corporate information and computer systems objectives, including long-range planning and hardware/software selection is mandatory.

6. Top Computing Management

The top level is represented by the individual who assumes total responsibility for the computing resource within an organization. In addition to control over the information systems and/or computing function, top management will participate with other key company executives in shaping policy, plans or products.

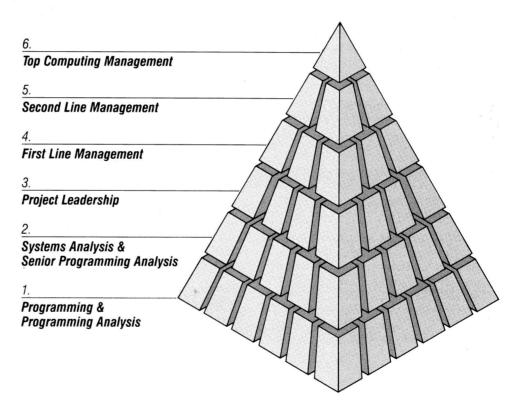


Exhibit II: Career Path to Top Computing Management

Career success at levels 1 and 2 is almost exclusively dependent upon technical competence—you must have a foundation of specific skills before moving up. At level 3, success will be evaluated not only on these various building blocks of technical competence, but also on ability to communicate, motivate and direct the efforts of other professionals. Development of supervisory and management skills is of crucial importance beyond level 3. As a career develops from level 3 through 6, management skills assume increasing importance. The computer professional must gain a thorough knowledge and understanding of the organization's objectives, plans, operations, problems and competition, while remaining abreast of information systems technology. You should evolve, at each successive level, into more of a "management generalist" as opposed to a "computer technician."

A LOOK AT NEW TRENDS

TECHNOLOGY AND YOUR CAREER

he emergence of new technology has increased the need for various types of computer skills. Accordingly, career planning must be linked to constantly changing technologies. What may have been a sound plan a year ago may not be entirely valid today.

Source Edp is in regular contact with thousands of employers who hire computer professionals—no one else is in a better position to monitor trends and interpret their impact upon individual careers. Some of the things we look for in the months ahead are outlined here.

New Era in Computing

The most dynamic trend in the computing industry is the establishment of enterprise-wide computing with an emphasis on mission-critical applications. This expanded role of computing is a direct result of substantially reduced hardware costs, the establishment of standards for hardware, software and communications systems and senior management's recognition of the value of information.

Move Toward Cooperative Processing

During the next decade, cooperative processing will be used to insure computing efficiency. Through the use of client server architecture, cooperative processing combines local area networks with relational data bases to run distributed applications.

Distributed applications will require on-site enduser and software support professionals who understand personal computers, LAN software such as NOVELL NETWARE, MICROSOFT LAN MANAGER and BANYAN VINES and operating systems software like MICROSOFT MS-DOS and MICROSOFT Windows, OS/2, UNIX and DEC VMS.

Role of the Mainframe

Mainframe applications in business will continue to expand. Many information needs will still be addressed by traditional batch applications. However, the focus of MIS will be to become a central repository for corporate data and function as the data server hub in an enterprise-wide cooperative processing environment.

Although older data base technology such as IMS will continue to be used, MIS organizations will quickly move toward relational data base management systems such as DB2 and ORACLE. CICS will continue to be the major on-line teleprocessing monitor on the mainframe. SQL, a standard query language specifically for relational data bases, will replace CICS in ad-hoc applications and decision support systems. COBOL, however, will continue to be the standard language in traditional mainframe-based applications.

Centralization in a Decentralized MIS

The importance of the end-user in computing will continue to grow. MIS departments will have significant backlogs in all applications, so users will need to take advantage of fourth generation languages and relational data bases to develop applications without the help of MIS.

The expanded role of the end-user in computing will present new challenges to the MIS department. MIS will create the infrastructure, regulate the flow of data within the organization and provide the facilities, tools and training that empower the user community.

MIS management will create internal consulting groups to address critical applications needs. These teams will be staffed by systems analysts who have interviewing and negotiating skills, formal structured design skills and an understanding of the firm's business. They will use CASE

tools, including data analysis and modeling software, prototyping tools and code generators to quickly create working models of new systems.

Establishment of Standards

Standards in operating systems, languages and software architecture are being established. These will increase the long-term viability and return on investment of software development. Standard operating systems such as UNIX, MS-DOS and OS/2 networking standards like OSI and IBM's system network architecture (SNA), and standard languages like COBOL, RPG III, C and SQL will continue to become more prevalent.

There will also be consistency among programs in the way they look to end-users and the way they talk to other applications. IBM's systems application architecture (SAA) defines this consistency within all IBM computing platforms including the AS/400 midrange processor. The AS/400 is the first SAA compatible machine in IBM's product line and is popular in both centralized and decentralized MIS environments.

Role of Middle Management

The role of middle management is changing. Companies now expect these individuals to be technically oriented. Middle managers will find themselves concentrating on implementation and production rather than people management.

Software Companies Focus on Service

Software companies are becoming more service-oriented and are focusing on quality assurance and technical support.

Quality assurance is a growth area within most software firms, since companies are willing to spend more money to ensure a quality product. Because of the explosion of small entrepreneurial companies and the growing number of endusers, companies are providing technical support over the telephone.

1991 PROFESSIONAL COMPENSATION DATA

NATIONAL STATISTICS

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eeping up with computer salaries is an important part of our job—and something you must do to realize your full potential.

In order to keep our Survey representative and unaffected by extremes, we have used median rather than mean figures. In addition, we have included the twentieth upper and lower percentiles in each category to

(\$000)

Programming:	Yrs. Exp.	20%	Median	80 %
Commercial	<2	24	27	32
	2-3	27	33	37
	4-6	29	35	40
	>6	33	40	48
Engineering/Scientific	<2	25	31	36
	2-3	30	35	42
	4-6	32	38	45
	>6	35	43	52
Microcomputer/	<2	23	27	33
Minicomputer	2-3	26	32	38
	4-6	28	34	40
	>6	34	40	48
Software Engineer	<2	25	30	38
	2-3	30	36	44
	4-6	32	41	49
ii.	>6	38	46	57
Systems Software	<2	27	32	38
	2-3	31	38	45
	4-6	33	40	47
	>6	40	49	60
Management:				
Data Center Operations		37	45	61
Programming Development		47	61	72
Systems Development		46	58	69
Technical Services		44	59	74
MIS Director/VP		56	67	84
Business Systems:				
Consultant		36	45	55
Project Leader/Sys. Analyst		36	43	52



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provide salary ranges. (In other words, the twentieth percentile represents the figure at which 20% of the respondents earn that figure or less. The median represents the figure at which half earn more and half earn less. The eightieth percentile represents the figure at which 20% earn that figure or more.)

(\$000)

pecialists:	Yrs. Exp.	20%	Median	80%
Data Base	<4	32	39	45
Management Analyst	4-6	34	41	50
t.	>6	39	49	61
Information Center Analyst	<4	25	30	35
	4-6	27	33	40
g	>6	31	43	51
Office Automation Analyst	<4	26	30	36
	4-6	28	34	. 40
	>6	33	40	52
Edp Auditor	<4	29	35	40
	4-6	32	38	46
	>6	35	44	55
Technical Writer	<4	25	30	35
	4-6	27	32	38
	>6	31	37	44
Telecommunications	<4	28	35	40
(Planning)	>4	36	45	55
Sales:				
Hardware		44	55	65
Software		45	57	70
Services		46	56	66
Technical Support	<2	26	32	38
	2-3	29	35	40
	4-6	32	38	45
	>6	36	45	55
Management		55	68	83
Data Center:	۰			
Computer Operator	<2	18	20	23
	2-3	20	23	28
	4-6	21	25	31
	>6	23	29	34
Technical Data Center	<4	28	37	40
Analyst	4-6	36	44	47
	>6	38	46	57
Operations Support	<4	18	24	29
Technician	>4	24	30	38
Communications/	<4	21	26	32
Network Analyst	>4	27	34	43

COMPUTER CAREERS

POSITION RESPONSIBILITIES

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e have defined responsibilities for key computer professionals and their positions as follows:

