



# What we can learn from Teenagers about Document Security?

MAY 15 & 16, 2019

CLEVELAND PUBLIC AUDITORIUM, CLEVELAND, OHIO

[WWW.NEOOUG.ORG/GLOC](http://WWW.NEOOUG.ORG/GLOC)




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 Oracle Analytics, BI and Big Data  
Special Interest Group



# Agenda

1

Introduction

2

**Defining Digital Signatures**

What they are & What they are not

3

**Digital Signatures & the Law**

How Digital Signatures can support highly-regulated industries

4

How to implement & the limitations of Digital Signatures

5

Additional tips for securing your email documents





# Digital Transformation

A buzzword, sure. Important nonetheless.



# Communication

## Digital Transformation

From Snail Mail to Fax to **Email** to Text



# Project Planning

## Digital Transformation

From Note Pads to Whiteboards to **Email** to SaaS





# Collaboration

## Digital Transformation

From Face-To-Face to Phone Calls to **Emails** to  
Chat Software



A close-up, cinematic shot of Thanos from the movie 'Avengers: Infinity War'. He is shown from the chest up, wearing his iconic blue and gold armor. His right hand is raised, holding the Infinity Gauntlet, which is a golden gauntlet with six colorful gemstones (purple, blue, red, yellow, green, and orange) set into it. The background is a dark, hazy blue, suggesting a battlefield or a desolate landscape. The lighting is dramatic, highlighting the textures of his armor and the metallic sheen of the gauntlet.

# Email Still Reigns Supreme

Email is still the primary communication method used by businesses to communicate & deliver important business documents



# Email by the numbers

business email statistics



**281.1**  
billion

## Emails Sent Each Day

There are over **281.1 billion** emails sent and received in the working world each day



**74**  
emails every day

## Sent or Received

Each business user sends and receives an average of **74 emails** each day



**81**  
days per year

## On Email Alone

The average employee spends over **81 working days per year** on email alone



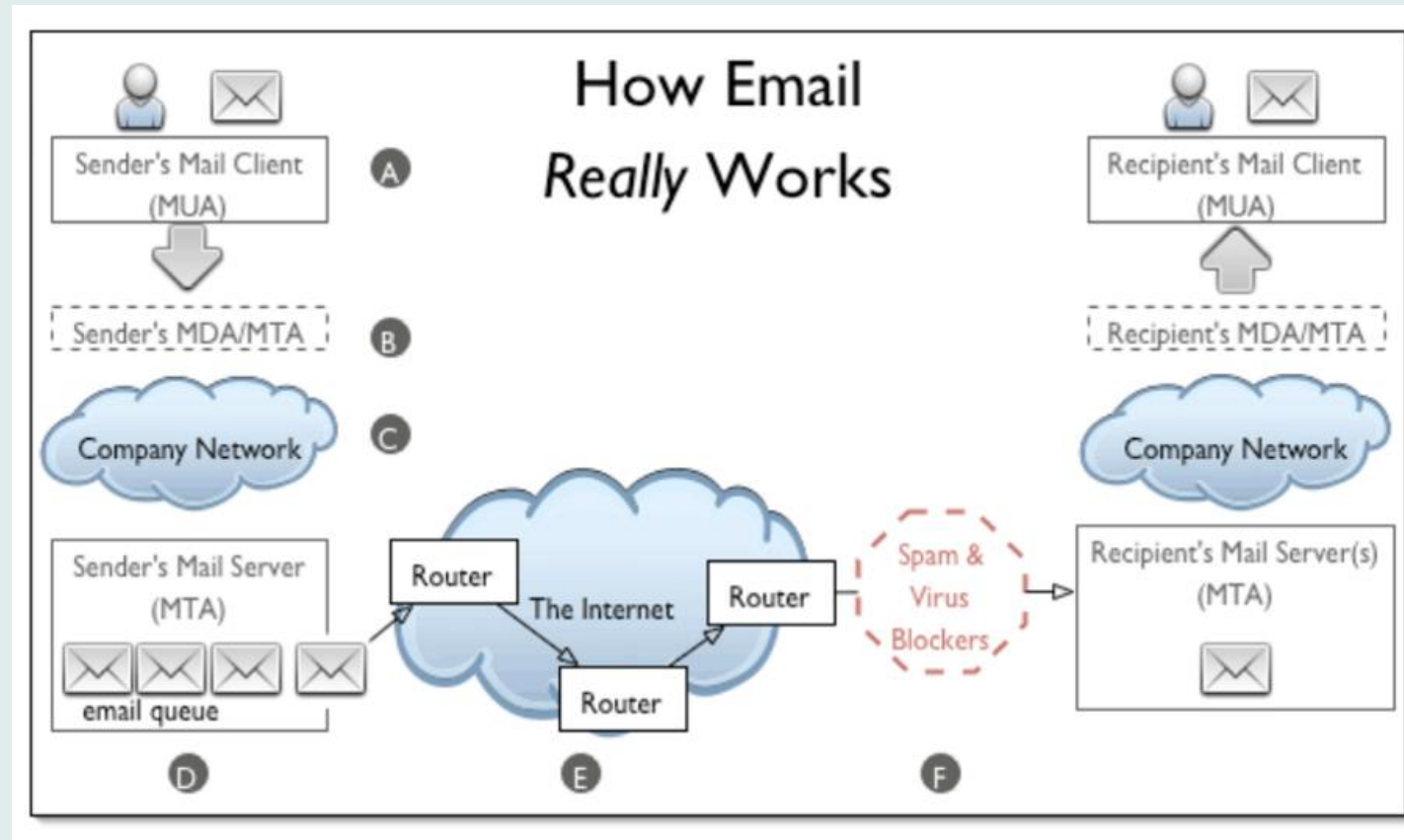
# Email is Not Secure

At least not as secure as you'd hope.



# How Email **Appears** to Work vs. How Email **Really** Works

<https://www.oasis-open.org>





# So, what does this have to do with teenagers?

And what does it have to do with email?



# According to a survey\*

## #1 Reason to Give a Child a Cell Phone

...Safety & Security

\*Survey may or may not have been in informal polling of STR Software parents, like me, who have children approaching the appropriate age.



# Do I need Document Security?

Regulatory environment. Risk profile. Business requirements.

