National Institutes of Health

# *NIH eRA Commons*

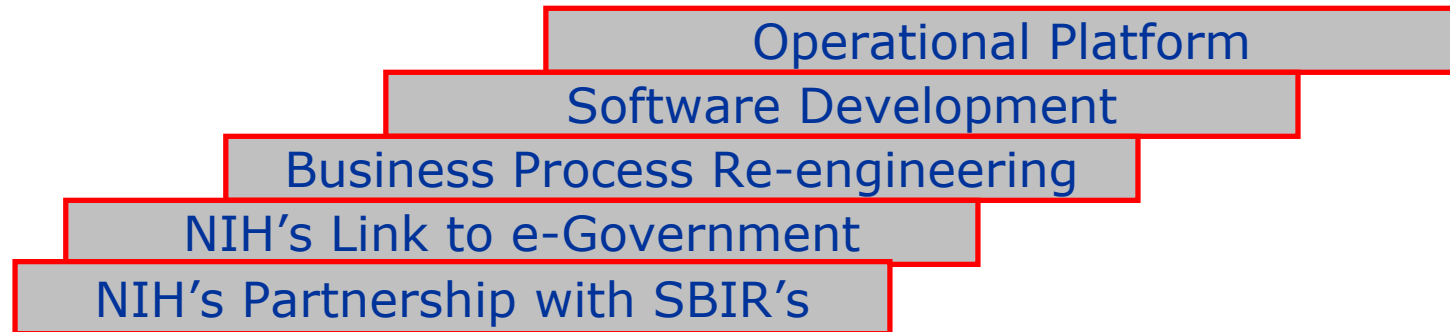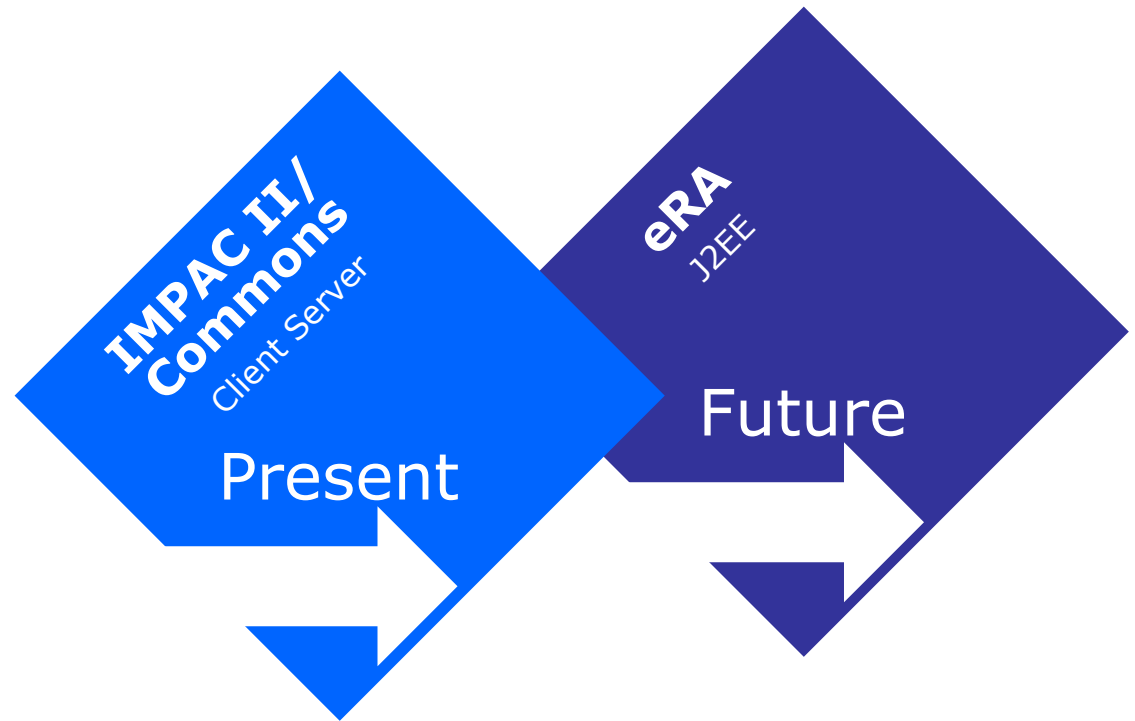## Update for January 2003

Electronic Research Administration

# eRA Project System Update

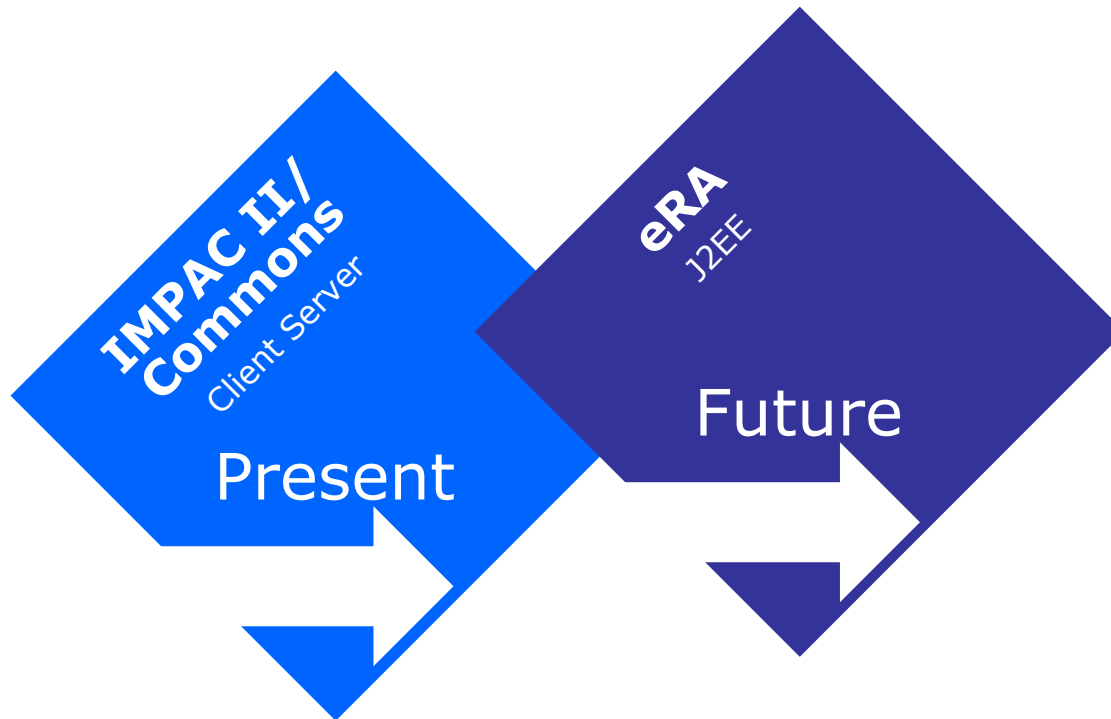- Health of the Project
- Moving Forward
- Budget
- Future Directions

