Digital delivery

A PRESENTATION ON BASIC PRINCIPLES OF DIGITAL SIGNATURE FOR FDOT PROJECT DELIVERY
Digital Delivery at FDOT

- Why the Change?
- Acquisition and Management of a Digital Certificate
- The Digital Signature and the Digital Appearance
- The Digital Delivery
- Digital Certificates – Do they do more than sign?
- Future of Digital Delivery
Why the change?

- Effort to produce electronic delivery
- Training and learning curve
- Software maintenance
- PKI prevalence - ubiquitous
- Ease of use
Why the change?
Why the change?
Change is certain!

Florida Department of Transportation

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ANANTH PRASAD
SECRETARY

OFFICE OF DESIGN MEMORANDUM 14-01

DATE: April 21, 2014

TO: District Directors of Transportation Operations, District Directors of Transportation Development, District Design Engineers, District Program Management Engineers and District Construction Engineers

FROM: Duane Brautigam, P. E., Director, Office of Design

COPIES: Brian Blanchard, Tom Byron, Bbb Crim, Bruce Dana, John Krause, Kurt Lieblong, Michael Shepard, Robert Robertson, David Sadler, Trey Tillander, Rudy Powell, Greg Schiess, Juanita Moore, Chad Thompson (FHWA), Felix Delgado (FHWA), and Nick Finch (FHWA)

SUBJECT: Sunset of Classical Electronic Delivery for FDOT Project Lettings

This bulletin changes the Department's policy for project delivery and requires Digital Delivery to be used instead of Electronic Delivery for all FDOT project lettings after June 30, 2015.
Digital Delivery at FDOT

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Acquisition and Management of a Digital Certificate
Consultants: https://www.identrust.com/
Acquisition and Management of a Digital Certificate
Consultants: https://www.identrust.com/government/
Acquisition and Management of a Digital Certificate
Consultants: https://www.identrust.com/fdot/index.html
Acquisition and Management of a Digital Certificate

http://infonet/
Acquisition and Management of a Digital Certificate
FDOT Employees:

http://infonet.dot.state.fl.us/officeofinformationsystems/Applications.htm

Acquisition and Management of a Digital Certificate

http://www.identrust.com/certificates/cert_management_center.html

CERTIFICATE MANAGEMENT CENTER

Certificates > After You Buy > Certificate Management Center

LOGIN to the Certificate Management Center with your digital certificate:

- Renew your certificate if it is within 90 days of expiration.
- Revoke your certificate if information contained in it is no longer accurate or your private key has been lost or compromised.
- Update your contact information if you have moved or would like us to contact you at a different phone number or e-mail address.
- Upgrade your certificate to a higher assurance level prior to renewing your certificate.
- Recover your encryption certificate (requires entering your account name identTrustDST passphrase).
- Download software drivers for your High or Intermediate Assurance level digital certificate hardware.

RELATED CONTENT
- Certificate Management Center
- Retrieve Digital Certificate
- Retrieve Server Certificate
- Download Root Certificate
- Export Digital Certificate
- Import Digital Certificate
- Add Certificate to Address Book
- Remove Digital Certificate
- Encrypt Messages
- Digitally Sign Messages
- PKI Basics
The Digital certificate
Security Services

**Data integrity** services address the unauthorized or accidental modification of data. This includes data insertion, deletion, and modification. To ensure data integrity, a system must be able to detect unauthorized data modification. The goal is for the receiver of the data to verify that the data has not been altered.

**Confidentiality** services restrict access to the content of sensitive data to only those individuals who are authorized to view the data. Confidentiality measures prevent the unauthorized disclosure of information to unauthorized individuals or processes.

**Identification and authentication** services establish the validity of a transmission, message, and its originator. The goal is for the receiver of the data to determine its origin.

**Non-repudiation** services prevent an individual from denying that previous actions had been performed. The goal is to ensure that the recipient of the data is assured of the sender’s identity.
Access Certificates for Electronic Services (ACES)

- ACES program - created and sponsored by the GSA
- Facilitate secure on-line access to information and services through PKI and digital signature technology
- “Real Time” validation
- Digital Signatures on electronically produced documents and forms which are non-reputable.
Anonymity – Who are you?
The Digital certificate

- Certificate security
  - Keep password safe.
  - Never share!
  - Keep back-up in a secure location
  - Always set security on “High”
  - Always scrub an unused workstation.
  - Compromised certificate.
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Electronic vs. Digital

PROFESSIONALS' ELECTRONIC DATA DELIVERY SYSTEM

Signature Document

"This document is signed and sealed to secure the electronic files referenced by the signature files as described in Florida Department of Business and Professional Regulation, Board of Professional Engineers, Procedures for Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or other Documents, Rule 61G15-23.003, F.A.C.."

