EPA Portal

The Future for Community Collaboration on the Web

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November 16, 2007

For Conference Purposes Only

EPA Portal

place
The ~~Future~~ for Community Collaboration on the Web *Today!*

November 16, 2007

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Meeting Overview

❖Purpose

- To illustrate how organizations are using the EPA Portal to meet their business needs today

  ～ AND ～

- How you can make it work for you!!!

Meeting Overview

❖Agenda

- The Portal: Serving the Business Needs of the Agency
- Environmental Science Connector
- Clean Watersheds Needs Survey
- End Results

EPA Portal

❖Serving the business needs of the Agency in three areas:

✓Collaboration

✓Information Access

✓Applications Development

Collaboration & Web 2.0

❖ "Web 2.0…makes the most of the advantages of the Web, delivering software that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an architecture of participation" – *Tim O'Reilly, October 2005*

❖ "Web 1.0 was about connecting computers and making technology more efficient for computers. Web 2.0 is about connecting people and making technology more efficient for people." – *Tim O'Reilly, November 2005*

Collaboration

✓ Provides a single web address and standard interface for Agency business partners to trade information and conduct business with EPA

✓ Available to all team members, regardless of location or organizational affiliation

✓ Screens can be personalized based on a user's role, affiliations, personal preferences, and other factors

✓ Members can share ideas via document libraries, discussion boards, web conferences, and instant messaging

✓ Facilitates real-time collaboration with internal and external peers to share ideas and knowledge

✓ Fosters an community environment in which all members are encouraged to participate

Collaborate with your peers through online meetings and file sharing capabilities
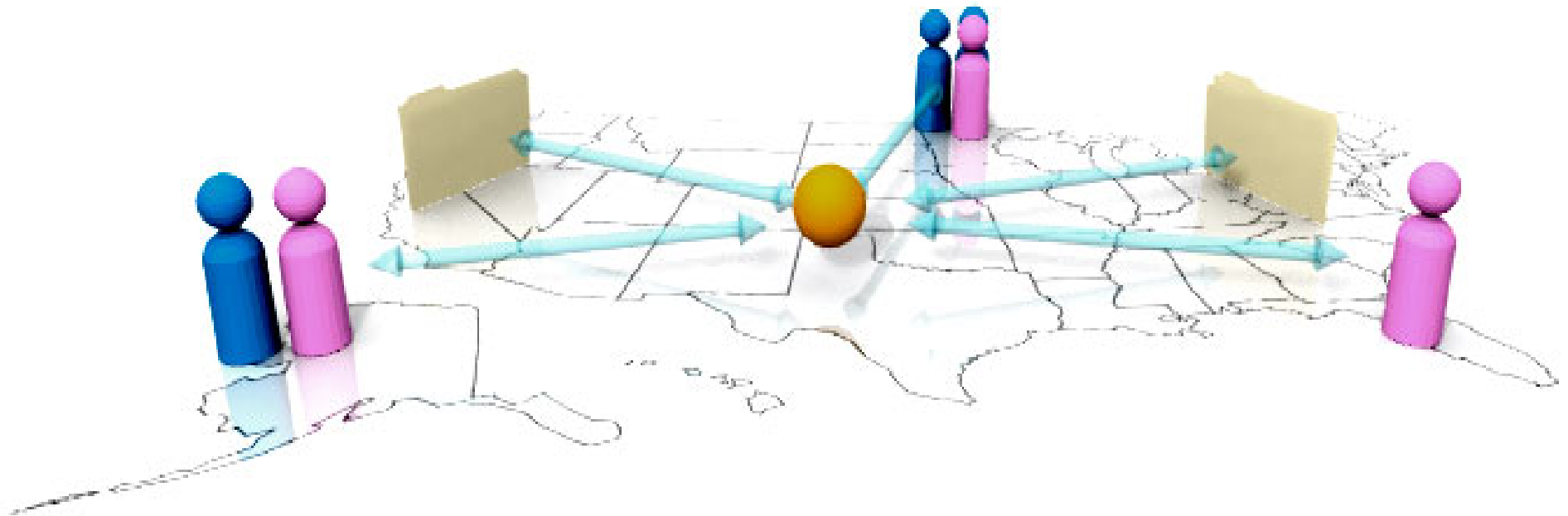
Information Access

- ✓ Access resources in a unified and secure fashion from **anywhere around the world**

- ✓ **Customize information**, displaying the data and tools relevant to your business needs

- ✓ Improve access to resources and work processes by **Regions, States, Local Communities, and Private Sector**

- ✓ Ensures **controlled, authorized access** to Portal content, systems and tools and provides for centralized management of user identities

- ✓ **Organizes** resources to easily find data sources and analytical tools

Information Access Functions

Access data when and how you need to
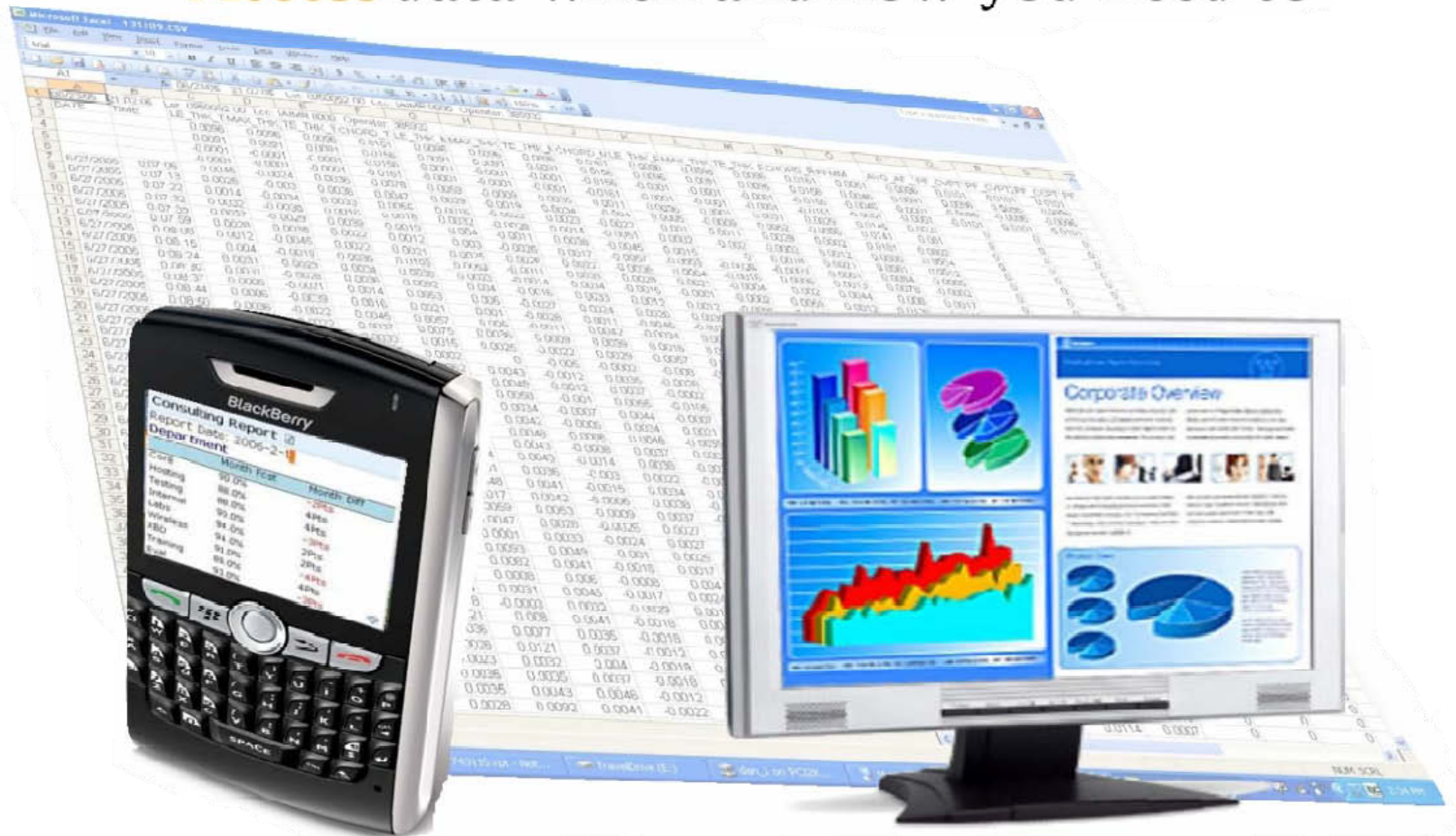
Applications Development

- ✓ Realize cost savings through a enterprise environment
- ✓ Encourages reuse based on shared needs
- ✓ Allows Program Offices and Regions to share their solutions interested individuals
- ✓ New content can be rapidly deployed by non-developers
- ✓ Leverages the power of Java 2 Enterprise Edition for extensibility
- ✓ External services and applications are available for rapid integration using Web Services and other technologies
- ✓ Integrates with most existing systems
- ✓ Allows for growth and maturation as new requirements and opportunities to employ new tools are identified