# Like Us—the eRA Project is in Good Health but:

- Under stress, tension because of
  - **Rolling out applications and functionality**
  - **Recognition we need to improve usability**
  - **Need to migrate quickly NIH internal systems in older technologies and architecture**
  - **Re-engineering of business practices**
  - **People see what we are doing and want to increase scope and responsibilities**
  - **We scaled back expectations last May to match existing resources**
  - **Current RESOURCES have not matched need for the project for it to remain healthy but help may be on the way.**

# Salute and Good Bye to IMPAC I
## Over Thirty Years of Service

**IMPAC II/ Commons** Client Server

**Present**

**eRA** J2EE

**Future**

Operational Platform

Software Development

Business Process Re-engineering

NIH's Link to e-Government

NIH's Partnership with SBIR's

# eRA is an Evolving Project

**IMPAC II/Commons**
Client Server

**Present**

**eRA**
J2EE

**Future**

Operational Platform

Software Development

Business Process Re-engineering

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NIH's Partnership with SBIR's

# Migration to J2EE Needs to Be Quick



IMPAC II/ **Commons**
Client Server

**Present**

**eRA**
J2EE

Future
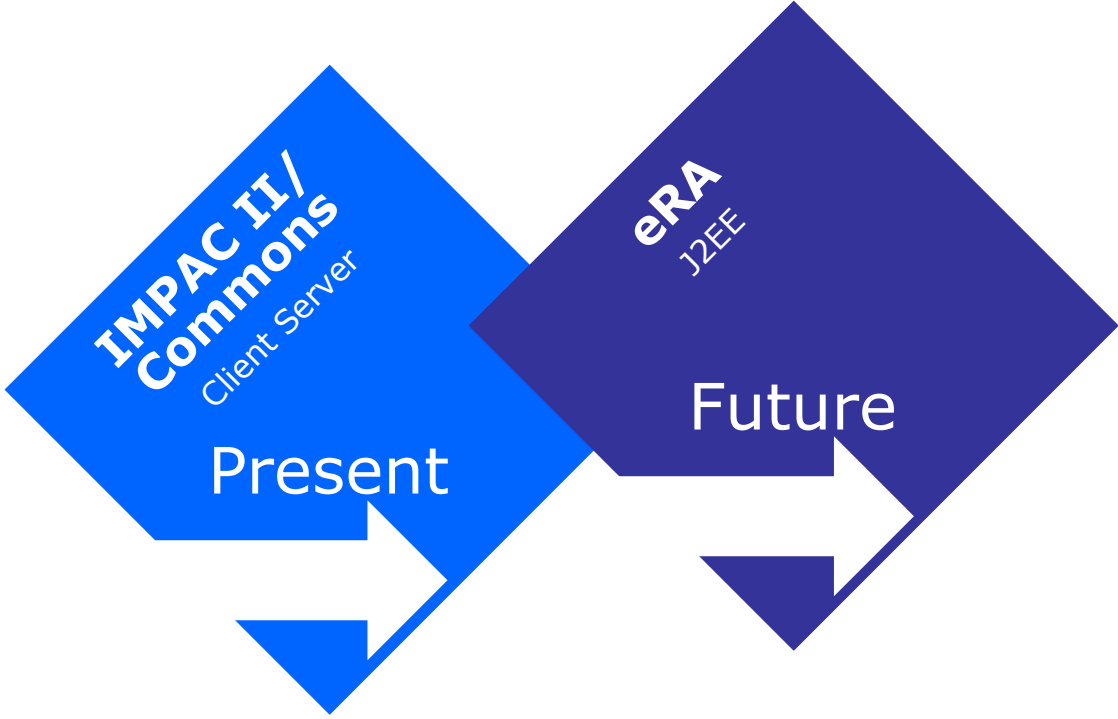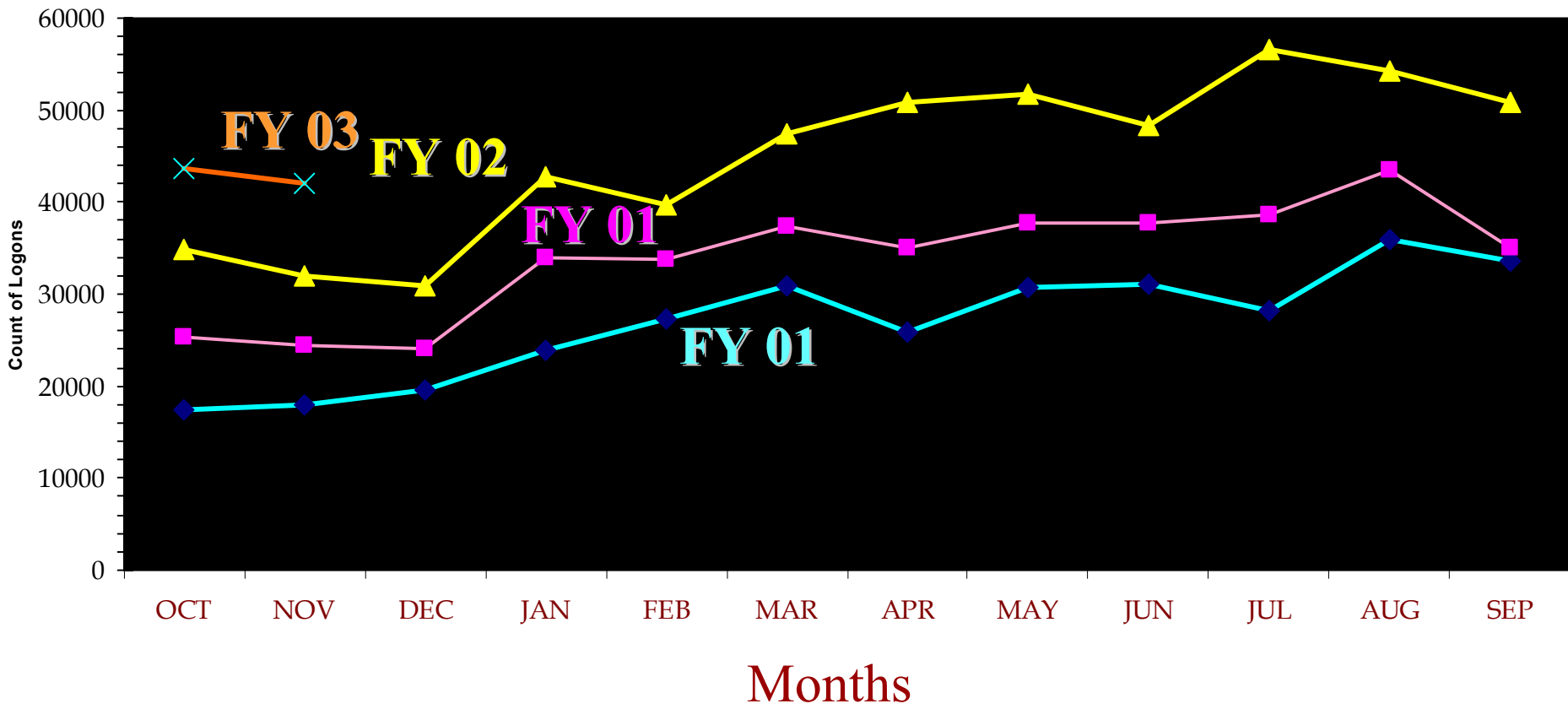
Operational Platform

