Environmental Information Exchange Network

EN/EE 101–Introduction to the Exchange Network and E-Enterprise for the Environment

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Innovation and Partnership

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Sheraton Philadelphia Society Hill Hotel
Philadelphia, Pennsylvania

http://www.exchangenetwork.net/en2017

ABSTRACT

The purpose of this session is to provide attendees with a basic understanding of the the Exchange Network and E-Enterprise and explain how their partnership creates value that is greater than the sum of its parts.

Who is in the Room?

- Is this your first National Meeting? Second? Veteran, and you just wanted to heckle us?
- Would you consider yourself an IT geek, a program nerd, a policy wonk, something else?

What is the Exchange Network?

The Exchange Network is a proven communication, data and services platform for sharing environmental information to foster informed decision-making, managed under the collaborative leadership of states, tribes, territories & U.S. EPA. It is ALSO a design philosophy that favors technological solutions that are responsive, nimble, flexible, available for re-use and sharing, and that meet common business needs across the Enterprise.

The Exchange Network is *the* place where States, Tribes, and EPA collaborate on technological innovations, solutions, and services.

- Since 2002, EPA has awarded approximately $210 million in assistance agreements to build the Environmental Information Exchange Network.
- All 50 states plus Washington, DC, five territories and 75 federally recognized tribes have received grants to facilitate the development and implementation of the EN and its principles.
- Each fiscal year, EPA expects to award about $9 million to approximately 30 to 40 EN projects.

- Standardized technologies and data formats, e.g., XML, REST, web services.
- Set of web service protocols that enable secure, machine-to-machine exchanges of information.
- Design guidance for developers of web services.
- Design guidance for individuals needing to develop standardized data formats (e.g. XML Schema).
- Data Standards to support integration of information.

- Reusable software to support data exchange (e.g. Virtual Exchange Services, Nodes and Plug-Ins)
- Shared Services for electronic signature (CROMERR)
- Shared Services catalog
- Security Services
- Enterprise Identity Management
- Tools for data consumers and Data discovery services
- Exchange Network Website
- E-Enterprise Portal

- Project Teams
- E-Enterprise/Exchange Network Management Board
- Interoperability and Operations Team
- Open Conference Calls and Webinars supporting knowledge transfer
- Network Email Alerts
- Exchange Network Website
- E-Enterprise Sharepoint site
- National Meetings

Where do I start??

Understand your data management system

Does it need to be upgraded?

Is it complete and up to date?

Apply for a grant

Reach out to a partner

Join a team doing related work

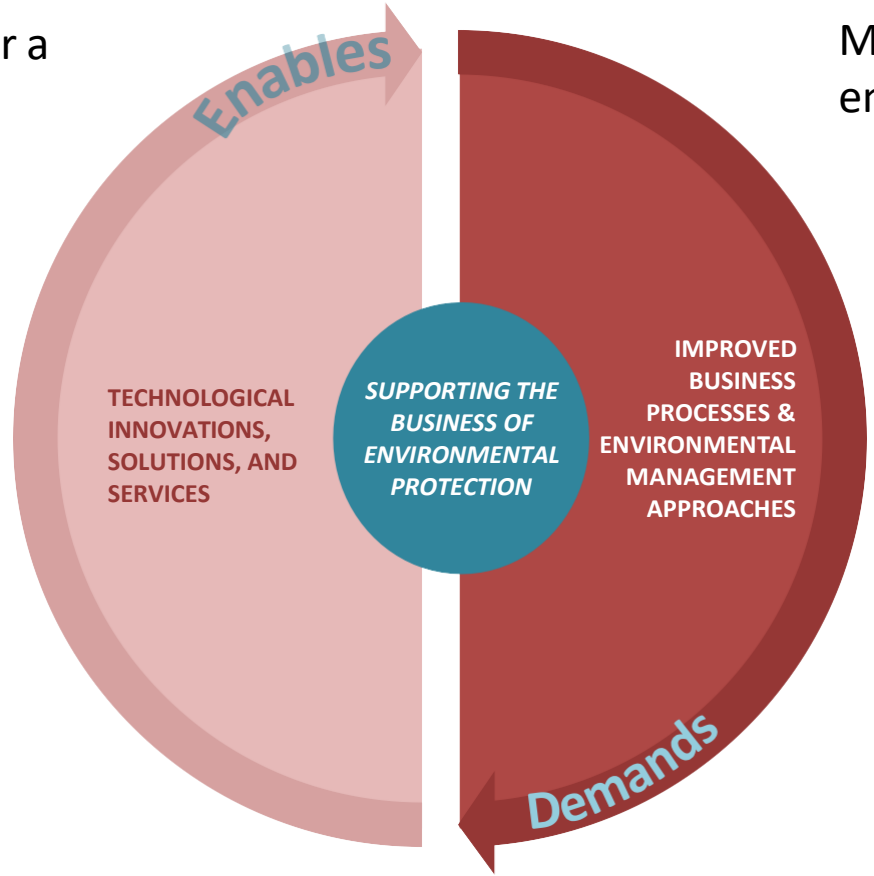
Identify a beneficial data exchange or application that will enhance your agency's environmental management work

