

DIGITAL SIGNATURES – COMPLYING WITH THE REGULATIONS

MASSACHUSETTS BOARD OF REGISTRATION

April 25 2023

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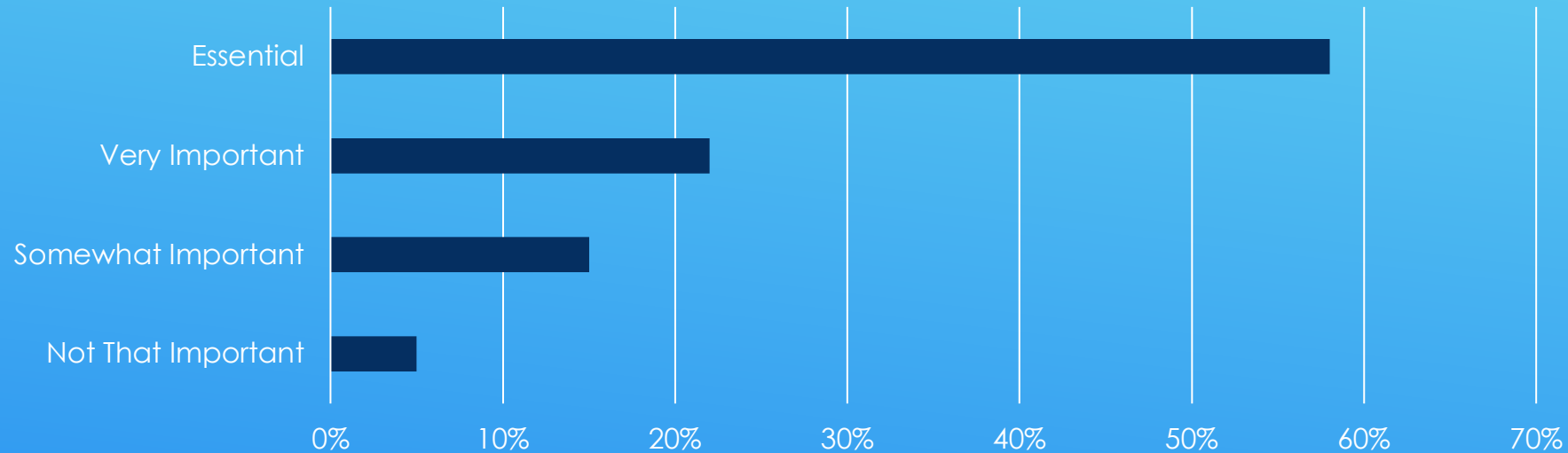
PRESENTATION OUTLINE

- ▶ Why Digital Signatures?
 - ▶ What is the difference between Electronic and Digital?
 - ▶ How to choose digital signature solutions
 - ▶ MA Board of Registration Regulations
- 
- A series of three parallel white diagonal lines extending from the bottom right towards the top right of the slide.

WHY DIGITAL SIGNATURES?



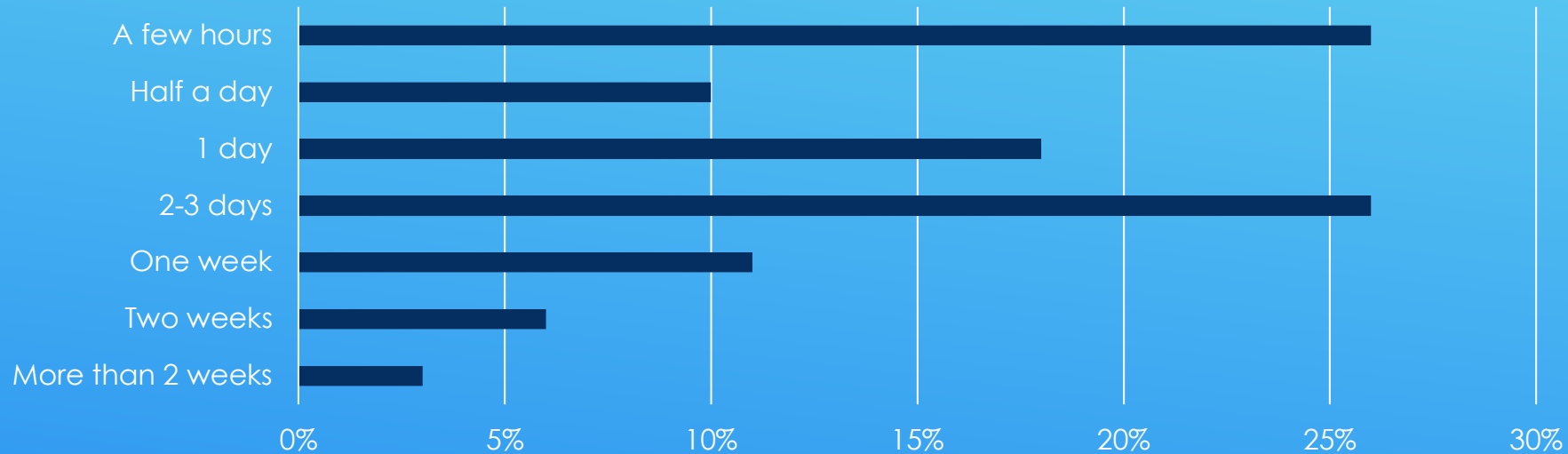
With regard to the regulatory environment or standard business practices in your industry, how important are authorization signatures within your organization?