Programming:

Commercial Programmers

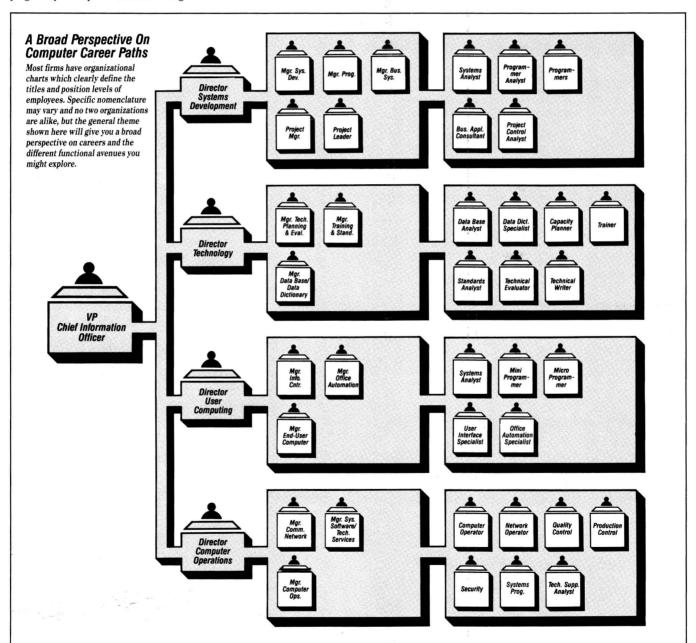
Conduct programming of commercially-oriented information systems. May also be responsible for program/system specifications and design.

Software Engineers

Design and develop software to drive computer systems. Develop firmware, drivers, specialized software such as workstations, graphics, communications controllers, operating systems and user friendly interfaces. Within vendor environments, work closely with Hardware Engineers and Application Programmers.

Minicomputer Programmers

In a stand-alone situation, the system provides primary processing for a unique business unit. Minis can also be used in a distributed processing configuration when tied to a larger host system. Systems development activities include the entire range of commercial, engineering or vendor applications.



Microcomputer Programmers

Configurations could include stand-alone or interconnected and networked processors. Program development may consist of application systems or specific program products such as: communications, workstations, graphics, data base management, data acquisition or utilities modules.

Systems Programmers

Create and/or maintain operating systems, communications software, data base systems, compilers, assemblers, utility programs, etc. Within user organizations, typically support applications programming, provide hardware/software evaluation and planning, modify existing (and create special-purpose) software, maintain and modify vendor software packages, develop programming standards, oversee technical education and insure systems efficiency and integrity.

Engineering and Scientific Programmers

Develop scientific and/or engineering computer applications and certain commercial applications that are mathematical in nature. May assist in overall system specifications and design.

BUSINESS SYSTEMS:

Systems Analysts, Project Leaders and Consultants

Typically responsible for user liaison, systems specification, systems design and project control. May also supervise Analysts and Programmers through implementation phase and occasionally assist in programming effort. Provide key link between ultimate user and computing resource.

SPECIALISTS:

Data Center Analysts

Typically responsible for the analysis, evaluation and support of the computer operations environment. Involved on a detail level with the operating systems, telecommunication and data base systems, maintenance of software packages and hardware/software evaluation and planning.

Data Base Management Analysts

Design and control the use of an organization's data resources. Analyze the interrelationships of data usage and define physical data structures and logical views of data elements. Utilize the facilities of data base management systems and data dictionary software packages to control the data usage. Design and create data structures and procedures to insure data security, data base backup/recovery and to eliminate data redundancy.

Information Center/ Office Automation Analysts

Evaluate, implement and interconnect microcomputers, word processors and office teleprocessing products to allow access by various levels of management to data base management systems, electronic mail, query facilities, spreadsheets and decision support systems. Establish methods and criteria for evaluation of office automation hardware and software.

Function as a central source for the selection, training and use of a wide range of off-the-shelf soft-ware—including 4GL products such as FOCUS, NOMAD, etc. Determine best uses of Local Area Networks (LANs) to link microcomputers to each other and to large computers. Provide user training and support.

MANAGEMENT:

Data Center Operations Personnel

Direct all computer and peripheral machine operations, data entry, data control scheduling and quality control. Responsible for systems programming, software maintenance and/or applications maintenance programming.

Systems/Programming Development Personnel

In larger organizations, responsible for systems development and implementation within a major functional area or areas; in smaller organizations, usually directs the efforts of Analysts, Applications Programmers or Software Engineers in many areas.

Technical Services Personnel

In large organizations, manage technical training and standards functions, data base and dictionary usage, and technical evaluations—as well as the people working in these areas.

MIS Directors/VPs

Devote bulk of energies to overall management and direction of all information systems and/or computer processing or development efforts.

SALES:

Sales Representatives

Sell computer mainframes, mini/micro systems, software, special systems, peripherals and supplies, facilities management, leasing and/or services.

Sales Managers

Responsible for management and administration of Sales Representatives. May also have territory duties or key account direct sales responsibilities.

Technical Support Representatives

Provide technical support in the sales of hardware and software products and services. Duties include both pre- and post-sales support, system studies, feasibility studies, demonstrations and technical presentations.

OTHERS:

Computer Operators

Conduct computer operations functions. Monitor and support computer processing, coordinate the use of input, output and interchangeable file media. Distribute output, schedule machine utilization and oversee control functions.

EDP Auditors

Perform detailed evaluation of systems and operational procedures. Report findings to upper level management along with specific recommendations to insure systems and procedural integrity and accuracy. May involve programming and use of specialized audit software.

Technical Writers and Editors

Document programs and systems as well as user manuals, marketing brochures and other documentation required to promote computing systems. May participate in systems specification and design.

Telecommunications Planning

Perform detail evaluation, selection and implementation of data and voice communications software, hardware or networks. Within a user environment, evaluate communications hardware/software and advise on changes to vendor software for individual company needs; also evaluate tariffs and interface with common carriers. Within a vendor environment, work with groups for new communications software and hardware development.

Operations Support Technicians

Provide direct support in the day-to-day operations of application software, operating systems or hardware. Duties include the evaluation of system utilization, the monitoring of response time and the first line of support for the detection and correction of operational problems.

Communications/Network Analysts

Monitor and maintain communications network operations and provide support to network users. Troubleshoot network problems covering a variety of computer and communications hardware and software, as well as transmission facilities. Interface with computer operations, systems software, communications carrier personnel as well as equipment vendor personnel.

CAREER PLANNING CASE STUDIES

PITFALLS AND PROGRESS

t is apparent that individuals who achieve the highest levels in the computer profession are able to recognize when a transition is needed. In other words, there are transitional "windows" you must pass through to move on to the next level.

The straight arrows on the Career Planning Chart below represent the ideal relationship between experience level and compensation. Individuals on this path are in the mainstream of career development. The farther you stray from this area, the more difficult it will be to achieve success.

Person A on the chart depicts the career of an individual who passed through each transitional window at the proper time. This person successfully prepared for each step and took the necessary action required to achieve a position in top management. In contrast, Persons B, C, D and E have made career planning errors typical of many professionals.

Persons B and C have achieved an income level in excess of their marketable skills. Individual B deviated early and never reached the first transitional window. On the other hand, Person C did not deviate until well into the senior levels and is now at an income level prohibitive of future management development.

In both cases, these individuals are worth more to their present employers than they are in the marketplace. It is difficult for Persons B and C to correct their situation, since doing so would involve a lateral salary move. The alternative could mean a dead-end career.

Typically, these situations occur due to overspecialization, and happen when companies recognize the critical skills of an individual at a particular point in time and compensate them accordingly. It can also happen when people are "bought" by other companies for the same skills. Persons B and C should have recognized the threat of overspecialization and taken the proper steps to increase their exposure.

It may seem important to be an "expert" in one particular area. However, once you've achieved a certain level of proficiency, it's wise to seek opportunities that will broaden your experience and enable you to advance to a higher position.