Environmental Information Exchange Network

Sharing information for a cleaner environment

E-ENTERPRISE for the environment

Modernizing the business of environmental protection



What is E-Enterprise?

E-Enterprise supports the environment, public health and the economy by modernizing the business of environmental protection.

Using the E-Enterprise model for collaborative leadership, U.S. EPA, states, territories, and tribes are working together to transform the way we *implement* programs, as a shared responsibility, into a national enterprise for environmental protection that will benefit the regulated community and the public as well as governments and co-regulators.

Principle #1: Partnership of Environmental Government Regulators .....

Principle #2: Honoring Delegated Authorities.....

Principle #3: Modernize and Improve Environmental Regulations and Programs, and their Implementation

Principle #4: Joint Governance Prioritizing Activities .....

Principle #5: Emphasizing User Perspective.....

Principle #6: Creating and Expanding Systems to Improve Two-way Business Transactions .....

Principle #7: Interoperability of Partner Systems and Partner Use of EPA Systems .....

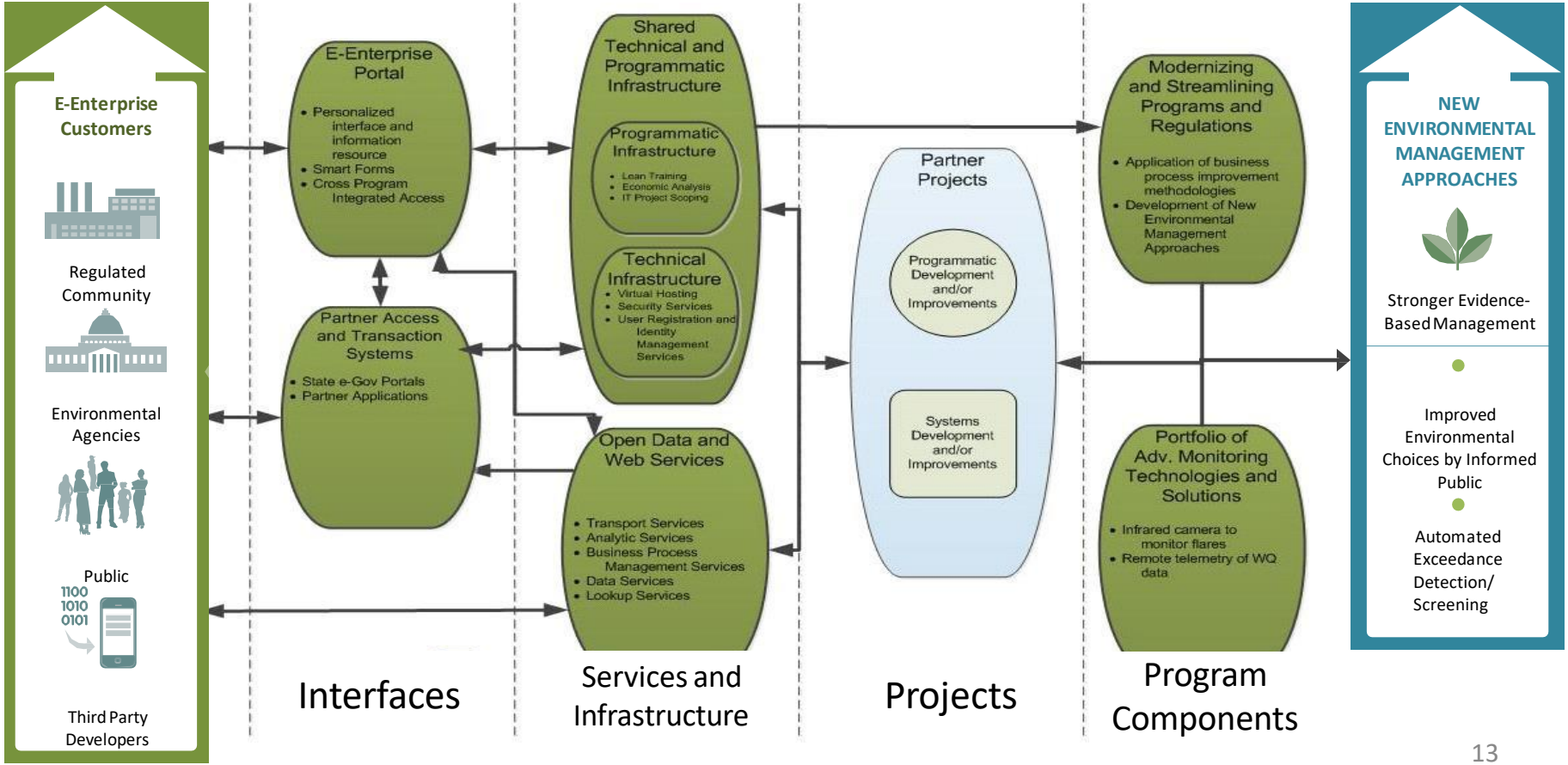
Principle #8: Open Data and Web Services .....

Principle #9: Advanced Monitoring Technologies and New Data Collection and Analysis Techniques .....