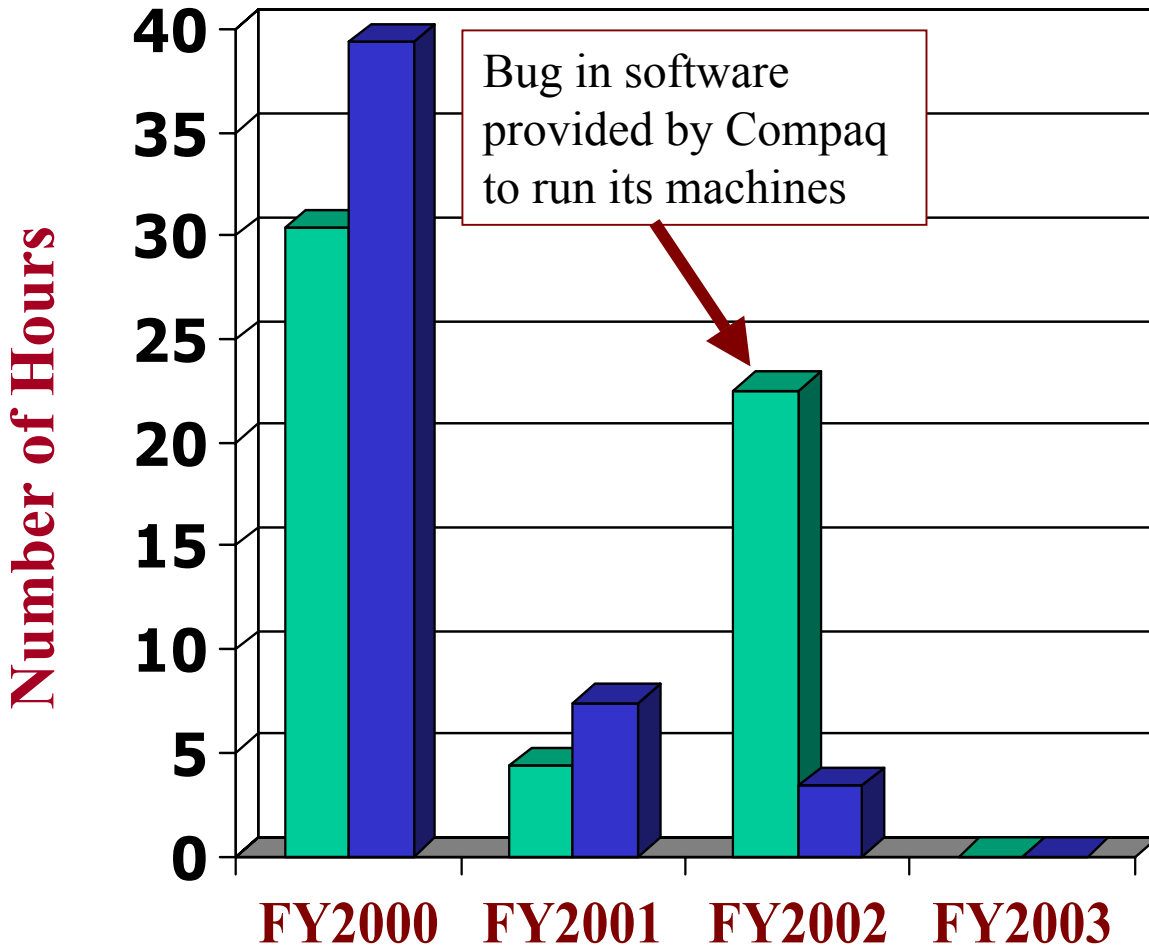Software Development

Business Process Re-engineering

NIH's Link to e-Government

NIH's Partnership with SBIR's

# Increased Usability of IMPAC II

# One measure of progress:
# Unscheduled Downtime



Bug in software provided by Compaq to run its machines

# Overall Trends for eRA

- Users actively engaged

- Consistent feedback that things are better today compared to two years ago

# eRA Budget

# eRA Budget Evolution

- FY 1999
  - **$15 million per year allocated for eRA**
- FY 2000
  - **Business case developed to increase funding to $34 million per year**
  - **Initial 5-year financial plan established**
- FY 2001
  - **Developed initial cost model (Martha Pine)**
  - **Began first baseline year of the 5-year plan in FY 01**
  - **Funding received May 2001 and project funding built out on priorities based on a May-to-May cycle.**

