

# Implementing E-forms

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## *Reviewing the Federal Model*

Paul Wernet

President and CEO, Formatta Corporation

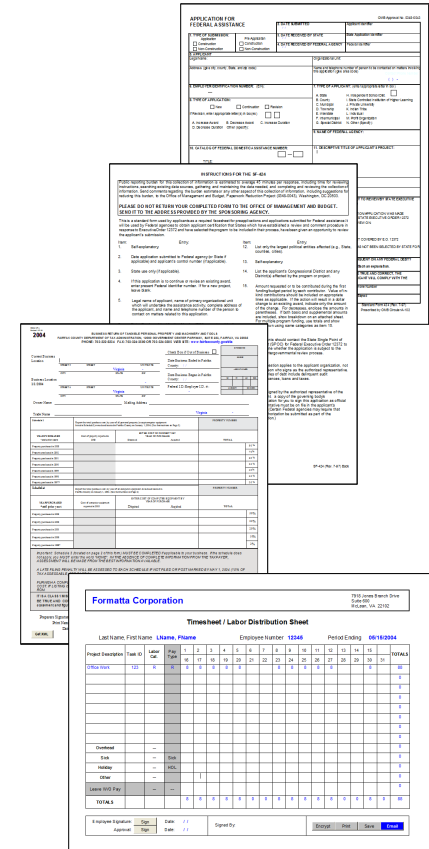
NASS/ACR 2004 Summer Conference

New Orleans, Louisiana

July 19, 2004

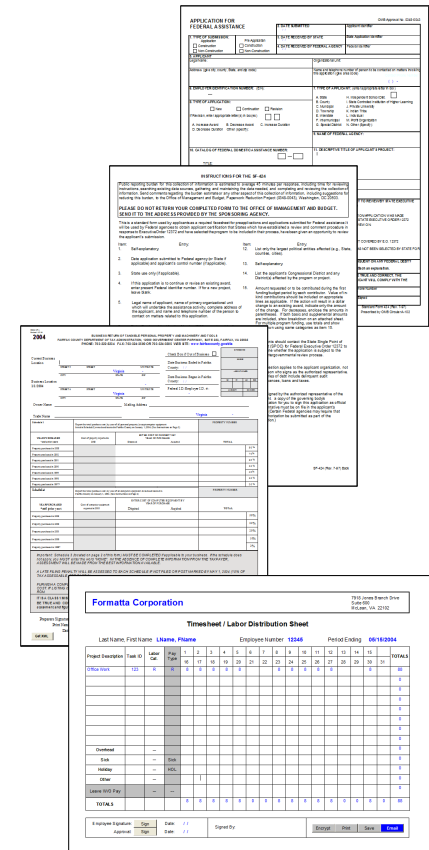
# Agenda

- E-form Benefits
- E-form Technologies
- Laws and Guidance
- E-Authentication
  - OMB, NIST
  - USDA
- MDWCC Case Study



# Electronic Form Benefits

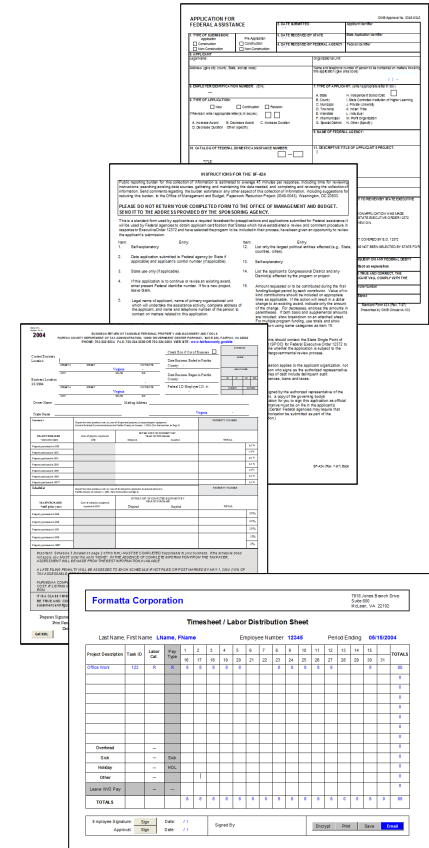
- Better Service
  - Improved data accuracy
  - Rapid forms turnaround
  - Reduced public burden
  - Easier to use
    - Available 24 x 7 x 365
    - Extensive help facilities
- Lower Costs
  - Eliminate forms printing, distribution, and inventory expenses
  - Electronic filing is faster and more accurate
  - Automated processing eliminates need for data re-keying/OCR



# MS Word Forms

## Benefits

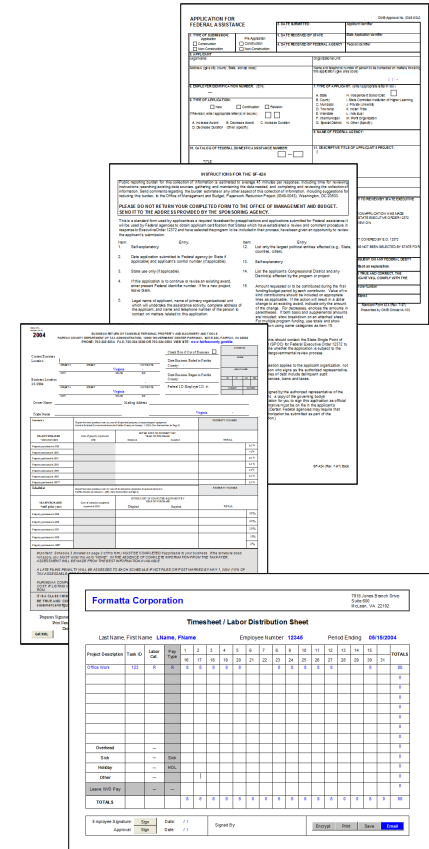
- Widely supported
- Resembles paper forms
- ODBC capability
- Not server dependant
- Email capability (routable)
- Small form file
- User can sign
- User can save completed form



