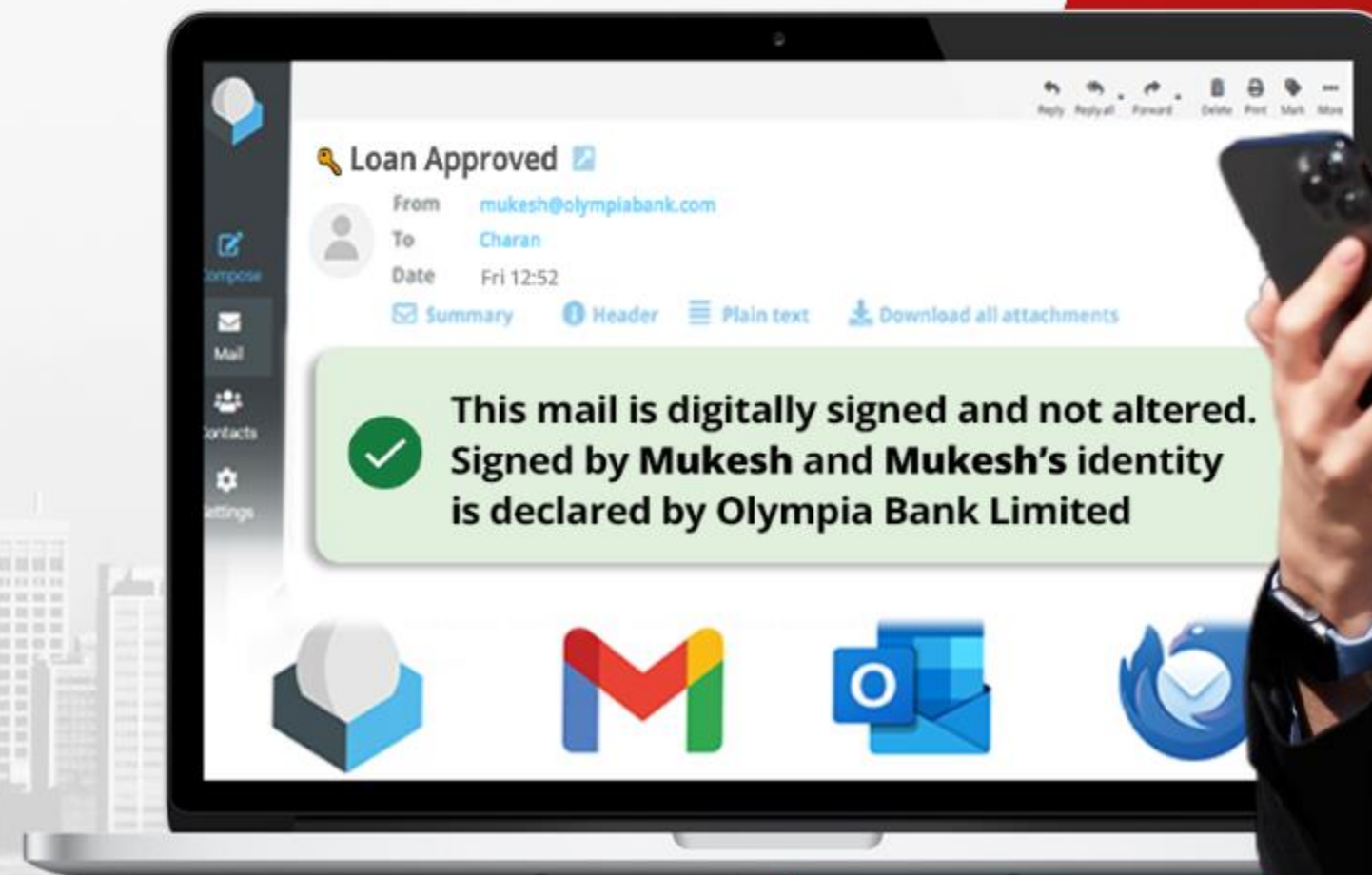


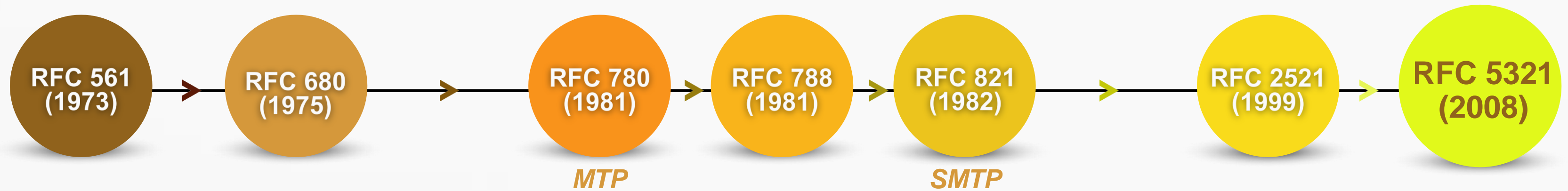
# Extending Trust - one mail at a time



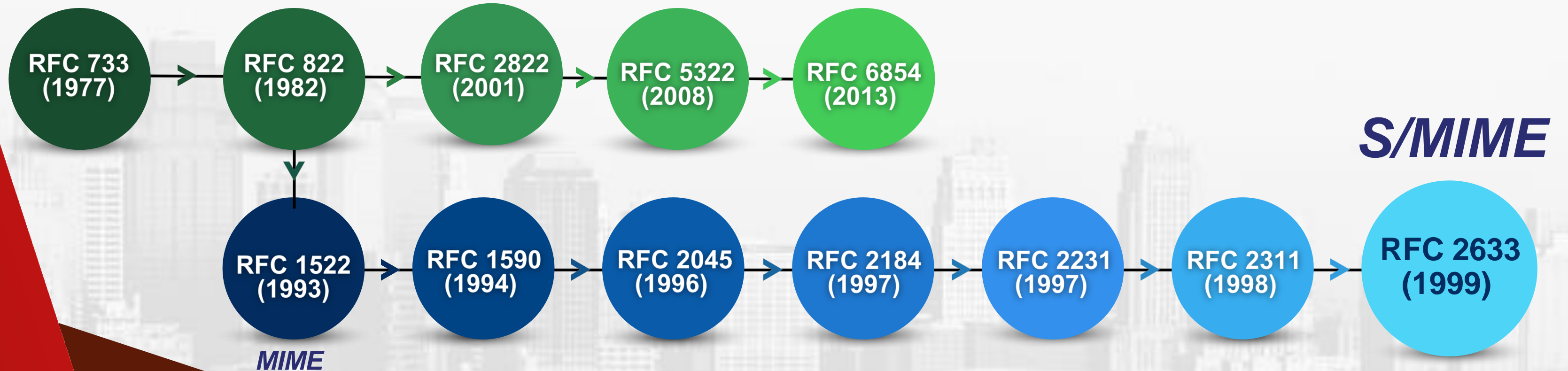
Odyssey Technologies Limited  
Sep 2024

# From the 1970s

**Mail Transfer Protocols** *There has been a stream of RFCs defining the message transfer mechanisms on the internet*



**Mail Content Structuring Protocols** *There has been a parallel stream of standards that specified the mail content structure.*



The **S/MIME** model **broke**  
when **web mail** came into prominence in the **1990s**