Applications Development Functions

Modular Development by Combining Existing and Custom Resources

- Access Management
- Web Conferencing
- Omni-Portlet
- Program Office System Integration
- Existing Portlet
- Existing Web Site
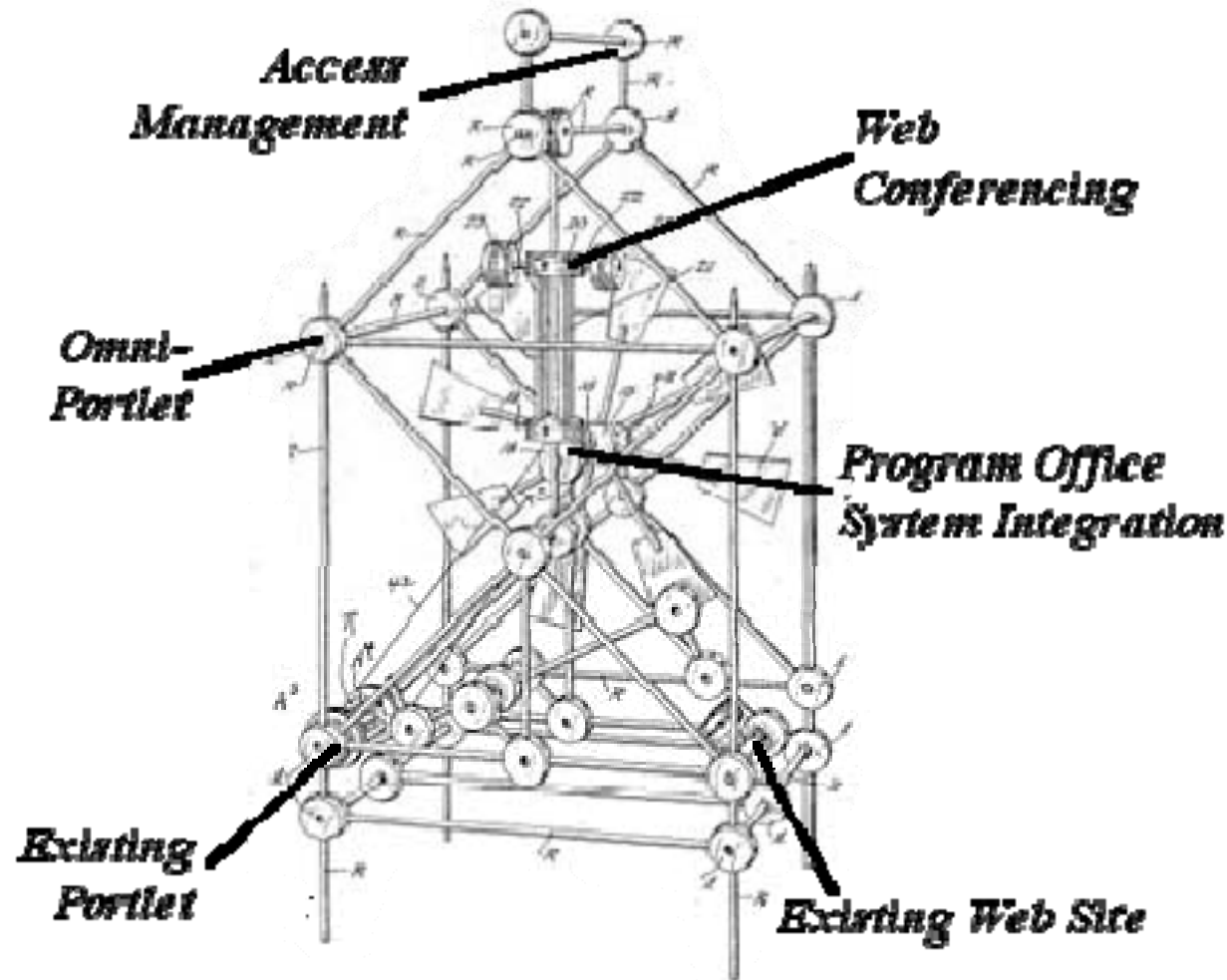
Portal Supported By IAM

Identity & Access Management

Collaboration

Applications Development

Information Access
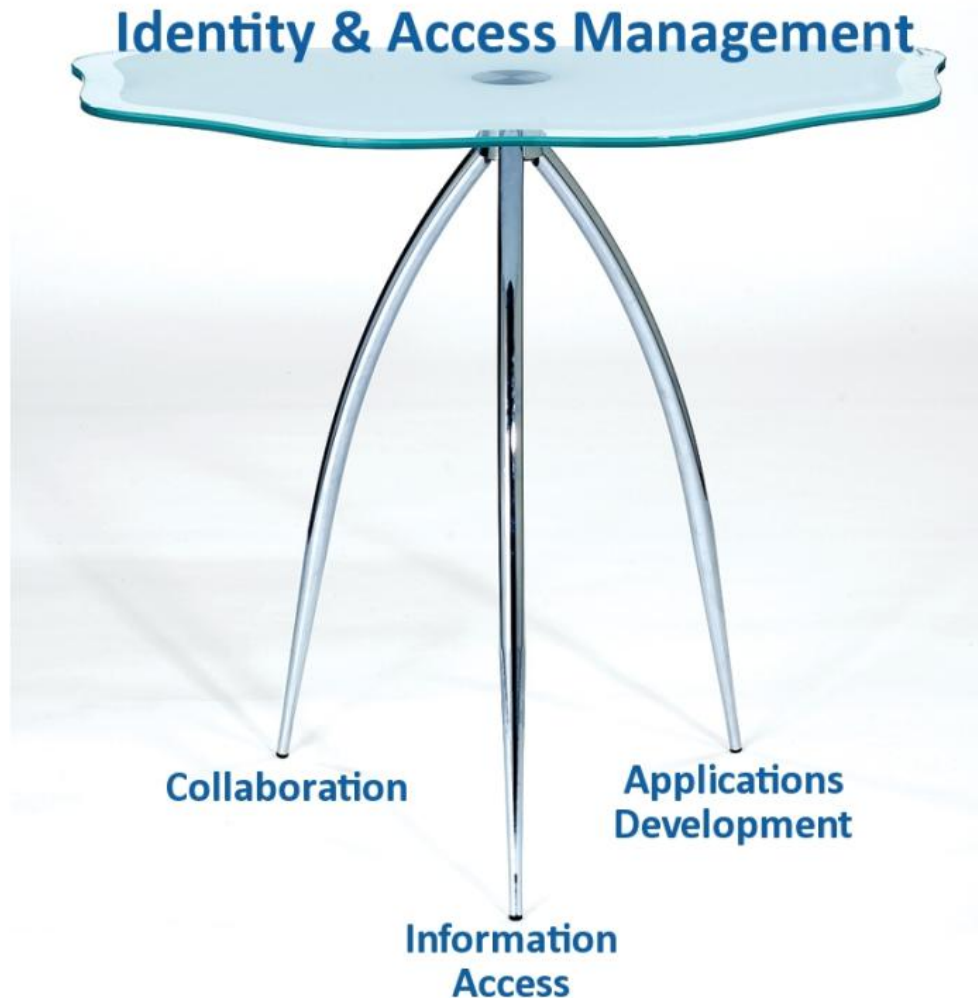
IAM Supports the Portal by Enforcing Security and User Management Best Practices

Identity Management

❖ What is Identity Management?

"A set of processes, and a supporting infrastructure, for the creation, maintenance and use of digital identities. It's about making the right things available to the right people at the right time, and then having audit and logging capabilities that show what happened."

Jamie Lewis, President, Burton Group

What is an "Identity"?

I'm Maja Lee

I work for EPA

I work in IT

I live in Arlington, VA

❖ In other words, an "Identity" is:
- Who you are
- Defined information we need to know about you

What is Access Management?

❖Access Management

"Limiting access to information system resources only to authorized users, programs, processes, or other systems."

Information Security Standard 99 (INFOSEC-99)

What is Access Management?

I can access Portal

I can access this system
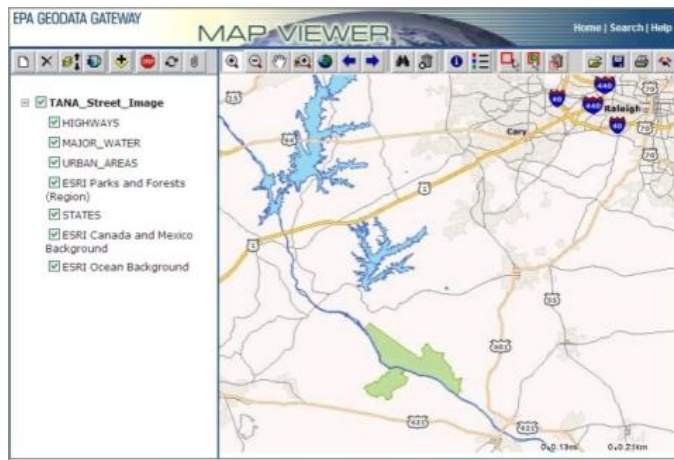
I can access this application.