Persons D and E have allowed themselves to stagnate—their responsibilities have remained the same for too long. This often occurs when an individual overstays a current position and feels that job security depends upon longevity or is apathetic about career progress.

Person E is unable to obtain a senior-level position because he/she is still performing junior-level responsibilities. As a result, Person E did not reach the first window. Person D has moved well through the first levels but has not devel-

oped the necessary project control and supervisory skills to qualify for first line management.

Professionals who are not in the mainstream of career development are sometimes faced with the threat of a layoff. The critical skills possessed by Persons B and C are suddenly in great supply on the open market and available at a lower cost. Since Persons D and E have shown disinterest in their careers and are unable to progress, their duties may be assumed by others within the organization.

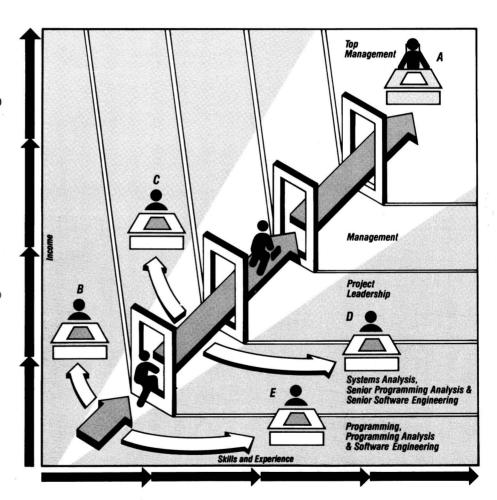


Exhibit III: The Career Planning Chart

The Career Planning Chart illustrates the relationship between compensation level, skills gained and experience in the field. The transitional "windows" indicate the points in time when an individual typically passes from one responsibility level to the next. The key to career advancement is to recognize when the time has arrived to move through the next window. Once specific skill sets have been mastered, it is time to move on to the next level—to do so too late can result in career stagnation.

Source EDP

Your partner in career planning

egardless of whether or not you're currently looking for a new job opportunity, your contact with Source just might be the best career move you could make. Here's why:

- · Because of our direct experience in computing - and our constant contact with key hiring managers - we know when firms are looking for people, what skills they seek and how much they're willing to pay.
- We work with many firms, both large and small, to help place professionals from programming staff to MIS Director levels.
- We provide all services to you at no cost—the client firms we work with assume all charges.

How We Work for You

Initially, we'll meet face-to-face. After we get to know you -vour background, skills, interests and goals -we'll help you put together a solid career plan. Essentially, we'll establish a short and long-term plan to insure that your career will move forward. We'll define what your career alternatives are and establish a plan of action with objectives and strategies that will help you achieve your full potential.

If you are planning to make a job change, we'll write your resume free of charge. We'll also check out companies for you, make contacts and keep you informed of new position opportunities as they become available.

The professionals at Source Edp can help you fine-tune your interviewing skills and provide key information about each firm before you interview with them. Finding the right job is difficult enough, but an even bigger challenge is getting that job. We'll go the extra mile to successfully place you in the right position.

Throughout the entire process, we'll maintain an objective viewpoint to help you weigh and evaluate career options. Our purpose is to help you find an opportunity that will keep you in the mainstream of your career plan.

A Sampling of Thousands of Firms That Source® Works For

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Aetna Life & Casualty Co

Canadian Imperial Bank of Commerce Canadian Pacific Canadian Tire Capital Cities/ABC Inc Carolina Power & Light Cheesebrough Ponds Chemical Bank

Chiquita Brands International Citicorb

Citizens & Southern Bank Coca-Cola

Command Systems Inc

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Meet the Directors of Source Edp

Listed on the following pages are the Managing Directors and Directors of Source Edp.

WE SPEAK FROM EXPERIENCE

THE EXECUTIVE AND MANAGEMENT STAFF OF SOURCE EDP

ARIZONA

Mark Kochenderfer is a Director in the Phoenix office. He holds BS and MA degrees from Ball State University. Prior to joining Source, Mark was MIS Director and General Manager, Phoenix Division, for Mastercraft Industries. Earlier, he was a Corporate Systems Development Manager, System Design Manager and Project Manager with Samsonite Corporation.

CALIFORNIA

Carol Bates is a Senior Director in the Torrance office. She holds a BA from Glassboro State College. Prior to joining Source, Carol was a Marketing Representative for Nixdorf Computer Corporation. Earlier, she was a Sales Representative with Pertec Computer Corporation and a Sales Representative/Marketing Director for Collingswood Computer Corporation.

Dave Flansbaum is Managing Director of the San Francisco Bay Area and Northern California offices, and is based in San Francisco. He holds an MBA from Pepperdine University and a BS in Industrial Management from Georgia Institute of Technology. Prior to joining Source, Dave was Director of Systems Development of the Transportation Division of Itel Corporation. Earlier, he was a Systems Project Director with Decimus Corporation, Project Leader for Stauffer Chemical Company and a Systems Engineer with Electronic Data Systems.

Bob Gennawey is a Senior Director in the Irvine office. He holds a BA in Economics from the University of California, Los Angeles. Prior to joining Source, Bob was a Programmer/Analyst, Technical Marketing Support, and Senior Systems Representative with the Burroughs/Unisys Corporation.

Phil Hauser is Managing Director of the Sherman Oaks office. He pursued his undergraduate studies in Business Administration at UCLA and the University of Redlands. Prior to joining Source, Phil was Director of Development and Programming for the Pacific Stock Exchange. Previously, he was a Technical Marketing Representative and Systems Engineer for IBM.

Mark Malone is Managing Director of the San Diego office. He holds a BBA in Computer Science and an MBA from West Texas State University. Prior to joining Source, Mark was Branch Manager for Infonet Division of Computer Sciences Corporation and a Systems Analyst for Gulf Oil

Larry Pasquale is Managing Director of the Santa Clara office. He holds a BBA from Kent State University. Prior to joining Source, Larry was an Account Manager for Hewlett-Packard. Earlier, he held positions as Territory Manager and Zone Sales Manager for Unisys Corporation.

Ann Spoor is Assistant Managing Director of the West Los Angeles office. She holds a BS in Business Administration from the University of Colorado. Prior to joining Source, Ann was a member of the Healthcare Information Systems practice of Ernst & Young and a Marketing Representative at NCR Corporation.

Colorado

Pat Padbury is a Director in the Denver office. He holds a BA in Marketing from Metropolitan State College. Prior to joining Source, Pat was Regional Personnel Manager with Howard Systems International. Earlier, he was Regional Personnel Manager and Account Executive with General Electric Consulting Corporation.

CONNECTICUT

Bob Macaluso is Managing Director of the Stratford office. He holds an MBA from the University of Connecticut and a BS from Fairfield University. Prior to joining Source, Bob was Manager of Information Services at Raybestos Manhattan, Manager of Systems and Programming at Famous Artists International and a Systems Analyst at Olin Winchester.

Mark Polansky is Area Managing Director for Connecticut and Westchester, and is based in Stamford. He holds an MS in Computer Science from Pratt Institute and a BS in Math and Electrical Engineering from Union College. Prior to joining Source, Mark was Director, Market Development with Bunker Ramo Corporation and Applications Analyst and Customer Engineer with Control Data Corporation.

Ray Turner is Managing Director of the Hartford office. He holds a BS in Business Administration from Northeastern University. Prior to joining Source, Ray was an Edp Auditor with Southern New England Telephone Company and a Project Manager and Systems Engineer with Electronic Data Systems.

DELAWARE

John Carney is a Director in the Wilmington office. He holds a BS in Accounting from King's College. Prior to joining Source, John was a Marketing Representative for IBM in both the Data Processing and General Systems Divisions. Earlier, he was a Marketing Representative for Informatics and Itel Corporation.

DISTRICT OF COLUMBIA

Paul Villella is a Senior Director in the Washington, D.C. office. He holds a BS in Economics from the University of Virginia. Prior to joining Source, Paul was an Associate Consultant with Booz, Allen & Hamilton, Inc. Earlier, he was a Senior Systems Analyst with DuPont Co.