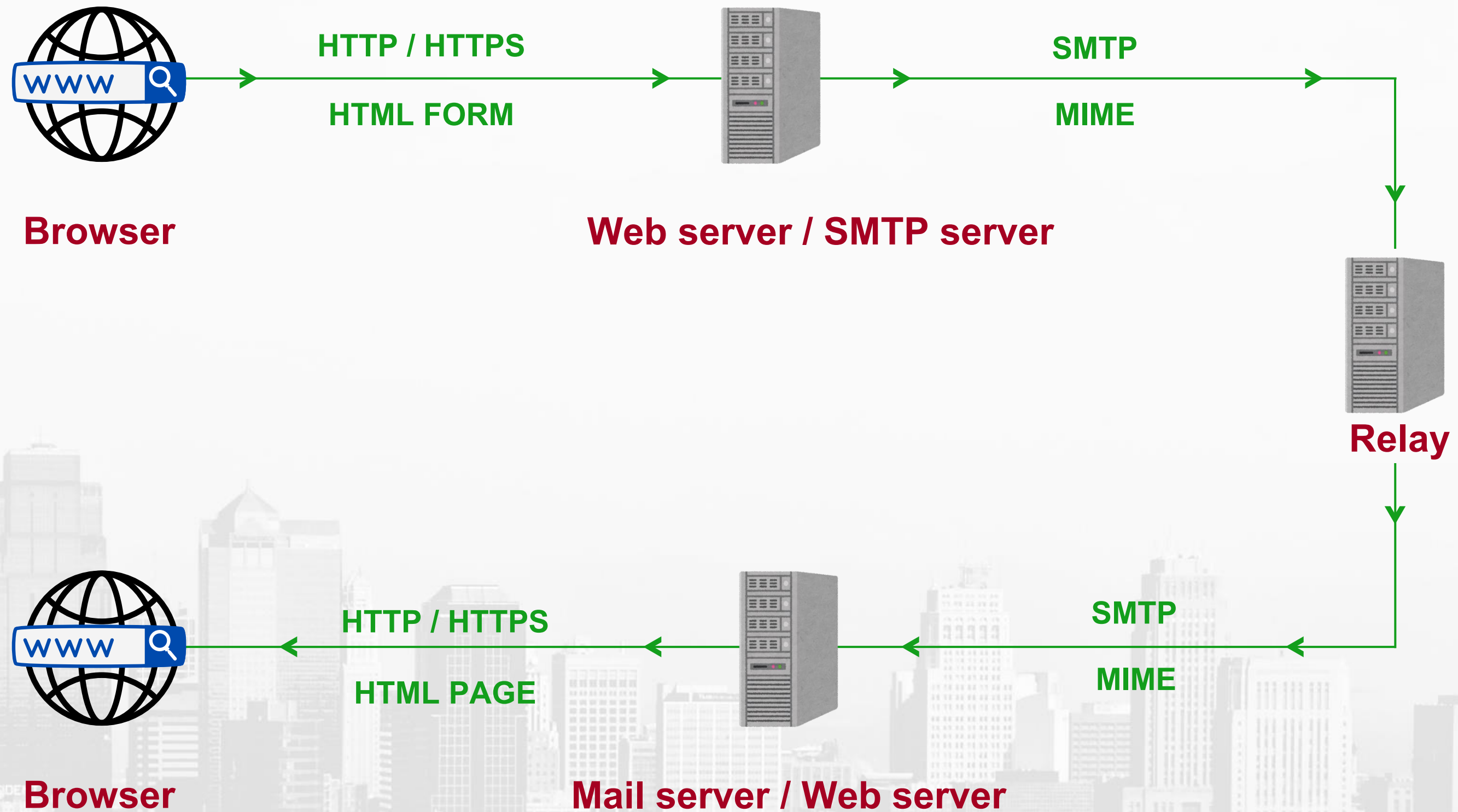
**YAHOO!** MAIL



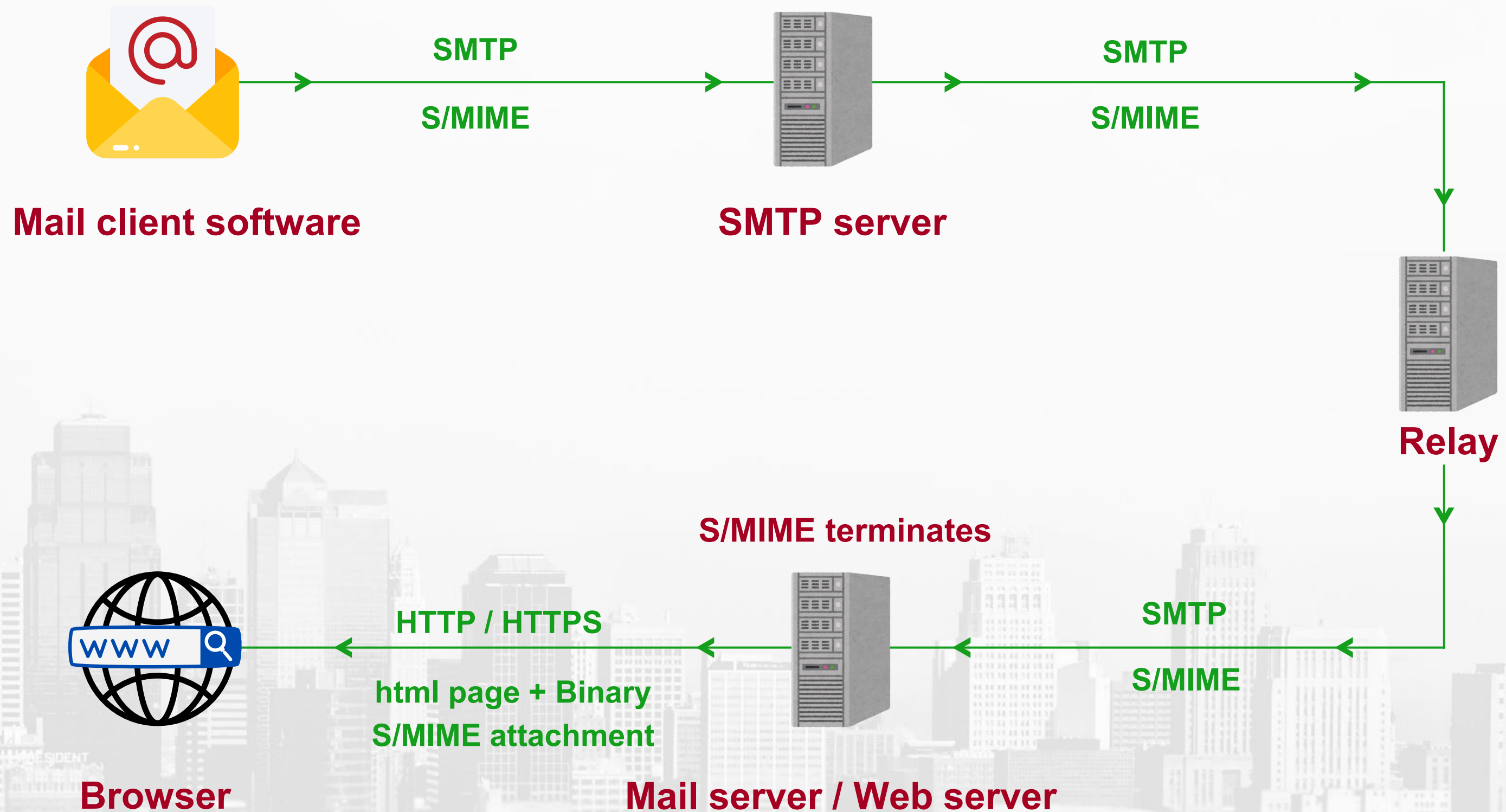
All these being **web based clients**, the email transport protocols had to be **originated and terminated on the respective web servers**.