I'm not allowed into other applications.

❖ Access Management, in other words is:

- Access to the right application and a person's role within the application

IAM Benefits

❖ IAM supports EPA owned web applications by providing:

✓ **Controlled access** to information, based on groups and roles that are assigned to a user

✓ An **enterprise identity store** with single identity for each user that can be used to access multiple applications

✓ **Assigned groups and roles** that govern the information a user can access

✓ **Improved security** by providing the capability to modify user access to multiple applications quickly

✓ **Reduced development dollars** as individual applications no longer need to develop code for user and access roles management

✓ **Single Sign-on (SSO)** for EPA Web and client-server based applications

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IAM Environment

❖ The IAM environment comprises of:
  - Oracle Access Manager (OAM), and
  - Oracle Internet Directory (OID)

❖ Oracle Access Manager (OAM):
  - Provides "out of box" capabilities for user/role management
  - Provides Web services capability for IAM services
  - Identified as the best solution for EPA by Gartner and Burton Group

❖ Oracle Internet Directory (OID):
  - LDAP compliant internet directory that stores identity data
  - OID contains synchronized data from People +, SIMtree and Lotus Notes
  - Contains information on external users who registered through the Portal
  - Compatible with HSPD-12 databases/solution

Portal Communities and Partners
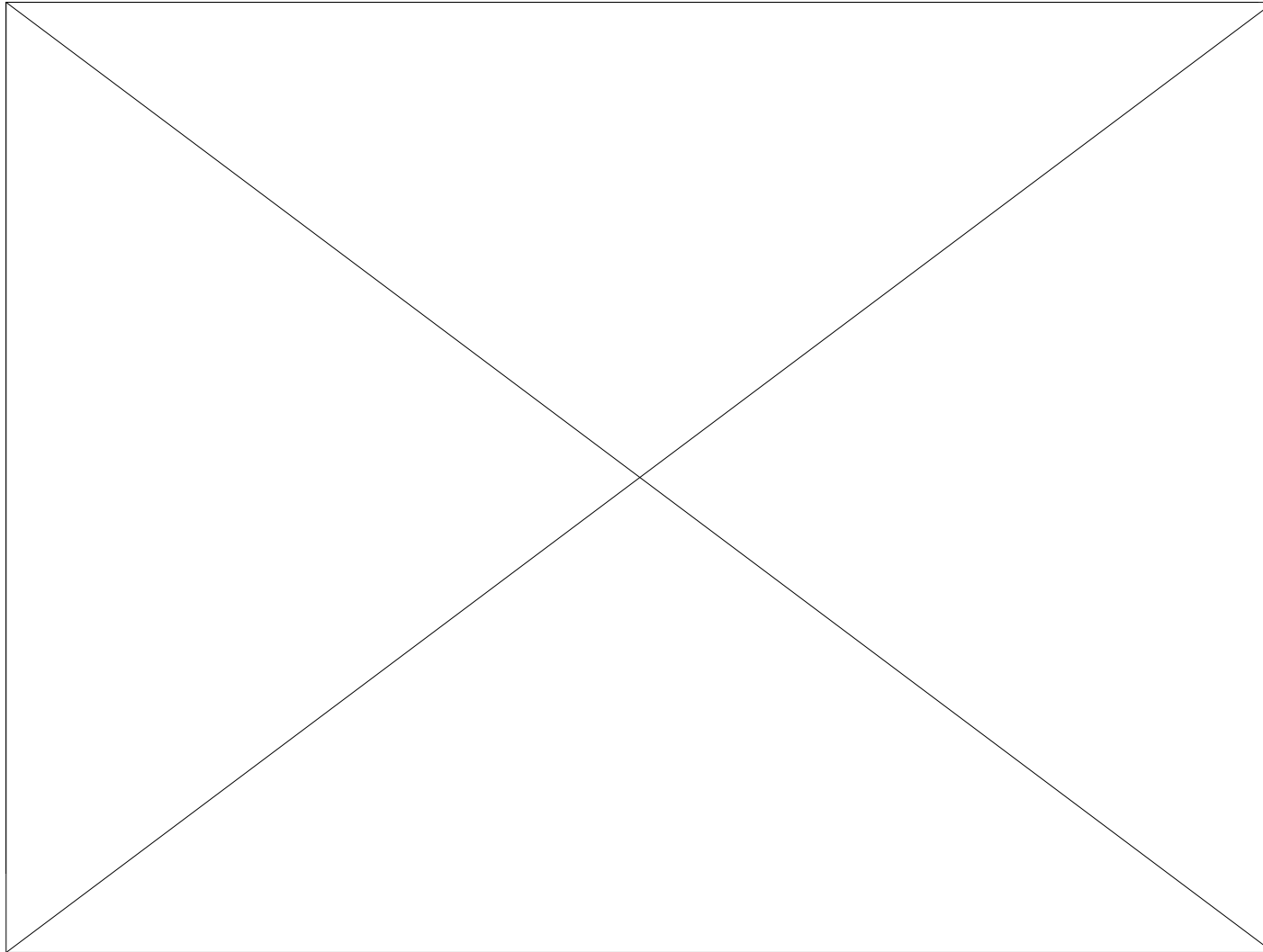
Here today…
…here tomorrow!

*S*cience *C*onnector
Environmental

Office of Research and Development (ORD)
Information Management and Technology Staff
Jacques Kapuscinski

http://portal.epa.gov/ESC

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Challenges in Promoting Collaboration

❖ Stove-piped approach across EPA to providing resources to scientists and researchers

❖ Difficult to share information or tools among research projects across ORD and the Agency

❖ No consistent way for scientists to easily collaborate with their internal and external partners

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What is the Science Connector

❖ Collaborate and share research and project information
  - Conduct real-time, interactive scientific investigation in shared workspaces
  - Find related projects

❖ Customize content
  - Users organize their information to support the various ways that scientists work

❖ Dynamic workspaces
  - Access tools, resources (e.g. Data, Models, Scientific Sources and Publications)

All the tools for a scientists' workbench in one place

Problems that it Solves

❖ Easy to create projects

❖ Can access from anywhere in the world

❖ Easy for external collaborators to access

❖ One place to go to share project information

❖ Don't have to send large files and emails that bounce back

❖ Can perform investigations in real-time

Key Features
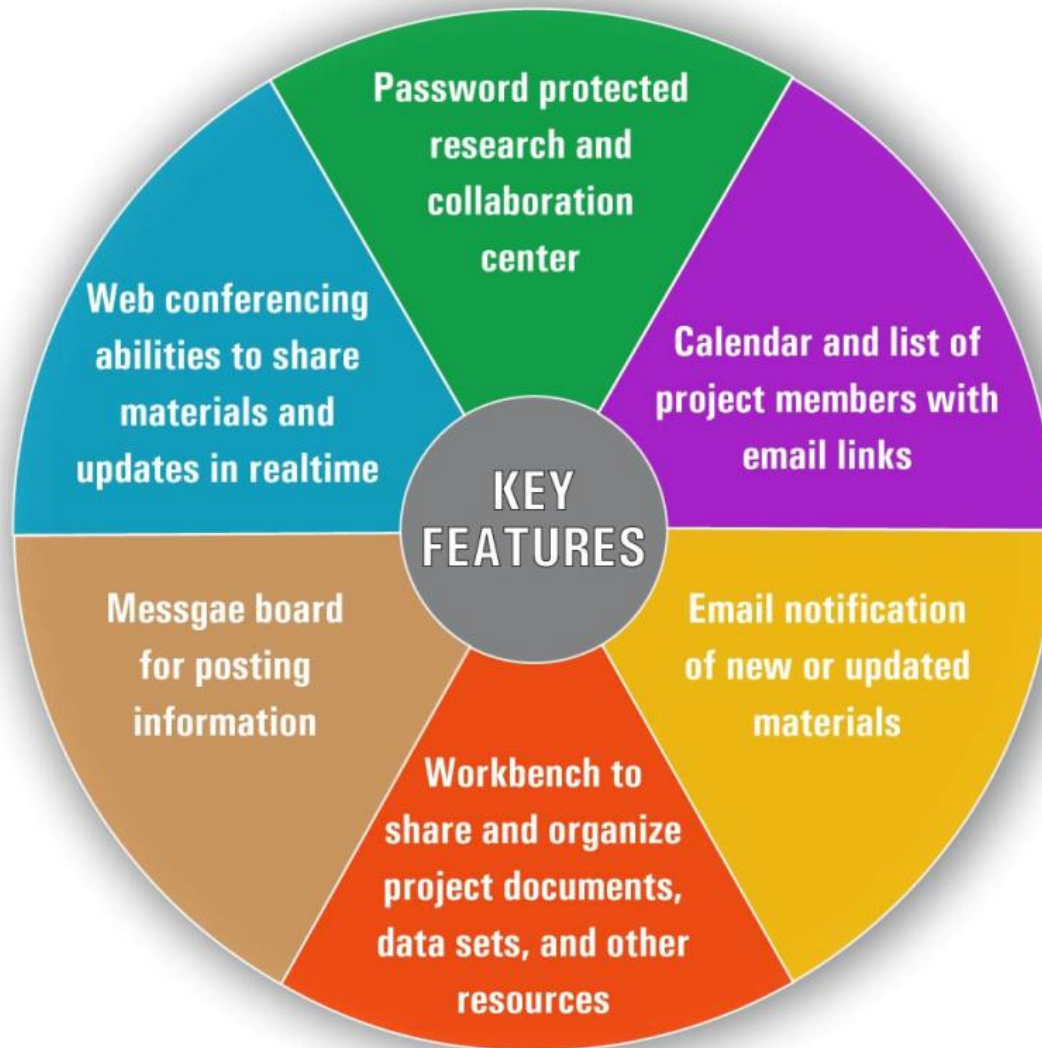
All the functions in one place

Leveraging the Agency Portal

❖ ORD has partnered with OEI and helped bring the new Portal technology to maturity for broader Agency use

❖ Portal tools enable unprecedented collaboration, exchange, and outreach with external partners and among EPA organizations via:

- Oracle Collaboration Suite Web Conferencing, Discussion Forums, and Instant Messaging

- Sharing of documentation and information that we provide to our user community

❖ Reduction of development costs through code re-use

❖ Allows access for external partners through a reliable enterprise-wide identity and access management solution

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Who is using the Science Connector?