# eRA Planning and Tracking Cost Tool

**1**

### User Community

**2**

**Steering Committee**

**3**

### eRA Project Management

Budget – $ 4,246,003

| | |
|---|---|
| Contractor Support | $1,512,247 |
| FTE's | 539,756 |
| ODC's | 2,194,000 |

**6**

### User Support and Operations

Budget – $ 2,494,762

| | |
|---|---|
| Contractor Support | $1,434,003 |
| FTE's | 1,003,185 |
| ODC's | 57,574 |

**5**

### Communications and Outreach

Budget – $ 1,985,392

| | |
|---|---|
| Contractor Support | $1,421,170 |
| FTE's | 389,222 |
| ODC's | 175,000 |

**4**

### Architecture

Budget – $ 1,737,520

| | |
|---|---|
| Contractor Support | $1,725,069 |
| FTE's | 12,451 |
| ODC's | 0 |

**7**

### Quality Assurance & Configuration Control

Budget – $ 6,549,456

| | |
|---|---|
| Contractor Support | $5,379,631 |
| FTE's | 1,169,825 |
| ODC's | 0 |

**8**

### Technology Infrastructure

Budget – $ 8,680,942

| | |
|---|---|
| Contractor Support | $3,908,464 |
| FTE's | 291,758 |
| ODC's | 4,480,720 |

**9**

### Application Design, Estimation, Maintenance and Development

**9a** Budget – $ 2,581,287

| | |
|---|---|
| Contractor Support | $1,900,647 |
| FTE's | 680,640 |
| ODC's | 0 |

**9b** Budget – $ 432,220

| | |
|---|---|
| Contractor Support | $ 313,232 |
| FTE's | 118,988 |
| ODC's | 0 |

**9c** Budget - $6,692,418

| | Budget | Contracting Support | FTE's | ODC's |
|---|---|---|---|---|
| Major Enhancements | $3,529,174 | 3,197,552 | 331,622 | 0 |
| Minor Enhancements | $1,581,622 | 1,250,000 | 331,622 | 0 |
| Maintenance | $1,581,622 | 1,250,000 | 331,622 | 0 |

# eRA FY02 Priorities

| Initiative | FY$ 2002<br>$ Required | FY 2002<br>$ Funded |
|---|---|---|
| IMPAC I Sunset | $     492,898 | $   492,898 |
| Migration to  J2EE | $10,398,000 | $4,105,646 |
| Commons Rollout | $     939,691 | $   939,691 |
| e-SNAP | $ 1,266,315 | $1,266,315 |
| Enhancements / Maintenance | $ 2,901,375 | $2,901,375 |
| **Totals** | **$15,998,279** | **$9,705,925** |

Shortfall of ~ 6.3 million
Requesting ~ 4.9 million

# Project Expenditure



Legend:
- **Equipment**
- **Software**
- **Building Alterations**
- **IMPAC I**
- **IMPAC II Dev/Maint**
- **J2EE Dev/Maint**
- **QVR**

Y-axis values: 0, 500,000, 1,000,000, 1,500,000, 2,000,000, 2,500,000, 3,000,000, 3,500,000

X-axis label: **Dollars**
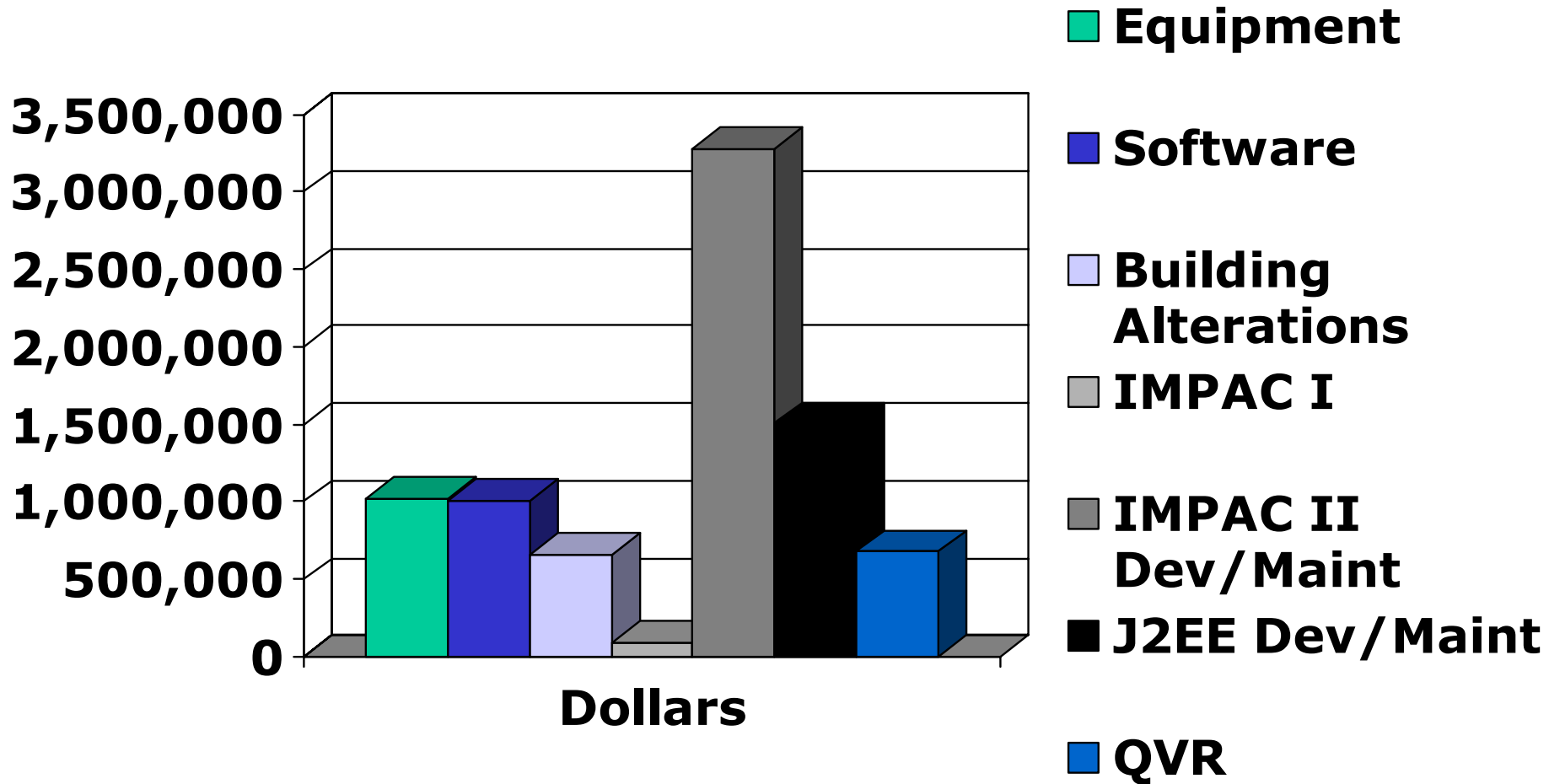
# Resource Issues