FLORIDA

Bill Bostrom is Managing Director of the Miami and Ft. Lauderdale offices and is based in Miami. He holds an MBA in Management from Adelphi University and a BS in Electrical Engineering from Polytechnic Institute of New York. Prior to joining Source, Bill was a Marketing Manager with IBM.

J.A. "Buster" Long is Managing Director of the Tampa office. He holds a BS in Industrial Technology from Mississippi State University. Prior to joining Source, Buster was a Sales Manager and Systems Manager with Sperry Univac. Earlier, he was a District Systems Manager and Systems Representative with RCA Computer Systems.

GEORGIA

Tom Freeh is Managing Director of the Atlanta offices. He holds a BS in Management and a BA in Psychology from Purdue University. Prior to joining Source, Tom was a member of the Regional Customer Support Staff for IBM's Data Processing Division. Earlier, he was a Systems Engineer with IBM.

ILLINOIS

Gerald Lump is Managing Director of the Rolling Meadows office. He studied Business Administration at Loyola University. Prior to joining Source, Jerry was Vice President and General Manager for Suburban Computer Services. Earlier, he was a Systems and Data Center Manager with Montgomery Ward Group and a Project Manager with the Military Electronics Division of Motorola.

Dennis Ortman is a Director in the Oakbrook office. He holds a BA in Accounting from St. Mary's College. Prior to joining Source, Dennis was a Sales Representative with Comark. Inc.

Larry Stanczak is Area Managing Director of the Chicago offices, and is based in downtown Chicago. He holds a BS in Mathematics/Computer Science from the University of Wisconsin. Prior to joining Source, Larry was with McDonnell Douglas Automation in a variety of positions including Branch Manager, Sales Manager and Marketing Representative. Earlier, he was a Data Base Administrator with Walker Manufacturing Company and a Programmer with Modine Manufacturing Company.

INDIANA

Randy Emerson is a Director in the Indianapolis office. He holds a BS in Computer Technology from Purdue University. Prior to joining Source, Randy was a Marketing Support Representative and Systems Engineer with Digital Equipment Corporation. Earlier, he held Systems Analyst and Technical Programmer positions at General Motors.

KANSAS

Dwight Ensminger is a Senior Director in the Wichita office. He holds a BS in Computer Science and an MBA from Wichita State University. Prior to joining Source, Dwight was Vice President for Innovative Data Resources. Earlier, he was a Systems Engineer for Texas Instruments, a Software Developer for NCR Corporation and a Programmer/Analyst for Beech Aircraft.

Dan Sudeikis is a Senior Director in the Overland Park office. He holds a BS in Business from George Mason University. Prior to joining Source, Dan was with IBM Corporation in a variety of positions including Computer Marketing Representative, Associate Programmer/Analyst and Computer Specialist. Earlier, he served as an ADP Analyst in the U.S. Navy.

KENTUCKY

Kathy Mattingly is Managing Director of the Louisville office. She holds an MS in Education from the University of Louisville and a BS in Education from Central Connecticut College. Prior to joining Source, Kathy was Director of Education and Support for P.D.W. Computer Systems, Inc. Earlier, she was a Project Leader with Capital Holding Corporation and Humana, Inc.

MARYLAND

Mike Bogdan is Managing Director of the Baltimore office. He holds a BES in Engineering from Johns Hopkins University. Prior to joining Source, Mike served as District Sales Manager with Burroughs Corporation. Earlier, he was a Programmer/Analyst with the Koppers Company.

MASSACHUSETTS

Doug Hartwick is Managing Director of the Burlington and Nashua offices, and is based in Burlington. He holds a BS in Mathematics from Villanova University. Prior to joining Source, Doug was a Branch Manager and Marketing Representative for Wang Laboratories. Earlier, he was a Project Leader and Programmer/Analyst with Nashua Corporation and a Programmer/Consultant with KPMG Peat Marwick.

Steve McMahan is Managing Director of the Boston office. He holds a BA in Political Science from Boston College. Prior to joining Source, Steve served as Marketing Representative for both Itel Corporation and IBM.

Jim Scimone is Managing Director of the Wellesley and Westborough offices, and is based in Wellesley. He holds a BA in Mathematics from Boston College. Prior to joining Source, Jim held various positions with IBM, including Marketing Representative, Systems Engineer and Development Systems Programmer.

MICHIGAN

Tom Combs is a Director in the Grand Rapids office. He holds a BA in Business Information Systems from Western Michigan University. Prior to joining Source, Tom was a Data Systems Consultant with Clear Concepts, Inc. Earlier, he was a Project Leader at Wolverine World Wide, Inc. and a Systems Analyst at H.L. Moore.

Rich Strimel is Managing Director of the Southfield office. He holds a BS in Chemical Engineering from Michigan State University. Prior to joining Source, Rich served as Senior Data Processing Consultant for Coopers & Lybrand. Earlier, he was a Systems Engineer and Marketing Representative for IBM's General Systems Division.

MINNESOTA

Bob Hartzler is a Senior Director in the St. Paul office. He holds a BA in Economics from the University of Michigan. Prior to joining Source, Bob was a Systems Marketing Representative with the Service Bureau Company. Earlier, he was a Systems Analyst with the First National Bank of Minneapolis.

Charles R. Lodge is Managing Director of the Bloomington office. He holds a BS in Business/Journalism from the University of Kansas. Prior to joining Source, Chuck was Executive Administrative Assistant with IBM. Earlier, he was a Marketing Manager, Advisory Marketing Representative and Marketing Representative with IBM.

Steve Wolf is Assistant Managing Director of the Downtown Minneapolis office. He holds a BSBA from the University of Iowa. Prior to joining Source, Steve was with Target Stores, Inc. in a variety of positions including Systems and Programming Manager, Senior Programmer/Analyst and Programmer.

Missouri

J.B. Blocher is Managing Director of the Kansas City office. He holds a BS in Mathematics from Emporia State University. Prior to joining Source, J.B. served as a Marketing Representative for Four-Phase Systems. Earlier, he was a Sales Representative with Burroughs Corporation.

Nancy Riehl is Managing Director of the St. Louis office. She holds a BA in Psychology/Sociology from Washington University. Prior to joining Source, Nancy was Senior District Manager with Altos Computer Systems. Earlier, she was Systems Marketing Director with Hollander & Company and Installation Director with Shared Medical Systems.

Nebraska

Jim Grossman is a Senior Director in the Omaha office. He holds an MBA from the University of Missouri and a BA in Political Science from the University of Kansas. Prior to joining Source, Jim served as a Marketing Representative and Territory Manager for Burroughs Corporation.

New Hampshire

Doug Hartwick is Managing Director of the Nashua office, and is based in Burlington. He holds a BS in Mathematics from Villanova University. Prior to joining Source, Doug was a Branch Manager and Marketing Representative for Wang Laboratories. Earlier, he was a Project Leader and Programmer/Analyst with Nashua Corporation and a Programmer/Consultant with KPMG Peat Marwick.

NEW JERSEY

Joe Eiseman is a Director in the Parsippany office. He holds a BS in Accounting from Brooklyn College. Prior to joining Source, Joe was the Assistant Vice President and Director of MIS for Integrity Insurance Company. Earlier, he held positions as Systems Analyst for SIAC and Financial Analyst for Bache, Halsey, Stewart.

Gerry Gonyo is Area Managing Director of the Central New Jersey offices, and is based in Edison. He holds an MBA from Seton Hall University and a BA in Economics from the University of Virginia. Prior to joining Source, Gerry served as Senior Consultant for Olivetti, Systems Manager for Fedders, Project Leader for PICA Data Systems and Programmer/Analyst for American Can.

Jerry Goodman is a Director in the Princeton office. He holds an MBA from Fairleigh Dickinson University and a BA in Sociology from Syracuse University. Prior to joining Source, Jerry was a Project Manager, Project Leader and Systems Analyst with Johnson & Johnson.

Mark Gordon is Area Managing Director of the Northern New Jersey offices, and is based in Clifton. He holds an MBA in Computer Methodology from Bernard Baruch Graduate School of Business and a BA in Mathematics from Fairleigh Dickinson University. Prior to joining Source, Mark served as a Senior Systems Analyst for Exxon Chemical Company. Earlier, he held positions in Systems Analysis for Keane Associates and Systems Development for Panasonic.