❖ Participants represent a majority of ORD Laboratories and Centers

❖ In addition to ORD, EPA Advanced Monitoring Initiative (AMI) projects and Regions 1 and 5 have been some of the largest users

❖ 10% of users are external collaborators
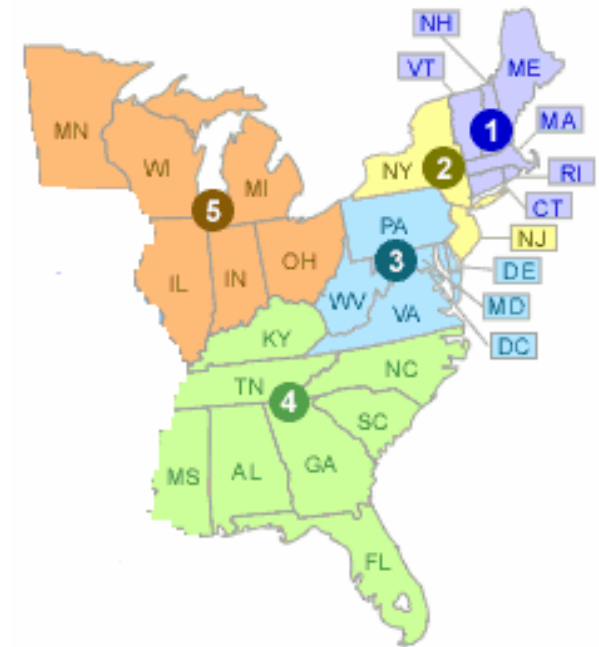
EPA Users of the Science Connector

- ORD — 53%
- Regions — 37%
- Other Program Offices — 10%

Science Connector Usage

Number of Distinct Users by month:
- Oct-06: 130
- Nov-06: 166
- Dec-06: 56
- Jan-07: 144
- Feb-07: 171
- Mar-07: 326
- Apr-07: 186
- May-07: 468
- Jun-07: 622
- Jul-07: 594
- Aug-07: 661
- Sep-07: 704
- Oct-07: 861
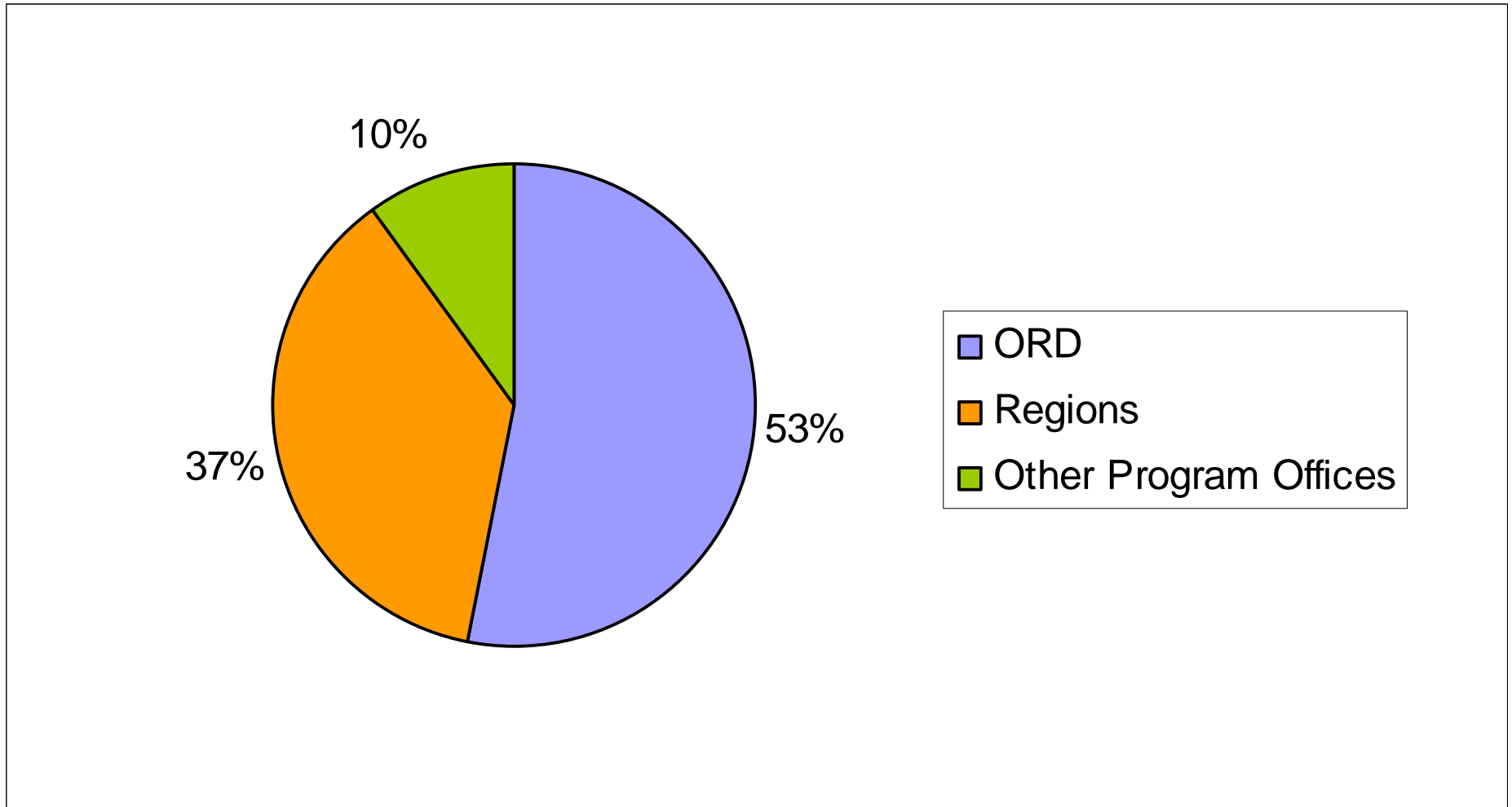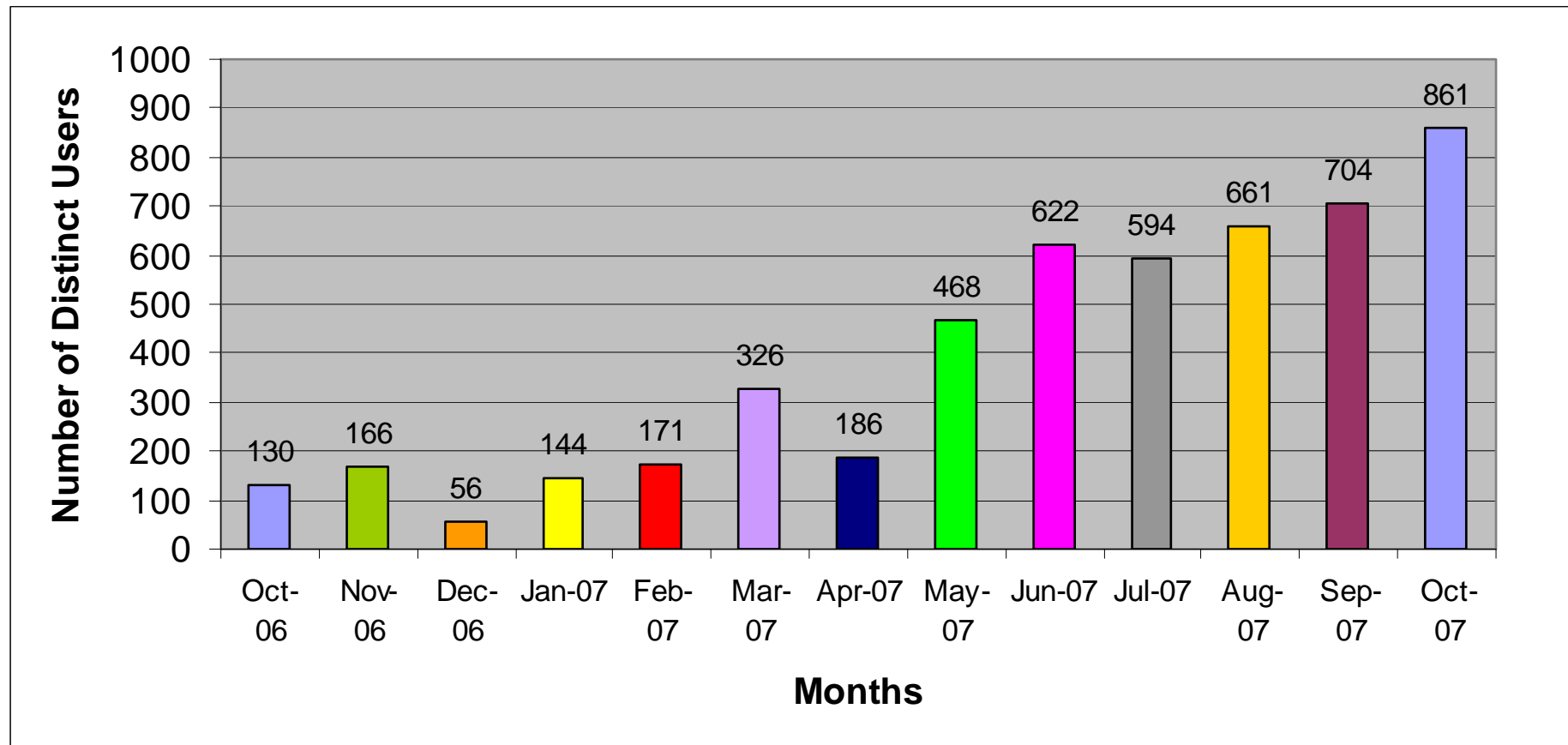
Over the past year, the number of distinct users accessing the Science Connector in a given month grew by 6 times its original size, from 130 to 861 users

