Addressing The Federal IT Workforce Challenge

Strategic Compensation Conference 2001

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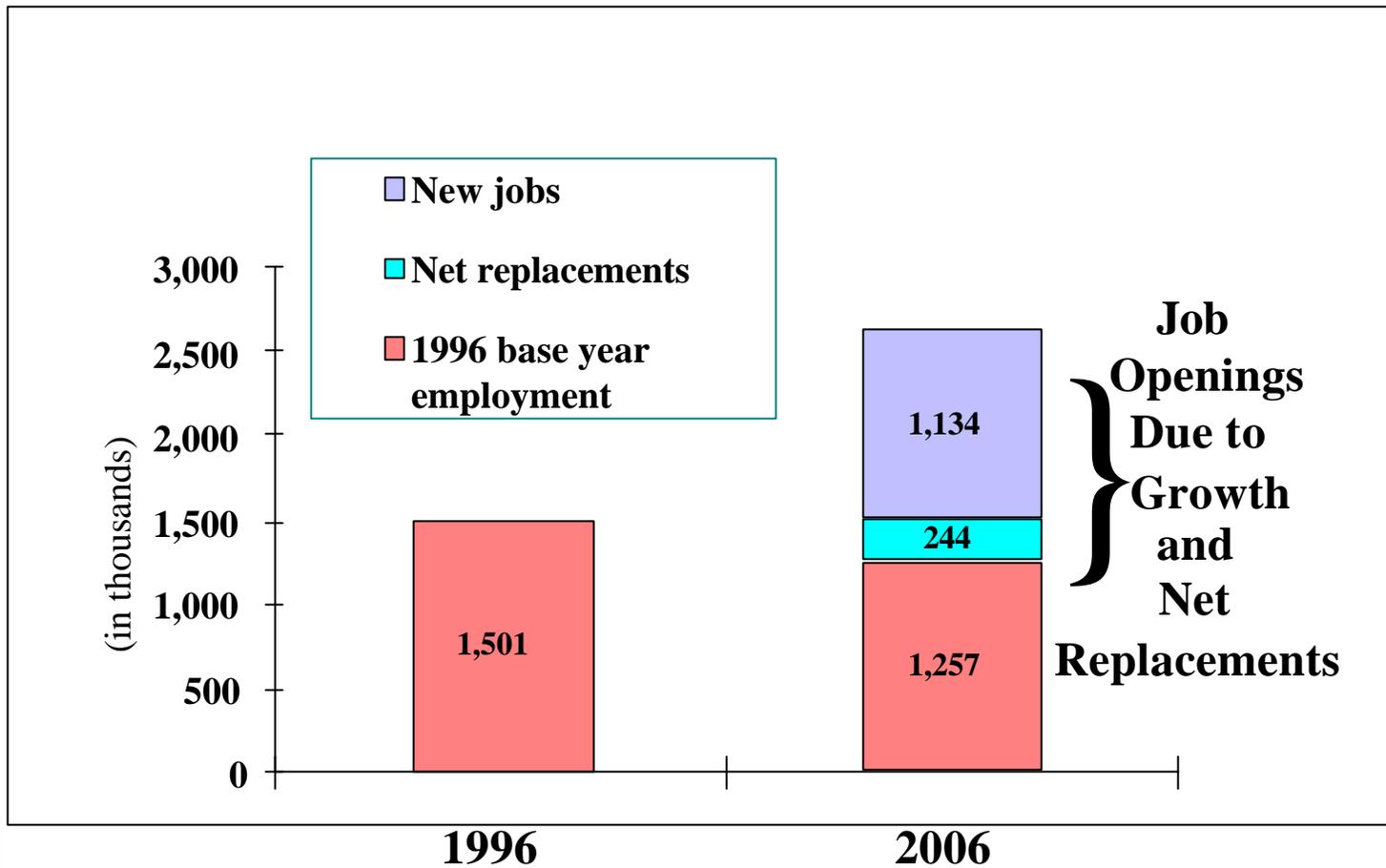NASA, Office of the CIO