Tom Peressini is Managing Director of the Paramus office. He holds an MS and a BS in Computer Science from Fairleigh Dickinson University. Prior to joining Source, Tom served as the Regional Systems Manager for Northern Telecom. Earlier, he was a Systems Engineer for Data 100 and Four-Phase. He was also an Assistant Professor of Computer Science at Fairleigh Dickinson University.

New York

Vince Rios is Managing Director of the White Plains office. He holds an MBA in Financial Management from Pace University and a BS in Computer Science from City University of New York. Prior to joining Source, Vince was Manager, Treasury Systems with Pepsico, Inc. Earlier, he was a Systems Analyst with Seagroup, Inc. and a Systems Engineer with IBM.

Jack Schwartz is Area Managing Director of the New York City, Syosset and Long Island offices, and is based in Midtown New York. He holds an MBA in Finance from New York University and an MS and BS in Industrial Engineering and Operations Research from Cornell University. Prior to joining Source, Jack was Systems Development Manager for the Federal Reserve Bank of New York. Earlier, he was a Systems Analyst with Grumman Aerospace Corporation and Mitre Corporation.

Sam Shapanka is Assistant Managing Director of the New York City/Downtown office. He holds an MBA in Marketing/Finance from Columbia University and a BA from George Washington University. Prior to joining Source, Sam was a National Account Manager for the General Electric Information Services Company. Earlier, he was a Financial Systems Consultant for Rapidata, Inc.

Leigh Virkus is a Senior Director in the Rochester/Upstate New York office. He holds an MBA and a BS in Business Administration from Rochester Institute of Technology. Prior to joining Source, Leigh held various positions with Xerox, including Systems Consultant for the Latin American Group, Systems Analyst and Financial Analyst. Earlier, he was in DP Operations with The University of Rochester and The Gleason Works.

Ed Wright is a Director in the Buffalo office. He holds a BBA in Accounting from Niagara University. Prior to joining Source, he served as the National Marketing Manager for Professional Software Services Corporation. Earlier, he was a Marketing Representative for IBM, McDonnell Douglas and Wang Labs.

Оню

David Fell is Managing Director of the Cleveland office. He holds a BA in Economics from Nottingham University, England. Prior to joining Source, David was a Marketing Representative for National CSS. Earlier, he was a Marketing Consultant and Senior Systems Analyst with Mobil Corporation.

Tom Mayer is a Director in the Beachwood office. He holds a BS in Economics from Bowling Green State University. Prior to joining Source, Tom was a Marketing Representative with Hewlett-Packard. Earlier, he was a Territory Manager and Technical Representative with Burroughs Corporation.

Bruce Rockwell is Managing Director of the Dayton office. He holds an MBA in Finance and a BS in Business Administration from Wright State University. Prior to joining Source, Bruce was District Manager for NCR Corporation. Earlier, he was a Marketing Analyst for NCR Corporation and Account Executive for CompuServe Inc.

Chuck Rothenbush is Managing Director of the Columbus office. He holds an MBA and a BS in Electrical Engineering from the University of Cincinnati. Prior to joining Source, Chuck was a Marketing Representative with IBM. Earlier, he was an Instructor and Administrator with Miami University's School of Business Administration.

Larry Signorile is a Senior Director in the Cincinnati office. He holds a BS in Accounting from Fairleigh Dickinson University. Prior to joining Source, he served as Data Processing Manager and Director of Systems Development for Avon Products, Inc. Earlier, he was Operations Supervisor, Programmer and Systems Analyst with Prentice-Hall, Parent's Magazine, Little Golden Books and Datamatik Processing.

OKLAHOMA

Stacey Martin is Director of the Tulsa and Oklahoma City offices. He holds a BSBA in Marketing and Management from Missouri Southern University. Prior to joining Source, Stacey was a Marketing Representative with Electronic Data Systems.

OREGON

George Bartosh is Managing Director of the Portland office. He holds a BA in Marketing from Texas Tech University. Prior to joining Source, George was a Marketing Consultant for Computer Sciences Corporation. Earlier, he was in Account Management at Analysts International Corporation and General Electric Information Services Division.

PENNSYLVANIA

Leslie Finkel is Managing Director of the Pittsburgh office. She holds an MA in Industrial/Organizational Psychology from the University of Akron and a BA in Psychology from Kent State University. Prior to joining Source, Leslie was an IS Recruiter for a national consulting firm. Earlier, she was an IS Recruiter for the Cleveland Pneumatic Company and a Field Applications Engineering Trainer at the Allen-Bradley Company/Systems Division.

Ed Kaiserian is Managing Director of the King of Prussia office. He holds a BS in Engineering from Drexel University. Prior to joining Source, Ed was a Systems Analyst and Project Manager for Orba Corporation. Earlier, he was a Project Leader/Supervisor with Bethlehem Steel Corporation and a Manufacturing Engineer with Westinghouse.

Jim Young is Managing Director of the Philadelphia office. He holds a BS in Marketing from the University of Maryland. Prior to joining Source, Jim served as Marketing Manager for Basic Four Corporation. Earlier, he was an Account Manager for Basic Four Corporation and a Marketing Representative for IBM's General Systems Division.

TEXAS

John Froberg is a Director in the Downtown Houston office. He holds an MBA in Management Information Systems from Texas A&M University. Prior to joining Source, John was a Financial Planning Analyst with Mark Producing. Earlier, he was in Applications Development with Pennzoil.

Lorna Henderson is a Senior Director in the West Houston office. She holds a BA from Purdue University. Prior to joining Source, Lorna held several positions with Dataline Corporation including Sales Representative, Senior Marketing Support Representative and Customer Services Manager.

Mike Varrichio is Managing Director of the Dallas and Fort Worth offices. He holds a BA in Mathematics from the University of Texas. Prior to joining Source, Mike was a Management Consultant for Arthur Young and Company. Earlier, he was a Programmer/Analyst for Northeast United Bancorp and a Programmer for Wyatt Company.

VIRGINIA

Marty GroInic is Area Managing Director of the Washington D.C., Virginia and Maryland offices, and is based in McLean. He holds a BS from Temple University. Prior to joining Source, Marty was Director of Marketing for Digidata. Earlier, he was a Regional Manager for Leasco Response, a Sales Representative and Branch Manager for Honeywell, Inc. and a Systems Supervisor and Product Planner for RCA Corporation.

Washington

Blaine Millet is Managing Director of the Seattle office. He holds an MBA in Marketing Strategy and a BS in Biology from the University of Utah. Prior to joining Source, Blaine was a Marketing Representative with IBM. Earlier, he was a Business Manager with the *Daily Utah Chronicle* and President of Finance and Personnel Consultants.

Wisconsin

Rick Roy is a Director in the Green Bay office. He holds an MBA from Marquette University and a BBA in Management Information Systems from the University of Wisconsin-Milwaukee. Prior to joining Source, Rick was a Project Manager and a Senior Systems Analyst in the IBM Software Development Group of Deluxe Data Systems. Earlier, he was a Systems Analyst for CMS Systems.

Dave Youngberg is Managing Director of the Wisconsin-area offices. He holds a BS in Liberal Arts from Bradley University. Prior to joining Source, Dave was Branch Manager for Systems and Programming Resources. Earlier, he was Systems and Programming Manager for Central States Pension Fund and a Project Manager and Systems Analyst for Harper College.

CANADA

Ken Ferguson is Managing Director of the Willowdale office. He holds an Honors B.Sc. and a graduate diploma in Business Administration from Lakehead University. Prior to joining Source, Ken was a Systems Engineering Representative with the Data Processing Division of IBM Canada. Earlier, he marketed on-line software packages to the transportation industry. His responsibilities included installing and supporting interactive IBM mainframes to large-scale users in the petroleum industry.

Dianne King is Managing Director of the Mississauga and Toronto offices. She holds an MBA from York University and an Honors B.Sc. in Mathematics from McMaster University. Prior to joining Source, Dianne was with IBM Canada in a variety of positions including Marketing Representative, Systems Engineer, Systems Analyst, Programmer/Analyst and Computer Operator.