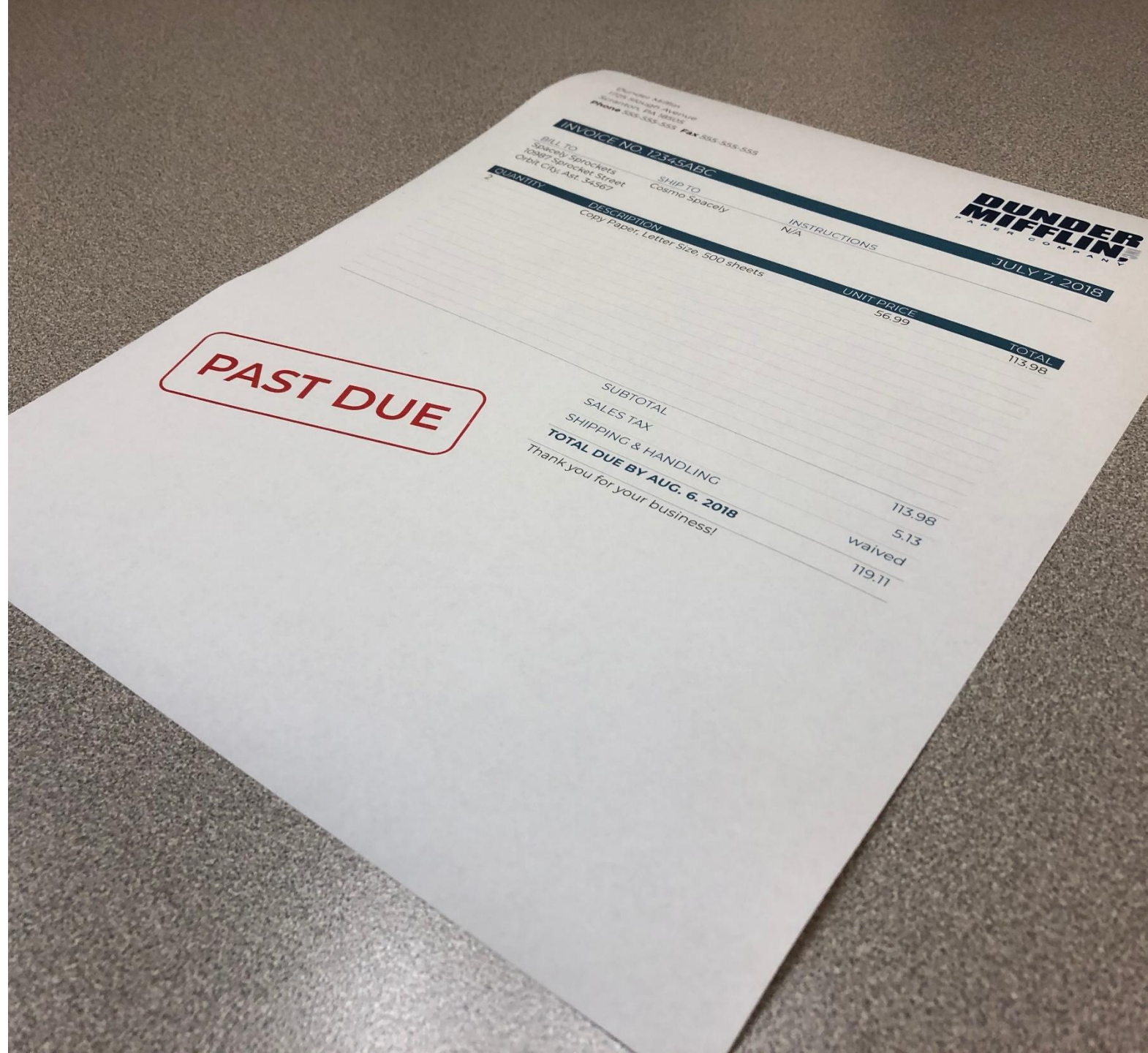




# How do I secure my critical docs?

## Securing docs with Digital Signatures

If email is not secure and you need to attach important files, as many of us often do, the best solution is Digital Signatures.





**Ron Burgundy**

**LET ME OFF  
AT THE TOP!**

MY CLASSY LIFE & OTHER MUSINGS



# Digital Signatures

What are they?

**LET ME OFF  
at the TOP!**

My Classy Life & Other Musings

**RON BURGUNDY**

*Ron Burgundy*

COPYRIGHT © 2013 BY CROWN ARCHETYPE

fact,  
have  
to  
nest  
olor!

ning  
with  
n San  
aking  
ships,  
s own  
vising  
d his

COPYRIGHT © 2013 BY CROWN ARCHETYPE

at Write




This Agreement is made by and between \_\_\_\_\_, a \_\_\_\_\_ corporation having its principal place of business at \_\_\_\_\_ ("Company") and \_\_\_\_\_, a \_\_\_\_\_ corporation whose principal mailing address is \_\_\_\_\_ ("Recipient").

1. **Definition of Confidentiality.** As used in this Agreement, "Confidential Information" refers to any information which has commercial value and is either (i) technical information, including patent, copyright, trade secret, and other proprietary information, techniques, sketches, drawings, models, inventions, know-how, processes, apparatus, equipment, algorithms, software programs, software source documents, and formulae related to the current, future and proposed products and services of Company, or (ii) non-technical information relating to Company's products, including without limitation pricing, margins, merchandising plans and strategies, finances, financial and accounting data and information, suppliers, customers, customer lists, purchasing data, sales and marketing plans, future business plans and any other information which is proprietary and confidential to Company.

- ADD CONTENT -  
to document
- SIGNATURE
- TEXT
- DATE
- INITIALS
- CHECK

TYPE
DRAW
UPLOAD
✕

[CLEAR](#)




CANCEL
SIGN

continuing damage to Company for which there will be no adequate remedy at law, and Company shall be entitled to injunctive relief and/or a decree for specific performance, and such other relief as may be proper (including monetary damages if appropriate).

6. **Entire Agreement.** This Agreement constitutes the entire agreement with respect to the Confidential Information disclosed herein and supersedes all prior or contemporaneous oral or written agreements concerning such Confidential Information. This Agreement may only be changed by mutual agreement of authorized representatives of the parties in writing.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written below.

COMPANY:  
By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

RECIPIENT:  
By:   
Name: Peter Rogers  
Title: Sales Manager

# What they aren't

## Electronic Signatures

Electronic Signatures (**eSignatures**) refer to any electronic process that indicates acceptance of an agreement or a record.

- Common authentication methods include
  - Email, Social ID, Passwords, PINs
- Proof of signing using a secure process and audit trail
- Electronic signatures mark a party's intent to sign a document or contract

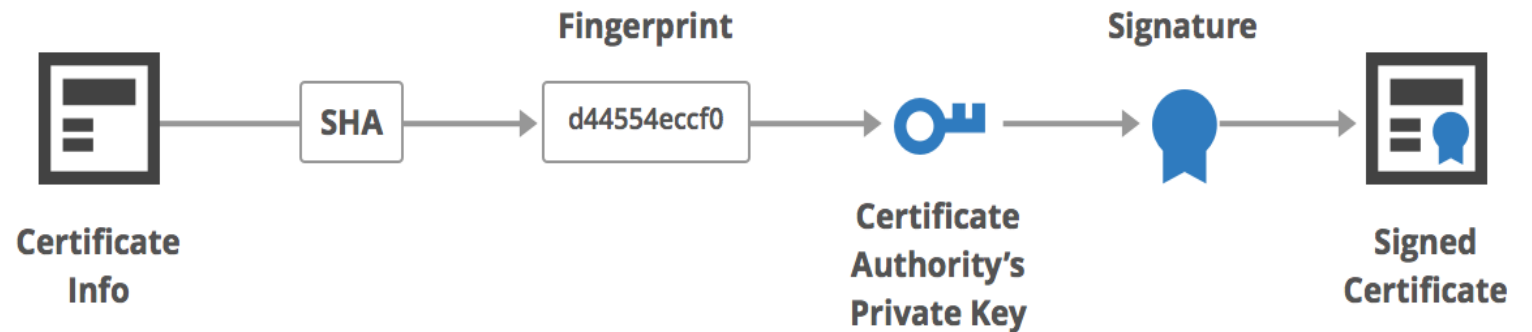
# What they are

## Digital Signatures

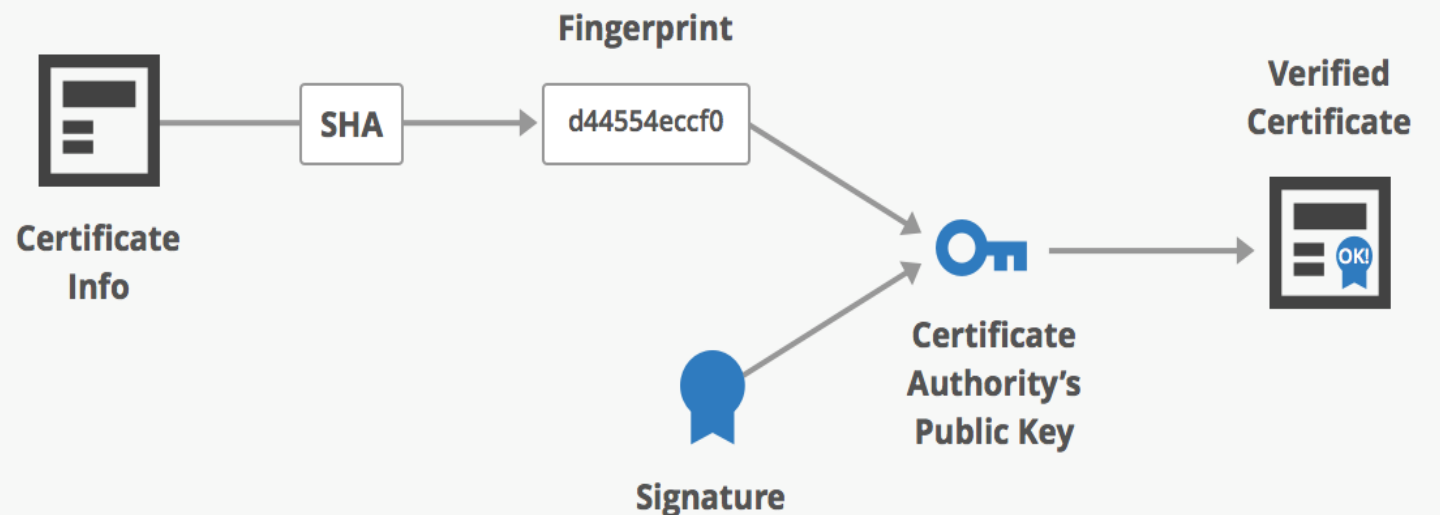
Digital Signatures use a specific method to sign documents electronically by authenticating data through cryptographic protocols.