Principle #10: Shared Technical and Programmatic Infrastructure .....

Improved Service and Agency Performance

Environmental and Public Health Outcomes



Improved Service and Agency Performance

Environmental and Public Health Outcomes

E-Enterprise Customers

Regulated Community

Environmental Agencies

Public

Third Party Developers

- E-Enterprise Portal
- Shared Services
- Foundational Projects/Work
- Innovation and Innovation Transfer
- Operationalizing E-Enterprise in agencies.
- Aligned Projects

AIR

- Combined Air Emissions Reporting (CAER)
- SPeCS for SIPs (State Plan Electronic Collection System for State Implementation Plans)
- Village Green Air Monitoring Project

LAND

- Decision Support Tools for RCRA Waste Generators
- e-Manifest for Hazardous Waste
- Pesticides Data Accessibility Label Matching
- Smart Mobile Tools for Field Inspectors Project Management Team
- Hazardous Waste Export-Import Tracking System (WEITS)

WATER

- Interoperable Watershed Networks
- National Pollutant Discharge Elimination System (NPDES) E-Reporting Rule Implementation Integrated Project Team (IPT)
- Safe Drinking Water Information System (SDWIS)
- Tribal Water Quality Data Roadmap

ADVANCED MONITORING

- Advanced Monitoring Strategy and Implementation
- Village Green Air Monitoring Project
- Leak Detection and Repair (LDAR)