# Web mail transport



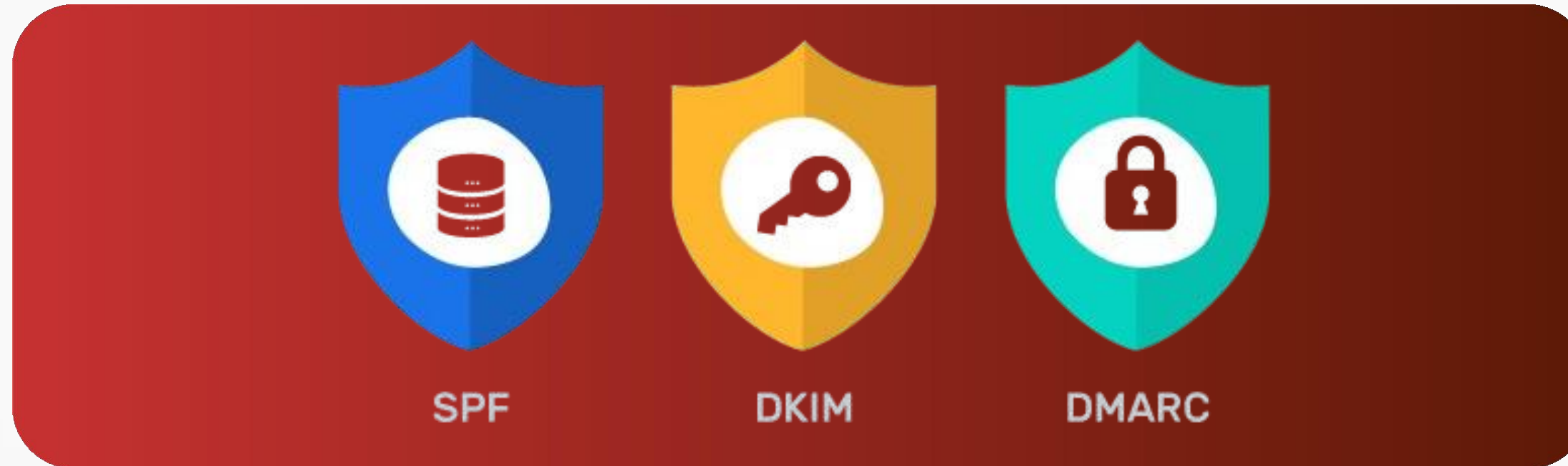
## Sent from Mail client and received in a Web browser



# Email security is a crying need



## Industry's Answer to the Security Need



Work well to secure **integrity** and in some cases act as effective **spam control**