- Signer authentication uses a certificate-based digital ID
- Signatures are bound to the document with encryption and validated by Certificate Authorities (CAs) or Trust Service Providers (TSPs)

## Creating an SSL Certificate



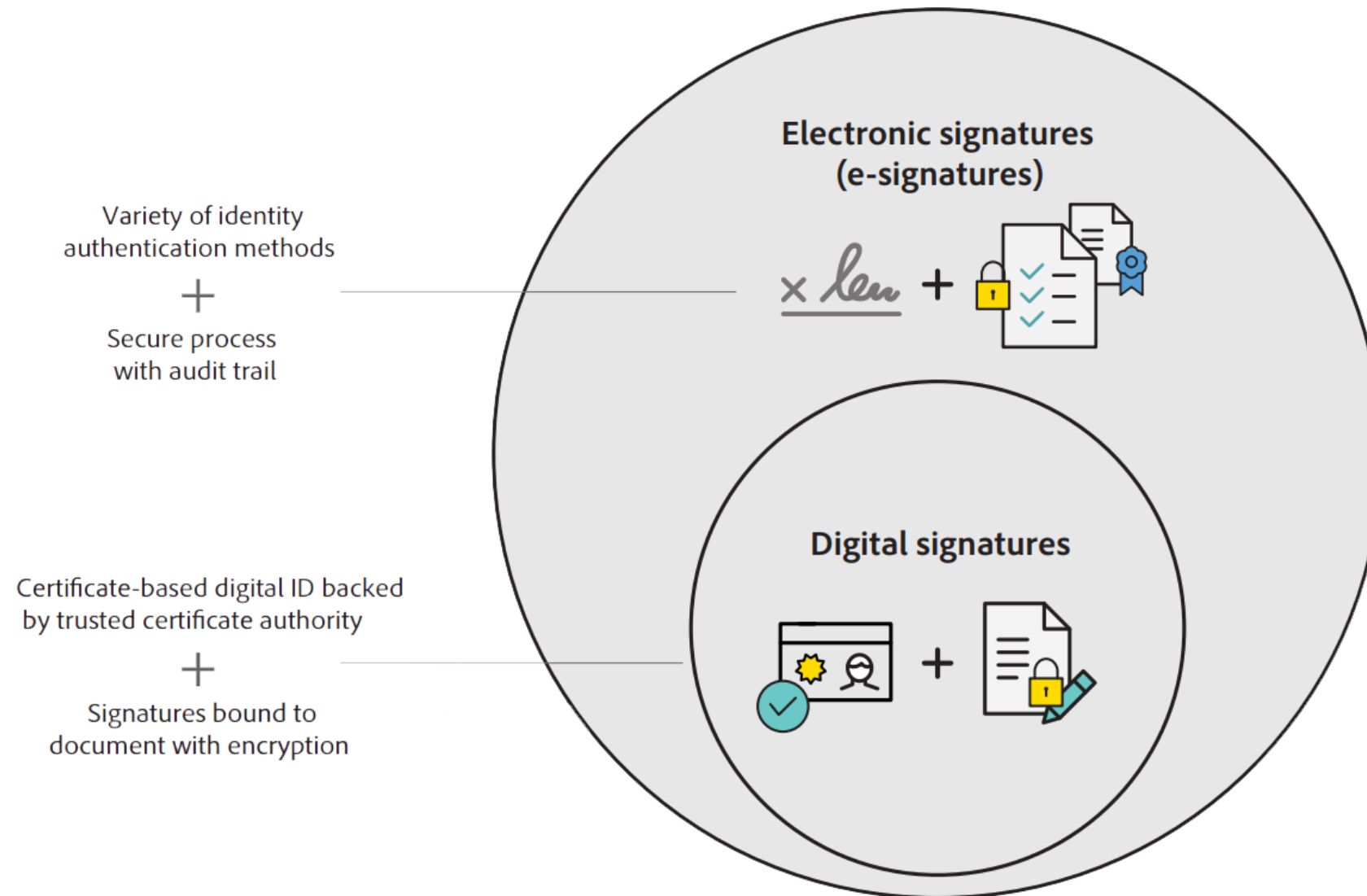
## Verifying an SSL Certificate





# Electronic Signatures vs. Digital Signatures

www.adobe.com



A close-up photograph of a man's face, appearing to shout or yell with his mouth wide open. The image has a dark blue tint overlay. The text is centered over the man's face.

# eSignatures & the Law

A non-comprehensive guide



# Legally Binding

In almost every industrialized nation

At least 47 countries have some type of law covering Electronic & Digital Signatures.

## Two Types of Laws

- **Minimalist Laws**

- Provide eSignatures the same legal status as handwritten signatures. Broadly enforceable with few restrictions.
  - United States – Electronic Signatures in Global and National Commerce Act [ESIGN] (2000)
  - Australia – Electronic Transactions Act (1999)
  - Canada – Personal Information Protection and Electronic Documents Act [PIPEDA] (2000)

- **Multi-Tier Laws**

- Permit eSignatures, but provide great evidentiary weight to Digital Signatures (certificate-based Digital IDs) to authenticate signers
  - European Union – Electronic Identification and Trust Services regulation [eIDAS] (2016)
  - China – Electronic Signature Law of the People’s Republic of China (2004)
  - India – The Information Technology Act [ITA-2000] (2000)

A close-up of a man's face, looking slightly to the right. Two circular insets are overlaid on the image. The left inset shows a hand with a red ring on the ring finger. The right inset shows a hand with a blue ring on the ring finger. The background is dark and moody.

# Understanding Digital Signatures

Stricter Requirements. Robust Authentication.



# Robust Authentication

## Signer's certificate bound to document

Digital IDs are issued and accredited by Certificate Authorities (CAs) and Trust Service Providers (TSPs) to meet defined requirements.

## Validation Process applying a digital signature

1. User applies a unique or corporate provided Digital Signature
2. Document is delivered by electronic means (email) to recipient
3. Recipient opens file and is presented with Digital Signature
  - Using Public Key Infrastructure, the sender's unique private key is validated against reciprocal public key. This process does multiple things:
    1. Authenticates signer's identity
    2. Provides proof that the document has not changed since it was signed
    3. Provides audit trail with information like Signer's IP address or geolocation

A woman with long dark hair, wearing a white blazer and matching skirt, stands on the left. To her right, a man with a mustache, wearing a light-colored pinstriped suit, a yellow patterned tie, and a tan fedora hat, looks upwards. They are standing on an asphalt airfield with the tail and wing of a white airplane behind them. The background is filled with green trees under a clear sky.

# Digital Signatures & Oracle

Securing your Documents with Oracle BIP



# Document Security

## The #1 Benefit

Like providing a Cell Phone to a Teenager, applying Digital Signatures to Outbound Documents provide both the sender and recipient with guaranteed security measures



# Implementing A Digital Signature with BI Publisher

## Significant Limitations

BI Publisher supports digital signatures on PDF output documents. BI Publisher can access your digital ID file from a central, secure location and at runtime sign the PDF output with the digital ID.

## Prerequisites and Limitations

Use of digital signatures with Oracle BI Publisher output documents has the following limitations:

- Only a single digital ID can be registered with BI Publisher.
- Only reports submitted through BI Publisher's Schedule Report Job interface can include the digital signature.
- The digital signature (singular) is defined globally for the instance, so every report has to share the same digital signature properties.



# Implementing A Digital Signature with BI Publisher

## How To

Path to single digital signature file.