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BUSINESS DRIVERS

How much time would you say is generally added to a typical formal approval process as a result of this physical sign-off?



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BUSINESS DRIVERS

Board of Registration of Professional Engineers and Land Surveyors



Massachusetts Department of Transportation (MASSDOT)



GOVERNMENT DRIVERS

IRS

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Details on using e-signatures for certain forms

- ▶ Uniform Electronic Transactions Act (UETAll) – 1999
- ▶ Electronic Signatures in Global and National Commerce Act (E-SignII) – 2000
- ▶ EU Directive for Electronic Signatures – 1999

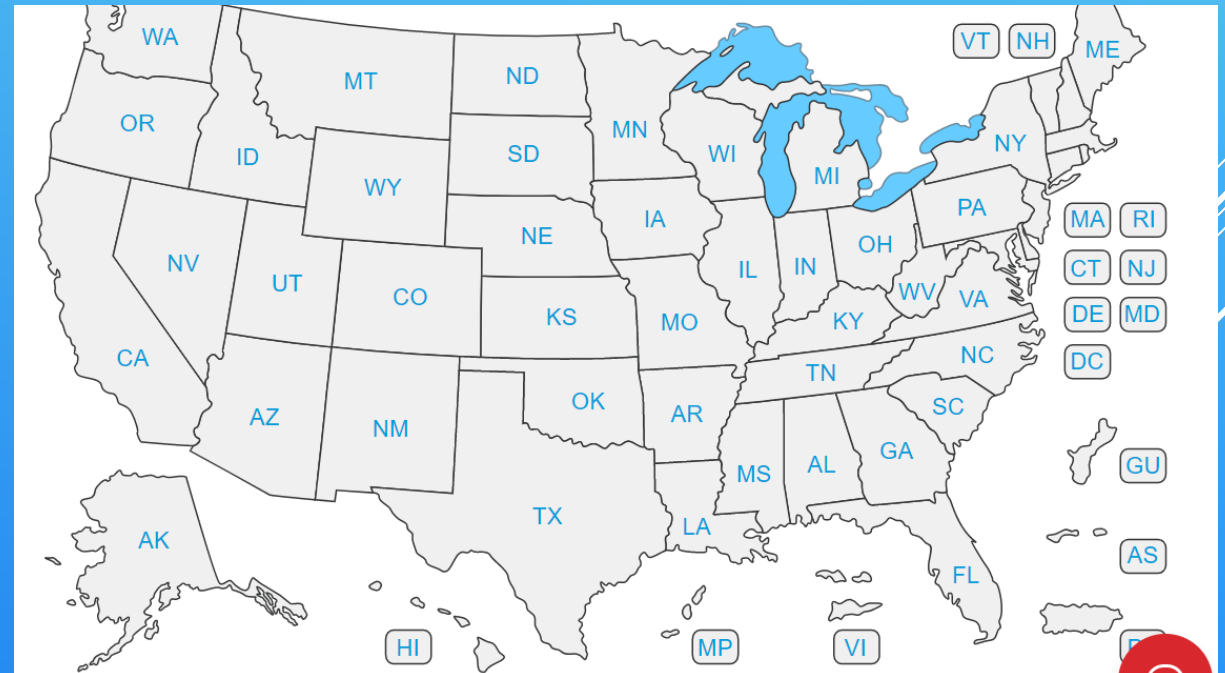
LEGAL AUTHORITY



- Nearly all Professional Engineering licensing boards allow electronic signatures

