

S/390 NEEDS AND COMPETENCIES SURVEY

DCTA, Inc.

Thank you very much for participating in our survey on the availability of S/390 and large-systems skills in the Information Technology workforce. DCTA Inc. is currently conducting research with organizations such as yours in preparation for developing a white paper on this subject.

It is well documented that University Computer Science and MIS programs are not producing enough graduates to meet the needs of business. It is also widely believed that students entering the workplace lack the necessary skills in Information Technology to become effective employees without extensive retraining by their employers. What is not documented is quantitative information on the lack of specific S/390 skills and education available to university and college students (a general problem since few schools teach S/390-related topics today) or the effect of this lack upon American business and business worldwide. The goal of our white paper is to assess and quantify the problem, and to attempt to identify and promote possible remedies available to universities, colleges, technical schools and employers.

This survey assesses your organization's needs and lacks with regard to IT professionals in the area of S/390 competencies, including your ability or inability to obtain appropriately educated and trained workforce, and the effect of not having those employees upon your information technology plans and directions. It is intended to be conducted via an in-person or telephone interview, or it may be filled out and returned by the appropriate person in your organization: please decide which is appropriate for your organization. If you aren't the right person please forward this survey to the right person in your organization.

The survey is available in Word, PDF and TXT formats from:
<http://www.dcta.com/pub/S390Survey.xxx> (where "xxx" is "doc" or "pdf" or "txt").

If you would like to establish an in-person or telephone interview please contact Dave Thewlis at 707-442-0547 or e-mail me at <dthewlis@dcta.com>. Otherwise please fill out the survey (contact me if you have any questions) and return it to me in one of the ways indicated at the bottom of the survey.

Please note that while we would like to be able to identify your company as having participated in the survey, **ALL RESPONSES WILL BE KEPT CONFIDENTIAL**. The data will be summarized and no specific attributions to individual companies or individuals will be made without their explicit approval. We will be happy to provide you and your company with a copy of the final report, which should be published by midsummer, 1999.

Thank you for your time and attention.

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In filling out this survey, please answer the questions as they relate to IT professionals, typically those working in or for the central IT organization (if you have one). You may include or exclude subsidiary organizations depending on which approach you feel best represents your organization and its relative difficulties in finding, training and keeping skilled employees, but please be consistent throughout the survey.

Finally, if you have additional comments on any question please write them in whether or not we provided a place. Thank you again for your assistance and please contact us if you have any questions.

SECTION I, COMPANY/ORGANIZATION PROFILE

Date of Survey _____/_____/1999

Name of Organization _____

Location _____

Person Responding _____

Title _____

E-Mail address _____

Telephone number _____

1. Which of these best describes the business your company or organization is in? Check one.

Communications _____

Computer products & services _____

Distribution & Retail _____

Finance, Securities & Banking _____

Industrial & Manufacturing _____

Insurance _____

Public Sector _____

Other _____

If Other, please explain: _____

2. Please approximate the relative size of your organization

_____ Number of Employees (entire enterprise)

_____ Number of IT Employees

_____ Annual Revenue

_____ Annual IT Budget (dollars)

_____ Annual IT Budget (as a percentage of overall enterprise budget)

_____ Rank in Industry (if appropriate)

_____ Other metric which compares your organization to other similar organizations

_____ Please explain _____

3. Please approximate the percentages of your IT workload that run in the following environments. Use any metric which you feel best describes the relative magnitude or importance to your company (transactions, MIPS, revenue generated...)

| <u>Existing Workload</u> | <u>New Workload</u> | <u>2005 Workload</u> |
|------------------------------|---------------------|----------------------|
| Windows/NT _____% | Windows/NT _____% | Windows/NT _____% |
| Unix _____% | Unix _____% | Unix _____% |
| S/390 _____% | S/390 _____% | S/390 _____% |
| Other(explain) _____% | Other _____% | Other _____% |
| Total <u>100</u> % | Total <u>100</u> % | Total <u>100</u> % |
| Metric Used: _____ | | |
| Please Explain Other : _____ | | |

4. What will be the three most significant application or business solution undertakings for your company or organization in the next few years?

- i. _____
- ii. _____
- iii. _____

5. What Platform(s) have you chosen upon which to run these implementations?

- i. ___ Windows/NT ___ Unix ___ S/390 ___ Other(explain) _____
- ii ___ Windows/NT ___ Unix ___ S/390 ___ Other(explain) _____
- iii. ___ Windows/NT ___ Unix ___ S/390 ___ Other(explain) _____

6. If your organization intends to implement applications for the following areas and they are not mentioned above, please indicate which platforms are most likely to be used.