The screenshot displays the Oracle BI Publisher Enterprise Administration interface. The top navigation bar includes the Oracle logo, the product name "BI Publisher Enterprise", a search field, and links for "Administration", "Help", and "Sign Out". Below this, a secondary navigation bar shows "Home", "Catalog", "New", "Open", and "Signed In As administrator". The main content area is titled "Administration > Digital Signature" and features a "Security Center" section with tabs for "Security Configuration", "Users", "Roles and Permissions", and "Digital Signature". The "Digital ID" section contains two input fields: "\* Digital ID File" with the path "/home/secure/digitalID/MyDigitalID.pfx" and "\* Password" with masked characters. A red rectangle highlights the "Digital ID File" field. The "Security" section below shows "Available Roles" (Operations, Sales Manager) and "Allowed Roles" (HR Manager, Financial Officer, CEO) with various action buttons like "Move", "Move All", "Remove", and "Remove All".

# Implementing A Digital Signature with BI Publisher

## How To

Digital signature placement for a single report.

The screenshot shows the 'Report Properties' dialog box with the 'Formatting' tab selected. The 'PDF Digital Signature' section is expanded, showing various settings for digital signature placement. The 'Report Value' column contains dropdown menus and text boxes, while the 'Server Value' column contains default values.

Properties	Report Value	Server Value
Allowed printing level	<input type="text" value="0"/>	0
Use only one shared resources object for all pages	<input type="text" value=""/>	true
PDF Digital Signature		
Enable Digital Signature	True <input type="text"/>	false
Existing signature field name	<input type="text" value=""/>	null
Signature field location	<input type="text" value=""/>	null
Signature field X coordinate	<input type="text" value="306"/>	0
Signature field Y coordinate	<input type="text" value="700"/>	0
Signature field width	<input type="text" value="72"/>	0
Signature field height	<input type="text" value="36"/>	0
RTF Output		
Enable change tracking	<input type="text" value=""/>	false
Protect document for tracked changes	<input type="text" value=""/>	false



# Implementing A Digital Signature with BI Publisher

[https://docs.oracle.com/cd/E28280\\_01/bi.1111/e22255/digital\\_sig.htm#BIPAD225](https://docs.oracle.com/cd/E28280_01/bi.1111/e22255/digital_sig.htm#BIPAD225)

## 6.6 Running and Signing Reports with a Digital Signature

Users assigned a role with the digital signature privilege can attach the digital signature to their generated reports configured to include the digital signature. The digital signature can be inserted only on scheduled reports.

### To sign reports with a digital signature:

1. Log in to BI Publisher as a user with a role granted digital signature privileges.
2. In the catalog, navigate to the report that has been enabled for digital signature and click **Schedule**.
3. Complete the fields in the **Schedule Report Job** page, selecting PDF output, and then submit the job.

The completed PDF displays the digital signature.

# Implementing A Digital Signature with BI Publisher

[https://docs.oracle.com/cd/E28280\\_01/bi.1111/e22255/digital\\_sig.htm#BIPAD225](https://docs.oracle.com/cd/E28280_01/bi.1111/e22255/digital_sig.htm#BIPAD225)

## 6.2 Prerequisites and Limitations

Before you can implement digital signatures with Oracle BI Publisher output documents, you need the following:

A digital ID obtained from a public certificate authority or from a private/internal certificate authority (if for internal use only). You must copy the digital ID file to a secure location of the file system on the server that is accessible by the BI Publisher server.

Use of digital signatures with Oracle BI Publisher output documents has the following limitations:

- Only a single digital ID can be registered with BI Publisher.
- Only reports submitted through BI Publisher's Schedule Report Job interface can include the digital signature.
- The digital signature is enabled at the report level; therefore, multiple templates assigned to the same report share the digital signature properties.



A close-up of a man's face with a mustache, looking directly at the camera with wide eyes. The image is overlaid with various futuristic digital graphics in shades of blue and red. These include circular gauges, data charts, and technical diagrams. Some of the text visible in the background includes 'GUIDED MICRO-PROJECTILES', 'ROCKET2 HIGH-POWER', '27x ENFL', 'P x', and 'DEA'. The overall aesthetic is high-tech and futuristic.

# Automating without BIP

Greater Flexibility & Control

# Implementing Dynamic Digital Signature

## Dynamic Digital Signatures with AventX

Dynamically insert your global and/or individual Digital Signatures using flexible logic.

Dynamic Digital Signatures provide organizations a secure mechanism to address complex regulatory and legal requirements associated with emailing documents.

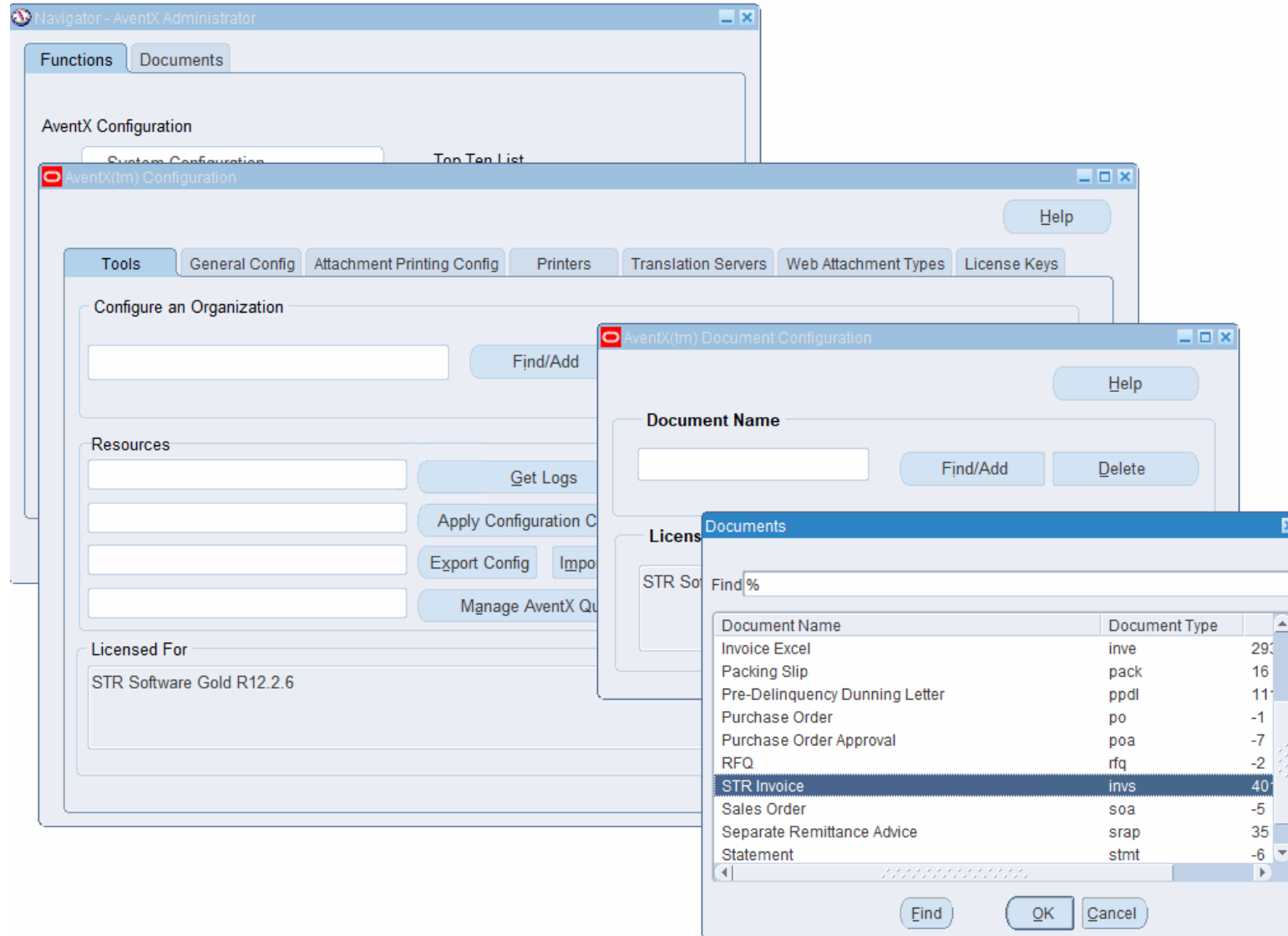
AventX's flexible logic queries to accurately apply the correct digital signature to every file:

- Multiple Global or Individuals can be registered.
- Scheduled and One-off jobs can include the digital signature.
- The digital signature is applied using flexible queries after the report is generated.