- Not enough resources to keep project on schedule
  - **Project was down-scoped in May 2002**
  - **Requirements were eliminated that now need to be added back for successful deployment**
  - **Significant increase in resources necessary for NIH eRA Commons support**

# Old architecture

Oracle
- Grants Payment Module
- Grants Management
- Person Module
- ICSTORe
- Receipt and Referral
- SITS
- X-Train
- Type 4, 6, 7
- Population Tracking
- ECB
- QVR

~20% to 30% reduction is scope

# J2EE Development Goals

- e-SNAP
- Financial Status Report

Reduction in scope

- CM Fast Track
- Internet Assisted Review
- E-Notification
- Program Portal

Reduction in scope

- GM Closeout – Maintenance
- IM Module – Maintenance

- i-Edison – delay full integration

# Budget Recommendations

- ## FY03
  - **Request a $10 million contingency fund allotment**
    - **$4.9 million in requested budget base increase**
    - **$1.5 million for Loan Repayment Program**
    - **$0.6K for QVR Support**
    - **$3.0 million in contingency fund money (10%)**
- ## FY04
  - **Request a $4.9 million increase to budget base**
  - **Request a 10% contingency fund allotment ~ 5 million**

# Planning Ahead

# Setting Priorities for FY 03

- Data Quality
- eGrants
- Program Portfolio Management Interface
- IC Staff Roles and Management Interface
- Enhancing reports and query tools
- Partial Integration of Loan Repayment Applications
- i-Edison
- X-Train (Version 2)
- Pilots
  - **Knowledge Management (review, program)**
  - **Wireless**

# NIH eRA Commons Modules*

- Computer Retrieval of Information on Scientific Projects (CRISP)
- Interagency Edison (iEdison)
- Application/Award Status
- X-Train

**Production**

- Institutional Profile
- Professional Profile
- Institutional Registration and Accounts Administration
- FSRs and more
- e-SNAP—Progress Reports
- Internet Assisted Peer Review—IAR

**Target Jan. 03 For Production**

- Competing Grant Applications

**Target 04 For Production**

* 21 additional framework modules support these applications "behind the scenes"

# Setting Priorities for FY 03

- Data Quality
- eGrants
- **Program Portfolio Management Interface**

  (broad utility)
  - **Work in progress interface**
    - **Pull up Types 1, 2, 5 and track outstanding issues**
    - **Be able to annotate the summary statements and applications**
    - **Connect to e-Transactions-R2R with e-Notification**
- IC Staff Roles and Management Shared Interface
- Enhancing reports and query tools
- Partial Integration of Loan Repayment Applications
- iEdison
- X-Train (Version 2)
- Pilots
  - **Knowledge Management (review, program)**
  - **Wireless**

# FY2003 Priorities broken down into 3 major areas:

- External Facing
- Internal Facing
- NIH eRA Common Components

# Examples of External Facing Priorities

- CGAP
- Trainee
- eSNAP
- E-NAP
- External Website
- Public Reporting
- Closeout Submission
- FSR Data Stream