# MS Word Forms (cont.)

## Limitations

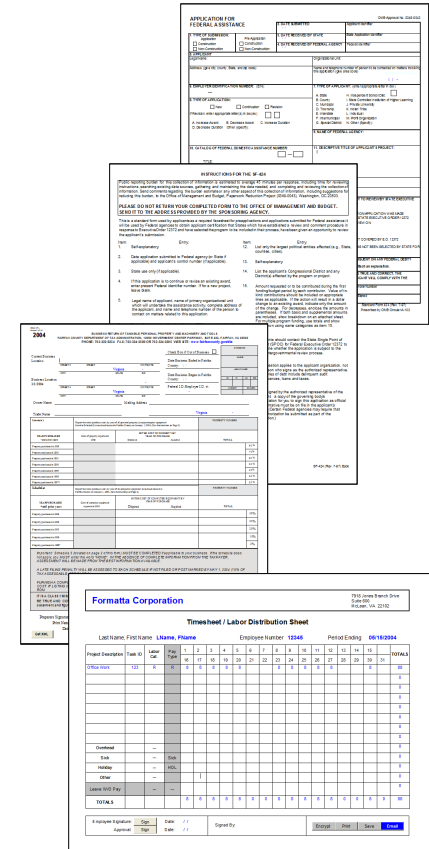
- Not an e-form tool
- Insecure - no native encryption
- Potential virus transmission
- Forms can be changed (no form verification)
- Cannot attach files
- Printer driver dependant
- Difficult to design



# HTML Forms

## Benefits

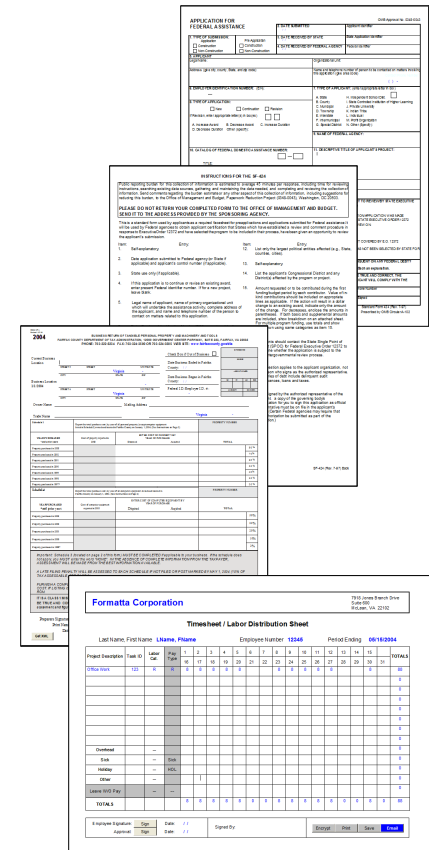
- Natural extension of HTML to collect web-related data
- Freely fillable by users
- Cannot be changed by users (form verification)
- Secure/Encryptable (SSL, but user must come to site)
- No additional downloading
- No virus capability



# HTML Forms (cont.)

## Limitations

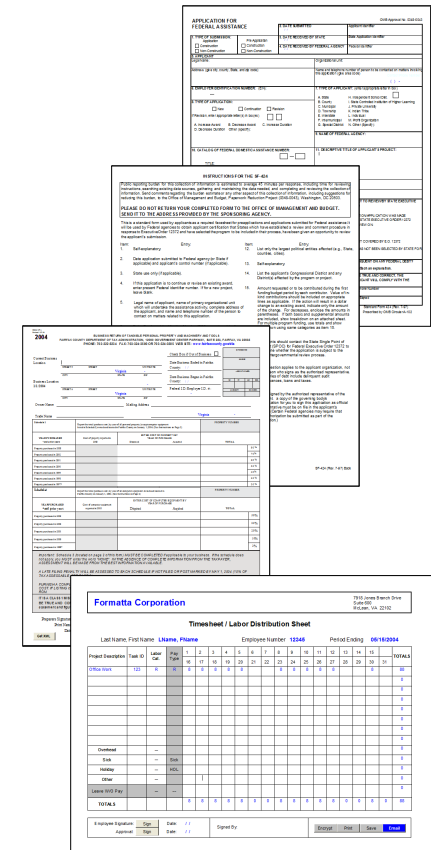
- Not designed to replace paper-based business processes
- Users cannot save completed forms
- Users cannot sign forms
- Does not resemble paper forms
- Internet connection required
- Single session only
- Not routable to other users
- Programming required
- Expensive to implement
- Features can be platform specific
- Author cannot control appearance



# E-Forms

## Benefits – *Generally Included*

- Designed to replace paper-based business processes
- E-form resembles paper form
- Client-side validation
- End user help facilities
- No virus capability
- Form verification (form lock)
- Form design and fill tools

