When Can You Start?
Building Better IT Skills and Careers

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ITAA

What is ITAA?

- National Trade Association
- 26,000 Direct and Affiliate Members
- Government and Industry Relations
- Business Development Programs
- Multifaceted Workforce Programs
- WITSA Provides Global Reach
- CRITA Represents Regions

ITAA Workforce and Education

- Grow Skilled U.S. IT Workforce
- Foster Partnerships with Industry, Education, Government, and Others
- Establish Education/Training Programs
- Conduct National Research on IT Workforce
- Support Relevant Public Policy Initiatives

ITAA Workforce Programs

- **National IT Workforce Convocation**
  - May 6-7, 2002 – Arlington, VA
  - Stakeholders from Education, Industry and Government
  - Tracks in **E-Education; Public/Private Partnerships**; **Diversity and Image;** and **Recruitment and Retention**
- **Techforce Initiative/Building Linkages**
  - Focus on School-to-Careers (K-12) and Integrating Skills Into Curriculum
- **Digital Opportunity Initiative**
  - Encourage Minorities to Seek IT careers

ITAA Workforce Programs

- **America Connects Consortium**
  - Provide Technical Assistance to Community Tech Centers

- **Partnership with NSF & Tribal Colleges**
  - Provide Technical Assistance to Tribal Colleges
  - Support Knowledge Enhancement Activities

- **E-Mentor Program**
  - Provide Industry E-Mentors for Local VA High School

Why an Annual Workforce Study?

- Helps Shape National Dialogue on Critical Competitiveness Issue
- Key Indicator on Supply and Demand
- Educates the Marketplace on Skillset Preferences of Hiring Managers
- Provides Valuable Input to Companies, Candidates and Academia on Skill Development

Introducing the 2001 Workforce Study

- Random National Sample of Hiring Managers

- Conducted in Winter 2001

- Focuses on IT and Non-IT Companies

- Scope Expanded to Include Employability Skills and Retention

Research Made Possible By...

- American Association of Community Colleges (AACC)
- American Management Systems
- Cisco Systems
- Hall Kinion
- Intel
- ITT Educational Services
- Knowledge Workers
- Microsoft
- SRA International

Today's Agenda

- Demand and Gap
- Hot Jobs and Skill Development
- Employability Skills
- Career Paths
- Retention
- Conclusions