August 29, 2001

Agenda

- Background of the Federal IT Workforce Challenge

- Federal CIO Council IT Workforce Activities

- Modernization of Federal IT Job Structure
  - Why
  - Initiatives -- Overview, Approach, Status

- Recruitment/Retention Activities

- NASA IT Workforce Issues

- Next Steps

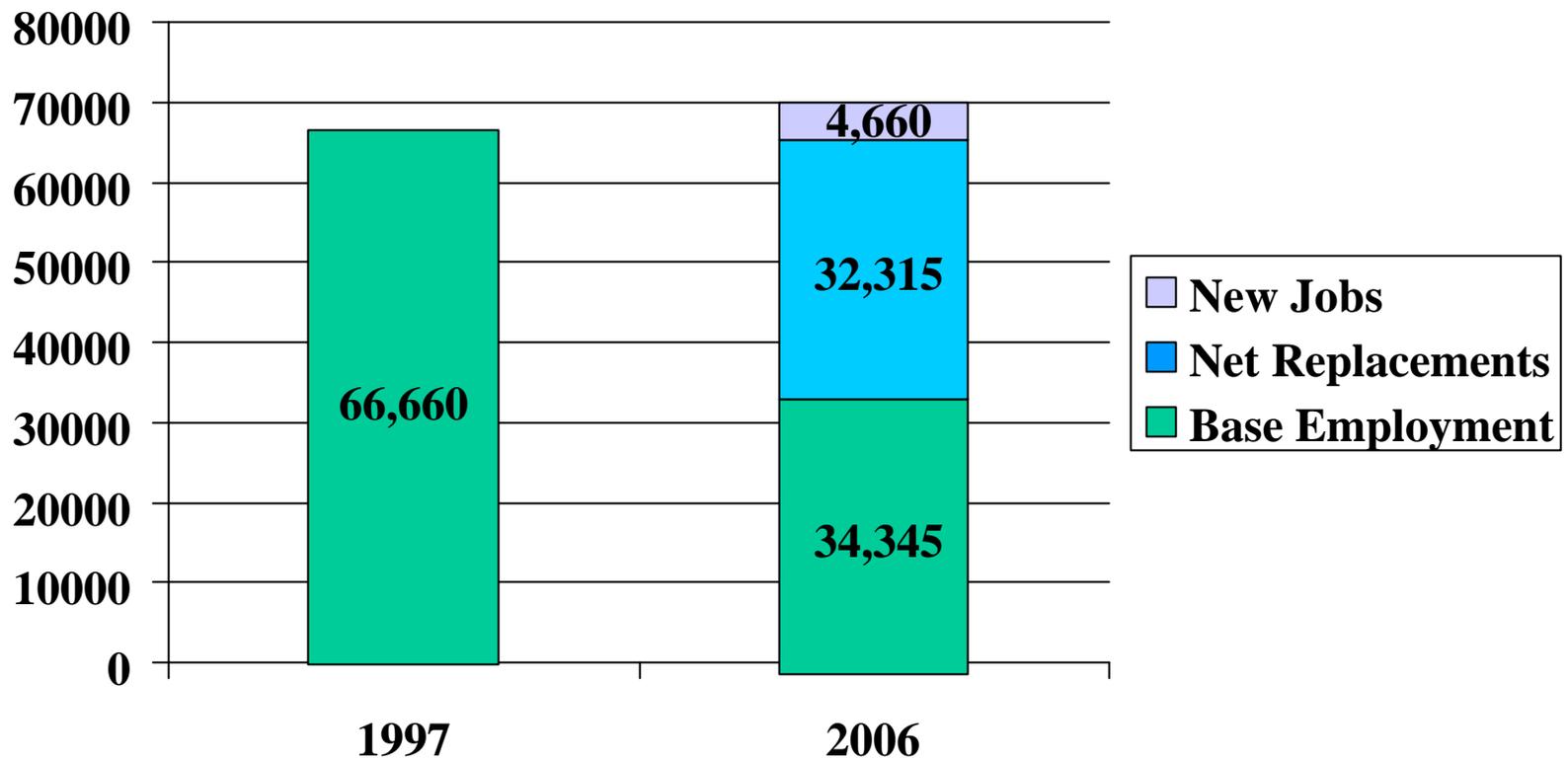# America Will Need 1.3 Million New Core IT Workers by 2006