Signature File Created: 2008/04/14 - 15:50:11.962
Number Signed/Sealed Files: 27

Quinton Tillman, PE - License No: 39655
Date: April 14, 2008

SIGNATURE FILE NAME:
C:\Projects\MSV8\22807915201\SC\META_INFO\PE39655_20080414_154852942.xml

SIGNATURE FILE HASH RESULT:
DFE4F566-AA5148A3-D637B29A-6E29C9C1-E408C419
DFE4F566-AA5148A3-D637B29A-6E29C9C1-E408C419
DFE4F566-AA5148A3-D637B29A-6E29C9C1-E408C419
DFE4F566-AA5148A3-D637B29A-6E29C9C1-E408C419
DFE4F566-AA5148A3-D637B29A-6E29C9C1-E408C419
Electronic verses Digital

Are they the same?
Digital signature appearance

Digitally signed by Steve Q Tillman
Reason: to test the digital signature process. Not to be construed as an actual signature.
Date: 2013.03.05 13:40:01 -05'00'

Start Adobe
Digital signature

Rev. 1: Signed by Steve Q Tillman

Signature is valid:
- Document has not been modified since this signature was applied
- Signed by the current user
- Signature date/time are from the clock on the signer's computer.
Digital signature

Trusted 3rd Party

CRL

Private Key

Professional Of Record

Digital Delivery

Public Key

Authority Having Jurisdiction

OCSP protocol, Certificate valid
Appearance

Standard Text Signature – This is the generic “out-of-the-box” appearance that is applied by Adobe Standard software.

Steve Q Tillman

Digitally signed by Steve Q Tillman
DN: c=US, o=IdenTrust ACES Business Representative, ou=FLORIDA DEPARTMENT OF TRANSPORTATION, cn=Steve Q Tillman,
0.9.2342.19200300.100.1.1=A010980000001413
353758D0000ADB1
Date: 2014.05.16 16:44:02 -04'00'
Appearance

Plan Text Signature – This is the signature appearance that is applied to FDOT plan sets.

Steve Q Tillman   2014.05.16
                  16:44:46 -04'00'
Appearance

Wet Ink Signature – This signature appearance contains a scanned image of a wet-ink signature. This one may be used to sign correspondence such as memos, email, etc.

Steve Q Tillman
I am the author of this document
2014.05.16 16:45:13 -04'00'
Appearance

Wet Ink Signature with Seal – This signature appearance contains a scanned image of an embossed seal over a wet-ink signature. This one may be used to sign correspondence such as memos, email, etc.
Electronic vs. Digital
Electronic vs. Digital
Electronic vs. Digital
Digital Delivery at FDOT

➢ What’s Different & Why the Change?
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➢ Future of Digital Delivery
What is in a Digital Delivery?

- Survey Data
- Project Design Data
- Native CADD files
- 3D Models for Automated Machine Guidance
- Multi-sheet PDF Document(s) representing the Plans Set
- Plan Sets now contain a Signature Sheet
What is NOT in a Digital Delivery?

- Empty Folders / Directories (PEDDS >> Create Project)
- Data Mining & Indexing files (Sheet Navigator)
- Project Index (Project Indexer)
- Plotted Post Script files (Project Indexer)
- Signature Files (PEDDS >> Sign & Seal)
- Sub-Set Projects (Project Delta / Set Maker)
- Strung Projects (Strung Project)
The Digital Delivery

21046345201-CADD.zip
The Digital Delivery

98765415201
- 98765415201-CADD.zip
- 98765415201-PLANS.pdf
- 98765415201-SPECS.pdf
- 98765415201-SPECS-TSP##.pdf
The Digital Delivery

98765415201
- 98765415201-CADD-REV01.zip (contemporary)
- 98765415201-PLANS-REV01.pdf (changes only)
- 98765415201-SPECS.pdf
- 98765415201-SPECS-TSP##.pdf
The Digital Delivery

98765415201
- 98765415201-CADD.zip
- 98765415201-PLANS-ROADWAY.pdf
- 98765415201-PLANS-STRUCT.pdf
- 98765415201-PLANS-LANDSCAPE.pdf
- 98765415201-SPECs.pdf
- 98765415201-SPECs-TSP##.pdf
### Importance of file names

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<thead>
<tr>
<th>File Name</th>
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<tbody>
<tr>
<td>12345678901-CADD.zip</td>
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<tr>
<td>12345678901-CADD-ConsultA.zip</td>
</tr>
<tr>
<td>12345678901-CADD-ConsultB.zip</td>
</tr>
<tr>
<td>12345678901-PLANS.pdf</td>
</tr>
<tr>
<td>12345678901-PLANS-ROADWAY.pdf</td>
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<tr>
<td>12345678901-PLANS-SIGNING.pdf</td>
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<tr>
<td>12345678901-PLANS-STRUCTURES-BRIDGE55999-NORTHBOUND.pdf</td>
</tr>
<tr>
<td>12345678901-SPECS.pdf</td>
</tr>
<tr>
<td>12345678901-SPECS-TSP337.pdf</td>
</tr>
</tbody>
</table>
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Do they do more than sign?

- Secure transactions – Project plans Delivery
- Secure email
- Secure other data
  - Excel Workbooks
  - Word documents
  - XML data
  - Native CAD files
Do they do more than sign?

Excel Workbook – ensure data integrity
Do they do more than sign?

Excel Workbook – Ensures the signatory identity and that no changes have been made.
Do they do more than sign?

Native Autodesk – Civil 3D
Design file secured with
Digital Signature
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Produce 3D Models: Existing & Designed
Digital delivery

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