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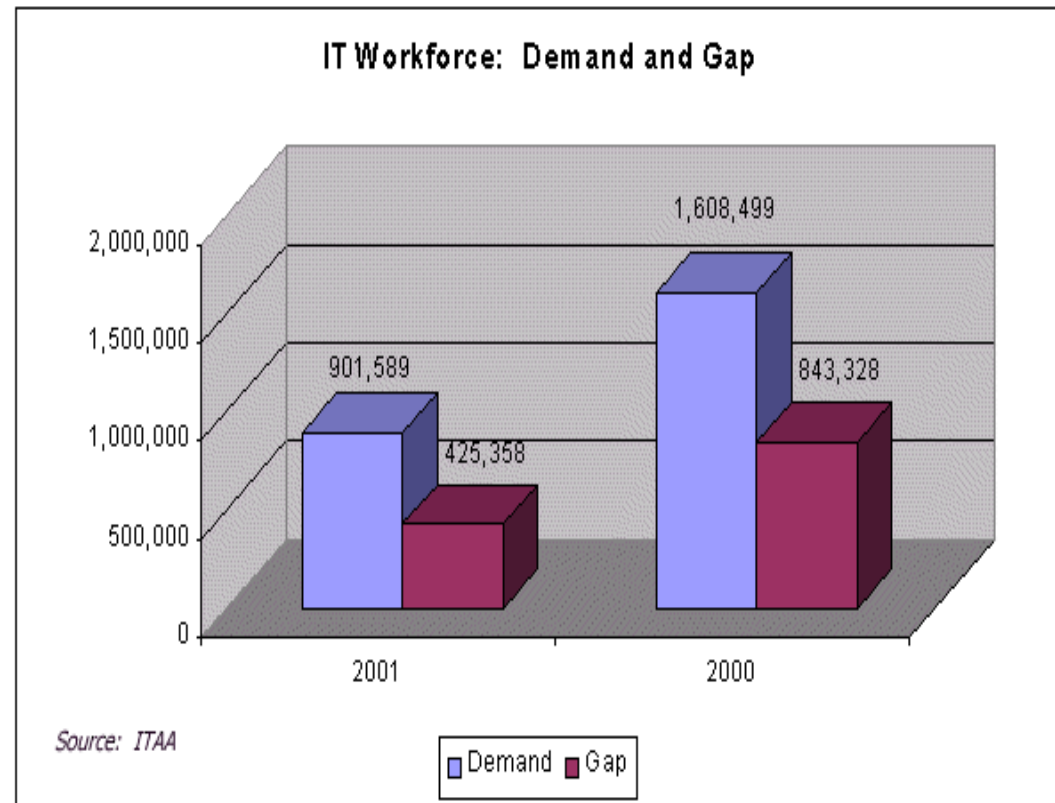
Workforce Size, Demand and Gap
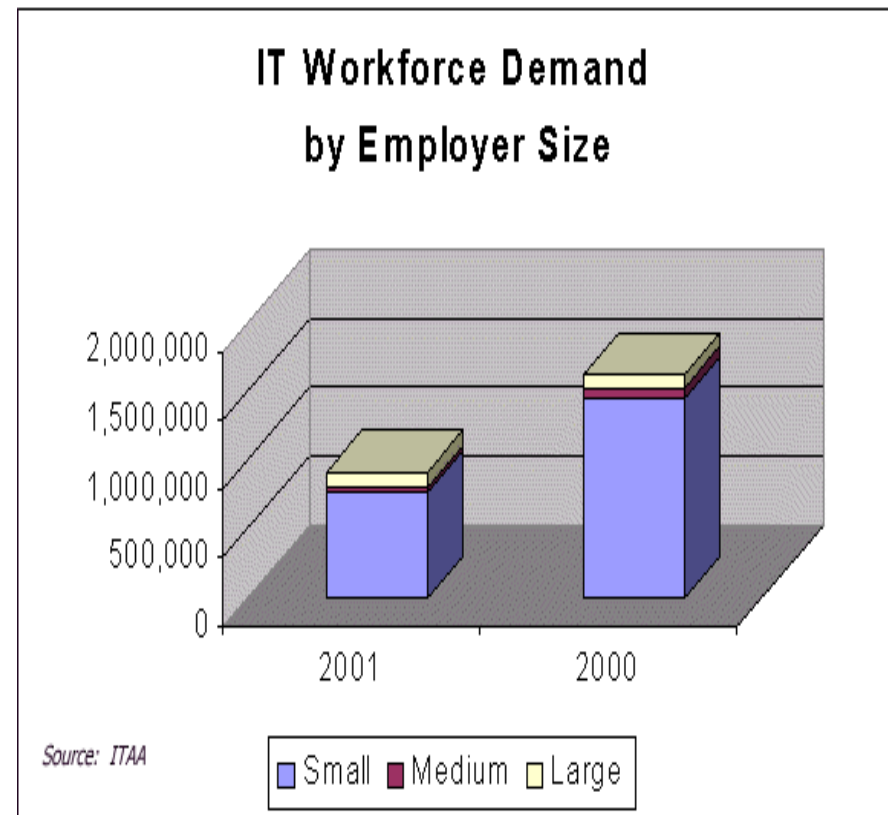
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Workforce Size, Demand and Gap