Legend:
- New jobs
- Net replacements
- 1996 base year employment

(in thousands)

3,000
2,500
2,000
1,500
1,000
500
0

1996: 1,501

2006: 1,257 (1996 base year), 244 (Net replacements), 1,134 (New jobs)

} Job Openings Due to Growth and Net Replacements

(Source: U.S. Department of Commerce)

A Challenge to Federal IT Workforce Stability

(Source: U.S. Office of Personnel Management)

"Meeting the Federal IT Workforce Challenge"

- CIO Council IT Workforce Committee Report - Issued July 1999

  – *http://www.cio.gov/Documents/it%5Fworkforce%5Fchallenge%5FJun%5F1999%2Epdf*

- Implementation Plan - September 2000

  – *http://www.cio.gov/Documents/Plan%5FImplement%5FFFinal%5F9%5F2%2Ehtml*

- Mid-Year Update - March 2001

  – *http://www.cio.gov/Documents/update%5Fit%5Fworkforce%5Frecommend%5FMar%5F2001%2Ehtml*

CIO Council IT Workforce Committee
FY2001 Activities

- **Workforce Planning and Management**
  - Cooperative efforts with OPM
    - IT Job Categories
    - IT Classification Standard
    - IT Competency-Based Pilot
    - IT Special Pay Rate Study
  - NAPA Study
  - CIO Mentoring Program

- **Recruitment & Retention**
  - Scholarships for Service
  - High School Outreach
  - OPM's Federal Intern Program
  - OPM's Federal Student Loan Repayment Program

Federal IT Jobs Prior to Modernization

- Outdated IT classification standard

  – Not reflective of current technologies

  – Not aligned with private sector jobs

- Goal: To reflect current state of IT via descriptive job categories

- Why?

  – Recruitment

  – Retention

  – Skills

Modernizing the Structure of Federal IT Jobs

- *Description:* Create IT **Job Categories** that reflect current IT profession and better correspond to private sector jobs -- clearer announcements; competency-based recruiting; better measures of hot skills areas; and more management involvement in recruitment and selection.

- *Approach:* OPM Pilot Study (Focus Groups with Agency SMEs)

- *Status:*
  - Study Conducted
  - New parenthetical Specialty Titles

- *Completion Date:* Spring 2001

- *Implementation Date:* Individual Agency schedules (up to 1 year)

Modernizing the Structure of Federal IT Jobs (Cont'd)

- *Description:* Create IT **Job Classification Standard** that covers employees whose jobs are primarily related to the use and management of IT

- *Approach:* OPM Survey of Agencies

- *Status:* Issued June 2001

- *Target Date:* All new IT jobs to be classified by the standard

Modernizing the Structure of Federal IT Jobs (Cont'd)

- *Description:* **OPM IT Competency-Based Pilot** – To assess the benefits of the competency-based job profile approach

- *Approach:* Participating Federal agencies post specific IT job vacancies using the OPM competency-based job descriptions and using OPM assessment tools

  - Initiated April 2000

- *Status:* OPM conducing close-out evaluation interviews with agency representatives of participating agencies

- *Target Date:* OPM results to be reported

Modernizing the Structure of Federal IT Jobs (Cont'd)

- *Description:* **OPM IT Special Pay Rate Study** – Assess the need for special pay rate schedules for IT workers within current General Schedule structure -- pay Federal IT workers competitive rates.