# Examples of Internal Facing Priorities

- CGAP Processing

- RAE—Phase 1 & 2

- Finance & Budget

- Committee Management

- Trainee—Payback

- Program Portal

- Program Portfolio Management

- eRA Website Integration

- Records Management Phase 1
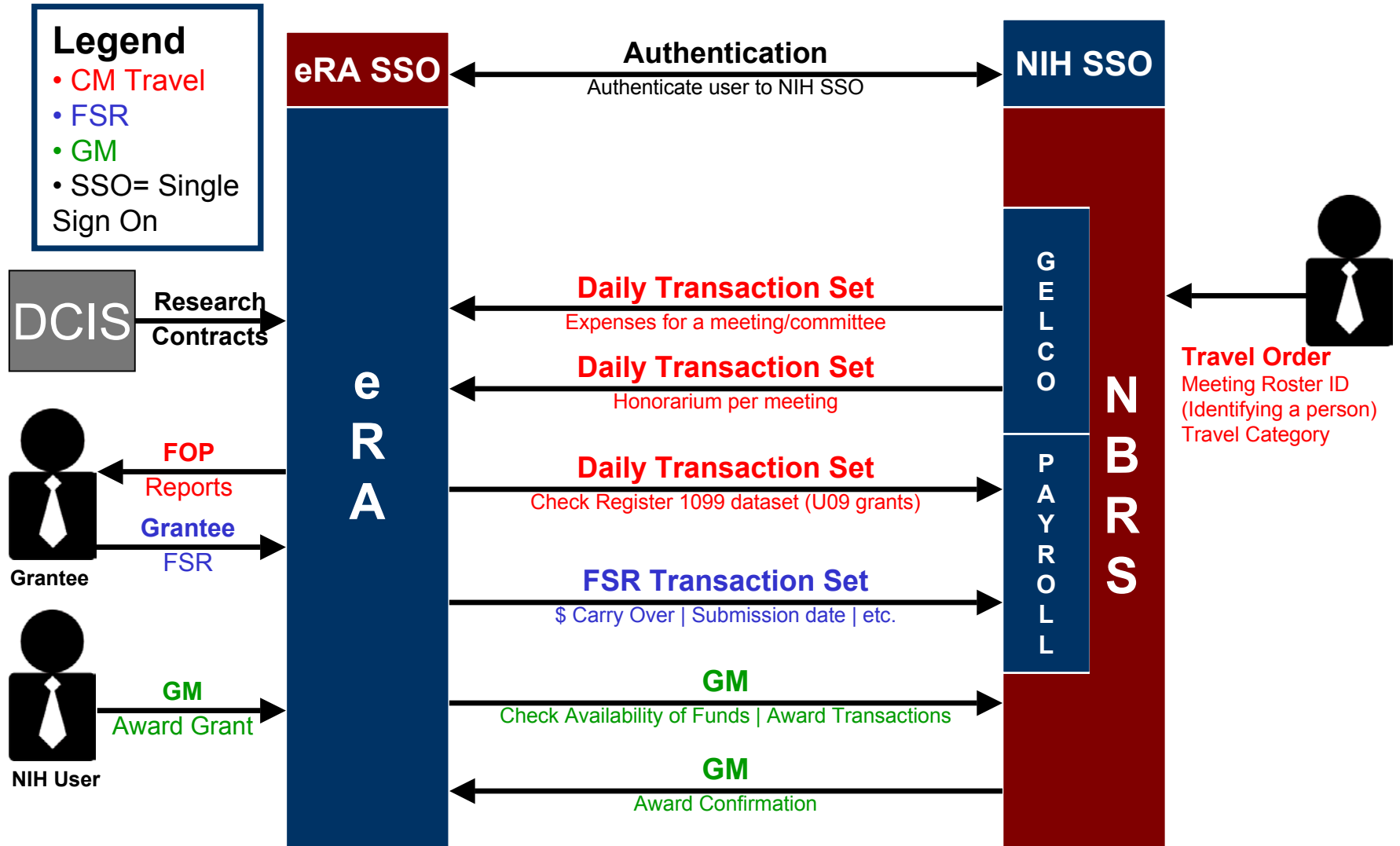
- Loan Repayment Program (LRP)

# Common Components of FY2003 Priorities

- Data Architecture
  - **Document services**
  - **XML storage and services**
  - **Functional Data marts**
- Person Module
- Workflow
- Edit Checker
- E-notifications

# Expectations from the Pilots:

- E-Financial Status Report (eFSR-C)
  - **OFM will be able to accept FSRs using the same system.**
  - **FSR accepted by OFM will be generated and stored in grant folder FSR**
- Internet Assisted Peer Review (NIAID System & More - C)
  - **Pre-meeting submission of critiques & preliminary scores**
  - **Pre-meeting availability of critiques submitted by other Reviewers**
  - **SRA ability to designate applications as lower half**
  - **Automatic creation of pre-summary statement body in Word document for SRAs and GTAs**
  - **Will contain critiques sorted in order of assignment priority**
  - **SRA and GTA ability to designate a meeting, assign Reviewers, and define and manage Review phase dates (Submit, Read, Edit)**
- Committee Management Fast Track (NIH only)
  - **Meeting set-up and maintenance activities**
  - **Roster set-up and maintenance activities**
  - **Pilot ICs for the CM Fast Track are: NIMH, NIAID, CSR, NCI, NHLBI & NIGMS**
- Program Portal (NIH only - November)
  - **Architecture framework necessary to support all aspects of the portal.**
  - **Pre-Submission Tab and the General Resources Tab, which will provide information links to various resources in a central repository.**
- eSNAP - C

# eRA – NBRS Linkages

**Legend**
- CM Travel
- FSR
- GM
- SSO= Single Sign On

**eRA SSO**

**Authentication**
Authenticate user to NIH SSO

**NIH SSO**

DCIS

**Research Contracts**

**e R A**

**G E L C O**

**P A Y R O L L**

**N B R S**

**Daily Transaction Set**
Expenses for a meeting/committee

**Daily Transaction Set**
Honorarium per meeting

**FOP** Reports

**Daily Transaction Set**
Check Register 1099 dataset (U09 grants)

**Grantee** FSR

Grantee

**FSR Transaction Set**
$ Carry Over | Submission date | etc.

**GM** Award Grant

NIH User

**GM**
Check Availability of Funds | Award Transactions

**GM**
Award Confirmation

**Travel Order**
Meeting Roster ID (Identifying a person) Travel Category

# SBIRs Need 18 Million for Phase II

| Name | Grant Title | Research Orgs Product Used | Phase 1 Funding | Phase 2 Funding |
|------|-------------|----------------------------|-----------------|-----------------|
| **ERA Software Systems** PI: Dianne Bozler | *Enhancements to GAMS to Include XML for the NIH Commons* | **5** | $361,991 | $1,416,110 |
| **RAMS Company** PI: William Kirby | *Test ERA Software Package with Local Control of Profiles* | **1542** | $295,478 | $4,366,273 |
| **InfoEd International** PI: Edward Johnson, Sr. | *Electronic Submission/Response System via an NIH Portal* | **600** | $422,389 | $1,470,733 |
| **Cayuse, Inc.** PI: Chris Harker | *GrantSlam eRA: Scalable electronic grants administration* | **675** | $409,584 | $1,515,080 |
| **Formatta Corp.** PI: David Garver | *Next Generation eRA: Portable Internet Date Containers* | **25** | $504,698 | $3,785,541 |
| **Clinical Tools** PI: Brad Tanner | *Electronic Submission of NIH Grant Applications* | **8** | $499,153 | $5,417,697 |

# Partners Not Limited to Funded SBIRs

## Business-Government Strategic Partners Sought by NIH

The National Institutes of Health (NIH) is seeking to enter into strategic partnership arrangements with one or more organizations to undertake a major development effort for the electronic processing of grants at NIH.