- IT Workforce Steady at 10.4 million

- Demand and Gap Persist

- But Demand Down by Over 40 Percent

- Gap Down 50 Percent

IT Workforce: Demand and Gap

2,000,000

1,500,000

1,000,000

500,000

0

901,589

425,358

1,608,499

843,328

2001

2000

Source: ITAA

Demand   Gap

When Can You Start?
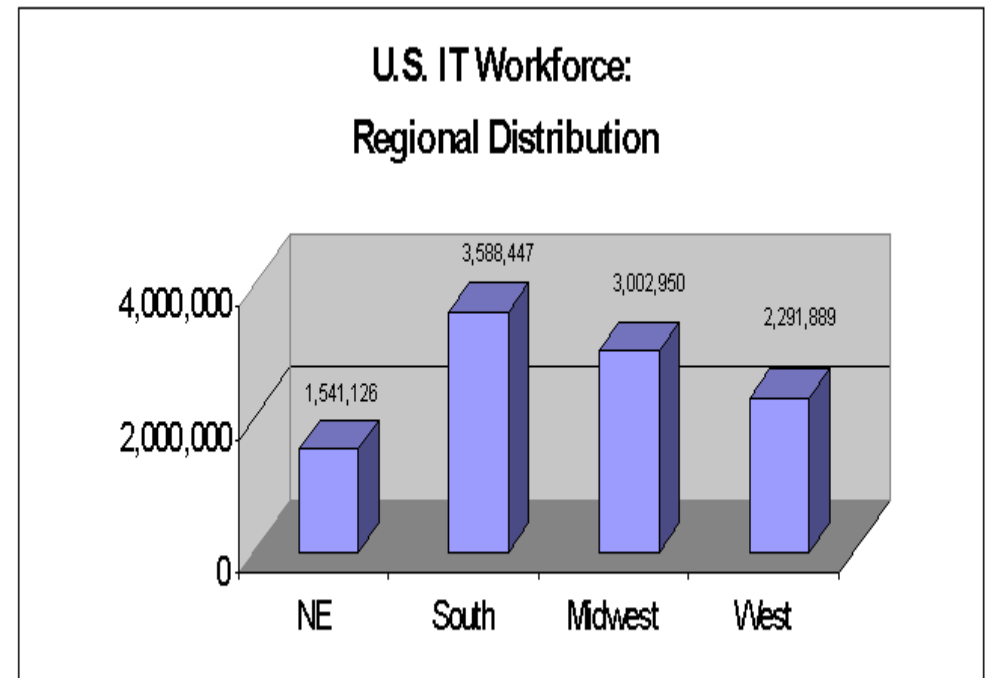## Workforce Size, Demand and Gap

- Demand Decreasing for Companies of All Sizes
- Small Firms Still Represent the Bulk of IT Employers
- Large IT Firms are Exception
  - Demand Doubles over 2000 Level

IT Workforce Demand by Employer Size

Source: ITAA

Legend: Small, Medium, Large

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Workforce Size, Demand and Gap

- Regional Distribution of IT Workers Remains Constant Year to Year
- All Regions Up Slightly
- IT Companies Dominate in West
- Non-IT Companies Lead in Midwest
- Midwest has Largest Demand and Gap
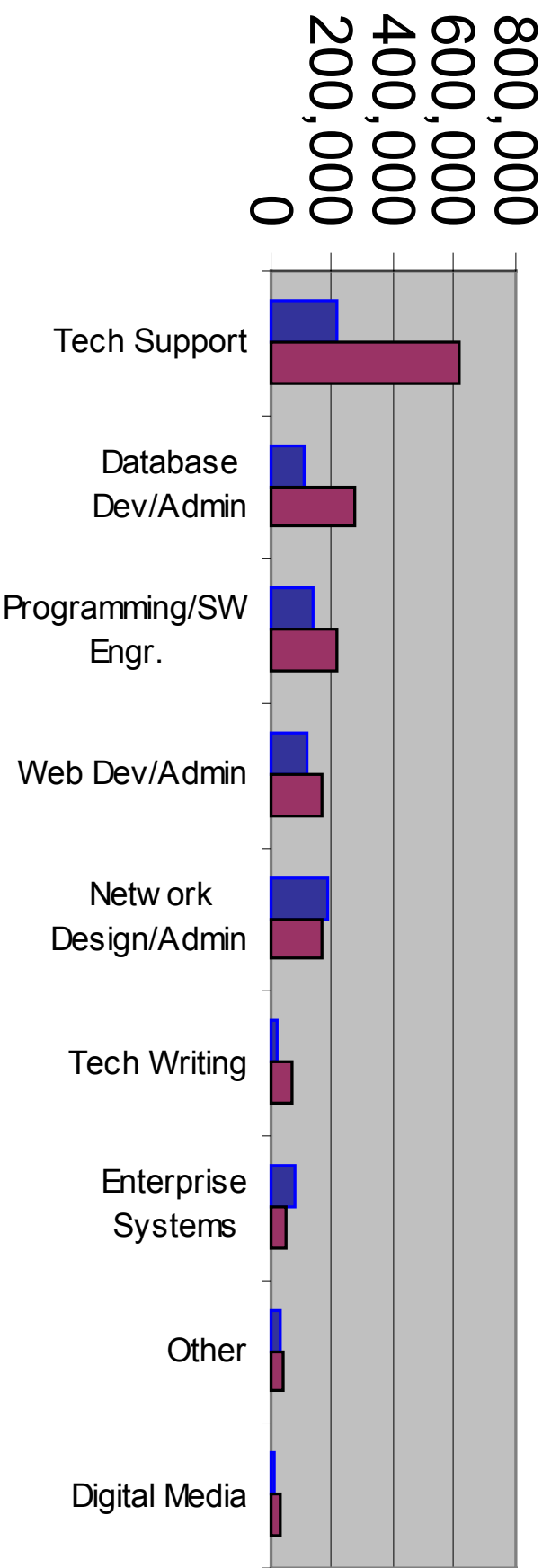
U.S. IT Workforce: Regional Distribution