# Setting Up Digital Signatures with AventX

## Forms-Based UI



# Setting Up Digital Signatures with AventX

## Doc Options Query

AventX(tm) Document Configuration - STR Invoice

Document Name: STR Invoice Help

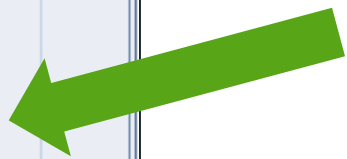
Document Info | General Configuration | Standalone Delivery | **Doc Option Query** | Destination Query

Document Options Queries

Existing Queries

Query Name	Query Description	Valid
TEMPLATE	Secure Template	<input checked="" type="checkbox"/>
STRINV_DIG_SIG	STR Invoice Digital Signature	<input checked="" type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>

Show SQL Test Query Delete Query Copy Query Edit Query New Query





# Setting Up Digital Signatures with AventX

Doc Options Query Canvas

AventX(tm) Document Configuration - STR Invoice - New Query

Document Options Query

Query Name

Query Description

SELECT DISTINCT

Template Name

Form Name

Hold Y/N

T&C Y/N

T&C Name

Remarks

Ranking

Watermark Name

Signature Name

Signature Type

Signature Dimensions

Signature Image/Text

Signature Image

FROM

WHERE

ORDER BY

# Setting Up Digital Signatures with AventX

## Query Definition

AventX(tm) Document Configuration - STR Invoice - STRINV\_DIG\_SIG

Document Options Query

Query Name: STRINV\_DIG\_SIG

Query Description: STR Invoice Digital Signature

SELECT DISTINCT:

Template Name: INV\_ETRACKER

Form Name: "

Hold Y/N: "

T&C Y/N: "

T&C Name: "

Remarks:

Ranking:

Watermark Name: 'landscape\_watermark.pdf'

Signature Name: 'JohnDoe.pfx'

Signature Type: 'visual'

Signature Dimensions: '400,85,110,85'

Signature Image/Text: 'text'

Signature Image: "

FROM: dual

WHERE:

ORDER BY:

Buttons: Cancel, Show SQL, Validate Query, OK

# Setting Up Digital Signatures with AventX

Advanced SQL for Dynamic Insertion

AventX(tm) Document Configuration - STR Invoice - New Query

Document Options Query

Query Name: AR Clerk Sig

Query Description: Dynamic AR Clerk Digital Signature

SELECT DISTINCT:

Template Name: a.template

Form Name: e.employee\_name

Hold Y/N: 'N'

T&C Y/N: a.tc\_yn

T&C Name: a.tc\_filename

Remarks:

Ranking: a.ranking

Watermark Name: 'original\_copy.pdf'

Signature Name: e.signature\_name

Signature Type: c.signature\_type

Signature Dimensions: '400,85,110,85'

Signature Image/Text: 'image'

Signature Image: e.signature\_image

FROM: fcoa\_customers\_country\_v c,  
fcoa\_employees\_v e,  
ra\_customer\_trx\_all ra,  
hz\_cust\_site\_uses\_all hz

WHERE: AND c.contact\_id = ra.bill\_to\_contact\_id  
AND c.contact\_id = e.contact\_id(+)  
AND c.contact\_id = f.contact\_id(+)

ORDER BY: hz.ranking

Buttons: Cancel, Show SQL, Validate Query, OK



# Setting Up Digital Signatures with AventX

Dynamic Application

The screenshot displays the AventX Administrator interface. On the left, a sidebar titled "AventX Configuration" lists various system settings. The main window, titled "AventX(tm) Configuration - Setup Business Group - 0 (STR Invoice)", shows the "Document Information" section with tabs for "Options", "Destinations", "Acknowledgements", "Attachment Types", "Oracle Attachments", and "External Attachments". A green arrow points to the "Options" tab, which is currently selected. Below the tabs, there is a "Define Options By" section with radio buttons for "None", "Buyer", "Query", "User", and "Requestor". The "Query" option is selected. Below this is a table with columns: "Buyer/Requestor/User/Query", "Default Template", "Form Name", "Hold", "T&C", and "T&C I". The first row in the table has "STRINV\_DIG\_SIG" in the first column, "(default)" in the second, and checkboxes in the "Hold" and "T&C" columns. A dropdown menu is open on the right side of the "Options" tab, listing "Options", "Destinations", "Acknowledgements", "Attachment Types", "Oracle Attachments", "External Attachments", "Additional Commands", and "Misc". A mouse cursor is pointing at the "Misc" option.

Navigator - AventX Administrator

Functions Documents

AventX Configuration

- System Configuration
- AventX Delivery Status
- Direct Printers
- Document Configuration
- Test API
- AventX Delivery Status Web

AventX(tm) Configuration - Setup Business Group - 0 (STR Invoice)

Document Information

Options Destinations Acknowledgements Attachment Types Oracle Attachments External Attachments

Define Options By

- None
- Buyer
- Query
- User
- Requestor

Buyer/Requestor/User/Query	Default Template	Form Name	Hold	T&C	T&C I
STRINV_DIG_SIG	(default)		<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

- Options
- Destinations
- Acknowledgements
- Attachment Types
- Oracle Attachments
- External Attachments
- Additional Commands
- Misc

# Setting Up Digital Signatures with AventX

Dynamic Application

AventX(tm) Configuration - Setup Business Group - 0 (STR Invoice)

Document Information Help

Acknowledgements Attachment Types Oracle Attachments External Attachments Additional Commands Misc

Sender

Sender Employee Name/User Email ...

Other Name

Other Email

Apply Watermark To

Fax/Email

Print via AventX Attachment Xpress

Archive

Apply Signature To

Fax/Email  Archive

Archiving

None  FTP

Directory Drop  SFTP

Combine into PDF

Options

Filename Invoice #\_[DOCID]\_[DATE] . pdf

Directory \$FCHOME/archive/INV/[TOCOMPANY]/[Y

Failover Directory \$FCHOME/archive/failover/inv

Host


Username

Password

# Setting Up Digital Signatures with AventX

## Digital Signature In Action

This file claims compliance with the PDF/A standard and has been opened read-only to prevent modification.



**BILL TO:**  
Attn: Accounts Payable  
Business World  
2391 L Street  
San Jose CA 95106  
United States

**REMIT TO:**  
PO Box 8790543  
ATTN: Accounts Receivable  
Vision Corporation  
San Mateo CA 94002  
US


**SHIP TO:**  
Business World  
2391 L Street  
San Jose CA 95106  
US

**XML INVOICE**

Invoice Number: 1024  
Date: 17-JAN-16  
Page: 1

---

Sales Order Number:  
Customer Number: 1608  
Location Number: San Jose (OPS)



John Doe  
STR Software  
US  
Digitally Signed On:  
2019-05-09 13:49:10

PAYMENT TERMS	DUE DATE	SALESPERSON	CUSTOMER CONTACT	SHIP DATE	SHIP VIA	SHIPPING REFERENCE
2/10, Net 30	16-FEB-16	Sprague, Mr. Howard				

ITEM NO	LINE DESCRIPTION	QTY ORDERED	QTY SHIPPED	TAX	UNIT PRICE	TOTAL AMOUNT	
1	Standard Desktop	1	1		1,599.00	1,599.00	
	Tax STATE @ 6.00			N	0.00	95.94	
	Tax COUNTY @ 2.25			N	0.00	35.98	
	Tax CITY @ 0.75			N	0.00	11.99	
2	Tax Location @ 9:00	1	1		0.00	0.00	
	Tax STATE @ 6.00			N	0.00	0.00	
	Tax COUNTY @ 2.25			N	0.00	0.00	
	Tax CITY @ 0.75			N	0.00	0.00	
<b>SPECIAL INSTRUCTIONS</b>				<b>SUBTOTAL</b>	<b>TAX</b>	<b>SHIPPING/HANDLING</b>	<b>TOTAL</b>
				1,599.00	143.91	0.00	1,742.91


This template was created by STR Software to demonstrate document delivery of XML Publisher output using our AventX Oracle Connector.  
For more information contact:  
[sales@strsoftware.com](mailto:sales@strsoftware.com) or (804) 897-1600 extension 2




# Setting Up Digital Signatures with AventX

## Digital Signature Validation

Signatures ×

 **Validate All**

✓  Rev. 1: Signed by John Doe <demo@strsoftware.com>

Signature is valid:

- Document has not been modified since this signature was applied
- Signer's identity is valid
- Signing time is from the clock on the signer's computer.
- Signature is LTV enabled