SHARED SERVICES

- E-Enterprise Facility Team
- E-Enterprise Integrated Identity Solution (ISOL) Project
- E-Enterprise Portal and Local Government Portal
- Shared Services IPT

PROGRAM MODERNIZATION

- E-Enterprise Measures and Metrics Project
- E-Permitting Scoping Study
- Lean and Information Technology (IT) Toolkit

NEW ENVIRONMENTAL MANAGEMENT APPROACHES

Stronger Evidence-Based Management

Improved Environmental Choices by Informed Public

Automated Exceedance Detection/ Screening

Broadening Participation in E-Enterprise: E-Enterprise Regional Coordinators

Enhance collaboration and encourage early and meaningful engagement in E-Enterprise by EPA, States, and Tribes.

COORDINATORS' ROLE:

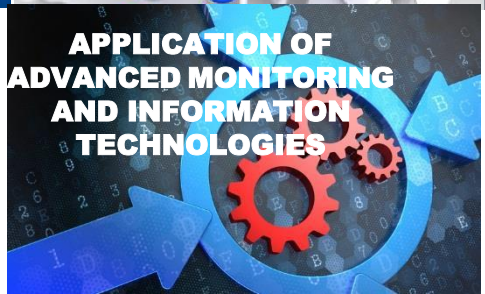
1. Work on Shared Streamlining Project Priorities

- **Identify** planned/ongoing business process streamlining projects in States and Tribes working with regional program offices
- **Facilitate the regional program's implementation** or development of an identified project
- **Coordinate** regional prioritization of current and potential E-Enterprise and aligned projects

2. Facilitate Temporary Workload Tradeoffs

- **Assist States or Tribes in proposing and developing workload tradeoffs with the Region**
- **Ensure that E-Enterprise projects are integrated into Performance Partnership Grants or stand-alone grant workplans**

How Does This All Work Together?



But first a limerick

https://xml2.des.state.nh.us/DWITool/Welcome.aspx

PUBLIC GOVERNMENT BUSINESS A to Z LIS

The NHDES Be *Well* Informed Guide

PROTECT YOUR FAMILY'S HEALTH AND HOME

INFORMATION AND GUIDANCE FOR TREATING YOUR WELL WATER

The **Be *Well* Informed** Guide from NHDES is designed to help you understand your water test results and, if your well water has commonly found pollutants in it, provide information about health concerns and water treatment choices. New Hampshire is fortunate to have an abundance of clean groundwater, and nearly half of New Hampshire's residents (over 500,000 people) rely solely upon domestic wells (also called "private wells") as their primary source of drinking water. While many private wells provide safe drinking water, certain pollutants like arsenic, iron and manganese are sometimes present in groundwater at levels that can affect your health and home.

NHDES recommends private well owners test their well water every three to five years for pollutants commonly found in New Hampshire's groundwater. This group of commonly found pollutants is listed in the NHDES Private Well Brochure and is referred to as the "Standard Analysis." The Be Well Informed Guide evaluates the pollutants that are part of the Standard Analysis. NHDES recommends that you have your water tested at a NHELAP accredited laboratory. When you have your water tested, your test results will be summarized in the form of a lab report.

With your water test results in hand, click the button below to enter your test results from your laboratory report. You will receive an evaluation of your well water quality and, if advisable, water treatment options. Regardless of water treatment technology, it is essential that your treatment system is maintained on schedule in order for it to work properly.

Read This Disclaimer Before Proceeding

Information provided on this website is for informational purposes only and should not be substituted for direct consultation with a qualified water treatment professional. Other conditions or factors related to your well or home not considered by this online guide may determine the most appropriate water treatment option.