- *Approach:* Survey of all Federal agencies - 38 agencies representing 90% of IT employees responded
  - Evaluated by series, grade, geographic location and specialty area
  - Federal CIO Council input

- *Status:* OPM established special rate for Computer Specialists, Computer Engineers and Computer Scientists, GS-5 through GS-12

- *Implementation Date:* February 2001

IT Workforce Management and Planning Initiatives

- *Description:* **NAPA IT Pay System Study** – National Academy of Public Administration (NAPA) will be making recommendations on how the Federal Government can best compete for IT talent; evaluate best practices and innovative solutions

- *Approach:* Non-Partisan Independent Study
  - Initiated October 2000

- *Status:* Final Report in Development

- *Target Dates:*
  - Executive Report - March 2001
    - *http://www.cio.gov/Documents/IT%5FPay%5FStudy%5FExecSum%2Epdf*
  - Final Report - September 2001

More IT Workforce Management and Planning Initiatives

- *Description:* **CIO Mentoring Program** - Provide IT developmental opportunities through participation in cross-functional Governmental activities

- *Goal:* Foster the development of well-rounded IT personnel and advance interagency e-government initiatives

- *Approach:*

  - Selected proteges (GS13-15) are matched with a mentoring CIO Council co-chair;

  - Later, additional work assignments from Chief Financial Officers Council and the Procurement Executive Council

- *Status:* Program details announced in July 2001

  - *http://www.cio.gov/index.cfm?Fuseaction=Enhanced&Section_1=16*

- *Target Date:* Work assignments to begin September 2001

Improve IT Workforce Recruitment and Retention

- *Description:* **Scholarships for Service** - Provide 2-year scholarships to graduate and undergraduate students studying IT Security

- *Goal:* Encourage college students to enter the IT Security field

- *Approach:* Federal Cyber Service initiative provides $11M for grants to selected colleges and universities; National Science Foundation to manage grants process

- *Status:* $8.6M for scholarship grants awarded in May 2001

  - Later, additional $1.6M will be go towards faculty instruction in IT Security

- *Target Date:* Students to receive scholarships in September 2001

Improve IT Workforce Recruitment and Retention

- *Description:* **High School Outreach** - Students "shadow" Government CIOs and other Government IT mentors during a normal day on the job.

- *Goal:* Encourage High School students to enter the IT field and work for Federal Government

- *Approach:* Closely coordinated with the Industry Advisory Council's IT Programs for Academic and Career Enhancement (PACE) Committee; several initiatives on-going