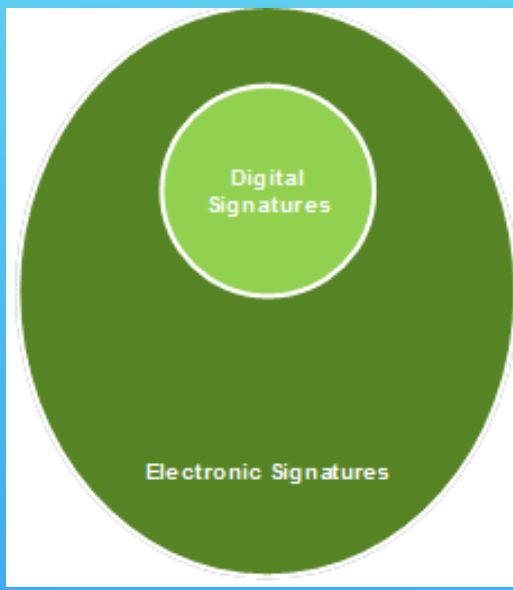


LEGAL AUTHORITY





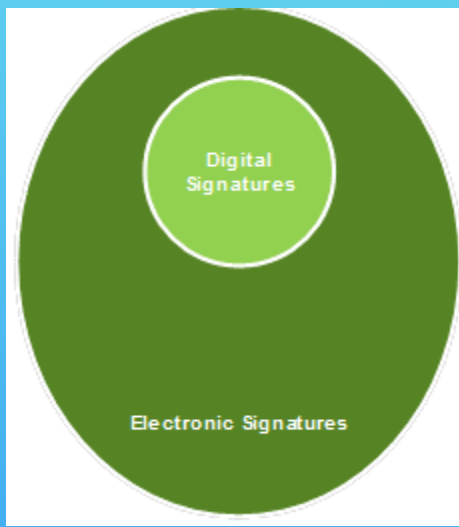
IS ELECTRONIC DIGITAL?



- ▶ An “Electronic signature” is a pictorial representation of a wet signature within an electronic document
- ▶ A Digital Signature is “a digital guarantee that information has not been modified, as if it were protected by a tamper-proof seal that is broken if the contents were altered.”¹



DIGITAL SIGNATURES ARE ELECTRONIC



- ▶ A digital signature includes extra data which identifies and authenticates the sender and message data using public-key encryption
- ▶ A digital signature meets a standard established by NIST and International standards organizations



ELECTRONIC SIGNATURES ARE NOT
NECESSARILY DIGITAL

Professional Engineering Services

This is a letter that represents the most vulnerable of documents – it is being transmitted electronically to you as a Microsoft Word document, which means that you can modify it as you see fit. Since it has only a picture of my signature on it, it can be modified and printed out to look as if it is an original document signed by me. Oh, and it also has a picture of my seal, so feel free to use that, too, on any document you like.

James J. Purcell

A circular professional engineer seal for the State of New Jersey. The outer ring contains the text "STATE OF NEW JERSEY" at the top and "PROFESSIONAL ENGINEER" at the bottom. Inside the ring, the name "JAMES J. PURCELL" is written in an arc. In the center, the text "No. GE33481" is displayed above the word "LICENSED".

Professional Engineering Services

If you are interested in modifying it, you can change what it says and no-one would be able to tell the difference between my original and your copy. You can also save my signature and seal as pictures and use them on any document you like.

James G. Purcell



ELECTRONIC DOCUMENTS

ELECTRONIC DOCUMENTS

James J. Purcell PE
Professional Engineering Services

Dear Mr. Digital:

This is a letter that represents a protected document – it is being transmitted electronically to you as a PDF document, created by Adobe, but also signed using Adobe EchoSign, which is fully compliant with both UETA and ESignII. This means that if you attempt to modify it, the document will display a message stating that it has been signed and cannot be edited.

Furthermore, the document includes an electronic representation of my seal as part of my digital signature, which is protected to keep you from copying it.

Sincerely,

James J. Purcell, PE



- ▶ Self-generated certificates
- ▶ 3rd party certificates
- ▶ Encrypted signature (minimum level)
- ▶ Encrypted document
- ▶ Public / Private

DIGITAL ENCRYPTION



► Security:

- Assume a computer can decipher a 56 bit key in one second
- That same computer would take 150 trillion years to decipher a 128 bit key
- Digital signature key lengths can be up to 1024 bits



DIGITAL ENCRYPTION



(6) Any document bearing the Registrant's seal must also be appropriately dated and signed with either a legible hand written Signature adjacent to (not obscuring) the seal or a properly encrypted **digital** Signature, in compliance with 250 CMR .

(11) When a **digital** Signature is applied to an Instrument of Service, it must have an electronic authentication process attached to it that is uniquely associated with the Registrant, can be authenticated by the recipient, and is uniquely linked to the underlying documents in a manner that will invalidate the **digital** Signature if any part of the document is changed.

250 CMR 5.03





HOW TO CHOOSE DIGITAL SIGNATURE SOLUTIONS

- ▶ Software solutions depend on a various factors
 - ▶ Platform (on-site, online, mobile)
 - ▶ Size of business
 - ▶ Number / frequency of need
 - ▶ Level of encryption
 - ▶ Cost




DIGITAL SOFTWARE

capterra.com/digital-signature-software/?feature=%5B37351%5D&sortOrder=sponsored

Filter (143) Products: Sort by: Sponsored

Features Pricing Options Deployment Users Filter by Product Name

Authentication X Reset All




DocuSign
By DocuSign
★★★★★ (4432 reviews)

DocuSign is changing how business gets done by empowering more than 250,000 companies and more than 100 million users in 188 countries to send, sign and manage agreements anytime, anywhere, on any device with trust and confidence. DocuSign replaces printing, faxing, scanning and overnighting paper documents to transact business. Their technology enables organizations of every size, industry and geography to make every agreement fully digital to keep life and business moving forward. [Learn more about DocuSign](#)

☐ ADD TO COMPARE SAVE

What is Digital Signature Software?