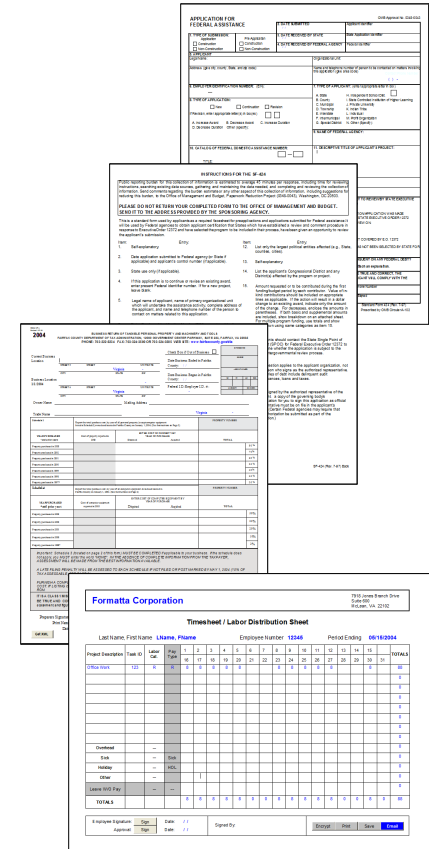




# E-Forms (cont.)

## Benefits - Available

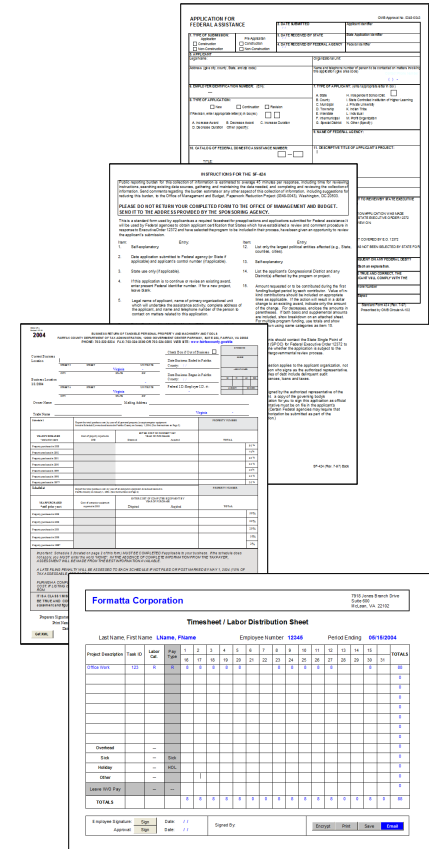
- User can attach files and route forms
- User can sign completed form
  - Digital Signature (PKI)
  - Remote Sign (UserID/PIN + PKI)
- User can save completed form
- User can work offline
- Security: Data encryption
- Form automation tools
- Automate business processes
  - Workflow
  - Data extraction, validation, etc.



# E-Forms (cont.)

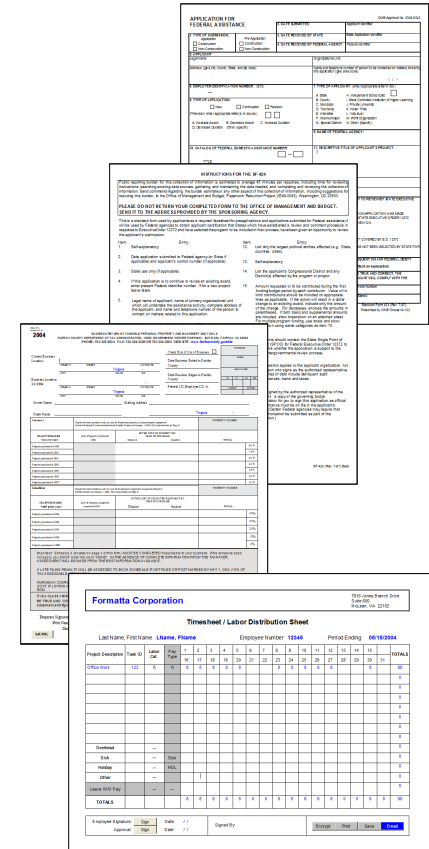
## Challenges

- Requires client software
- Business model may be complex
  - Per seat license model?
  - Per form license model?
  - Enterprise license model?



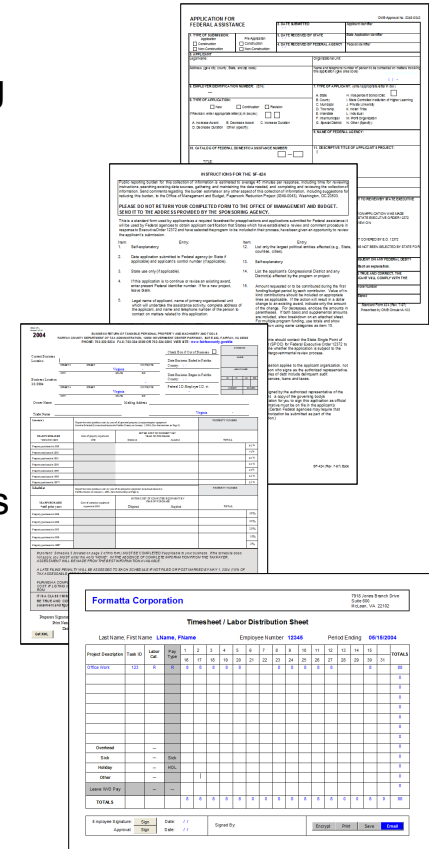
# E-Forms Vendors

- Formatta Corporation
- PureEdge Systems
- Adobe Systems
- Filenet/Shana
- Verity/Cardiff