Enter Your Well Water Test Results

- DES Private Well Brochure
- Accredited Labs in NH
- NHDES Private Well Testing Program

Questions or Comments

(603) 271-2513
dwgbinfo@des.nh.gov

:tate.nh.us/DWITool/ResultEntry.aspx?usession=252bc8fc-7ad1-466c-9a2c-0d2488aec513

A A A

an official NEW HAMPSHIRE government website

PUBLIC | GOVERNMENT | BUSINESS | A to Z LIST

Home

ENTRY | SUPPORT AND INFORMATION

Enter the Results of Your Drinking Water Test

After reading the following, enter your water test results from your lab report and click "submit" at the bottom of the page. If you need help reading your lab report, see an example here.

IMPORTANT
Please Read
Before You Continue

- Be sure that the "units" (for example milligrams per liter, or "mg / L") are properly set and the same as those shown on your lab report. You may change the units using the drop down menu to match your lab report, if necessary.
- Your lab report may show that a certain pollutant was "Not Detected" in your water. This may be indicated in your report by a "ND" (Not Detected), "BD" (Below Detection), "BDL" (Below Detection Limit) or a less than symbol ("<") next to the result. In these cases, enter a "0" for that parameter.
- If your lab report doesn't show a test result for a certain pollutant, do not enter a zero; leave the box blank.
- Only enter numbers (not letters) for your test results unless otherwise noted. Do not add commas.

NH Town or City * Select

Routine Water Analysis

		Units			Units
Arsenic (As)		mg/L	Lead (Pb)		mg/L
Chloride (Cl)		mg/L	Lead, Stagnant (Pb)		mg/L
Copper (Cu)		mg/L	Manganese (Mn)		mg/L
Copper, Stagnant (Cu)		mg/L	Nitrate-N		mg/L
Fluoride (F)		mg/L	Nitrite-N		mg/L
Hardness as CaCO3		mg/L	pH		units
Iron (Fe)		mg/L	Sodium (Na)		mg/L

Bacteria Units

Radionuclides Units

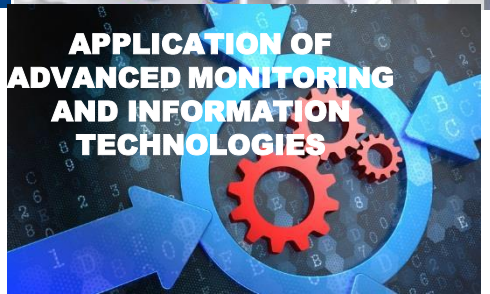
The heart of Be Well Informed is a configurable template that:

- Contains evaluation conditions
- Maps conditions to messages to display to the well owner
- Maps conditions to treatment options
- Maps conditions to health impact information to the well owner

A partner could modify the template with specific conditions, messages, and treatment options providing codeless customization for partner adoption.

```
<?xml version="1.0" encoding="utf-8"?>
<FlowCharts>
    <Contaminants>
        <Contaminant Value="As" Text="Arsenic" MCL="0.01 mg/L" NotEntered="Test your
water.  Studies show that 1 in 5 private wells in New Hampshire have high arsenic.">
            <Condition CheckOperator=">=" CheckValue="0.01">
                <False>
                    <Condition CheckOperator=">=" CheckValue="0.005">
                        <True>
                            <Outcome IM="As1" HM="As1" TM="As1" GuidelineIcon="W"
GuidelineText="The value entered is close to exceeding the drinking water standard"/>
                        </True>
                        <False>
                            <Outcome IM="As2" HM="As2" TM="As2" GuidelineIcon="M"
GuidelineText="The value entered meets the drinking water standard"/>
                        </False>
                    </Condition>
                </False>
                <True>
                    <Condition CheckElement="Fe" CheckOperator=">=" CheckValue="0.1">
                        <True>
                            <Condition CheckElement="Mn" CheckOperator=">=" CheckValue
="0.1">
                                <True>
                                    <Outcome IM="As3" HM="As3" TM="As3a"
TreatmentOrder="1a,1b,5a,5b" GuidelineIcon="E" GuidelineText="The value entered
exceeds the drinking water standard"/>
                                </True>
                                <False>
                                    <Outcome IM="As3" HM="As3" TM="As3b"
TreatmentOrder="1a,1b,5a,5b" GuidelineIcon="E" GuidelineText="The value entered
exceeds the drinking water standard"/>
                                </False>
                                <Missing>
                                    <Outcome IM="As3" HM="As3" TM="As3c"
TreatmentOrder="1a,1b,5a,5b" GuidelineIcon="E" GuidelineText="The value entered
exceeds the drinking water standard"/>
                                </Missing>
                            </Condition>
                        </True>
                        <False>
                            <Condition CheckOperator=">=" CheckValue="0.250">
                                <True>
                                    <Condition CheckElement="Mn" CheckOperator="&lt;"
CheckValue="0.1">
                                        <True>
                                            <Outcome IM="As3" HM="As3" TM="As3e"
```