Science Connector Project Growth
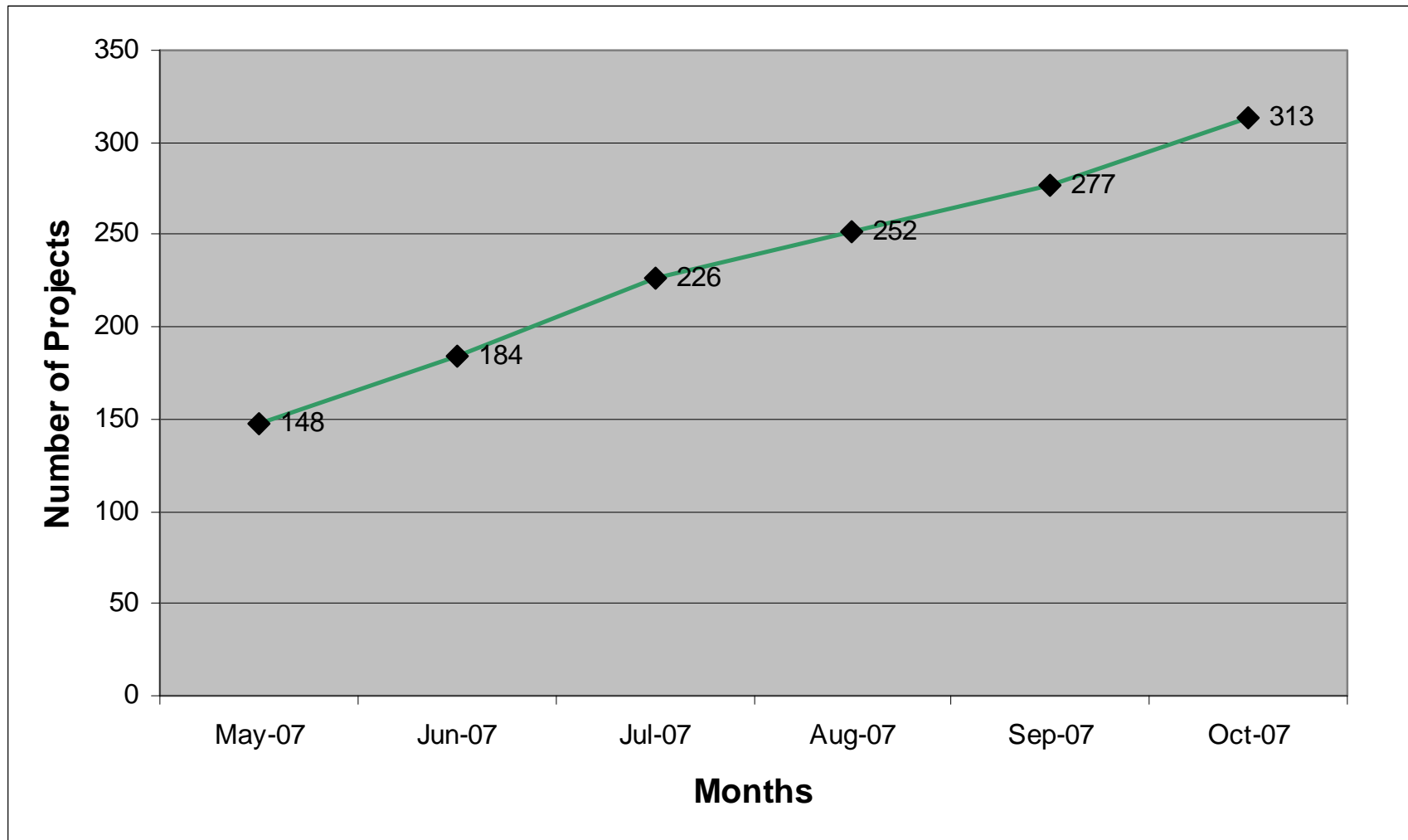
In the past five months, the number of projects in the Science Connector more than doubled

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Ecological Research Program

- Ecological Research Program coordinates the work of over 200 participants from ORD labs, EPA Regions, universities, and other federal agencies

- The Science Community provides a mechanism for sharing communications and coordination, speed information access, ensure current information, everyone associated with the projects

"We have over 200 participants from inside and outside the Agency and (the ESC) has made a huge difference in the communication speed, maintenance of a common view of the program, access to information, getting new partnerships formed in and outside the agency, time saved by managers and staff, and teeing up (issues) for debate."

Rick A. Linthurst, Ph.D. ORD Ecology National Program Director

Ecological Research Program

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"The ESC made it possible for us to use the time very efficiently, and for folks to be focused on the task at hand. In addition, its interactive features allowed us to reach out to staff in the Regions. Thanks to you and your team for building a proven and effective tool."

Montira J. Pongsiri, Ph.D., MPH

web conference capabilities to coordinate their panels

Biodiversity and Health Research

Environmental Genomics

❖ Region 1, New England Regional Laboratory uses the
ESC for a variety of efforts which include
Environmental Genomics, New England Beach
monitoring news, methods, and discussion

"The Science Connector allows for immediate upload or download of resources. Real-Time sharing for data and document review, editing, and discussion."

Jack Paar, Region 1 Biologist

❖ Projects involves Region 1, Office of Water, and ORD

Environmental Genomics

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Science Connector – Logging On

Science Connector – Home Page

Science Connector – Project Search

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Science Connector Conclusion

❖ Design and functionality is driven by the user community

❖ Easy to access and create projects

❖ Built to share information

❖ Improves coordination and communication across the Agency

❖ Improves the ability to collaborate with external partners

❖ As a result, it's easy to use!

Clean Watersheds Needs Survey (CWNS)

Data Entry Portal

Reducing Data Entry Burden using Enterprise Architecture

Michael Plastino
EPA Office of Water

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CWNS Overview

- ❖ Business Need
  - The Clean Water Act requires EPA to work with States to Report to Congress on capital needs for water pollution control
  - CWNS closely related to Construction Grants Program (1972 – 1986) and Clean Water State Revolving Fund Program (1988- Present)

- ❖ CWNS Program Goals
  - Assist Congress and State legislatures with budgeting efforts
  - Help measure environmental progress
  - Contribute to academic and other government agency research
  - Inform the public
  - Assist with program implementation (e.g., loading analyses, permit writing, project prioritization)

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CWNS Overview – 2000 Report Results