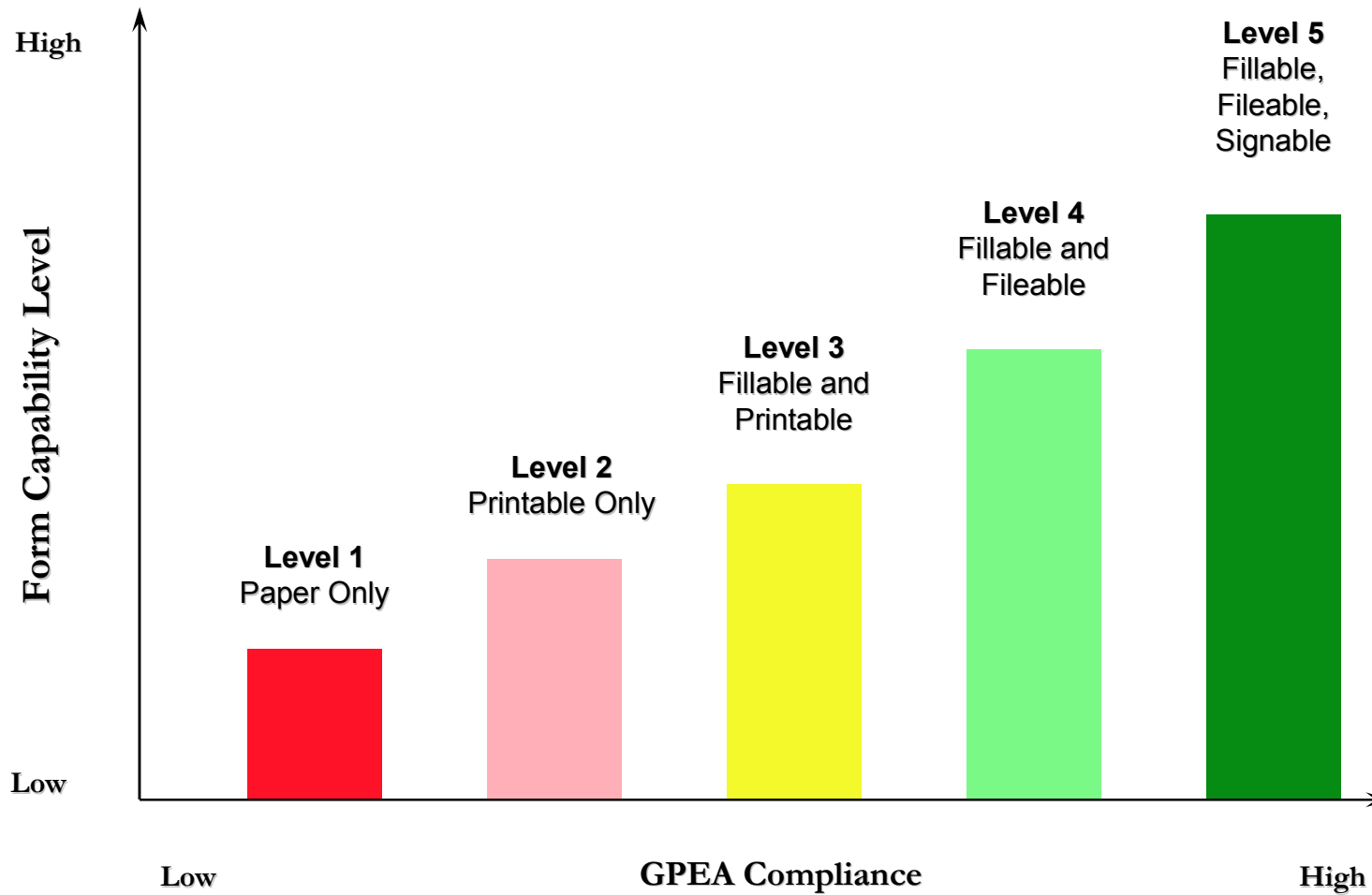


# Laws and Guidance

- Laws Supporting Electronic Transactions
  - GPEA (Government Paperwork Elimination Act)
    - OMB Guidance (Memorandum M-00-10 on Implementing GPEA and subsequent report cards – Getting to Green)
  - E-SIGN Act (HR 1714, Electronic Signatures in Global and National Commerce)
  - UETA (Uniform Electronic Transaction Act)
- Guidance on Authenticating Users
  - OMB Guidance to agencies on E-Authentication
    - OMB Memorandum M-04-04, E-Authentication Guidance for Federal Agencies
    - Establishes four levels of assurance for different methods of authenticating remote users
  - National Institute for Standards in Tech (NIST)
    - Companion to OMB e-Authentication guidance
    - Provides guidance on technical implementations for the various assurance levels
    - NIST SP800-63: *Electronic Authentication Guideline*
  - E-Authentication Web Site
    - <http://www.cio.gov/eauthentication/>

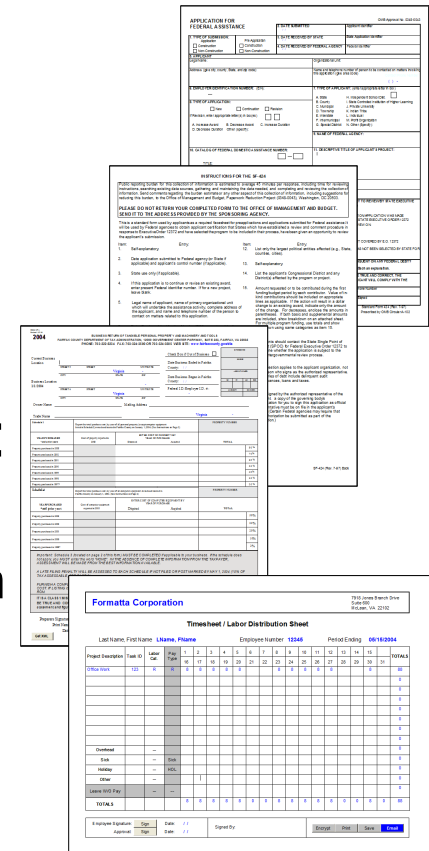


# OMB: Getting to Green



# OMB: E-Auth Guidance

- Different types of transactions require different levels of authentication assurance
  - Paying a fine or ticket
  - Applying for a business license
  - Filing a legal claim
- Authentication Assurance Assessment: Three step process
  - Identify applicable Risk Categories for each transaction
  - Determine Risk Levels
  - Assign appropriate authentication Assurance Level



# OMB: E-Auth Risk Factors

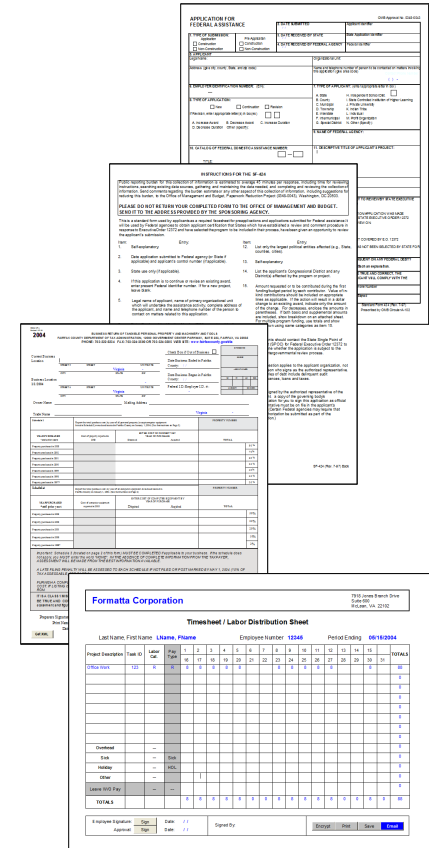
- Categories
  - Inconvenience, distress, or damage to standing or reputation
  - Financial loss or agency liability
  - Harm to agency programs or public interests
  - Unauthorized release of sensitive information
  - Personal safety
  - Civil or criminal violations
- Levels
  - Low (L)
  - Moderate (M)
  - High (H)
  - Not applicable (N/A) [Indicates that a particular assurance level is not sufficient to mitigate the identified risk level for the specified risk category.]