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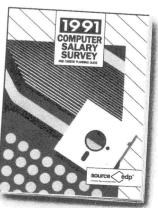
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PROGRAMMING:			- Indiana in the Control of the Cont	
Commercial				
Junior Programmer	25.7 29.7 24.5 26.9	32.0 33.5 31.0 31.5 2	29.3 27.1 30.3 26.9 24.5 26	5.1 24.5 25.0 23.6 27.5 25.0 25.4
Programmer	35.0 38.1 34.0 38.3	38.5 39.9 37.2 37.6 3		5.0 32.0 32.0 33.0 33.0 32.1 30.2
Senior Programmer	43.1 46.3 42.0 46.5	48.5 50.0 46.7 47.8 4		4.3 37.3 37.1 36.0 40.1 38.5 37.9
Engineering/Scientific				
Junior Programmer	31.2 32.5 31.5 31.7	34.2 35.9 35.0 34.1 2	28.7 29.4 31.1 30.3 28.3 31	1.2 26.2 23.0 26.0 31.0 27.3 26.7
Programmer	37.8 38.3 42.7 42.4	41.1 44.5 42.0 40.4 3	36.6 36.8 37.3 37.4 36.2 38	3.4 34.0 26.0 33.0 35.6 33.9 31.0
Senior Programmer	46.8 49.8 48.2 48.0	49.6 52.0 50.5 48.8 4	14.2 41.7 45.5 45.5 45.1 48	3.0 39.2 34.0 38.2 44.5 42.1 39.3
Microcomputer/Minicomputer				
Junior Programmer	26.8 32.1 29.4 30.4	33.3 32.5 31.1 30.7 2	25.2 26.0 29.7 28.3 22.3 24	1.1 22.5 23.2 23.6 26.5 23.7 24.3
Programmer	34.5 37.4 35.5 37.0	38.6 39.0 37.0 36.7 3	32.8 33.5 34.4 34.0 30.1 32	2.0 29.6 28.2 28.1 31.2 30.4 28.4
Senior Programmer	41.1 45.6 43.9 45.9	48.8 50.0 47.1 46.3 3	88.2 38.9 43.6 42.0 34.5 38	3.3 34.5 34.7 34.8 38.5 36.8 35.2
Software Engineer				
Junior Engineer	32.4 33.9 34.0 36.0	36.5 38.0 38.8 36.5 2	8.3 32.0 33.8 31.5 28.5 29	9.9 27.0 26.8 33.7 31.7 28.8 23.2
Engineer	39.6 43.2 40.5 43.8	45.0 47.7 48.0 44.3 3	37.5 39.0 39.5 40.0 34.2 38	3.6 34.5 33.5 40.5 38.0 36.2 28.1
Senior Engineer	51.2 55.4 51.6 53.8	55.5 57.5 57.0 55.3 4	2.8 48.8 49.1 48.0 47.0 49	9.6 41.2 42.0 47.5 44.8 44.4 37.8
Systems				
Junior Programmer	31.1 35.3 31.6 34.1	36.0 37.5 37.0 35.3 2	9.2 31.3 32.8 31.8 27.3 30	0.1 27.4 24.1 29.2 31.7 27.1 27.1
Programmer	42.2 45.4 41.2 43.9	45.5 46.0 44.1 42.9 3	9.3 40.0 39.5 41.1 36.1 37	7.2 36.2 32.0 36.4 36.0 35.7 33.5
Senior Programmer	47.4 55.1 52.5 55.2	58.5 60.8 57.0 54.9 4	5.4 51.5 50.6 48.4 47.4 52	2.0 41.5 37.1 43.8 46.0 43.6 43.0
MANAGEMENT:				
Data Center Operations	44.1 48.7 45.1 49.0	57.5 68.5 54.0 62.0 4	5.1 48.3 50.0 40.1 37.3 38	3.5 43.0 43.0 37.1 39.1 41.3 44.1
Programming Development	53.4 66.4 62.2 70.5	77.7 82.3 75.0 72.5 6		1.1 51.5 49.8 51.7 58.5 53.9 56.9
Systems Development	53.8 67.5 64.5 73.7	75.0 84.0 76.3 71.5 6		5.0 52.0 50.2 42.7 58.9 54.9 57.9
Technical Services	51.6 65.4 61.5 70.5	73.6 76.5 72.0 70.2 6		3.1 50.5 47.3 50.6 52.7 55.0 59.9
MIS Director	68.5 81.9 74.5 88.5	90.0 100.5 89.1 84.7 7		2.0 62.5 57.9 61.6 63.3 62.5 62.3
BUSINESS SYSTEMS:				
Consultant	47.1 57.9 56.1 59.9	62.8 65.5 61.0 61.5 4	7.9 45.9 49.1 43.4 39.1 48	3.6 46.5 41.0 37.3 57.1 47.1 40.5
Project Leader/Systems Analyst	45.2 48.7 48.8 54.5	57.1 58.0 54.9 53.5 4	3.2 51.6 51.5 47.6 47.2 48	0.0 42.5 37.6 40.8 46.8 43.2 44.0