Category VII:
Nonpoint Source Control
$15.4B, 7.6%

Category VI
Storm Water
Management
Programs
$6.1B, 3.0%

Category V
Combined Sewer
Overflow Correction
$56.3B, 28.0%

Categories I & II:
Wastewater Treatment
Systems
$63.7B, 31.6%

Categories III & IV
Wastewater Collection
& Conveyance
$60.2B, 29.8%
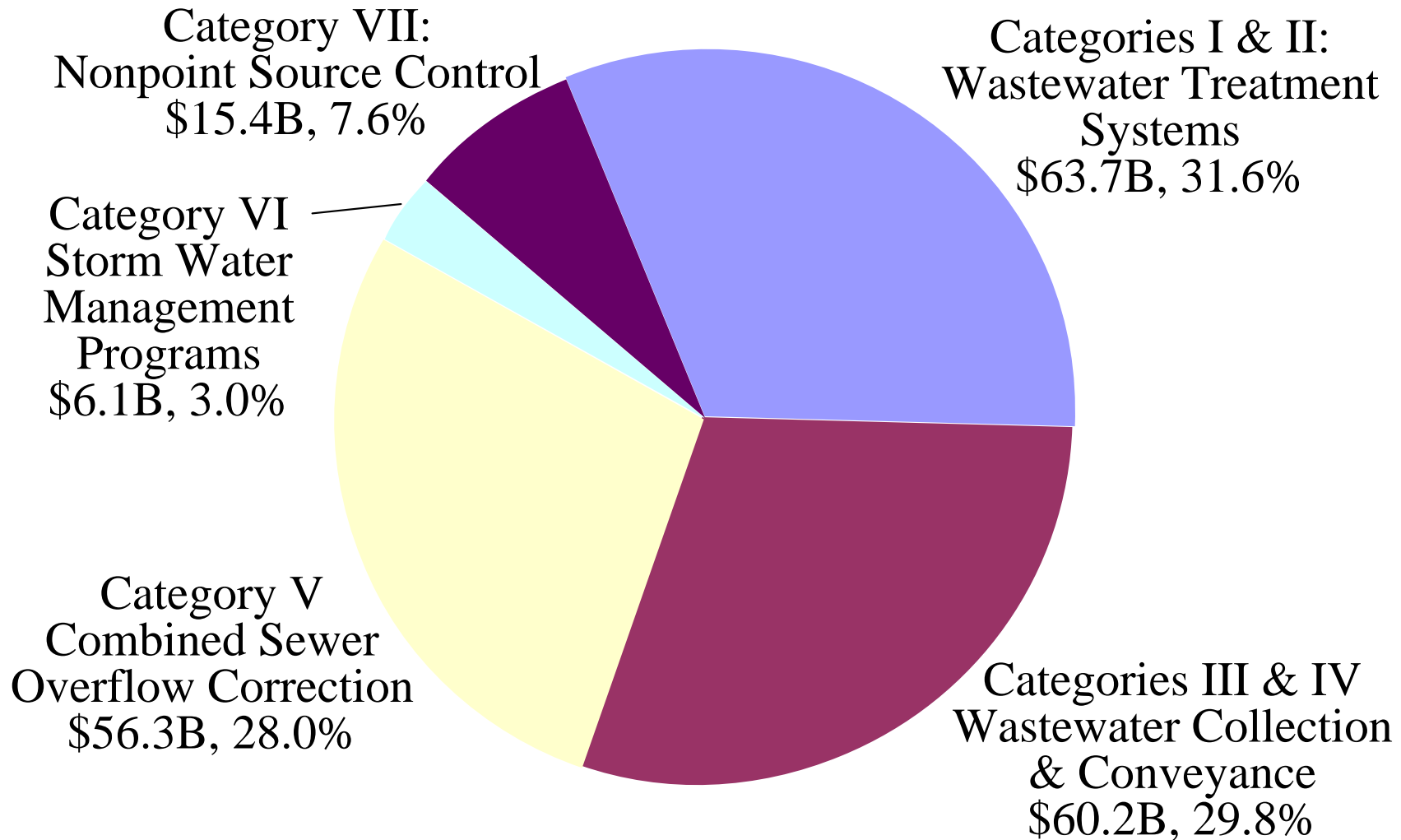
CWNS Overview – 2004 Report Results

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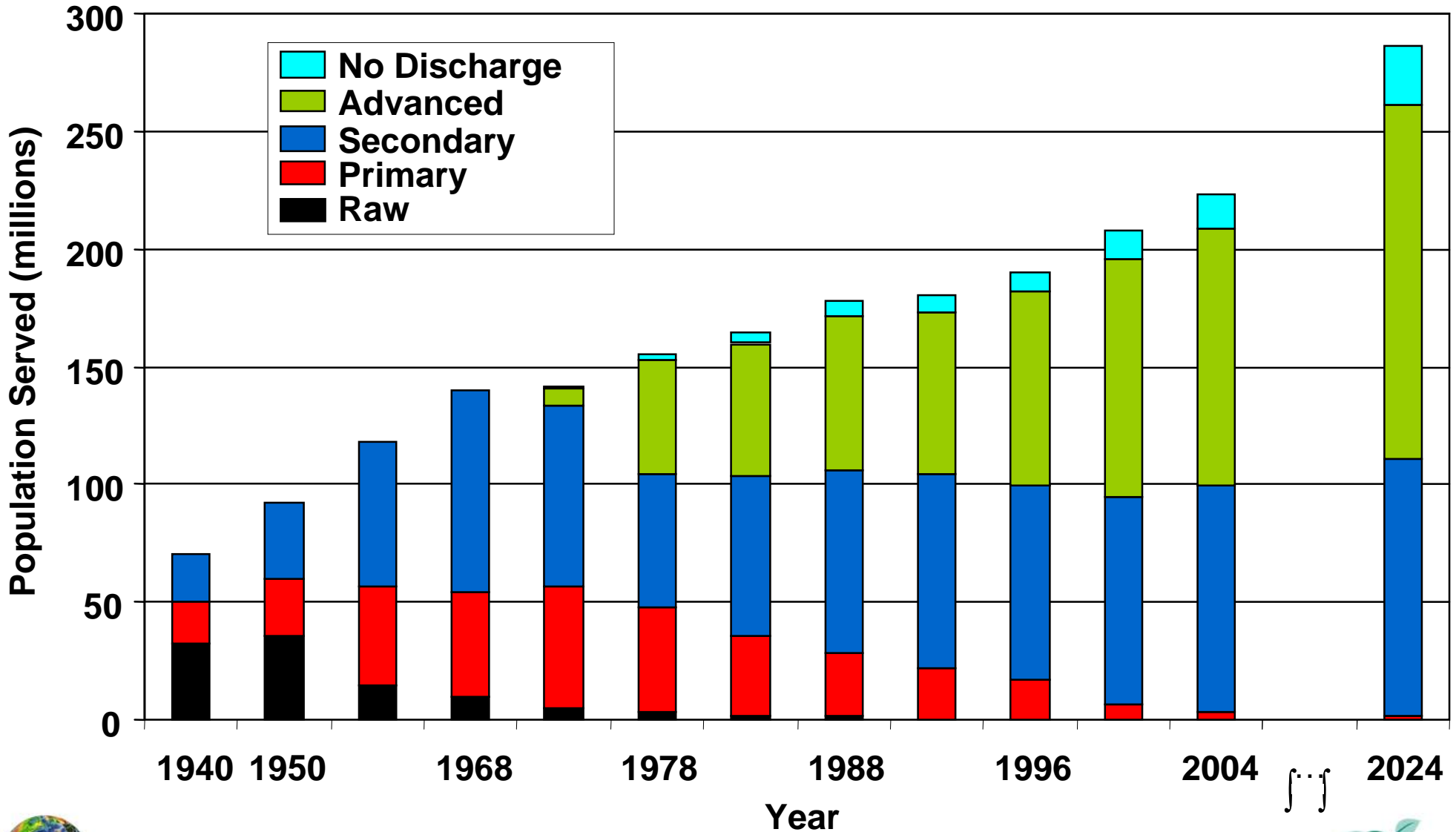
CWNS Overview – Data Types

❖ Approximately 33,000 Facilities / Projects
- 50% Permitted (NPDES) Wastewater Treatment Plants
- 25% Wastewater Collection Systems
- 20% Nonpoint Source (NPS) Projects
- 5% Stormwater Projects

❖ Data for each Facility / Project
- Project costs & documentation sources
- Facility / Project location & contact information
- Facility current and projected
  - Populations served
  - Design and actual flows
  - Effluent levels
- Facility unit process & NPS best management practices (BMP) data

CWNS Overview - Documentation Criteria

Each Facility/Projects Needs 1 or more Documents that document:

1. Description of the water quality problem
2. Location of the problem
} Needs

3. Solution to the problem
4. Cost of the solution
5. Basis for the cost
6. Total cost
} Costs

7. Current Documentation

CWNS 2008 Visioning / Requirements

CWNS 2005-2012 Strategy Focus Group (9 States, 3 Regions)

Helped define Business Process, IT Options

Evaluated Benefits of Options

Provided feedback on recommendations emerging from Benefit-Cost analyses of Options

State-EPA CWNS 2008 Workgroup

Call to ECOS Commissioners for Nominees (August 2005)

Used Strategy as baseline for input on 2008 System Design

State-EPA CWNS Workgroup Input on CWNS Data Entry Portal

Requirements: Web conferences (Sep 05 - Feb 06), 2-day meeting (Mar 06)

Design sessions (April - Oct 06)

Iterative development – feedback cycles (Jan – Dec 07)

CWNS 2008 Data Entry System Requirements

States - Minimize Data Entry Burden via

❖ Data sharing from other EPA systems

❖ Managing secondary system users

❖ Document management and annotation functions

❖ Small Community Forms – Fax capture into system

EPA

❖ Administer CWNS survey to a broad user base

❖ Efficiently ensure accuracy & eligibility of data and documents entered into CWNS