Signature Details

[Certificate Details...](#)

Last Checked: 2019.05.13 15:24:22 -04'00'

Field: Signature1 on page 1

[Click to view this version](#)



**BILL TO:**  
Attn: Accounts Payable  
Business World  
2391 L Street  
San Jose CA 95106  
United States

**REMIT TO:**  
PO Box 8790543  
ATTN: Accounts Receivable  
Vision Corporation  
San Mateo CA 94002  
US

**SHIP TO:**  
Business World  
2391 L Street  
San Jose CA 95106  
US

Invoice Number  
Date  
Page

---


Sales Order  
Customer  
Location

**John Doe**  
**STR Software**  
**US**  
**Digitally Signed On:**  
**2019-05-09 13:49:10**

PAYMENT TERMS		DUE DATE	SALESPERSON		CUSTOMER CONTACT		SHIP DATE	SHIP VIA
2/10, Net 30		16-FEB-16	Sprague, Mr. Howard					
ITEM NO	LINE DESCRIPTION			QTY ORDERED	QTY SHIPPED	TAX	UNIT PRICE	
1	Standard Desktop			1	1		1,599.00	
	Tax STATE	@	6.00			N	0.00	
	Tax COUNTY	@	2.25			N	0.00	
	Tax CITY	@	0.75			N	0.00	
2	Tax Location @ 9:00			1	1		0.00	
	Tax STATE	@	6.00			N	0.00	
	Tax COUNTY	@	2.25			N	0.00	
	Tax CITY	@	0.75			N	0.00	
<b>SPECIAL INSTRUCTIONS</b>					<b>SUBTOTAL</b>		<b>TAX</b>	<b>SHIPPING/HANDLING</b>
					1,599.00		143.91	0.00

# Setting Up Digital Signatures with AventX

## Digital Signature Validation



**BILL TO:**  
Attn: Accounts Payable  
Business World  
2391 L Street  
San Jose CA 95106  
United States

**REMIT TO:**  
PO Box 8790543  
ATTN: Accounts Receivable  
Vision Corporation  
San Mateo CA 94002  
US

**SHIP TO:**  
Business World  
2391 L Street  
San Jose CA 95106  
United States

**XML INVOICE**

Invoice Number: 1024  
Date: 17-JAN-16  
Page: 1

---


Sales Order Number:  
Customer Number: 1608  
Location Number: San Jose (OPS)

**John Doe**  
**STR Software**  
**US**  
**Digitally Signed On:**  
**2019-05-09 13:49:10**


PAYMENT TERMS	DUE DATE	SALESPERSON	
2/10, Net 30	16-FEB-16	Sprague, Mr. Howard	

ITEM NO	LINE DESCRIPTION	QUANTITY	UNIT	
1	Standard Desktop			1,599.00
	Tax STATE @ 6.00			95.94
	Tax COUNTY @ 2.25			35.98
	Tax CITY @ 0.75			11.99
2	Tax Location @ 9:00			0.00
	Tax STATE @ 6.00		N	0.00
	Tax COUNTY @ 2.25		N	0.00
	Tax CITY @ 0.75		N	0.00
<b>SPECIAL INSTRUCTIONS</b>				
<b>SUBTOTAL</b>				1,599.00
<b>TAX</b>				143.91
<b>SHIPPING/HANDLING</b>				0.00
<b>TOTAL</b>				1,742.91

**Signature Validation Status**

 Signature is VALID, signed by John Doe <demo@strsoftware.com>.

- The document has not been modified since this signature was applied.
- The signer's identity is valid.

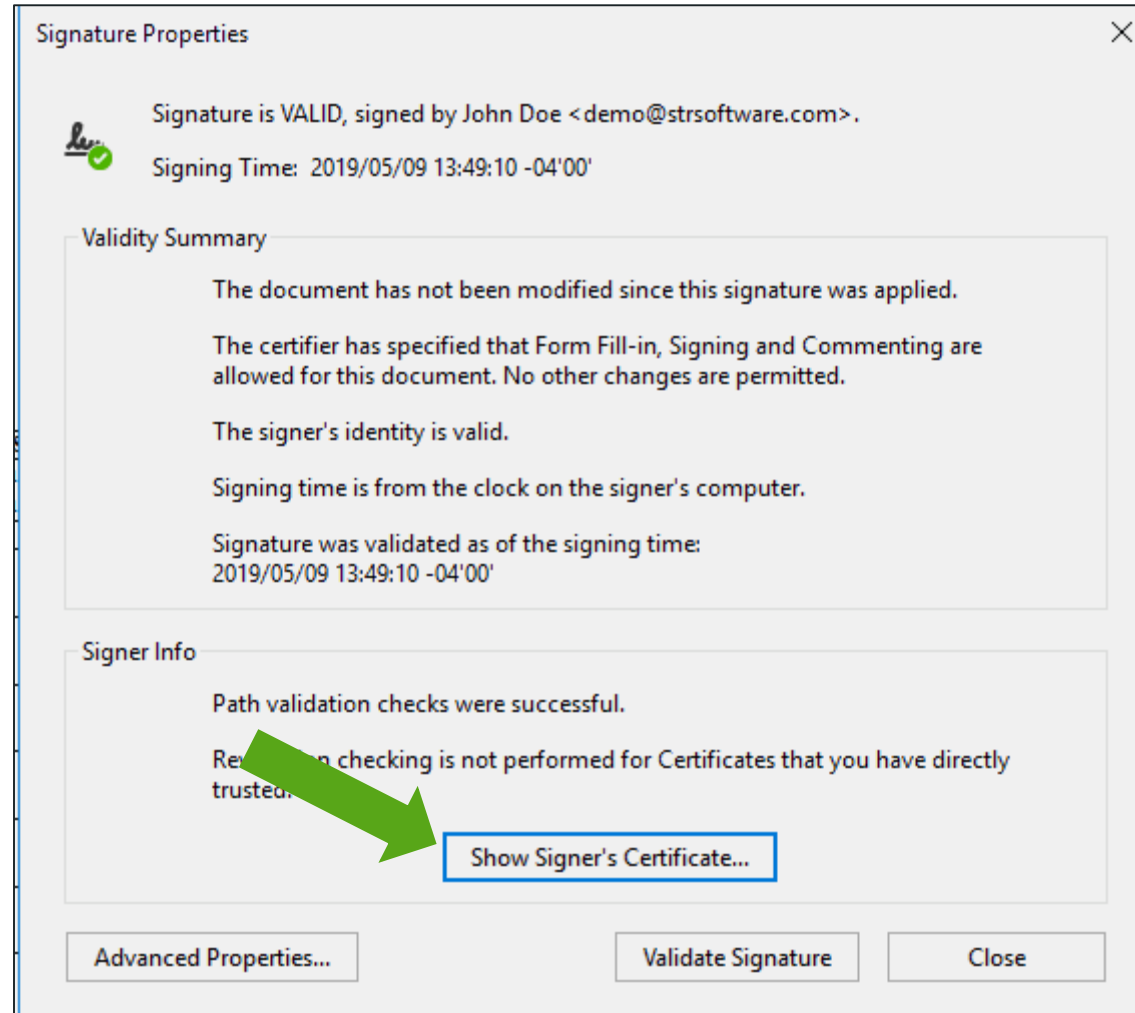


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For more information contact:  
[sales@strsoftware.com](mailto:sales@strsoftware.com) or (804) 897-1600 extension 2