4,000,000	3,588,447	3,002,950
		2,291,889
1,541,126		
2,000,000		
0		
NE	South	Midwest	West

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Jobs and Skills

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Hot Jobs and Obtaining Skills

Job Categories by Demand

Source: ITAA

Legend:
- ■ 2001
- ■ 2000

X-axis values: 0, 200,000, 400,000, 600,000, 800,000

Categories:
- Tech Support
- Database Dev/Admin
- Programming/SW Engr.
- Web Dev/Admin
- Network Design/Admin
- Tech Writing
- Enterprise Systems
- Other
- Digital Media
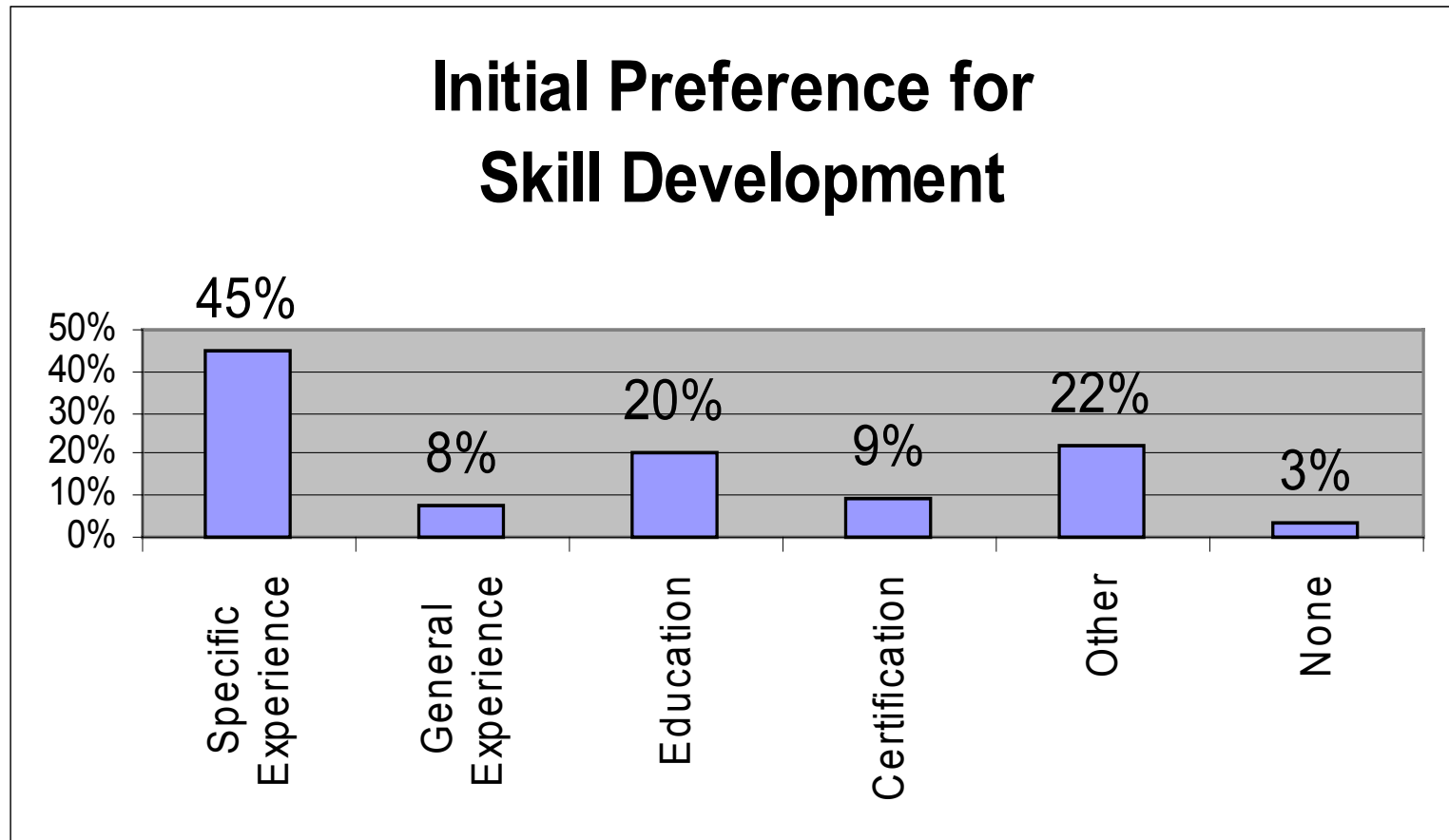
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Hot Jobs and Obtaining Skills