The collage contains three distinct forms:

- APPLICATION FOR FEDERAL ASSISTANCE:** A standard government form with sections for 'FEDERAL AGENCY', 'FEDERAL PROGRAM', and 'APPLICANT INFORMATION'. It includes checkboxes for 'Direct' and 'Indirect' costs, and a section for 'PROJECT INFORMATION'.
- 2004 Form:** A form with a table structure, likely a budget or financial statement. The table has columns for 'Line Item', 'Description', and 'Amount'. It includes a 'TOTALS' row at the bottom.
- Formatta Corporation Timesheet / Labor Distribution Sheet:** A timesheet for Formatta Corporation, dated 06/16/2004. It lists employees (Lafayette, First Name, Last Name, Phone) and tracks their hours across various tasks (Project, Other, Unavailable, etc.) for each day of the week. The total hours for each employee and overall totals are provided at the bottom.

# OMB: 4 Assurance Levels

- **Level 1**
  - OMB: Little or no confidence in asserted identity
  - NIST: Self identified UserID/Password
  - ID Verification: Usually none or email address
- **Level 2**
  - OMB: Some confidence in asserted identity
  - NIST: Agency issued PIN/Password
  - ID Verification: physical verification of ID
- **Level 3**
  - OMB: High confidence in asserted identity
  - NIST: Digital certificate or other soft token
  - ID Verification: Third party (e.g., Notary Public)
- **Level 4**
  - OMB: Very high confidence in asserted identity
  - NIST: Smart Card or other hard token
  - ID Verification: In-person application





# OMB: E-Auth Risk Chart

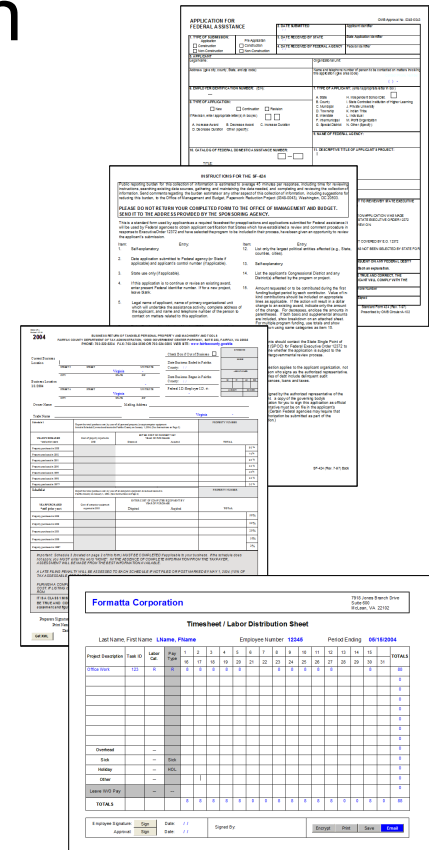
Risk Categories	Required Assurance Level for Risk Level			
	1	2	3	4
Inconvenience, distress or damage to standing or reputation	Low	Mod	Mod	High
Financial loss or agency liability	Low	Mod	Mod	High
Harm to agency programs or public interests	N/A	Low	Mod	High
Unauthorized release of sensitive information	N/A	Low	Mod	High
Personal safety	N/A	N/A	Low	Mod High
Civil or criminal violations	N/A	Low	Mod	High

## Examples:

- For a transaction where the Risk Category is “Financial Loss” with an assigned Risk Level of “Mod”, the Required Assurance Level is 2 or higher.
- For a transaction that presents even a “Low” risk to “Personal Safety”, the Required Assurance Level is 3 or higher (Levels 1 and 2 are not sufficient).

# Case Study: MDWCC

- Maryland Workers' Compensation Commission
- Mission: the equitable and timely adjudication of claims between injured workers and their employers
- Goal: achieve compliance with State of MD directive to web-enable business processes



# Case Study: MDWCC

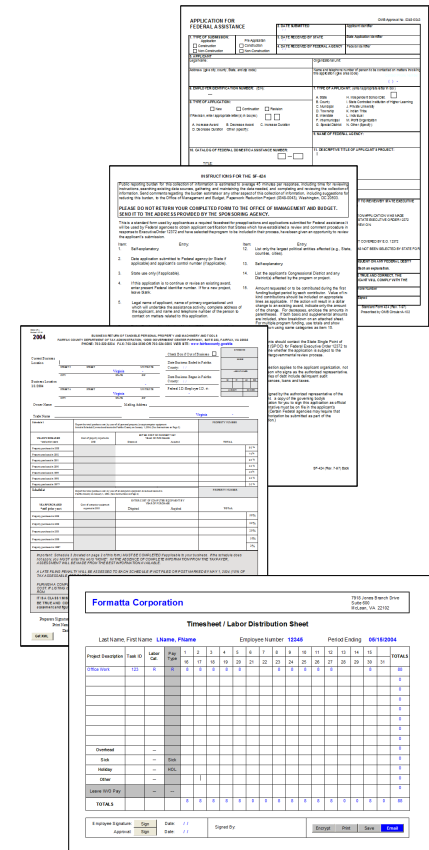
- Transaction Type
  - Filing legal records electronically
- Authentication Assurance Assessment
  - Level 2 (Agency inspects ID and issues UserID/PIN)

The collage contains three screenshots:

- Top Screenshot:** 'APPLICATION FOR FEDERAL ASSISTANCE' form. It includes sections for 'FEDERAL ASSISTANCE', 'FEDERAL AGENCY', and 'FEDERAL PROGRAM'. There are checkboxes for 'I am a resident of the State of Maryland' and 'I am a resident of the District of Columbia'. It also has a 'DATE OF FEDERAL ASSISTANCE REQUEST' field.
- Middle Screenshot:** 'INSTRUCTIONS FOR THE W-40'. It contains numbered instructions (1-10) regarding the completion of the form, including instructions on how to fill out the 'FEDERAL AGENCY' and 'FEDERAL PROGRAM' sections.
- Bottom Screenshot:** 'Formatta Corporation' 'Timehead / Labor Distribution Sheet'. It is for employee '13348' and covers the period from '01/01/2014' to '06/19/2014'. The sheet has columns for each day of the week (Sun, Mon, Tue, Wed, Thu, Fri, Sat, Sun) and rows for 'Project Number', 'Task ID', 'Task Name', 'Hours', and 'Total'. The 'TOTALS' row shows a total of 168 hours.