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The NIH eRA-SBIR promotional efforts for the electronic submission of grant applications will be expanded to include organizations that wish to develop applications and services without NIH financial support. NIH will work cooperatively with your organization and will offer certification for products/services that meet compatibility requirements (see data standards). In addition to public service and paid promotion, NIH is interested in establishing a partnership program with providers of approved eRA software solutions, and in forging agreements with the private sector to develop software, which will enable the NIH grantee community to participate in grants business proccesses electronically.

NIH seeks only those organizations with the extraordinary qualifications and experience required for such a vast undertaking. The National Institutes of Health plans extensive communications with potential business partners including: a Public Briefing. The NIH invites all interested organizations to participate in the Public Briefing to be arranged on **(insert date)**, at the **(insert location)**, starting at 9:00 a.m. to 5:00 p.m. You may call Jerry Stuck on (301) 435-0690 for additional information.

- **Data standards:** NIH intends to follow an a XML DTD format, which has been described for grant applications and notice of grant awards. NIH intends to certify software that is in compliance with these standards only. Potential partners are encouraged to review the data requirements for this initiative.
- **Individual Technical Conferences:** Qualified organizations, which meet or exceed the eligibility criteria set forth above, are encouraged to call Jerry Stuck at (301) 435-0690, to arrange individual technical conferences with the NIH. There are no prohibitions with respect to the subject areas to be discussed including the communication strategy. The NIH would make available its senior technical and business management personnel to facilitate the discussions.
- **Written Comments:** Qualified and interested organizations are encouraged to provide written comments concerning all elements of this announcement. Please provide these comments by email to Jerry Stuck at js706d@nih.gov.
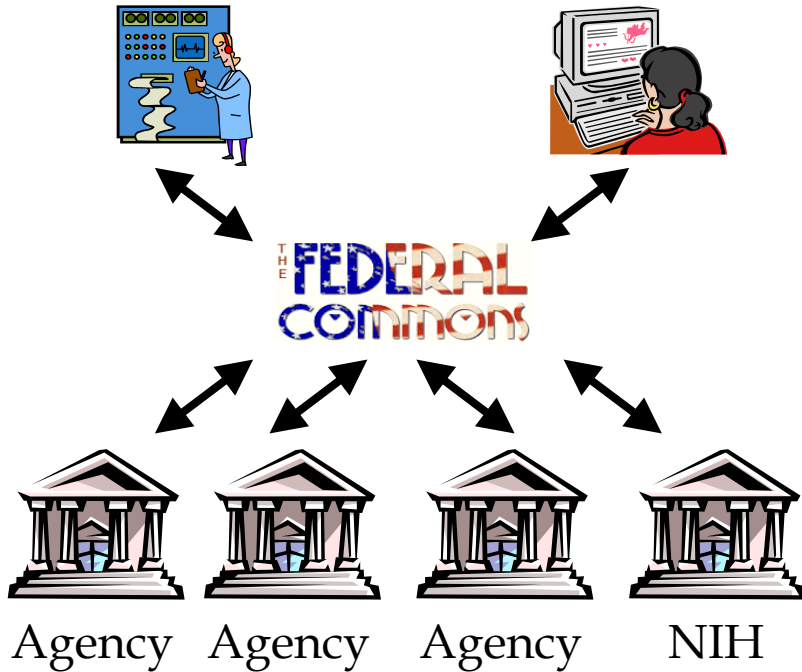
Potential partners must submit clear and convincing documentation that demonstrates their capability to satisfy the NIH's requirements. Potential partners responding to this announcement must submit the following:

● Agencies, foundations, for profits,not for profits.

# What Is the Impact of the DHHS E-Grants ?
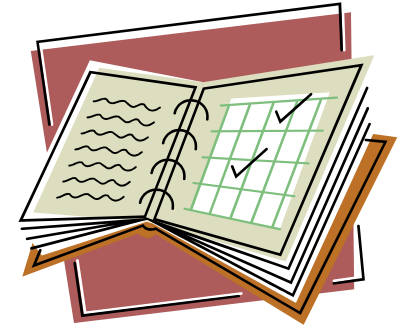
# Common Vision

Federal Commons



- **FY 2000**
  - **Common face**
  - **Single Entry Point**
  - **Data streams (EDI – XML)**
  - ~~**NSF-NIH Web version equivalent of fast lane in the Federal Commons**~~

- **FY 2001**
  - **Develop a business and a research agenda**
  - **Capitalize the project**

- **FY 2002**
  - **Launch and award SBIRs**
  - **Hand off to e-Grants**

# Common Projects



## Federal Commons

- Architecture defined
  - **Component technology and XML data standards**
- Registration/ Organizational Profiles
- Funding Opportunities
  - NASA, NIH, NSF, and ONR
- Grant application pilots
  - Research, S&L
- Portal pilot

## E-Grants

- E-Grants Business Case
  - **IT Architecture based on Federal Commons**
- Business Partner Network (BPN/CCR)
- Funding Opportunities
  - All agencies
  - OMB approval of synopsis
- Definition of core application data and cross-agency components
- Evaluating how to best utilize portal for E-Grants