- Tech Support and Network Design Represent Almost 50 Percent of IT Demand

- Network Design and Enterprise Systems Categories Gain Slightly Over 2000

- Even Web and Digital Media Jobs See Drop Off in Demand
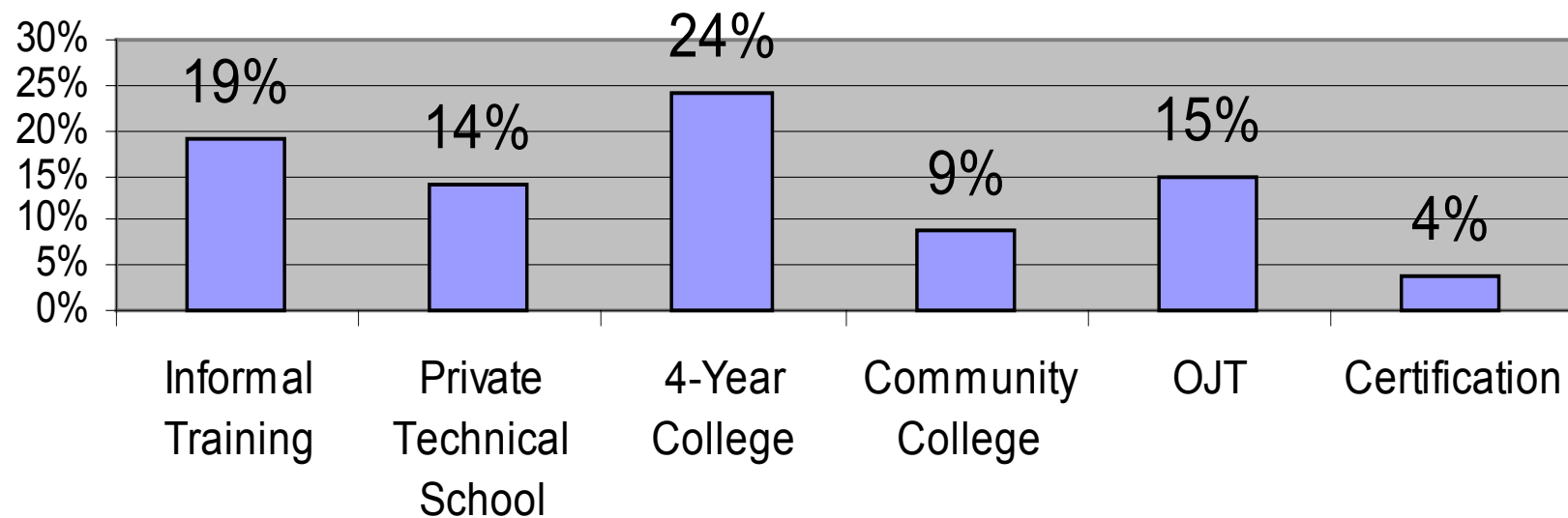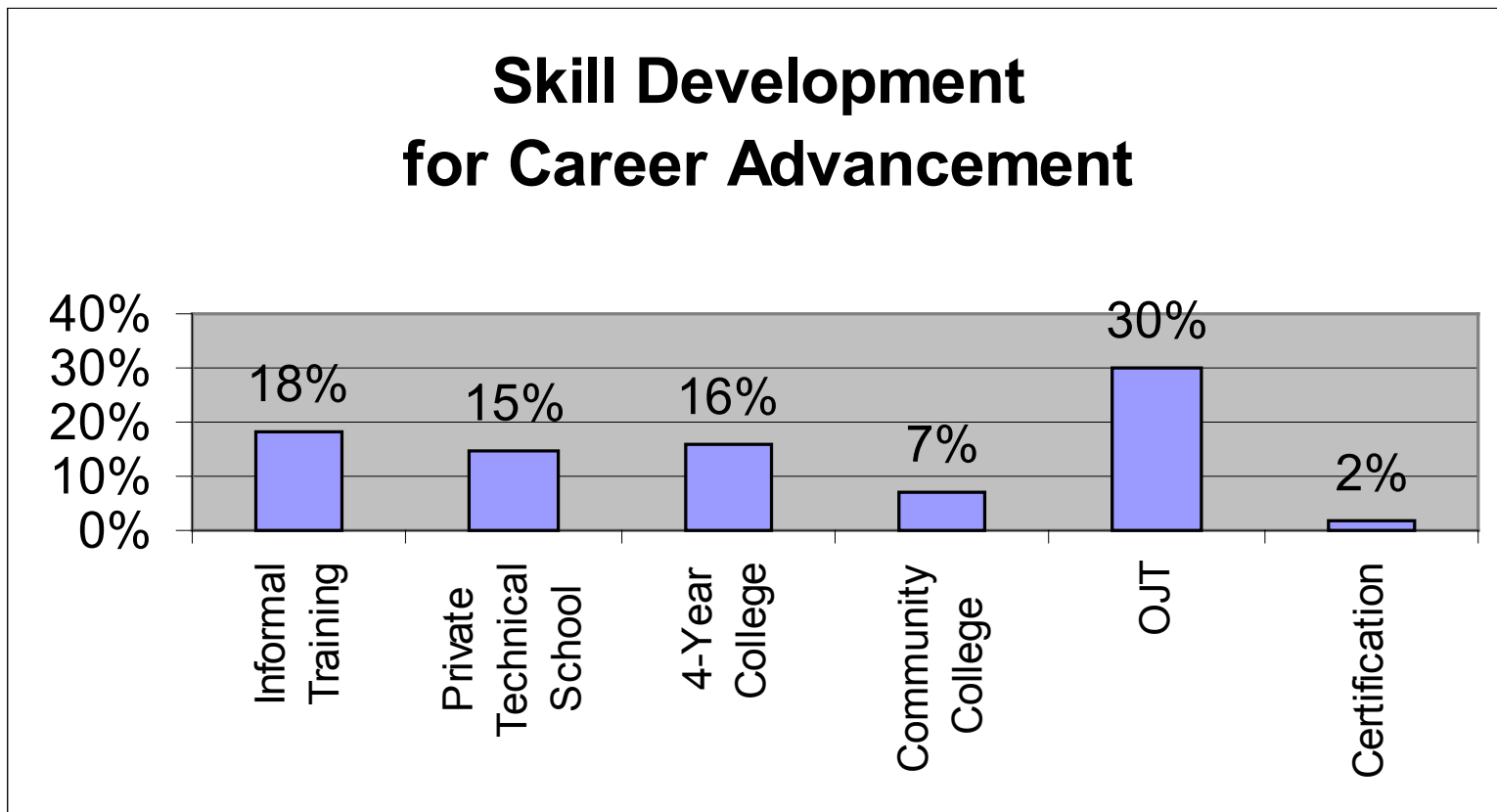
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Hot Jobs and Obtaining Skills