# Setting Up Digital Signatures with AventX

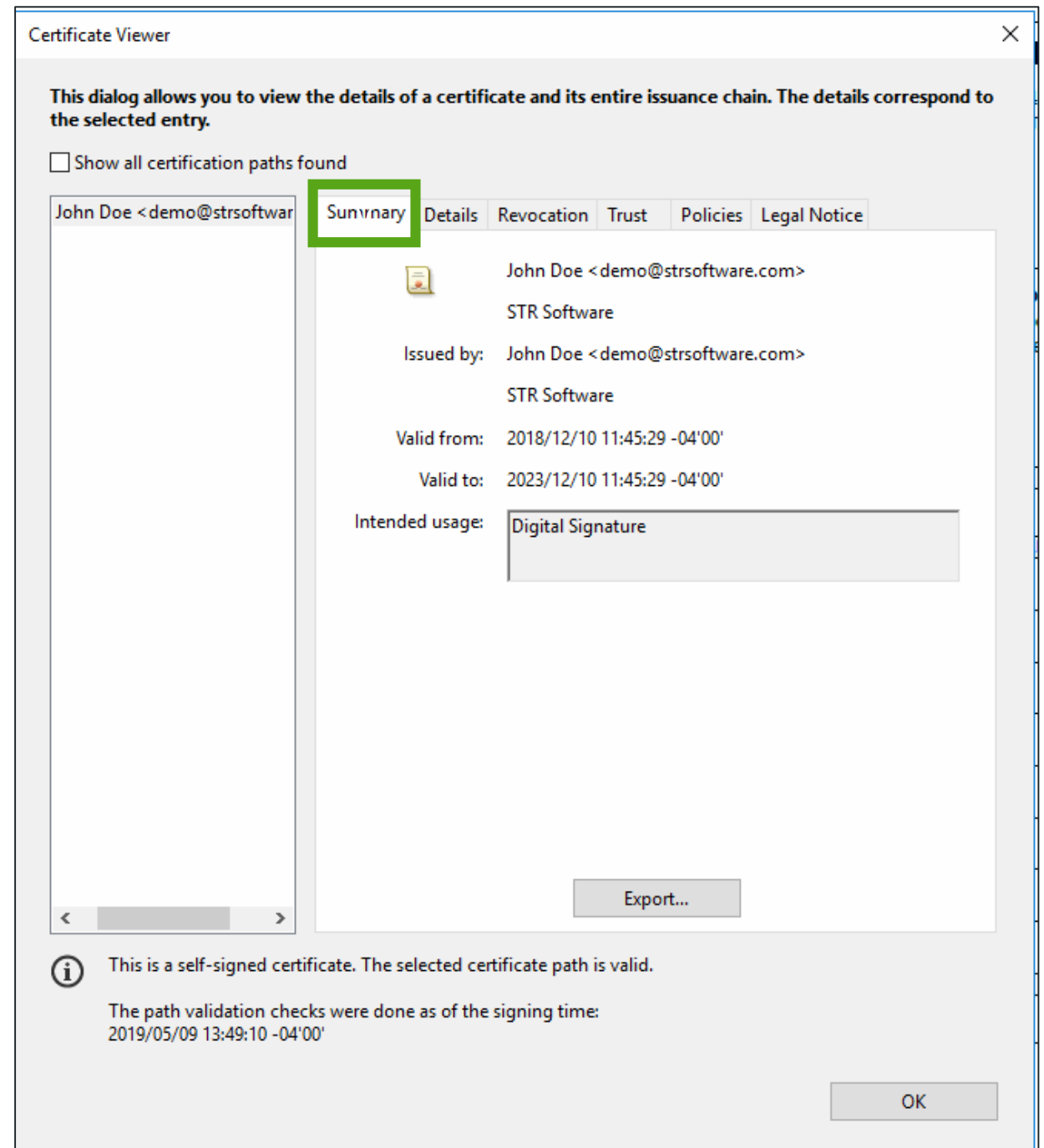
## Digital Signature Validation





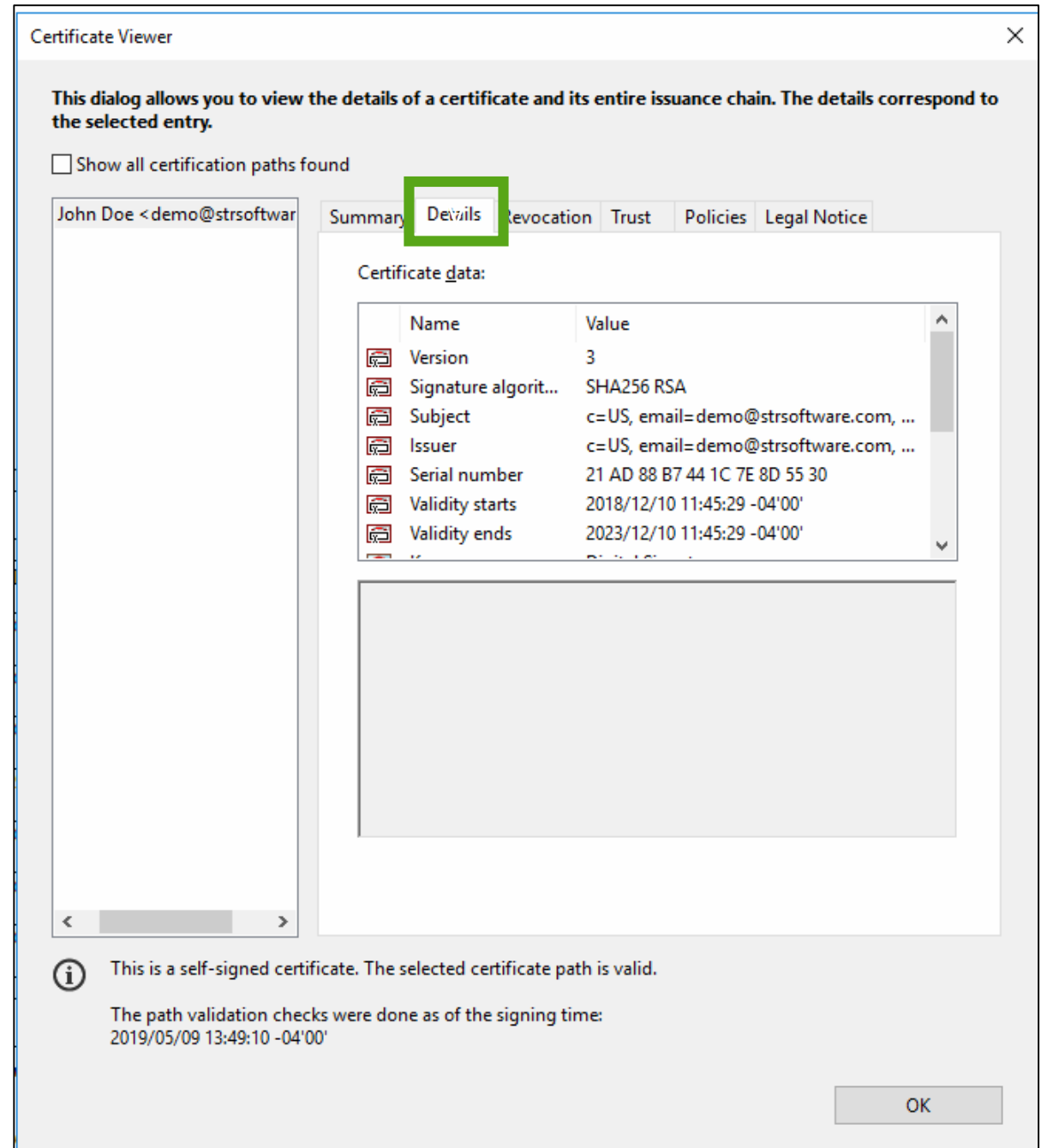
# Setting Up Digital Signatures with AventX

Digital Signature Validation



# Setting Up Digital Signatures with AventX

Digital Signature Validation



# Comparison

## BIP vs AventX

Comparing the application of Digital Signatures using BI Publisher and AventX

	Oracle BIP	AventX
Number of Unique Digital Signatures	1	∞
Schedule Jobs	✓	✓
One-Off Jobs	—	✓
Signature Embedded to Report	✓	✓
Signature Embedded to Template	—	—
Signature Embedded Dynamically	—	✓
Applied based on Document Type	—	✓
Applied based on User	—	✓
Applied based on Custom Query	—	✓



A group of men in suits walking in a hallway, overlaid with a dark blue gradient and white text. The men are in the foreground, looking forward. The background is a blurred hallway with a wooden railing.

# Additional Security Features

Deliver documents with even more security.