ral	Green St. Paul	Milwa Pox River 12	Chicago		St. Lo.:		Wichita/F.		Charter	Ralein NC	/ (Gre. /	Miami Viando reensboro	//		Dalla, I Nashville		Houston Austin	//	Bentra Baton Rouns	//		Seattle Seattle			San. h.	Los And Silicon Valle		San Dies.	Drong	Formal	Vancau	Canada
00.0	04.0	00.4	00.0	04.0	04.0	00.0	04.0	00.4	A7.7		07.0	00.4	07.4	04.4	07.4	05.0	00.0	00.4	07.0	07.0	07.5	00.0	05.0	00.0	00.0	04.7	00.0	05.0	00.0			
34.6	24.2		-	-	29.3	33.6	\vdash	35.0			30.5		32.1		34.7			32.3		27.8 35.1	33.8	35.9	33.4		39.2	-	36.5	25.6 35.7			29.3	
41.7		41.5					\vdash				37.2			_	44.0					39.5					50.1			45.2			3 44.8	
																																=
29.1	25.5	27.7	32.2	29.5	25.9	30.5	30.1	27.3	28.1	28.9	28.5	25.1	32.6	25.0	29.5	26.4	29.0	26.7	31.4	30.5	31.8	30.0	27.6	36.0	34.9	33.2	31.8	33.1	31.5	29.5	29.3	
36.2	29.8	33.4	37.7	35.3	30.8	33.1	32.3	34.9	35.2	36.6	36.0	34.1	35.9	30.5	36.0	31.5	35.9	32.5	36.3	35.2	37.4	35.2	32.1	43.4	40.2	37.8	37.2	38.4	40.8	39.2	38.1	
42.0	37.7	40.3	46.9	42.2	38.0	43.1	38.7	43.1	42.8	43.9	42.5	39.8	44.6	38.1	44.6	39.2	43.9	39.8	43.5	44.0	45.7	44.0	38.2	49.6	47.8	48.6	48.1	48.7	47.3	45.3	42.9	
26.8	25.3	26.5	29.2	22.5	24.7	23.7	23.6	28.1	27.4	26.8	25.0	26.7	27.1	22.1	26.8	25.2	27.3	25.7	27.1	28.1	26.7	28.0	27.1	33.6	30.3	29.0	28.0	30.6	31.4	30.3	30.6	
32.7	29.4	32.8	34.5	24.6	29.8	28.8	27.4	34.5	33.7	32.4	29.5	29.7	30.3	26.7	34.5	31.3	34.2	30.7	33.6	32.4	30.1	34.5	34.3	42.0	39.2	36.4	35.2	34.8	39.7	39.0	39.1	
39.7	38.0	40.7	43.9	32.8	38.2	38.9	34.9	41.2	40.0	40.6	35.7	37.0	39.6	34.0	42.8	38.2	42.1	38.7	43.2	41.1	40.5	41.0	39.0	47.0	46.9	45.8	45.1	44.8	46.6	45.4	45.5	
32.8	25.3	33.4	37.6	30.6	26.1	26.3	26.1	30.5	30.1	31.6	30.0	28.7	29.2	21 0	31 0	30.0	31.8	30.5	34.7	35.3	32.5	31.6	31.2	37 N	36.8	35 1	33.5	30.4	36.4	35.3	34.9	
38.1		39.2	_		-		-	37.2					34.2			36.2		\vdash		41.0		-	-	-				39.0			44.5	
200					200		38.2	45.1					42.9				33.0				46.5							49.6			56.9	
20.5	07.7	00.7	00.0	00.5	07.5	00.4	00.0						20.0	00.4	00 i	00.0	00.0	00.0		00.0	00.0	20.7	04.0	20.4	00.0	00.7		05.5				
	-	30.7	-	_		-	-	32.1					30.3	_						32.2		_	_	_	_			35.5 41.2			35.4	
-		43.8	-	_		-	-		Carrier North		45.0		47.2		_			-		47.6		51.6		-			-	-			58.3	-
100.0	10.0	10.0	00.0	12.7	1.2.0	10.2	10.1		10.0	10.0	10.0			12.0	10.0	00.0	10.0	12.1		I		01.0	10.0	0 1.0	00.0	00.0	02.0	02.2	01.0	07.0	100.0	
43.6	37.4	42.2	56.4	41.8	43.0	44.3	43.2	49.8	46.6	47.1	42.5	44.0	46.1	40.5	46.5	40.0	44.4	40.8	48.3	45.6	43.5	45.1	38.5	52.0	49.3	51.5	50.7	47.2	64.2	63.8	63.5	
51.8	47.2	50.7	64.9	48.6	51.0	57.6	55.8	57.2	55.3	54.6	51.8	50.6	54.7	55.7	58.6	47.2	50.8	47.7	57.3	55.2	50.0	59.0	53.2	63.2	60.8	63.1	62.3	54.4	73.2	72.3	71.6	
56.8	49.3	58.0	66.4	56.5	51.8	57.0	54.7	58.0	56.7	55.1	53.8	54.7	57.7	56.8	59.0	48.0	53.6	48.0	58.4	58.0	52.2	62.0	56.4	64.3	61.5	65.5	63.9	54.2	73.1	72.1	71.5	-0.6
56.1	51.3	54.3	65.2	52.4	48.3	57.2	57.1	61.2	60.7	58.9	56.5	56.2	58.2	58.3	63.4	49.8	55.1	49.9	56.2	59.2	56.1	64.3	58.7	65.3	66.3	65.0	63.1	64.8	75.8	74.6	70.9	
63.4	58.6	63.3	77.4	64.7	60.8	67.2	63.1	68.5	66.1	67.4	65.0	63.7	67.9	61.0	68.1	59.0	68.0	59.0	59.6	64.1	62.8	71.0	65.4	74.5	74.3	80.5	78.0	70.0	102.0	94.4	93.8	
47.6	45.8	42.1	53.0	40.2	40.1	45.9	42.1	39.2	34.1	35.4	46.5	46.0	46.9	45.0	48.3	42.8	48.0	43.0	49.5	46.8	40.0	46.3	40.5	51.6	53.4	55.0	54.0	49.5	59.9	55.8	56.2	
45.2	41.2	45.2	51.7	43.1	37.2	47.3	43.1	48.6	49.1	46.9	45.0	47.2	49.7	42.6	46.7	42.7	48.2	43.2	45.0	45.7	44.1	48.6	43.2	53.4	53.9	53.0	52.8	50.7	62.6	60.0	60.8	

Data Base Management																	
Data Base Analyst	38.8 45.3 42.7 46.0	47.5	49.5	48.1	44.3	38.8	38.3	39.0	40.1	38.2	42.4	37.0	33.1	35.2	35.1	35.0	33.1
Senior Data Base Analyst	51.7 56.2 55.1 55.6	62.5	70.0	64.0	60.1	50.2	49.1	54.7	50.8	48.7	50.0	48.2	42.0	40.9	47.9	46.6	43.9
Information Center																	
Analyst	33.6 34.7 32.3 36.2	35.7	37.2	35.0	34.1	35.2	27.0	31.9	30.7	32.9	33.1	29.8	28.2	24.9	28.8	29.5	26.5
Senior Analyst	37.2 46.1 44.8 50.8	51.0	52.0	48.8	46.5	42.9	36.0	42.4	40.1	37.3	38.5	37.4	37.1	33.7	39.2	38.5	34.4
Office Automation																	
Analyst	32.9 33.8 32.8 34.6	37.5	38.8	38.3	36.0	35.9	33.0	32.6	36.5	31.8	32.3	29.6	26.8	24.2	28.2	28.0	24.7
Senior Analyst	38.9 44.1 44.9 46.7	51.5	53.3	51.0	49.0	43.1	43.5	42.5	45.9	40.9	41.0	38.0	35.0	36.2	38.4	36.1	34.4
EDP Auditing																	
EDP Auditor	N/A 42.3 39.3 40.8	41.7	42.5	40.0	40.5	38.3	38.0	39.7	39.5	29.0	32.3	33.5	26.3	32.5	34.6	32.1	29.6
Senior EDP Auditor	N/A 54.3 52.0 47.8	56.0	57.9	52.5	52.0	47.0	48.0	53.5	50.2	41.3	44.0	44.1	33.7	40.3	42.8	42.7	40.5
Technical Writing																	
Writer	29.2 30.1 25.0 29.5	33.0	33.8	31.4	32.0	28.1	26.8	30.5	30.2	27.0	28.0	23.1	25.1	16.9	28.0	23.2	24.3
Senior Writer	37.2 39.2 37.1 42.6	44.0	45.9	42.2	43.5	38.0	39.0	41.8	34.3	33.8	35.4	31.8	33.0	24.0	39.4	32.5	32.9
Telecommunications Planning																	
Planner	32.1 34.8 32.0 39.2	43.0	44.5	37.5	42.1	36.5	30.1	37.0	37.2	28.7	30.8	31.5	29.0	22.5	34.2	30.9	30.1
Senior Planner	44.6 47.2 43.5 48.9	54.5	57.7	51.5	55.0	48.2	39.4	53.6	53.2	36.9	41.8	40.2	37.2	31.6	48.0	41.4	35.3
SALES:																	
Hardware/Software/Services	65.1 68.2 56.0 56.5	68.5	69.7	66.3	61.1	64.2	51.0	61.1	57.9	50.7	55.0	52.0	53.4	47.0	54.6	53.7	50.€
Technical Support																	
Analyst	39.1 39.1 35.6 35.1	36.0	37.9	34.8	35.5	36.5	37.0	38.5	31.5	36.0	38.0	29.5	29.0	32.6	32.0	29.7	25.8
Senior Analyst	48.4 51.3 44.2 41.5	45.2	48.7	43.9	44.0	44.6	46.2	48.0	44.9	45.3	48.0	43.0	33.0	37.5	42.3	40.9	34.0
Management	75.1 77.2 70.2 65.9	72.3	81.8	72.4	70.8	71.5	64.0	73.8	65.2	65.8	76.8	64.2	60.5	60.6	58.9	65.6	62.5
DATA CENTER:																	
Technical Support																	
Analyst	34.7 37.2 32.5 40.8	42.4	41.5	38.5	38.3	36.3	33.0	35.8	35.6	36.2	32.2	34.2	30.7	35.1	30.9	30.1	31.8
Senior Analyst	47.3 49.6 42.5 50.0	53.3	57.1	55.0	50.2	45.8	39.3	46.6	40.5	48.5	43.3	43.8	40.0	41.1	36.3	40.6	38.0
Computer Operations																	
Operator	N/A N/A 22.0 24.6	24.0	25.1	23.8	24.2	20.2	22.8	22.5	22.0	19.2	23.1	19.6	15.7	20.2	19.7	19.8	22.2
Senior Operator	N/A N/A 28.4 30.7	31.4	33.0	30.1	32.0	25.8	26.8	31.1	29.9	26.3	28.0	25.5	19.1	25.5	22.1	27.6	28.6
Operations Support																	
Technician	22.7 24.2 24.2 26.5	26.5	28.0	24.8	23.5	23.6	19.0	20.0	21.1	20.1	21.2	22.3	20.1	15.7	20.4	20.2	23.3
Senior Technician	29.2 30.7 32.9 35.3	36.8	39.5	34.0	35.0	30.6	24.0	27.0	30.4	26.1	27.7	28.0	25.2	23.4	28.1	28.0	27.8
Communications/Network																	
Analyst	26.1 27.2 25.1 26.7	24.7	27.2	24.2	25.0	25.4	24.6	25.0	26.2	24.0	26.0	24.0	22.1	23.8	26.8	22.5	24.3
Senior Analyst	33.1 36.4 35.9 36.4	37.0	38.0	35.2	36.7	35.4	30.8	33.3	36.9	30.7	32.0	31.2	29.3	35.1	36.0	29.7	34.7

The survey numbers are based on an analysis of position openings, current salaries, and local market economies. Differences may exist due to seniority, company conditions, credentials and specific skill sets.