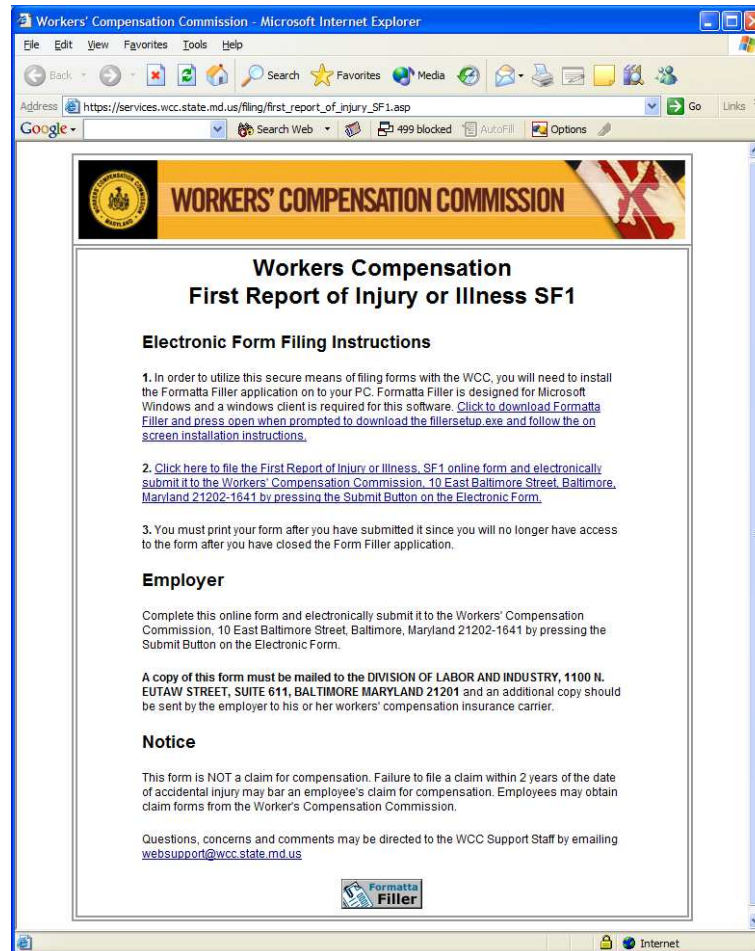
# Case Study: MDWCC

- MDWCC E-filing Use Case
  - User applies in person for MDWCC-issued UserID/PIN authentication credentials
  - User logs on to MDWCC website with UserID/PIN to access eform
  - User electronically signs eform with UserID/PIN and PKI
  - User electronically submits eform
  - MDWCC automatically processes eform (receipt)



# Case Study: MDWCC

- Example web page



# Case Study: MDWCC

- Example e-form

**2003 VA Resident Form 760-Web Individual Income Tax Return**  
File by May 3, 2004 -

*iFile*  
www.tax.state.va.us  
Fast. Easy. Secure.

**Help Browser**

Welcome to the Help Browser for the 2003 VA Resident Form 760-Web

This help Browser will provide you with the information and instructions to complete the VA Resident form 760.

The Help Browser also provides step-by-step instructions with fill-able fields which will automatically enter information into the form.

The form will then carry out the calculations automatically.

**Next**

**Contents**

**2003 VA Resident Form 760-Web Individual Income Tax Return**

File by May 3, 2004 -

**Personal Information**

Your first name: \_\_\_\_\_ M.I. Last name: \_\_\_\_\_ Suffix: \_\_\_\_\_  
 Spouse's first name (print returns only): \_\_\_\_\_ M.I. Last name: \_\_\_\_\_ Suffix: \_\_\_\_\_  
 Present home address (number and street): \_\_\_\_\_  
 City, town or post office: \_\_\_\_\_ State: **Virginia** Zip Code: \_\_\_\_\_

**Filing Status** Fill in the oval to indicate status

(1) Single. Did you claim federal head of household? Yes   
 (2) Married filing joint return (Enter spouse's SSN above)  
 (3) Married filing separate return (Enter spouse's SSN above)  
 Spouse's Name: \_\_\_\_\_

**Exemptions**

You:  +  +  +  =   
 Spouse if filing joint return:  +  +  +  =

**Summary Table**

Line	Description	Amount
1	Federal Adjusted Gross Income (from federal return - NOT FEDERAL TAXABLE INCOME)	00
2	Total Additions from attached Schedule ADJ, line 3 (You must attach Schedule ADJ)	00
3	Add lines 1 and 2	00
4	Deduction for age on Jan 1, 2004. Each filer age 62-64: \$6,000; each filer 65 or over: \$12,000	00
4	You: <input type="text" value="0"/> .00 + Spouse: <input type="text" value="0"/> .00 =	00
5	Social Security Act and equivalent Tier 1 Railroad Retirement Act benefits (reported as taxable on federal return)	00
6	State Income Tax refund or overpayment credit (reported as income on federal return)	00

# Case Study: MDWCC

- Example signing buttons

VA760web\_remote\_sign\_demo.pff\* - Formatta Filler by Virginia Department of Taxation

File Edit View Form Tools Help

Previous Next Open Save Reset Print Zoom In Zoom Out Info Home

Virginia DEPARTMENT OF TAXATION

28. Adjustments and Voluntary Contributions from attached Schedule ADJ, line 26..... 28  
(You must attach Schedule ADJ)

29. Add line 27 and line 28..... 29

30. If you owe tax on line 25, add lines 25 and 29. OR  
If line 26 is less than line 29, subtract line 26 from line 29. **AMOUNT YOU OWE**..... 30

CREDIT  FILL IN OVAL IF PAYING BY CARD SEE INSTRUCTIONS  CARD

31. If line 26 is greater than line 29, subtract line 29 from line 26. **YOUR REFUND** ..... 31

Please indicate type of account

Checking  Savings

Your bank's routing transit number Your bank account number

Fill in all the ovals that apply:  I authorize the Dept. of Taxation to discuss my return with my preparer.  Fill in oval if return was completed by a paid preparer

Qualifying farmer, fisherman or merchant seaman  Coalfield credit earned  Primary taxpayer deceased  Spouse deceased  Overseas on due date