# Additional Security

1

## PDF/A Format

Widely becoming the standard across all industries for archiving digital files. In simple terms, PDF/A is a PDF format which prohibits the use of features that could hinder long-term archiving and future reproduction. The ISO (International Organization for Standardization) recognizes PDF/A as the *standard format for long-term preservation*. Further, it can be *leveraged as a security tool, for delivery of legally binding documents, storing files in different languages, full-text searching, and more.*

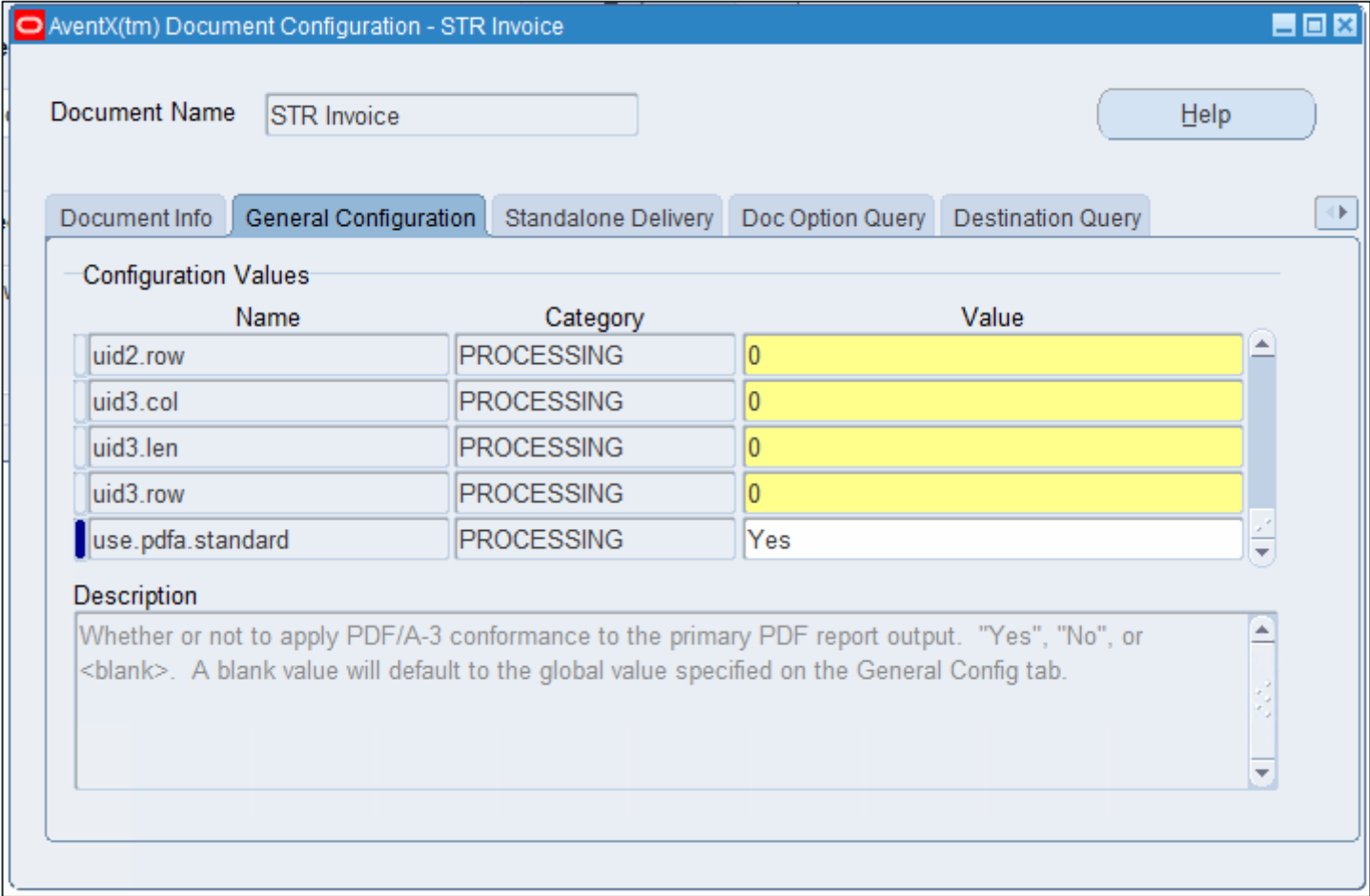
2

## Apply Document Restrictions & Watermarks

The standard PDF format allows file creators to implement advanced security features in documents. Ideal for outbound delivery of files, such as DRAFT Contracts, AventX provides the ability to apply these document watermarks automatically using flexible logic.

# Setting Up PDF/A properties with AventX

Document Security using PDF/A





# Setting Up PDF/A properties with AventX

Document Security using PDF/A

This file claims compliance with the PDF/A standard and has been opened read-only to prevent modification.

Acrobat Reader

Editing a PDF will cause the PDF to no longer comply with PDF/A. Are you sure you wish to continue?

OK Cancel

REMIT TO:  
PO Box 8790543  
ATTN: Accounts Receivable  
Vision Corporation  
San Mateo CA 94002  
US

SHIP TO:  
Business World  
2391 L Street  
San Jose CA 95106  
US

John Doe  
STR Software  
US  
Digitally Signed On:  
2019-05-09 13:49:10

Attn: Accounts Payable  
Business World  
2391 L Street  
San Jose CA 95106  
United States

PAYMENT TERMS	DUE DATE	SALESPERSON	CUSTOMER CONTACT	SHIP DATE	
2/10, Net 30	16-FEB-16	Sprague, Mr. Howard			
ITEM NO	LINE DESCRIPTION	QTY ORDERED	QTY SHIPPED	TAX	UNIT PRICE
1	Standard Desktop	1	1		1,59
	Tax STATE @ 6.00			N	0.00
	Tax COUNTY @ 2.25			N	0.00

# Using Watermarks with AventX

## Document Security using Watermarks

This file claims compliance with the PDF/A standard and has been opened read-only to prevent modification.

REMIT TO:  
PO Box 8790543  
ATTN: Accounts Receivable  
Vision Corporation  
San Mateo CA 94002  
US

**XML INVOICE**  
Invoice Number: 1024  
Date: 17-JAN-16  
Page: 1

BILL TO:  
Attn: Accounts Payable  
Business World  
2391 L Street  
San Jose CA 95106  
United States

SHIP TO:  
Business World  
2391 L Street  
San Jose CA 95106  
US

John Doe  
STR Software  
US  
Digitally Signed On:  
2019-08-09 13:49:10

Sales Order Number:  
Customer Number: 1608  
Location Number: San Jose (OPS)

PAYMENT TERMS	DUE DATE	SALESPERSON	CUSTOMER CONTACT	SHIP DATE	SHIP VIL	SHIPPING REFERENCE	
2/10, Net 30	16-FEB-16	Sprague, Mr. Howard					
ITEM NO	LINE DESCRIPTION	QTY ORDERED	QTY SHIPPED	TAX	UNIT PRICE	TOTAL AMOUNT	
1	Standard Desktop	1	1		1,599.00	1,599.00	
	Tax STATE @ 6.00			N	0.00	95.94	
	Tax COUNTY @ 2.25			N	0.00	35.98	
	Tax CITY @ 0.75			N	0.00	11.99	
2	Tax Location @ 9:00	1	1		0.00	0.00	
	Tax STATE @ 6.00			N	0.00	0.00	
	Tax COUNTY @ 2.25			N	0.00	0.00	
	Tax CITY @ 0.75			N	0.00	0.00	
<b>SPECIAL INSTRUCTIONS</b>				<b>SUBTOTAL</b>	<b>TAX</b>	<b>SHIPPING/HANDLING</b>	<b>TOTAL</b>
				1,599.00	143.91	0.00	1,742.91

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# Review





# Review

1

## Email: Preferred Business Communication

Despite not always being a secure option, Email is still the most preferred (and direct) method for email communications, including the delivery of important documents.

2

## Digital Signatures > Electronic Signatures

Deploying robust authentication using certificates and Public Key Infrastructure, Digital Signatures provide advanced security and are therefore given higher evidentiary weight.

3

## BI Publisher Supports Digital Signatures...**kind of**

Oracle offers very basic support for deploying PDF security via BI Publisher, Dynamic Digital Signatures provide unlimited customization

4

## Additional Security Features

Easily deploy additional security features to delivery documents via PDF/A (perfect for Multilanguage support and archiving) and add watermarks



software

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Richmond,  
Virginia

since

1986



Data Transfer  
Mobile  
Email  
Print  
Fax  
for ERPs



OAUG  
Quest  
Oracle



1,500+  
Licenses

22  
Countries



1,344  
donuts per year  
(approximately)

**Q&A**




# Ted Chappell

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 @TedChappell

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 Oracle Analytics, BI and Big Data  
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