How is Be Well Informed E-Enterprise and Exchange Network?



Example: E-Enterprise Shared Services Strategy

ABSTRACT

The Shared Services Strategy provides a framework to develop and adopt priority information technology services across the partnership.

The strategy will address the following known challenges:

- How do we build services collaboratively with a customer-centric approach?
- How do we use governance to enable smooth operation and efficient use of developed services?
- How do we ensure partners adopt and use services?

Shared Services Benefits:

- Reduced development costs
- Improved data quality
- Reduced reporting burden
- Increased access to current data

"Shared Services First"

Build the culture to support the philosophy that we build services for scaling/reuse.

Scope of the Strategy:

Focus on Information Technology Services

FOUR key categories of potential services:

- Application services
  - Perform a transaction e.g. Lexis Nexus in CROMERR
- Data services
  - Make a request and get data back e.g. FRS, WQX
- Platform services
  - Aggregate information from various sources e.g. E-Enterprise Portal
- Code sharing
  - Develop code and share with others e.g. NH's Be Well Informed

Web Services and APIs:

Easing Management of Scads of Environmental Data

The concept of shared services and reusable software components can help meet the increasing demand to analyze and make available environmental information.

BUT, it's a paradigm shift in thinking.

Asking yourself each time you develop any IT/IM system:

1. Has it been done before?
2. Are there web services and APIs that we can leverage?
3. Is one of my state or EPA partners working towards a solution that I can adopt?

Adopting a design philosophy consistent with the goals and intent of the Exchange Network and E-Enterprise for the Environment

What's Happening?

1. The Shared Services Strategy core team developed a rough outline that addresses:
   a) Communication
   b) Implementation plan
   c) Governance and prioritization
   d) Usage monitoring
   e) Development standards and framework
2. There will be opportunity over the next few months to weigh in on the topics and content in the outline
3. This is kind of a crazy idea – we should have joint standards and joint governance for service development so that those services can be shared across the enterprise. That's what this is all about. No one should feel they are alone developing solutions; there are partners across the country.

The Opportunity

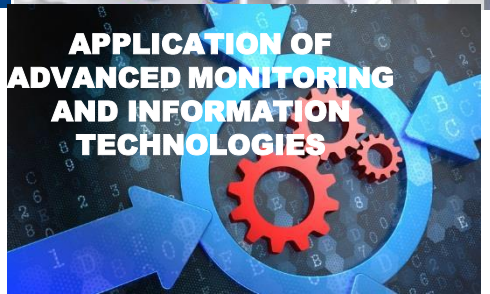
Adopt shared services

Develop shared services

COLLABORATE TO GOVERN PRIORITIZATION AND DEVELOPMENT OF SHARED SERVICES

Support joint development of shared services

How is the Shared Services Strategy Informed by E-Enterprise and Exchange Network?



Online Resources

E-Enterprise for the Environment:

https://e-enterprisefortheenvironment.net/

The Exchange Network:

http://www.exchangenetwork.net/

Tribal Exchange Network:

http://www.tribalexchangenetwork.org/

SharePoint (internal site):

https://usepa.sharepoint.com/sites/OCFO_Work/E_Enterprise/SitePages/Home.aspx