CWNS 2004 - System Supported Roles

Local / Secondary State Users

State CWNS Coordinator

EPA

Internet

Data Entry System

| Other e-Docs (internet site, emailed,....) | → | Data | → | Data | → | Data |

Paper Documents → Paper Documents → Paper Documents (Scanned for CWNS 08)
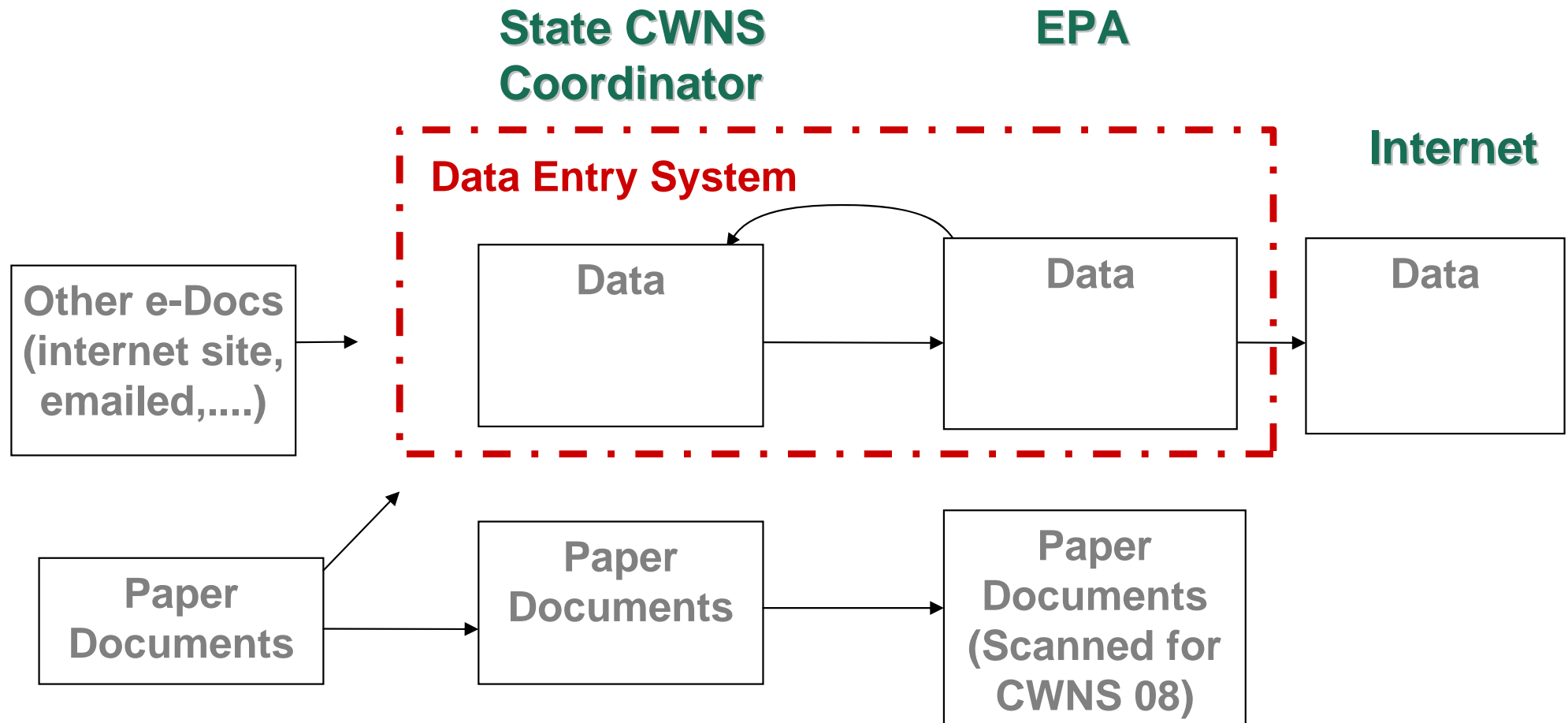
CWNS 2008 - System Supported Roles

Local / Secondary

Red Text indicates new items for 2008 system

Data & Documents into CWNS

State CWNS **EPA**

CWNS Data Entry Portal

Other e-Docs (internet site, emailed,....)

Data & Documents in CWNS

Data & Documents in CWNS

Internet

Data & Documents

Paper Documents

Paper Documents

Paper Documents

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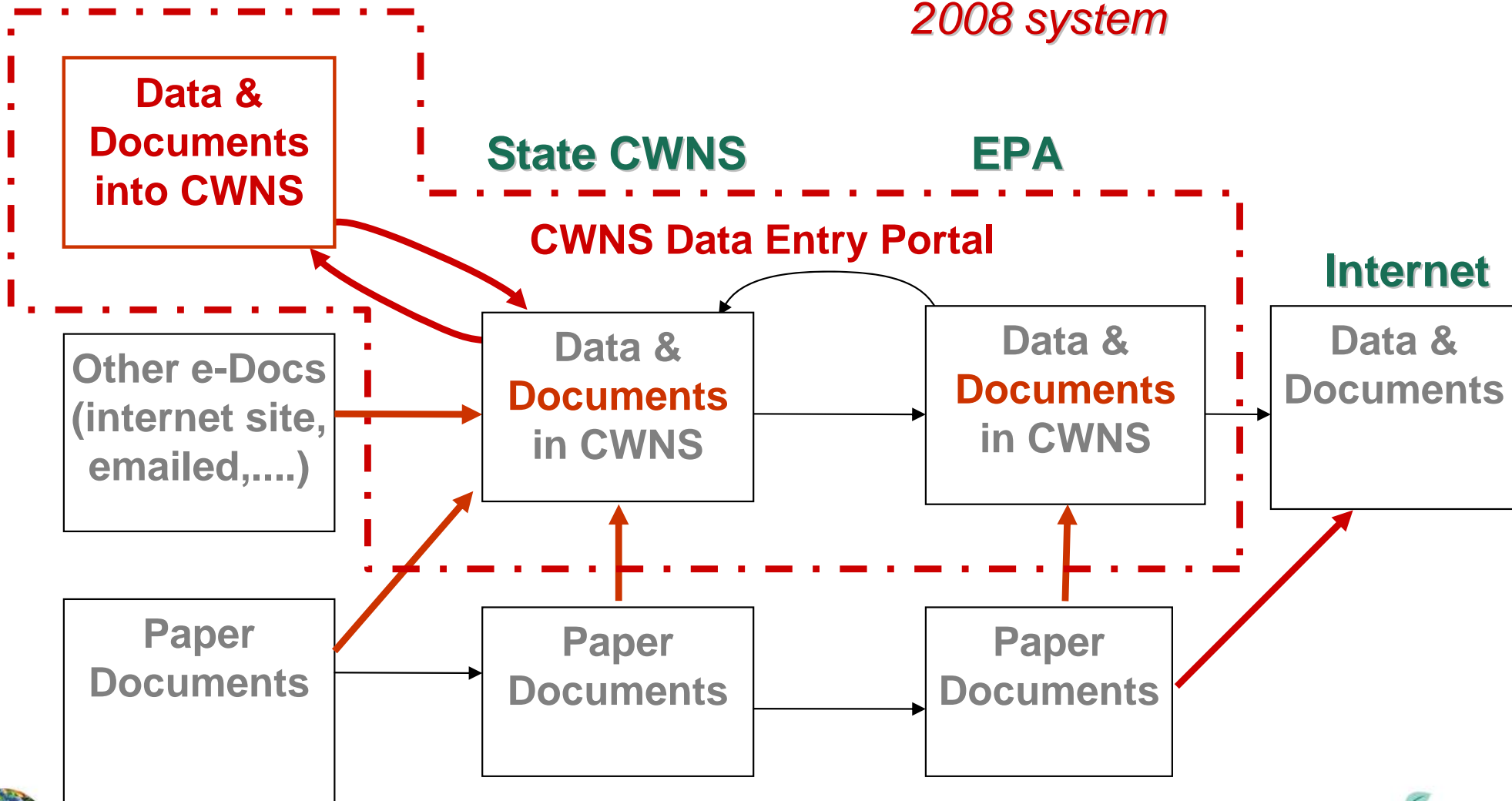
EPA Portal Utilized to Meet Requirements

1) Provides extracts of related data systems
   - Copied directly into CWNS system
   - Summarized in 'Portlets' to guide CWNS data entry