Initial Preference for Skill Development

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Hot Jobs and Obtaining Skills

**Secondary Preference for
Skill Development**

19%	14%	24%	9%	15%	4%
Informal Training	Private Technical School	4-Year College	Community College	OJT	Certification

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Hot Jobs and Obtaining Skills

**Skill Development
for Career Advancement**

Category	Percentage
Informal Training	18%
Private Technical School	15%
4-Year College	16%
Community College	7%
OJT	30%
Certification	2%

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Employability Skills

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The Complete Picture: Employability Skills

- **Interpersonal Skills Rated Most Highly for Entry and Advancement**

- **Organizational Loyalty Also Considered Key**

- **Non-IT Companies Seek Self-Starters**

- **IT Companies May Be More Willing to Nurture Project Management Skills**

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The Complete Picture: Employability Skills

- With the exception of project management, roughly two out of every three job applicants have the employability skills

- One-third view "learn by doing" as the best way to develop employability skills

- 20 percent think formal on-the-job training as the best acquisition strategy

- Significant percentage do not think interpersonal abilities and loyalty can be taught

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Career Paths

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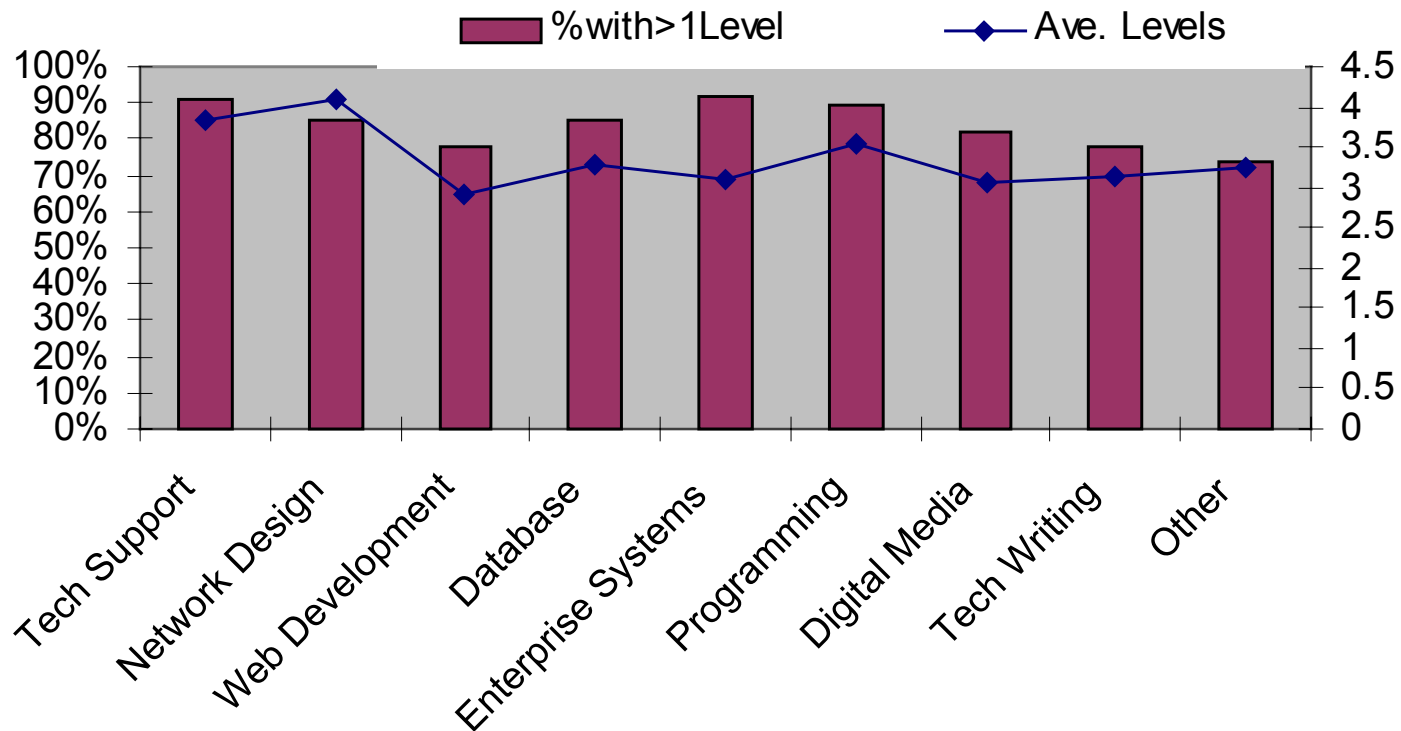## Career Paths: Getting to the Top