- *Status:* Formed November 2000

- *Target Date:* Next "Groundhog Shadow Day" February 1, 2002

More IT Workforce Recruitment and Retention Initiatives

- OPM's Federal Intern Program

- OPM's Federal Student Loan Repayment Program

- National Research Council's Committee on Workforce Needs in IT

   http://www4.nationalacademies.org/cpsma/itwpublic2.nsf

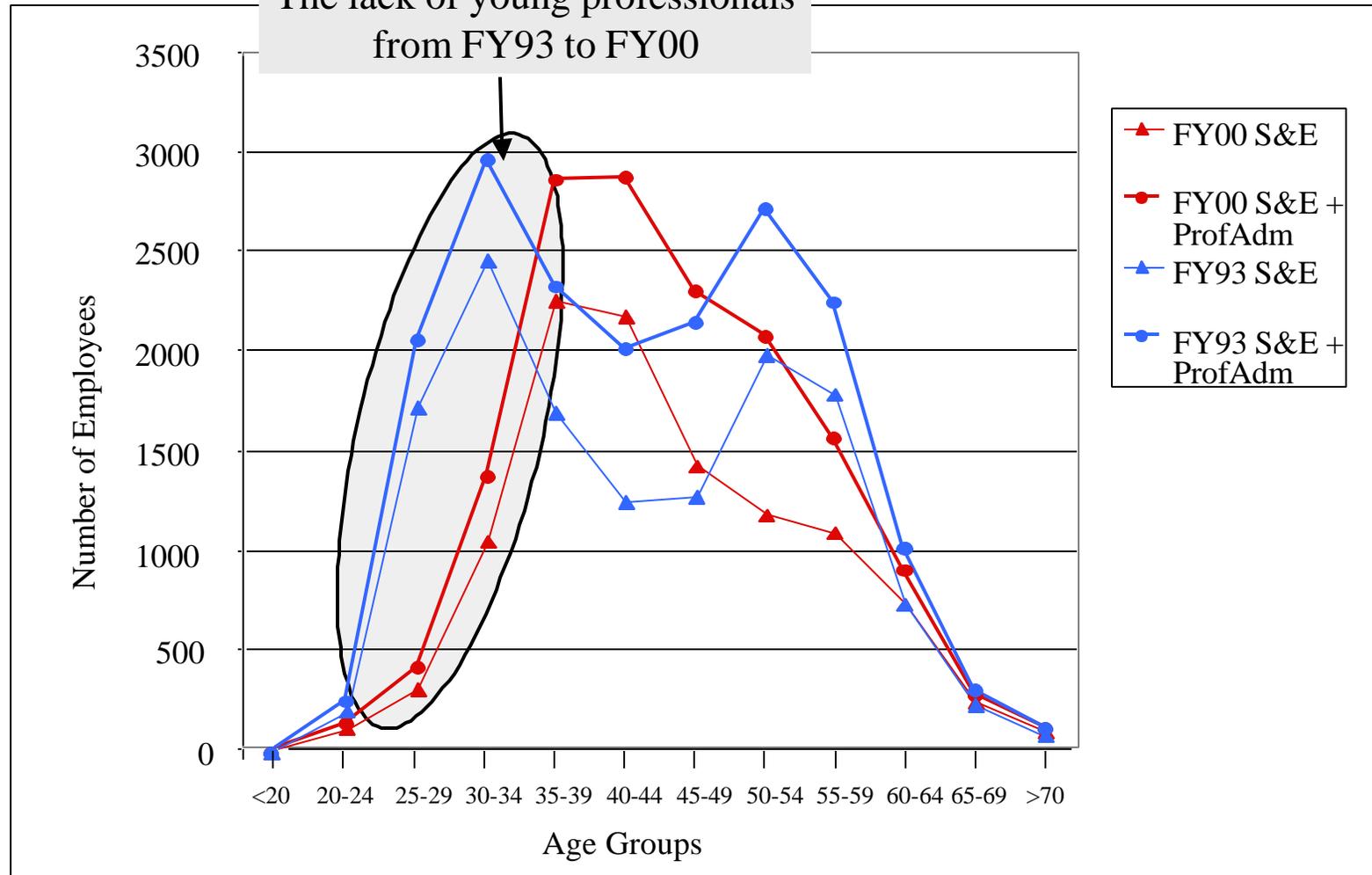- Encourage Recruiting from Non-Traditional Resources

Unique IT Workforce Issues within NASA

- OPM's traditional view of "IT workers" does not fit NASA
  - 57% of NASA's Workforce are Scientists and Engineers, with high IT skill levels
    - NASA's Core Technical Expertise
    - IT "Power Users" have Applied IT and Advanced IT skills
  - IT is a cross-cutting functional area
  - IT skills are critical to all NASA jobs at all levels
- Downsizing:
  - Since 1993, employees under age 35 have decreased from 28% to 13% of the workforce
- Agency buyouts:
  - Loss of corporate knowledge due to downsizing

NASA's Technical Workforce

The lack of young professionals from FY93 to FY00

Legend:
- FY00 S&E
- FY00 S&E + ProfAdm
- FY93 S&E
- FY93 S&E + ProfAdm

Y-axis: Number of Employees (0 to 3500)

X-axis: Age Groups (<20, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, >70)

Significant NASA Findings & Next Steps

- Aggressive recruitment and retention needed
  - Use of cutting edge technology
  - Leverage on NASA's name recognition and exciting mission
  - Use of OPM recruitment and retention methods

- Loss of Corporate knowledge across Agency
  - 2-way mentoring program

- Succession Planning needed to sustain cadre of knowledgeable senior and executive IT management

- New OPM Special IT pay rate does not address our pay issues
  - NASA has outsourced most of these targeted positions (entry level Computer Specialists)
  - NASA Programs traditionally hire mid-career Computer Scientists and Computer Engineers ("hit the ground running")

- Loss of IT Security personnel to industry

Potential Future CIO Council IT Workforce Committee Activities

- Develop a "Road Map" for Career Development
  - IT employees plot career through:
    - Improved competency in IT job specialties
    - Training
    - Job enrichment opportunities and assignments
- Advocate Project Management skills
  - Prepare future IT Professionals to better manage for results to support business objectives
  - Address training and skills development issues