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UNIVERSITY INFORMATION TECHNOLOGY

Digital Signatures Project Summary

August 2, 2013

Implement Secure Digital Signatures: Overview

➤ **Major initiative for UH & UIT for FY 2011/12**

“Digital Signature Project (\$247,500); The Digital Signature Project will make possible electronic authorization of official university business (e.g., purchasing, travel, leave requests). Eliminating the need for print signatures will increase operational efficiency and reduce the university’s reliance on, and investments in, paper. “

– *Fiscal Year 2011 Plan and Budget*

➤ **What is a Digital Signature?**

E-signatures are divided into two categories:

1. ***Electronic signatures*** - click and sign (i.e. type name); simple authentication
2. ***Digital signatures*** - utilizes public-key cryptography (PKC) / public-key infrastructure (PKI); complex algorithms using SSL certificates.

Implement Secure Digital Signatures: Objectives

- More efficient business processes
 - Electronic authorization of official university business
(e.g., on-line contracts, purchasing, travel, leave requests)
- Increased operational efficiency and reduced reliance on, and investments in, paper and other related expenses of printing
- Strong security for documents and messages where the identity of an author, sender, or the contents of a message must be verified and validated, or authenticated
- Legislative compliance with the Texas Administrative Code (TAC) and the Texas Department of Information Resources (TxDIR)

Implement Secure Digital Signatures: Compliance Requirements

State of Texas Requirements incumbent upon UH:

- Offeror must utilize certificates for digitally signed communications obtained from a **source(s) approved as an acceptable PKI service provider** by the Texas Department of Information Resources (DIR)
- Texas Government Code § 2054.060 - Digital Signature
- TAC §202.75.2.E, Information Resources Security Safeguards
- TAC §203.25 – Acceptable PKI Service Provider
- TAC §203.44 - Acceptable Digital Signature Technology

Identified Electronic Signing Options

1. Signature Capture Devices
2. Electronic document Signing w/DS certificate
3. SignIx – web-based solution for external signers

Identified Electronic Signing Options

1. Signature Capture Devices

- OGC and IA have confirmed acceptable use for situations where a scanned signature is approved
- Devices are inexpensive (~\$200)
- Ability to sign any documents from any device
- Meets needs of increased operational efficiency and reduced costs
- Is NOT considered a “Digital Signature” instead a “Digitized signature”

Signature Capture Devices – Best Practices

- Currently no specific technical standards
- Factors to consider:
 - High enough resolution to produce a legible signature, both on screen, and in printed form.
 - Make sure the pad will be usable by all persons who may need to use it, especially by those with physical challenges or limitations.
 - If the pad is going to be mounted or permanently affixed to a surface, be sure to allow for enough clearance on all sides.

Signature Capture Devices – Best Practices – cont.

- Factors to consider (cont.):
 - Be mindful of use of the pad by left-handed persons, whose natural signature style often tends to be very different physically from that of right-handers.
 - Be wary of styluses that require the point be used within restrictive angles or pressures; these can often be frustrating for people to use.

Identified Electronic Signing Options – cont.

2. Electronic Document Signing w/DS Certificates

- Process intensive – requires setup of documents and restricts document changes
- Only works with PC devices and MS office documents (unless FOBs are used)
- Does not work with Mac or Linux devices or Adobe documents (unless FOBs are used)

Identified Electronic Signing Options – cont.

Electronic Document Signing w/DS Certificates

- Adobe FOBs
 - Can be purchased for approx. \$20 each
 - Allow signing of any documents (MS Office, Adobe, etc.)
 - Work on PC, Mac, Linux

Identified Electronic Signing Options – cont.

3. Signlx

- Web-based signing solution for external signers
- Departments can upload unlimited docs for signing
- Workflow notifies multiple signers, administrators
- Housing contracts - using successfully for 1+ year
- UH using apprx. 5200 licenses of 10,000 purchased
- Other UH departments preparing to use:
 - Facilities rental
 - University Advancement – gift agreements

Identified Electronic Signing Options – cont.

What **CANNOT** be used:

- Adobe-internal signing (without FOBs) or Adobe Echosign
- True “Digital Signatures” using certificates issued by vendors not approved by TxDIR
- All Symantec certificates are ok

UH BUDGET IMPLICATIONS

Implement Secure Digital Signatures

➤ Forsythe Technologies Procurement

- Consortium of Forsythe, SIGNiX & Symantec/Verisign
- Multi-Solution Approach
 - Certificate based – VeriSign MPKI – Internal solution
 - Non-certificate - SIGNiX – External solution
 - Customers:
 - Houston Area Realtors
 - Credit Unions
 - Universities (Penn State)

Implement Secure Digital Signatures: Procurement

- 3 Year Contract Invoiced Annually - \$240,037.50
 - 2014 last year of contract
- Licenses included for:
 - Verisign/Symantec MPKI (Internal Solution)
 - 5,000 User Seats (Faculty/Staff)
 - 2 Administrators
 - SIGNiX (External Solution)
 - 10,000 External Signers (Students/Parents/Alumni)
 - 50 Faculty/Staff users/admins
 - Annual Maintenance

Implement Secure Digital Signatures: Procurement

- Discounted Pricing for Additional SIGNiX Licenses:
 - Minimum 50 Seats – users/admins
 - 50 = \$15,000
 - >100 = \$275
 - >250 = \$250
 - >500 = \$225
 - >1,000 = \$200
 - >3,000 = \$175

Implement Secure Digital Signatures: Procurement

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Implement Secure Digital Signatures: Proposal

SIGNiX Optional Services:

Authentication Options: Charge/Attempt

1. Internal Click-thru: No Charge
2. Authentication w/Question(s) created by Authorized User: No Charge
3. SMS Text Shared Secret: \$0.25/attempt
4. Basic Authentication with SSN & DOB entered and validated with outside 3rd party data provider: \$1.00/attempt
5. Full Knowledge-Based Authentication (KBA): \$2.50/attempt

Implement Secure Digital Signatures: E-mail Encryption

- Certificates purchased for UH faculty/staff allow for email encryption
- Currently, 70 staff participating in Pilot
- Campus deployment plan and user documentation being finalized with campus ISOs

Digital Signatures Committee – Next Steps

- What is role of committee in moving forward?
- Candidates for Signix implementations?
- Considerations for electronic document signatures with certificates?
- Other?