

# The Scanning Business Plan

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**Presented at the eRA Project Team Meeting  
of Tuesday, December 11, 2001**



# Purpose

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- Scanning is the first step in implementing a migration from processing paper grant applications to electronic media
- Rather than being an end in itself, scanning is intended to enable staff to learn how to work with images instead of paper
- Scanning can be the harbinger of a paperless workplace



# Description

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## The Background

- NIH receives approximately 48,000 paper grant applications (an original and six copies) per year.
- 75 percent are reviewed by the Center for Scientific Review; 25 percent are reviewed by the individual Institutes
- In most cases, 30-35 copies are made of each application
- There are enormous reproduction, labor, space and mailing costs associated with the review process



# Description

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## Proof of Concept

- **Pilot studies have been undertaken to determine the efficacy of changing from paper to electronic images**
- **In each pilot project, reproduction, labor, space and mailing costs have been dramatically reduced**
- **Images of grant applications are now available to be viewed in IMPAC II within days of receipt**



# Description

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## Enhancements

- **Prior summary statements will accompany the grant application**
- **Application abstracts available on the electronic image in word processing format**
- **Competitive conflicts will be automatically identified**
- **A desktop CD ordering process will be instituted**



# Objectives

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- **To expand the current set of NIH grant application scanning pilots to a full production status for all applications**
- **To pave the way for data streaming into the NIH of all applications in electronic form**



# Assumptions and Constraints

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## Assumptions - 1

- Scanning is an interim solution to electronic imaging
- All paper grant applications will be converted to TIFF images by ORS
- All TIFF images will be converted to PDF images by a commercial contractor
- All applications will be scanned at 1 bit resolution
- Only competitive conflicts will be excluded from a peer reviewer's CD
- All grant applications will be scanned during calendar year 2002
- 75 percent of applications will be scanned during calendar year 2003; 25 percent will be received via the Commons



# Assumptions and Constraints

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## Assumptions - 2

- 50 percent of applications will be scanned during calendar year 2004; 50 percent will be received via the Commons
- 5 percent of applications will be scanned during calendar year 2005 and beyond; 95 percent will be received via the Commons
- All images received via the Commons will be converted from XML (or comparable technology) to XPDF (or comparable technology)
- All PDF and/or XPDF images will be viewable in IMPAC II
- CDs and/or electronic books will be the media of choice to send to reviewers until sufficient data streaming techniques can be developed



# Assumptions and Constraints

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## Constraints

- The initial contract will not exceed two (2) years
- The initial contract will cost approximately \$1.4 million per year
- Original color images, detailed charts and tables will be sent to primary and secondary reviewers



# Integration Requirements

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- Integration is required with the Peer Review, ICO and Quick View modules of IMPAC II
- So far the Grant Folder has been deployed in those three modules



# The Project Team

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- **PR Man:**

- ▶ **Steve Hausman (i.e. Group Advocate)**

- **The Ones Who Actually Do the Work:**

- ▶ **Mike Cox**
- ▶ **Dave Carter**

- **The Steering Committee:**

Aisquith, Jeff  
Bradley, Eileen  
Cain, Jim  
Diggs, Gene  
Fisher, Suzanne  
Fitzgerald, Steve  
Hagan, Ann  
Hahn, Marcia  
Hausman, Steve

Kelty, Miriam  
Lewis, Marguerite  
Lieberman, Ellen  
Lovelace, Debbie  
Lowman, Chris  
McGowan, John (JJ)  
Milman, Gregory  
Onken, James  
Panniers, Richard

Richters, John  
Ruiz Bravo, Norka  
Sommers, David  
Srinivas, Ranga V. (RV)  
Stanfield, Brent  
Streufert, Susan  
Swidersky, Chris  
Swidersky, Scott  
Vener, Kirt.....