- Enterprise Resource Planning (ERP)? ___ Windows/NT ___ Unix ___ S/390 ___ Other
Explain Other _____
- Customer Relationship Management? ___ Windows/NT ___ Unix ___ S/390 ___ Other
Explain Other _____
- Supply Chain Management? ___ Windows/NT ___ Unix ___ S/390 ___ Other
Explain Other _____
- e-Business? ___ Windows/NT ___ Unix ___ S/390 ___ Other
Explain Other _____

SECTION II, IT PROFESSIONAL EMPLOYMENT ISSUES

7. Please approximate the number of IT professionals your company employs in each of the following broad groups. Where people have cross platform responsibilities please approximate based upon comparative time required to fulfill the duties.

| | S/390 | Unix | Win/NT | Other |
|--------------------------|-------|-------|--------|-------|
| Application Programmers* | _____ | _____ | _____ | _____ |
| System Analysts | _____ | _____ | _____ | _____ |
| Operations Personnel | _____ | _____ | _____ | _____ |
| Systems Professionals* | _____ | _____ | _____ | _____ |
| Network Specialists | _____ | _____ | _____ | _____ |
| Others | _____ | _____ | _____ | _____ |
| Total | _____ | _____ | _____ | _____ |

**Note: "Application Programmers" includes webmasters and web content developers. "SystemsProfessionals" includes System Programmers & Administrators, Performance Specialists, Change Managers, etc.*

8. Do you have openings in these categories now? _____ Yes _____ No
 How many by broad category?

| | S/390 | Unix | Win/NT | Other |
|--------------------------|-------|-------|--------|-------|
| Application Programmers* | _____ | _____ | _____ | _____ |
| System Analysts | _____ | _____ | _____ | _____ |
| Operations Personnel | _____ | _____ | _____ | _____ |
| Systems Professionals* | _____ | _____ | _____ | _____ |
| Network Specialists | _____ | _____ | _____ | _____ |
| Others | _____ | _____ | _____ | _____ |
| Total | _____ | _____ | _____ | _____ |

**Note: "Application Programmers" includes webmasters and web content developers. "SystemsProfessionals" includes System Programmers & Administrators, Performance Specialists, Change Managers, etc.*

9. Please indicate by platform whether you expect the overall numbers of unfilled openings in your organization to rise or fall in the future?

| | | | |
|----------------|------------|------------|------------|
| S/390 Platform | _____ rise | _____ fall | Why? _____ |
| Unix | _____ rise | _____ fall | Why? _____ |
| Windows/NT | _____ rise | _____ fall | Why? _____ |
| Other | _____ rise | _____ fall | Why? _____ |

10. By platform, how much difficulty are you experiencing in filling your IT personnel needs?

| | S/390 | Unix | Win/NT | Other |
|---------------------------------|-------|-------|--------|-------|
| I do not have any unfilled need | _____ | _____ | _____ | _____ |
| Little difficulty | _____ | _____ | _____ | _____ |
| Some difficulty | _____ | _____ | _____ | _____ |
| Great deal of difficulty | _____ | _____ | _____ | _____ |
| I cannot find the people I need | _____ | _____ | _____ | _____ |

11. In your estimation, how long does it take for a new IT employee (on the average) to become productive in the following broad platform areas:

| | 0-6 mos | 6-12 mos | 13-18 mos | 19-24 mos | >2years |
|----------------|---------|----------|-----------|-----------|---------|
| Desktop Client | _____ | _____ | _____ | _____ | _____ |
| Windows NT | _____ | _____ | _____ | _____ | _____ |
| Unix | _____ | _____ | _____ | _____ | _____ |
| S/390 | _____ | _____ | _____ | _____ | _____ |
| Other | _____ | _____ | _____ | _____ | _____ |

If any of these platforms takes significantly longer than others, can you explain why? _____

12. What specific skills would you want in new S/390 hires. Rank in order of preference (1-5) for applications developers, then systems professionals:

- | Appl | Sys | |
|-------|-------|--|
| _____ | _____ | ADSM |
| _____ | _____ | Assembler |
| _____ | _____ | C,C++ |
| _____ | _____ | CICS |
| _____ | _____ | COBOL |
| _____ | _____ | DB/2 |
| _____ | _____ | IMS/DB |
| _____ | _____ | JAVA™ |
| _____ | _____ | JCL and Utilities |
| _____ | _____ | Object-Oriented Development (Component Broker, VisualAge, VisualGen) |
| _____ | _____ | OS/390 Component Knowledge (DFSMS, TSO, ISPF, etc.) |
| _____ | _____ | OS/390 Dump Reading and Debug Skills |
| _____ | _____ | OS/390 Networking (SNA, TCPIP) |
| _____ | _____ | OS/390 Security Services |
| _____ | _____ | OS/390 Systems Management |
| _____ | _____ | OS/390 Unix Services |
| _____ | _____ | S/390 Architecture |
| _____ | _____ | TPF |
| _____ | _____ | VM/VSE |
| _____ | _____ | VSAM |
| _____ | _____ | Others-please list _____ |