Preparer's Name (please print) Phone Number Date

Your business phone number Home phone number Spouse's business phone number

Your Signature Date Spouse's Signature Date

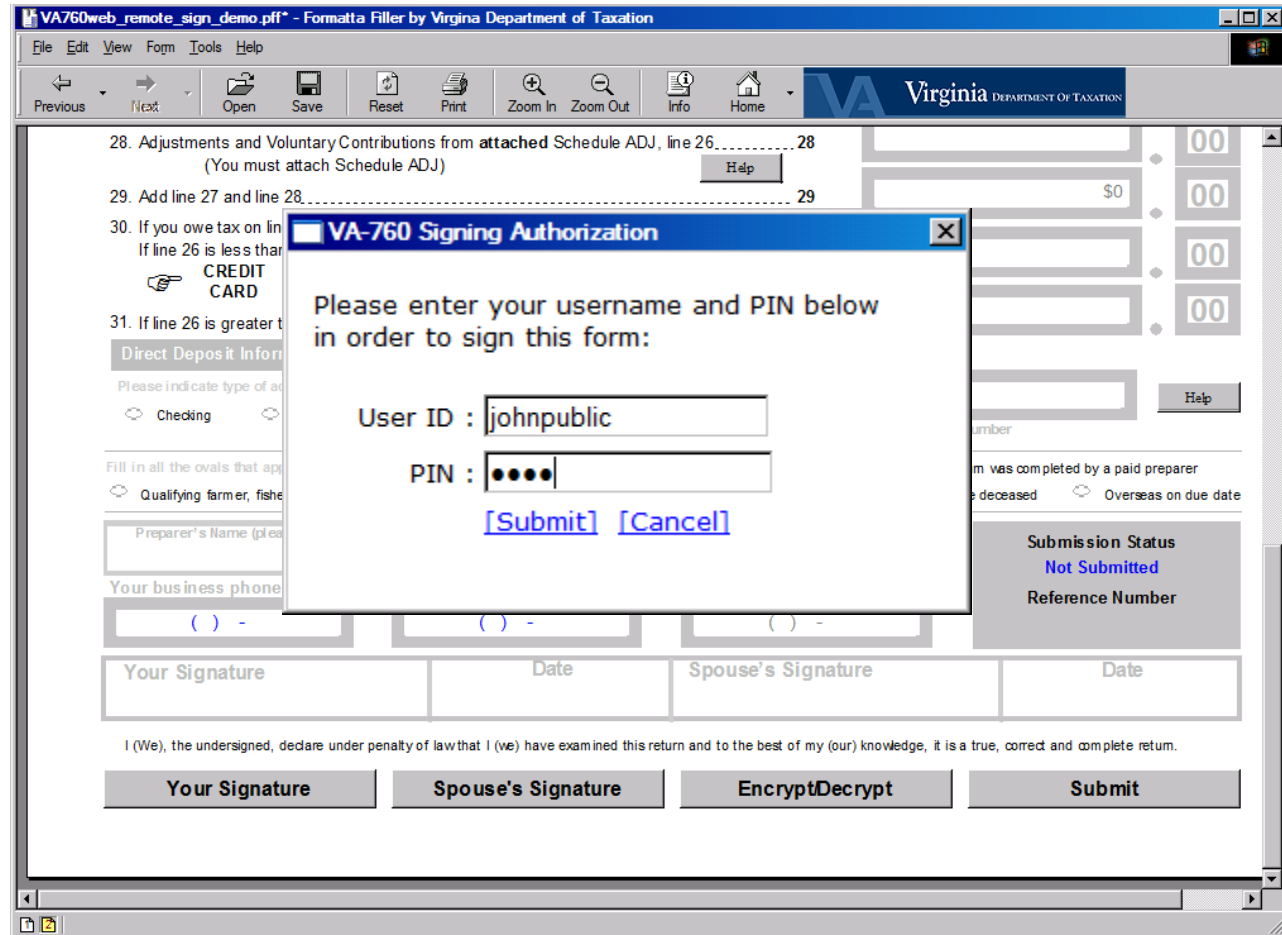
I (We), the undersigned, declare under penalty of law that I (we) have examined this return and to the best of my (our) knowledge, it is a true, correct and complete return.

Submission Status  
Not Submitted  
Reference Number



# Case Study: MDWCC

- Example signing dialog





# Case Study: MDWCC

- Example end user receipt

VA760web\_remote\_sign\_demo.pff\* - Formatta Filler by Virginia Department of Taxation

File Edit View Form Tools Help

Previous Next Open Save Reset Print Zoom In Zoom Out Info Home

Virginia DEPARTMENT OF TAXATION

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If line 26 is less than line 29, subtract line 26 from line 29. **AMOUNT YOU OWE**..... 30

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Please indicate type of account

Checking  Savings  
Your bank's routing transit number Your bank account number

Fill in all the ovals that apply:  I authorize the Dept. of Taxation to discuss my return with my preparer.  Fill in oval if return was completed by a paid preparer  
 Qualifying farmer, fisherman or merchant seaman  Coalfield credit earned  Primary taxpayer deceased  Spouse deceased  Overseas on due date