2) Registration and delegated administration capabilities for CWNS State Coordinators to administer Local & Secondary State Users
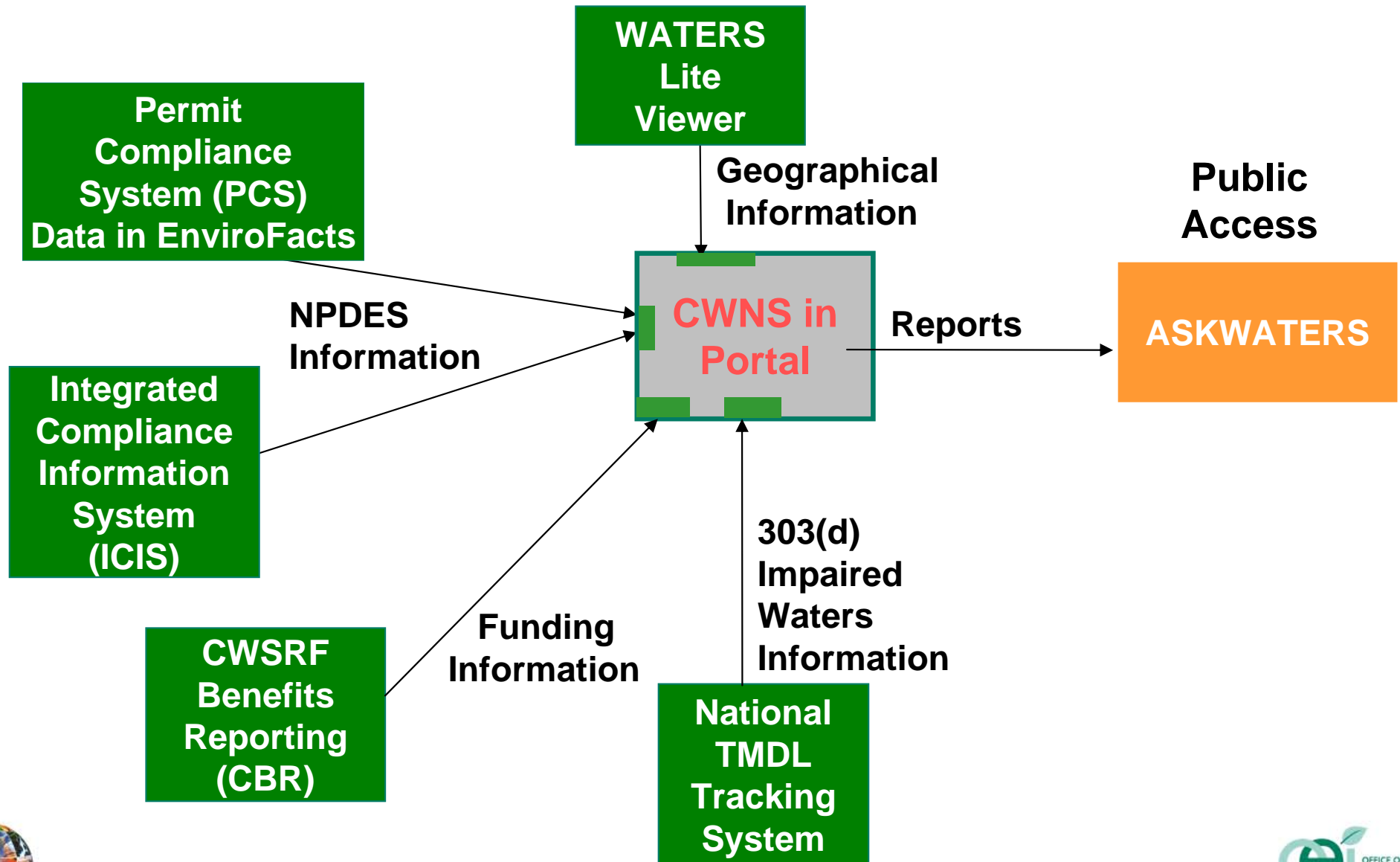
3) Linkage w/ EPA External Document Management System (Documentum)
   - Document uploading & annotations
   - Automate fax capture and association w Facilities / Projects

4) Oracle Collaboration Suite
   - Documentation Support Library
   - Web Conferencing

CWNS Data Entry Portal
1) Data Sharing from other EPA Systems

WATERS Lite Viewer

Geographical Information

Public Access

Permit Compliance System (PCS) Data in EnviroFacts

NPDES Information

CWNS in Portal

Reports

ASKWATERS

Integrated Compliance Information System (ICIS)

CWSRF Benefits Reporting (CBR)

Funding Information

303(d) Impaired Waters Information

National TMDL Tracking System

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The Identity & Access Management (IAM) enables State CWNS Coordinators to

❖ Approve / Deny CWNS Portal Requests from Secondary Users

- Local Communities
- Other State Government Staff (stormwater program, nonpoint source program, public health department,…)

❖ Restrict secondary users' document and data update by:

- Facility / project
- Specific data areas within a facility / project

CWNS Data Entry Portal
2) Registration

CWNS Data Entry Portal
2) Registration

Self Registration

To obtain an account on the EPA Portal, you must be a business partner or affiliate who has business with the Environmental Protection Agency. Please fill out the following information and click submit to request access to the EPA Portal.

** USE THIS FORM ONLY IF YOU DO NOT HAVE AN epa.gov EMAIL ADDRESS.**

ALL FIELDS ARE REQUIRED

First Name:	Clean
Last Name:	Watersheds
Email Address: format: emailld@domainname.com	watersheds.clean@local.gov
Street Address:	123 Town Dr
City:	Local City
Country:	United States
State/Province/Region:	New Jersey
Postal Code:	01234
Daytime Phone Number:	(123) 345-789
EPA Contact Name:	Michael Plastino
EPA Contact's Email Address: format: emailld@domainname.com	Plastino.Michael@epamail.epa.gov
EPA Contact's Phone Number: format: (xxx) xxx-xxxx	(202) 000-0000

Select the Community from the drop down list that is the reason for your business need to obtain Portal access. Once you gain access to the Portal you will have the ability to request access to additional Communities.

Clean Watershed Needs Survey

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CWNS Data Entry Portal
2) Delegated Administration

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CWNS Data Entry Portal
3) Document Management

Linkage with the External Document Management System (Documentum) enables

❖ Upload of documents

❖ Multiparty Annotation of Documents

❖ Association of faxed Small Community Needs Forms with specific facilities / projects

CWNS Data Entry Portal
3) Document Management - Annotations

CWNS Number: 34001001001
Name: Florham Park SA STP (DRAFT; data is fictitious)

Data Last Updated: October 1, 2004

Step 1: Verify and Update the Accuracy of Basic Facility Information

Facility/ Project Name:	Penns Grove Sewerage
The facility is part of the following system:	
Organization responsible for facitlity/project:	Penns Grove SA

Point of Contact	Robert Lukin	**Role/ Title**	Plant Manager
Address	1000 Maple Street		

City	Florham Park	**State**	NJ	**Zip Code**	11111
Phone	703-444-1150	**Fax**		703-444-1152	

Email	rlin@gmail.com
Permit Number(s):	NJ00020923, NJA222123
County:	Salem

Facility/Project Type

For a complete list of "Facility/Project Types" and "Changes Needed" visit http://www.epa.gov/cwns/cwns2008.htm.

☐ This data is correct.	☐ This data is not correct. Mark change(s) in table or on additional sheet.		
Type	**Present**	**Projected**	**Changes Needed**

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CWNS Data Entry Portal
4) Oracle Collaboration Suite

Oracle Collaboration Suite supports

❖ **CWNS Program Library**

- State-EPA CWNS Workgroup Documents
- "Best in Breed" & Innovative Document Library
- State Revolving Fund Policy Library

❖ **Web Conferencing**

- State CWNS Coordinator interactions with secondary users

❖ **Easy Self Service by EPA staff**

- Add / Remove & Change Roles for Members
- Add / Remove / Organize Documents

"So Simple, Even an EPA Person Can Do It"

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CWNS Data Entry Portal
4) Oracle Collaboration Suite Tools

CWNS Data Entry Portal Conclusion

CWNS Data Entry Portal will result in…

❖ Reduced Data Entry Burden by 28% for States and secondary users via Access to

- Various EPA data sets
- EPA Enterprise Architecture Tools

❖ Much quicker / cheaper document sharing for all

❖ Higher data quality for all

❖ Reduced system and program administration costs for EPA

- Save $10k per year on web site cost
- Save $25-50k on contractor support for administering users

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The End Result

End Results

❖ Collaboration:

- ✓ Fosters a sense of community
- ✓ Encourages participation through discussion, postings, file sharing, web conferences, and instant chat
- ✓ Supports Web 2.0 technologies (wikis, blogs, etc.)

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End Results

❖Information Access:

  ✓Single Sign-on reduces help desk support calls by 50%

  ✓Single point-of-entry URL allows users to quickly access all resources

  ✓Organized, customizable environment reduces time spent searching for information

  ✓Provides comprehensive remote access capability with one, two, and three factor authentication without the need for a VPN

End Results

❖ Applications Development:

✓ Reduces cost for new application development by 30% or more

✓ Integration capabilities preserve existing investments

✓ Simplifies compliance with Section 508, security, and Enterprise Architecture

Contact Information:

OEI PMO – Mike Cullen (cullen.mike@epa.gov; 202.564.0849)

EPA Portal – Terry Grady (grady.terry@epa.gov; 919.541.1555)

IAM Solution – Maja Lee (lee.maja@epa.gov; 202.564.1436)

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