Digital Signature software includes solutions for secure signature capture through a cryptographic operation and applications that allow its users to electronically attach an image of a signature to a document.




PandaDoc
By PandaDoc
★★★★★ (749 reviews)

PandaDoc includes unlimited electronic signatures in every subscription, plus a host of other powerful document features, such as a drag-and-drop document builder, out-of-the-box CRM integrations, and advanced document analytics. PandaDocs electronic signatures are legally-binding and don't require any special hardware or software when signing documents. [Learn more about PandaDoc](#)

☐ ADD TO COMPARE SAVE

Related Software Categories:

- Forms Automation Software
- Proposal Management Software
- Document Management Software
- Contract Management Software



GetAccept
By GetAccept
★★★★★ (18 reviews)

GetAccept is a Sales Engagement Platform that helps sales teams close deals faster by personalizing their customer send-outs through chat and video, and using smart AI, before the final e-signature. Users within GetAccept have an average hit-rate of 68% and data shows that personalization and AI increases the hit-rate by 30%, compared to not using it. Make it easy for your team to create, send, track and e-sign all their documents today. [Learn more about GetAccept](#)

☐ ADD TO COMPARE SAVE

Why Capterra is free?

Capterra is free for users because vendors pay us when they receive web traffic and sales opportunities. Capterra directories list all vendors—not just those that pay us—so that you can make the best-informed purchase decision possible.



DIGITAL SOFTWARE

2

Enter product name, software c

Write Review

Software

Services

G2 for Business

\$ Deals

Join or Sign In

Overview

Highest Rated

Easiest To Use

Free

Resources

Home

Sales Tools

E-Signature Software

Best E-Signature Software

What is E-Signature Software?

E-signature software gives users the ability to gather signatures on documents shared electronically, eliminating the need for physical documents to record signatures. E-signature software facilitates the distribution of legally sensitive documents for the collection of electronic signatures. Organizations use e-signature software to encrypt documents, such as sales contracts or employment paperwork, for which client, employee, or partner signatures are often required. E-signature software frequently integrates with third-party applications, including CRM software, ERP systems, HR management suites, and accounting, to facilitate quote, contract, and supplier management efforts. Built-in security standards that meet local and federal legal

Show More

Compare E-Signature Software

E-Signature User Satisfaction

"Has the product been a good partner in doing business?", "Performance and Reliability", "Enterprise Scalability", and "Integration APIs" are the top four factors that positively impact user satisfaction for E-Signature products. These factors are determined by an algorithm that selects the attributes that are most likely to predict user satisfaction within this category.

Has the product been a good partner in doing business?

Performance and Reliability

Enterprise Scalability

Integration APIs

G2 takes pride in showing unbiased reviews on user satisfaction in our ratings and reports. We do not allow paid placements in any of our ratings, rankings, or reports. Learn about our scoring methodologies.

Segment

Rating

Language

Pricing

Features

No filters applied

314 Listings in E-Signature Available

Sort By: G2 Score

Dropbox Sign (formerly HelloSign)

★★★★★ (2,089)

Entry Level Price: Free

G2 Grid® for E-Signature

Hover on a product card to view it on the grid!

The diagram illustrates the E-Signature process flow:

- Document Hash:** 1234567890ABCDEF
- Private Key:** A key used for signing.
- Signed Document:** A document with a digital signature by James Smith, dated Jan 17, 2013, at 14:35pm, with a reason to approve the document.

DIGITAL SOFTWARE



FINAL THOUGHTS

- ▶ A contract, record, or signature may not be denied legal effect or enforceability solely because it is in electronic form
- ▶ Digital signatures are more secure than other methods
- ▶ Digital signatures make business sense and many clients require electronic submission of documents

IN SUMMARY

- ▶ Digital signatures are not always required, they are optional – it depends on the agreement between two parties
- ▶ Many agencies now require electronic submissions – these submissions ARE required to be digitally signed and sealed
- ▶ There are many software solutions that can meet the needs of the engineering profession regardless of size of firm or frequency of use

IN SUMMARY

- ▶ For software comparison, visit <https://www.capterra.com/digital-signature-software/> or <https://www.g2.com/categories/e-signature>
- ▶ For further information, visit the Association for Information and Image Management at <https://www.aiim.org/>

RESOURCES