13. What are the top S/390 skills shortages you face across all areas? Please rank the top 1-5.

- ADSM
- Assembler
- C,C++
- CICS
- COBOL
- DB/2
- IMS/DB
- JAVA™
- JCL and Utilities
- Object-Oriented Development (Component Broker, VisualAge, VisualGen)
- OS/390 Component Knowledge (DFSMS, TSO, ISPF, etc.)
- OS/390 Dump Reading and Debug Skills
- OS/390 Networking (SAN, TCPIP)
- OS/390 Security Services
- OS/390 Systems Management
- OS/390 Unix Services
- S/390 Architecture
- TPF
- VM/VSE
- VSAM
- Others-please list _____

14. How do you currently obtain your S/390 education for your employees after they are hired?

Please rank the choices that apply.

- On the job training
- Classes from IBM
- Classes from non-IBM source
- In-house training
- University or College
- Trade school
- Other, please specify _____

15. In hiring new S/390 IT personnel, please approximate the percentage which comes from each of the following categories:

- Only hire S/390 experienced people already in the marketplace
- Hire people experienced on other platforms and convert them to S/390
- Hire University or College CS/MIS graduates and train them on S/390
- Hire University or College CS/MIS graduates with S/390 experience
- Hire Trade School graduates and train them on S/390
- Other- please explain _____

100%

16. Please rank the following factors in significance as they relate to selecting the platform upon which to run a new application. (1 is most significant, 2 is next, etc.)

- Price/Performance of platform
- Life Cycle Cost
- Platform Architecture
- Availability/Lack of availability of skilled resources
- Availability of Solution Software
- Available capacity on existing platform
- Other-please explain _____

17. Have you ever decided to move an application off the S/390 platform due to skills shortages?

yes no

If yes, please explain in some detail. _____

18. Have you ever chosen a non-S/390 platform for a new application because you couldn't find S/390 skills? yes no

If yes, please explain in some detail. _____

SECTION III, UNIVERSITIES AND COMPUTER SCIENCE/MIS GRADUATES

19. Do you know of any College or University that prepares its CS/MIS students such that they are S/390 educated and can become productive quickly?

_____ Yes, name of College or University _____
_____ No

20. Is there any basis for a salary premium for graduates that have S/390 skill?

_____ Yes
_____ No
If yes, why? _____

21. If you feel there is such a basis, can you estimate a percentage premium that you would pay? _____

22. Which of the following best describes today's University or College CS/MIS graduates? Please rank those that apply.

- _____ Good theoretical background, little practical experience
- _____ Totally desktop or Unix focused, don't understand enterprise environment
- _____ Excellent skills, practical focus, exactly what we need
- _____ Broadly based, good background upon which I can build the skills I need
- _____ Other, please explain: _____

23. Do you have any kind of co-op or internship program with a local college or university? [If your organization is a college or university, do you have a program with a local business?]

_____ Yes _____ No

If yes, what is the benefit to you in the relationship? _____

24. Would you be willing to work with a local college or university if they were interested in developing some S/390 course content or internship programs? [If your organization is a college or university, would you work with a local business to do this?]

_____ Yes _____ No

If yes, can you explain what you would be looking for? If no, can you tell us why?

25. If you responded “yes” to question 24, how would this benefit you and your organization?

- Graduate hires would be better educated and trained
- Existing employees could attend courses to hone or develop skills
- Other, please explain _____

26. We are very interested in your comments on how Universities and Colleges might better prepare students for employment if you feel that improvements can be made. This survey is intended to focus on these issues, but any additional comments you can provide will help us understand your perspective better and prepare a better report.

27. May we name your company as a participant (without disclosing any specific information about your responses?)

- Yes No

28. May we quote you personally if appropriate? (We will contact you about specific quotes we might want to use.)

- Yes No

29. If we have any questions, may we contact you for more details?

- Yes No

If yes, please check at the beginning of the survey to be sure we have a valid e-mail address or telephone number for you..

Thank you for your participation! If you filled out this survey yourself as opposed to participating in an in-person or telephone interview, please return it to us in one of the following ways:

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