Preparer's Name (please print)  Phone Number   Date

Your business phone number  Home phone number  Spouse's business phone number

Your Signature  Date  Spouse's Signature  Date

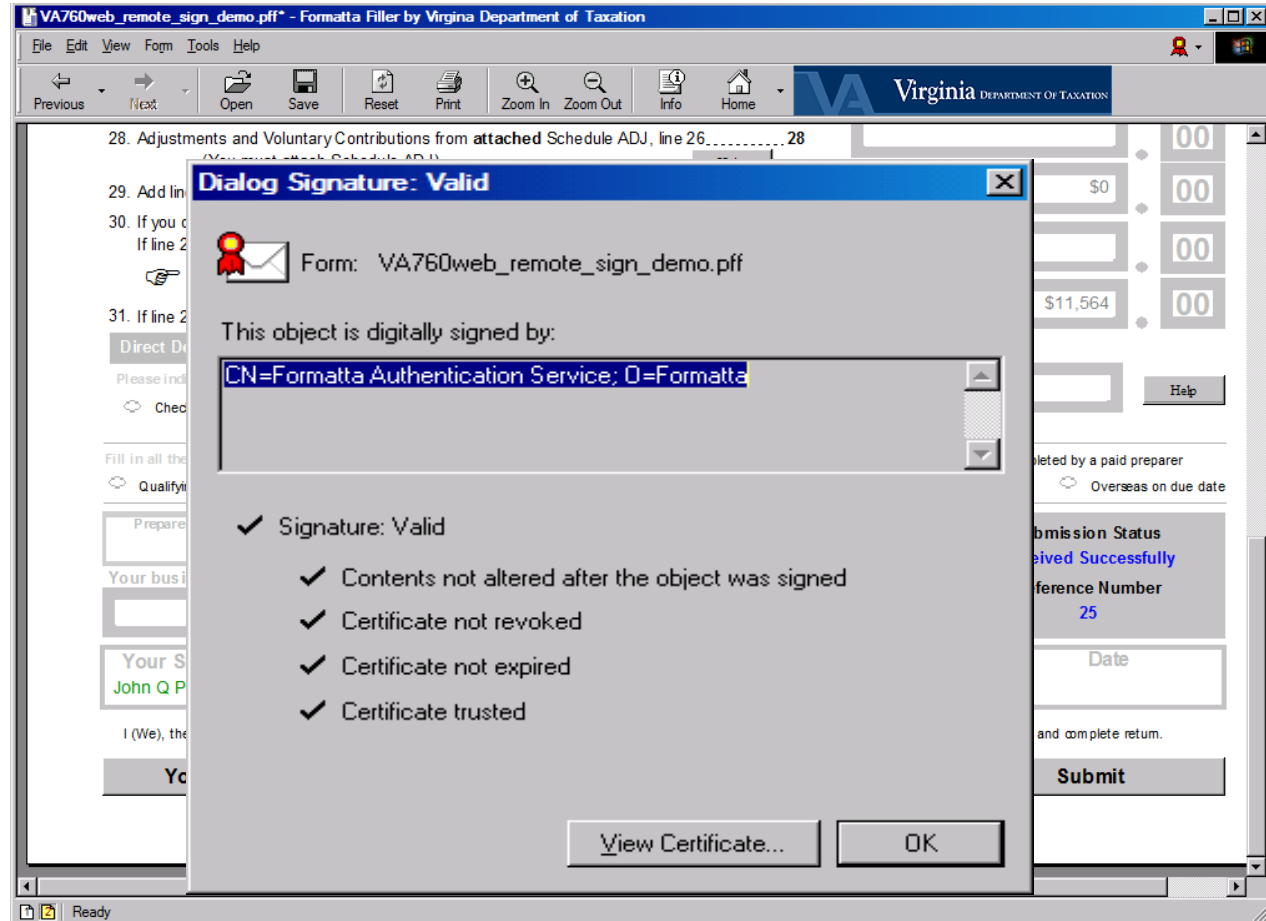
**Received Successfully**  
Reference Number 25

I (We), the undersigned, declare under penalty of law that I (we) have examined this return and to the best of my (our) knowledge, it is a true, correct and complete return.

Ready

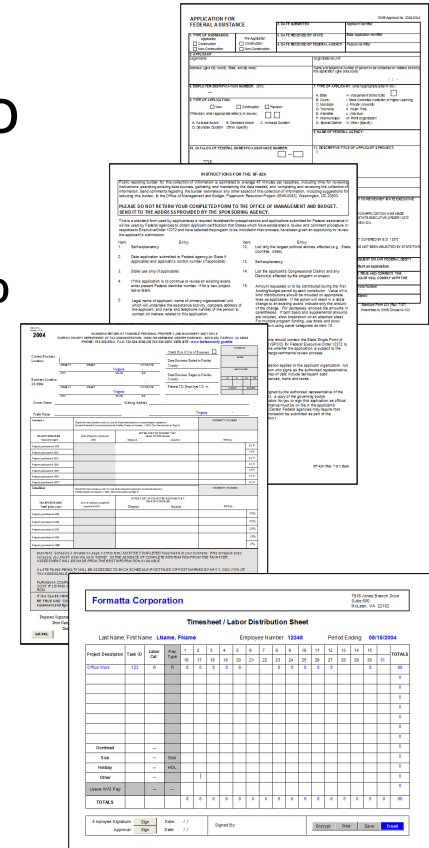
# Case Study: MDWCC

- Example end user receipt



# Case Study: MDWCC

- Key Benefits Achieved
  - Reduction in form processing time to 24 – 48 hours
  - Overall increase in efficiency of 60%
  - Opportunity to re-purpose staff to higher value operations
  - Significantly improved customer service and constituent satisfaction
  - Completed implementation on time and under budget



# USDA: E-Authentication

- United States Dept. of Agriculture
- Level 1 and 2 assurances
  - Level 1: send UserID/PW to user asserted email address
  - Level 2: inspect ID in person and issue UserID/PW
- Goal: Federated provider for US Government
  - USDA-issued Level 2 credentials accepted by other federal agencies
  - Other agencies may do the same
  - States?

The collage contains three forms:

- APPLICATION FOR FEDERAL ASSISTANCE:** A form with sections for 'FEDERAL AGENCY', 'FEDERAL PROGRAM', and 'APPLICANT INFORMATION'. It includes checkboxes for 'Direct' and 'Indirect' costs, and a section for 'TYPE OF FEDERAL ASSISTANCE REQUESTED'.
- INSTRUCTIONS FOR THE W-94:** A document with numbered instructions (1-5) regarding the completion of the form, including instructions for 'Part 1: Identification', 'Part 2: Organization Information', and 'Part 3: Certification of Information'. It includes a warning: 'PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND TO THE ADDRESS INDICATED BY THE SPONSORING AGENCY.' and a 'RECEIVED BY' section.
- Formatta Corporation Timebased / Labor Distribution Sheet:** A spreadsheet-style form for tracking labor. It includes fields for 'Last Name, First Name, Username, Phone', 'Employee number: 11048', and 'Fiscal Ending: 06/16/2004'. The main table has columns for 'Project Number', 'Task ID', 'Task Name', 'Rate', and 12 columns for months (1-12), plus a 'TOTAL' column. The bottom of the sheet has a 'TOTALS' row and a 'Print' button.