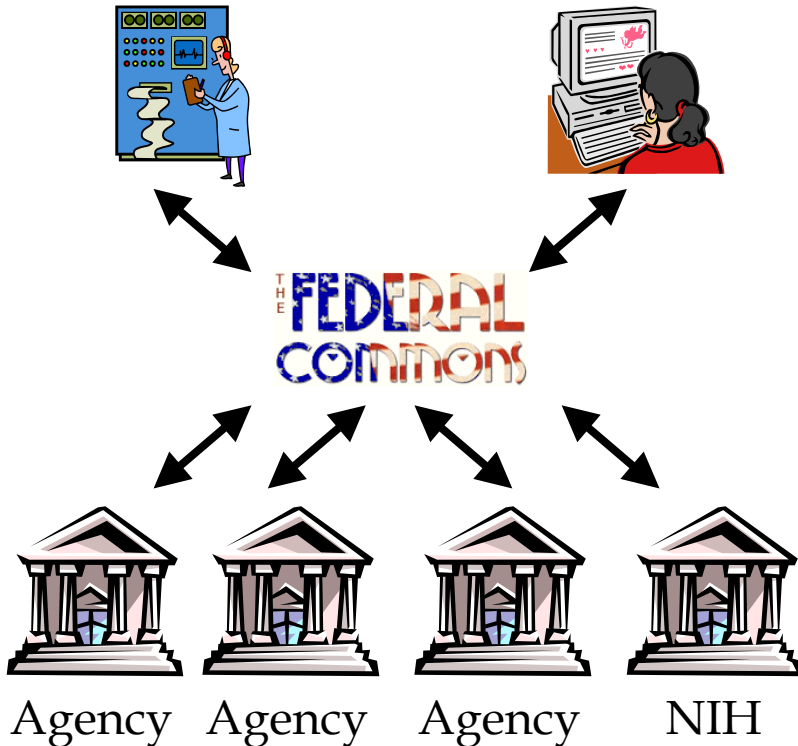# **Don't let the situation confuse you...**

# What This Means for NIH

- We will not have a Web application interface.

- We will push Web application and Adobe-type products to been done by the research organizations directly or the private sector for building products or becoming application service providers to research organizations.
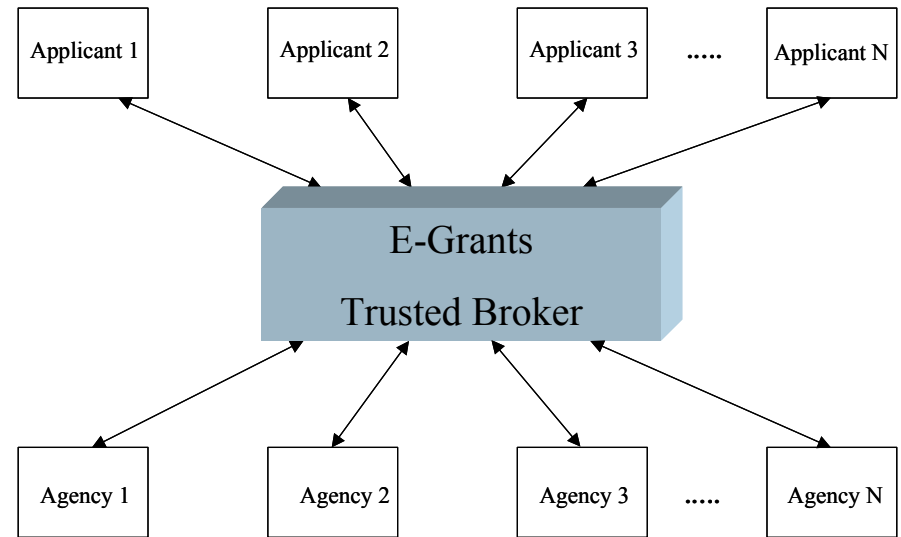
# Common Vision

## FY 2001
## Federal Commons



Agency    Agency    Agency    NIH

- Common Face
- Single Point of Entry

## E-Grants



| Applicant 1 | Applicant 2 | Applicant 3 | ..... | Applicant N |

**E-Grants**

**Trusted Broker**

| Agency 1 | Agency 2 | Agency 3 | ..... | Agency N |

Unified "Trusted Broker" benefits Applicants and Agencies

- Electronic Storefront
- Trusted Broker

# Key points for the NIH eRA strategy

- SBIRs are an integral part of our strategy to:
  - **Develop R2R2B2G software and procedures**
  - **Fully penetrate the market to conduct e-grants within three years**
  - **Build and enhance and customize components for research organizations**
- Bottom line we need the SBIR and other partners to be successful

# We will provide the opportunities for the private sector to:

- Use the XML data stream for research and to develop products
  - **Core (424) and non core (rest of the 194)**
- Use an Adobe-linked 398
  - **Core and non core**
- Market to others with the support of NIH and the Federal Government E-Grants.
  - **XML or Adobe take the core plus features of the 194 specific to market for each agency and research organization**

# A Vision for Medical Discovery in the 21st Century

*A Foundation for Achievement*
*A Roadmap to Meet New Challenges*
*An Investment in Future Health*

**Advisory Committee to the Director, NIH**
**December 5, 2002**

# Identified major roadblocks to solving key questions:

- Challenge of biological systems complexity
  - **Beyond reach of current methods?**
  - **Overwhelming scale and complexity?**
  - **Computational and analytical limitations?**

- Are we entering an era of "Big" Science?
  - **Multi-disciplinary teams.**
  - **Viewing clinical research as a system.**

# The NIH Roadmap: Four themes emerged

- Revolutionary Methods of Research
- New Pathways to Discovery
- Multi-disciplinary Research Teams of the Future
- Re-engineering the Clinical Research Enterprise

# eRA should be:

- A business processing and reporting tool?
- A business intelligence tool?
- A knowledge discovery tool?
- A clinical research tool?

# Knowledge Growth

- Gene, Genome, Proteome databases are growing daily
- Literature is expanding with about:
  - **35,000 journal articles per month from 4,600 biomedical journals**
- Grant Applications expanding
  - **> 11,000 grants reviewed in spring alone**
- PubMed alone consists of 11,000,000 citations
- Private foundations are spending ~ 20 billion to fund same investigators and projects as NIH

# Looking Ahead



- Your questions and discussions