^{*}Figures expressed in Canadian dollars.

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36.8	28.8	32.8	41.1	34.2	32.3	39.2	33.5	40.4	39.4	38.5	36.5	37.2	38.6	32.5	34.0	31.8	37.8	32.1	34.3	42.5	36.4	41.0	36.7	47.2	48.6	45.7	42.2	40.0	45.8	44.1	43.8
52.6	39.2	44.9	56.2	44.1	43.0	49.7	45.0	53.6	51.3	50.8	45.0	48.1	48.5	41.8	51.1	38.7	48.3	39.3	47.2	52.7	46.1	51.7	45.8	59.2	62.3	59.1	56.0	54.2	56.4	54.1	54.0
28.1	31.1	34.5	32.3	27.2	30.0	30.3	29.2	34.2	31.6	30.9	30.0	28.3	29.7	24.3	33.6	28.4	32.7	29.7	33.0	25.2	24.1	35.0	33.5	39.3	37.5	39.4	36.0	33.0	40.2	39.7	39.0
38.2	37.8	42.8	43.8	37.1	39.2	37.3	37.6	40.8	38.2	38.8	35.3	36.3	38.8	33.8	42.2	36.8	39.8	37.7	43.8	33.4	31.8	43.7	39.5	47.0	47.8	47.5	46.1	44.8	51.2	50.7	50.9
29.2	31.5	34.3	34.0	29.6	32.1	29.5	29.3	33.6	31.5	30.8	29.2	30.4	30.2	22.1	32.6	30.1	32.4	30.5	32.5	30.1	28.2	35.1	33.7	38.0	41.1	38.4	35.5	34.2	40.0	38.5	39.2
39.3	43.4	40.4	47.1	38.3	42.7	37.2	38.1	38.4	35.8	35.9	36.5	36.7	39.2	31.1	41.8	37.1	39.3	37.8	45.0	38.6	37.0	46.7	41.7	45.3	48.3	48.0	47.5	47.2	48.8	46.9	47.5
32 1	30.0	35.8	37 N	31 0	35.5	33.2	32.4	37 /	35.1	35 R	35.0	36.7	35.7	32.6	38.4	32.0	3/1 3	3/11	29.6	30.2	38.2	35.1	33.3	38.4	40.0	38.7	37.4	37 1	47.2	46.7	45.2
		43.4		-		-	\vdash			42.2	39.4		-			39.8	40.4			45.0		-	40.0	-		-		\vdash	60.8		
													10.0														-	10.2			
28.2	24.1	28.1	31.3	23.6	27.7	23.7	23.9	28.8	27.1	27.8	25.5	28.0	26.4	23.9	28.2	25.9	27.0	24.0	28.3	27.1	26.8	30.1	25.5	33.7	35.8	33.6	31.5	28.5	36.3	35.8	36.0
37.0	31.0	35.7	40.2	33.8	34.2	34.8	34.6	34.7	33.6	32.9	31.7	36.1	36.2	30.8	36.7	29.9	34.5	30.9	36.7	36.8	34.5	38.2	33.6	43.8	46.1	42.8	40.4	41.2	44.4	42.2	43.0
35.1	32.3	34.3	33.0	30.1	31.5	31.0	30.4	35.6	34.2	34.7	34.0	31.8	31.4	31.1	35.6	29.2	33.1	29.8	36.0	37.0	34.9	35.0	32.5	39.4	42.8	40.6	39.1	35.3	40.1	38.8	39.1
51.7	38.1	40.6	47.1	45.2	42.1	40.3	45.0	43.2	41.8	40.2	42.2	40.3	43.6	36.7	45.7	36.6	42.2	37.6	51.7	46.2	40.1	46.3	42.0	54.0	51.7	51.7	50.2	49.5	50.6	48.7	48.5
59.7	48.5	52.5	72.3	59.6	54.4	61.4	57.5	66.6	60.4	58.1	59.2	60.5	55.3	52.1	63.0	57.6	59.2	56.3	40.7	42.6	40.5	62.3	56.5	73.6	72.4	69.1	64.0	58.5	74.0	73.1	72.9
36.9	27.4	33.1	37.3	32.6	34.0	33.4	34.8	35.1	33.4	33.7	36.3	34.7	32.7	28.1	33.4	27.8	32.0	27.9	34.8	29.0	27.8	37.8	34.5	44.3	41.0	41.3	39.0	34.2	40.8	39.2	39.9
43.9	35.8	39.7	46.9	44.2	37.3	46.2	45.2	44.4	44.2	43.6	44.5	44.3	46.1	34.0	45.5	38.1	45.3	38.8	42.7	40.9	37.5	50.6	43.1	54.0	48.7	55.4	48.5	44.8	52.6	50.9	51.5
62.5	53.6	58.4	81.2	60.4	65.5	58.5	59.5	75.2	70.2	68.7	57.5	64.3	62.7	62.5	72.0	67.5	73.8	65.6	67.4	62.9	61.0	66.3	61.3	77.1	73.2	84.3	81.5	78.7	101.4	93.7	92.0
29.0	28.6	29.4	37.0	29.2	32.0	30.6	29.3	41.2	40.1	38.4	31.5	36.9	30.8	31.5	27.4	29.4	34.1	30.4	30.3	30.2	28.4	36.1	33.6	38.8	38.9	41.5	39.5	32.9	42.6	40.9	39.8
39.4	39.0	40.3	48.9	40.2	41.3	40.1	39.7	46.4	44.8	44.2	39.0	40.8	46.0	43.5	38.2	39.8	44.7	40.3	41.6	38.8	38.0	46.0	40.1	47.0	48.1	50.2	48.2	44.9	58.3	57.5	57.1
22.6	22.3	20.1	24.7	18.9	17.8	19.2	18.9	20.2	19.1	18.4	20.7	22.3	20.1	21.5	20.1	18.4	20.3	18.6	20.4	22.7	21.2	21.1	21.7	30.4	29.5	26.7	25.8	20.6	25.0	23.9	24.1
29.3	28.9	26.4	31.8	24.2	20.0	25.4	24.3	28.8	26.3	26.7	26.4	27.2	26.7	27.8	27.4	24.7	26.7	25.5	26.2	29.6	27.4	32.2	28.5	41.1	39.4	34.5	31.5	31.0	30.4	30.3	30.1
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-	-	26.3					\vdash		22.6				21.8					-	21.4			_	25.8					\vdash	33.6		
33.4	30.5	33.1	31.6	27.4	24.7	27.8	28.3	31.4	31.1	30.2	28.9	32.0	33.1	30.0	32.6	27.2	31.6	27.9	30.3	31.1	29.2	37.9	33.6	33.1	36.3	37.5	36.2	34.0	39.7	38.2	37.8
27.1	23.3	26.5	28 8	24 2	23.2	24 8	24 6	28.0	26.4	26.8	25.9	24 1	25.3	20.9	25.7	23 4	24 2	23.4	23 1	22.2	23 4	30 N	27.6	32 N	32.3	32 2	31 0	25 6	34 7	34.0	32 8
\vdash		33.8			-	_						33.2	32.4					-	31.6			\vdash	34.7	-			-				43.5
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