# Project Costs

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## Estimated Savings

- **Costs of doing business in a paper environment estimated to be \$29,096,746 per year (including copying, file room space, mailing, labor, scanning) or \$58,193,492 for calendar years 2002 and 2003**
- **These costs could be reduced by \$11,833,601 for calendar year 2002 and \$17,328,360 for calendar year 2003**
- **The net cost avoidance would thus be \$29,161,961 if electronic images were used**



# Cost Calculations

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<b>Costs</b>	<b>CY 2001</b>	<b>CY 2002</b>	<b>CY 2003</b>
<b>Reproduction</b>	\$7,560,000	\$2,160,000	\$1,080,000
<b>Space</b>	\$15,552,000	\$11,664,000	\$7,776,000
<b>FedEx</b>	\$3,600,000	\$360,000	\$360,000
<b>Labor</b>	\$1,913,587	\$1,409,184	\$870,576
<b>Scanning</b>	\$233,872	\$1,369,961	\$1,381,810
<b>Software</b>	\$237,287	\$300,000	\$300,000
<b>Total</b>	\$29,096,746	\$17,263,145	\$11,768,386
<b>Yearly Cost Avoidance</b>		\$11,833,601	\$17,328,360
<b>Total Cost Avoidance</b>		\$29,161,961	



# Project Costs

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## Process Modification Costs

- **There are costs associated with any change in process. These include:**
  - ▶ **Labor to change and/or modify IMPAC II applications to handle electronic images**
    - 2001 = \$287,237 (so far)
    - 2002 = \$300,000 (est.)
    - 2003 = \$300,000 (est.)
  - ▶ **Costs associated with proof of concept and pilot projects**
    - 2001 = \$213,872 (so far; addl. \$20,000 est.)
  - ▶ **Costs associated with imaging in calendar years 2002 and 2003**
    - 2002 = \$1,369,961
    - 2003 = \$1,381,810



# Project Costs

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## Imaging Costs for Calendar Year 2002

### ■ Assumptions include:

- ▶ Rendering 48,000 applications into PDF/year
- ▶ 100 pages/applications (4,800,000 pages)
- ▶ Apply a single index to each application
- ▶ Create PDF (image + hidden text) as output
- ▶ Bookmark each application
- ▶ Use a dedicated T1 connection to deliver to IMPAC II

### ■ Cost Description:

- ▶ Direct labor = \$1,148,711
- ▶ CD production = \$195,000 (\$5.00 @)
- ▶ Pick up and delivery = \$26,250



# Project Costs

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## Imaging Costs for Calendar Year 2003

### ■ Assumptions include:

- ▶ Rendering 48,000 applications into PDF/year
- ▶ 100 pages/applications (4,800,000 pages)
- ▶ Apply a single index to each application
- ▶ Create PDF (image + hidden text) as output
- ▶ Bookmark each application
- ▶ Use a dedicated T1 connection to deliver to IMPAC II

### ■ Cost Description:

- ▶ Direct labor = \$1,183,173
- ▶ CD production = \$136,500 (\$5.00 @)
- ▶ eBook (or similar) production = \$35,100 (\$3.00 @)
- ▶ Pick up and delivery = \$27,038



# Project Schedule

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- **Phase One - Infrastructure for Pilot Support**
  - ▶ **Time Line: January 2001 - May 2001**
- **Phase Two - Minimum Production Support**
  - ▶ **Time Line: May 2001 - December 2001**
- **Phase Three - Enhanced Production Support**
  - ▶ **Time Line: January 2002 - May 2002**
- **Phase Four - Full Production Support**
  - ▶ **Time Line: May 2002 and beyond**



# Risks

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- **Financial/Cost**

- ▶ “Scope creep” could result in additional cost

- **Technical**

- ▶ Includes IMPAC II integration, bandwidth issues, security issues, CD desktop ordering

- **Operational**

- ▶ Similar to technical issues, esp. bandwidth

- **Schedule**

- ▶ “Scope creep” would affect the ability to deliver products on time

- **Organizational**

- ▶ Huge cultural change for NIH affecting every IC