- All Job Categories Have Upward Mobility Prior to Management

- 89 percent of IT companies offer one or more levels for career advancement compared to 78 percent of non-IT companies

- Across all job categories, IT companies are able to offer applicants an average of 3.7 promotions; for non-IT companies, this number drops to 3.0

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Career Paths: Getting To the Top

IT Career Paths Across All Companies

Legend: %with>1Level (bars)   Ave. Levels (line)

Categories: Tech Support, Network Design, Web Development, Database, Enterprise Systems, Programming, Digital Media, Tech Writing, Other

Left axis: 0% to 100%
Right axis: 0 to 4.5

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Employee Retention

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Retention: An Alternative to Demand

IT vs. Non-IT Company Retention Expectations		
	Average Acceptable Tenure	% Retained for an Acceptable Length of Time
IT Companies	30 Months	74%
Non-IT Companies	36 Months	82%
Average	33 Months	78%

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Retention: One Alternative to Demand

- IT company tech support workers stay on the job just 22 months--the shortest duration in study

- Anticipated tenure for enterprise systems workers at IT companies is 29 months and just 64 percent cross that threshold

- Programmers/software engineers (34 months), web developers, and tech writers (both 33 months) have longer tenure

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Retention: An Alternative to Demand

	% Citing Incentive	
	Non-IT	IT
Good Compensation	41.1%	43.2%
Flexibility	30.0%	18.2%
Frequent Reviews	18.8%	16.8%
Formal OJT	12.8%	17.8%
Educational Opportunity	18.9%	17.4%
Challenging Work	10.4%	10.9%
Informal Training	6.9%	12.6%
Rapid Promotion	7.9%	7.3%
Work Environment	3.0%	6.8%
Stock Options	1.4%	7.2%

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What Can We Conclude?

What Can We Conclude?

- High Tech Worker Demand and Gap Persist
- Size of Demand and Gap Down Sharply
- Workforce Size Remains Constant
- Employers Appear to be in Retrenchment Mode
- Caution Driven by General Economic Conditions and Resulting Tech Sector Slowdown

What Can We Conclude?

- Demand is Much More Evenly Spread Over Eight Job Categories

- Tech Support Still Hottest Job But Demand Down Sharply

- Demand Pattern Appears to Emphasize Infrastructure

What Can We Conclude?

- Previous Experience Deemed Critical to Skill Development
- Four-Year College Degrees Gain as Best Source of Skill Development
  - Hiring Managers Increase Expectations?
  - Economy Keeping Applicants in School?
- Multiple Methods of Skill Development Appear Acceptable

What Can We Conclude?

- Experience of IT vs. Non-IT Companies Very Different
  - Individual IT Companies Must Fill Far More Positions
  - Non-IT Companies Expect to Retain Workers 6 Months Longer
  - Employees Seek Overall Compensation Package versus Individual Components

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