**BUT**

**do not** offer anything for **trustworthy sender identification**



Leading to the explosion in

# successful phishing attacks

and the global menace of **ransomware**



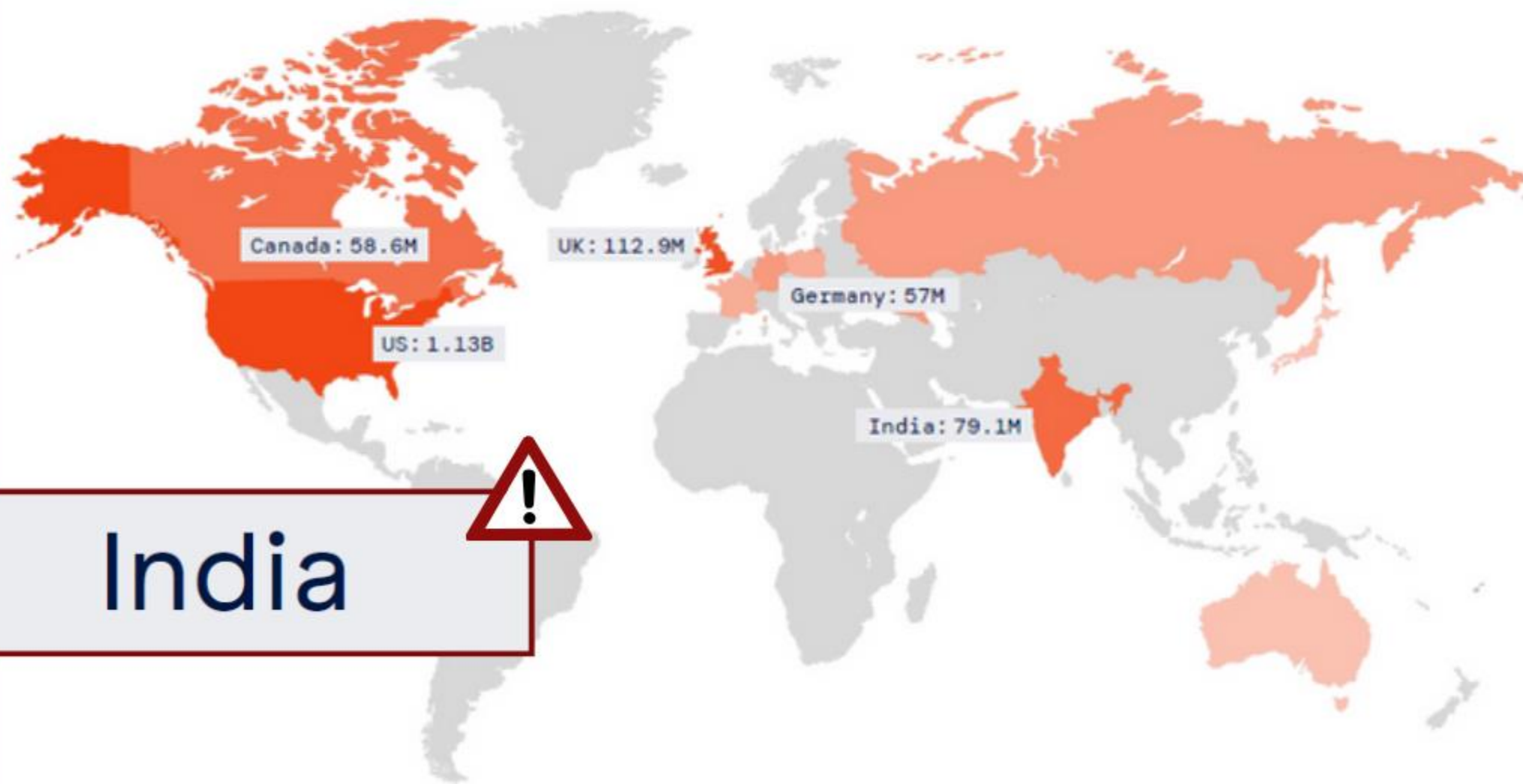


## Countries that experienced the most phishing attempts

In 2023, the United States, United Kingdom, and India experienced the highest volume of phishing attempts, with the US bearing the brunt of these attacks. Factors contributing to the high occurrence of phishing in the US include its large population of internet and technology users, extensive use of online financial transactions, and advanced digital infrastructure. The prevalence of AI-driven phishing campaigns further amplifies the vulnerability of US entities to such attacks.

### THE TOP 10 COUNTRIES TARGETED FOR PHISHING SCAMS WERE:

- |                   |              |
|-------------------|--------------|
| 01 United States  | 06 Russia    |
| 02 United Kingdom | 07 Poland    |
| 03 India          | 08 France    |
| 04 Canada         | 09 Australia |
| 05 Germany        | 10 Japan     |



03

India

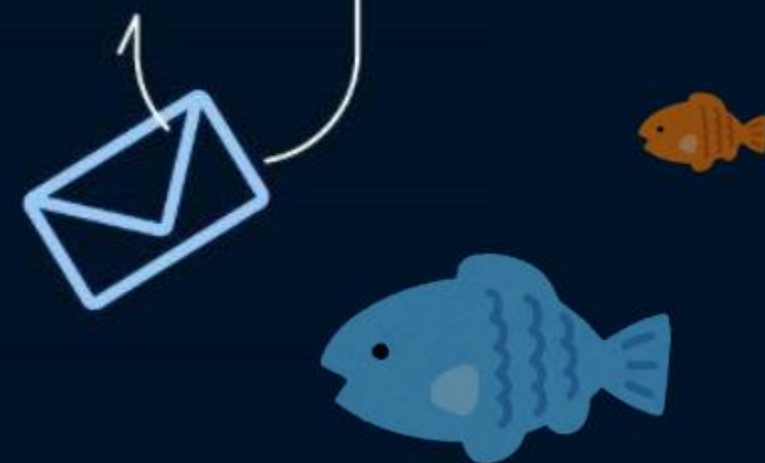


# The Most Impersonated Brands in Email Scams

Number of malicious emails seemingly associated with the following brands and their products in 2023



Source: Proofpoint 2024 State of the Phish

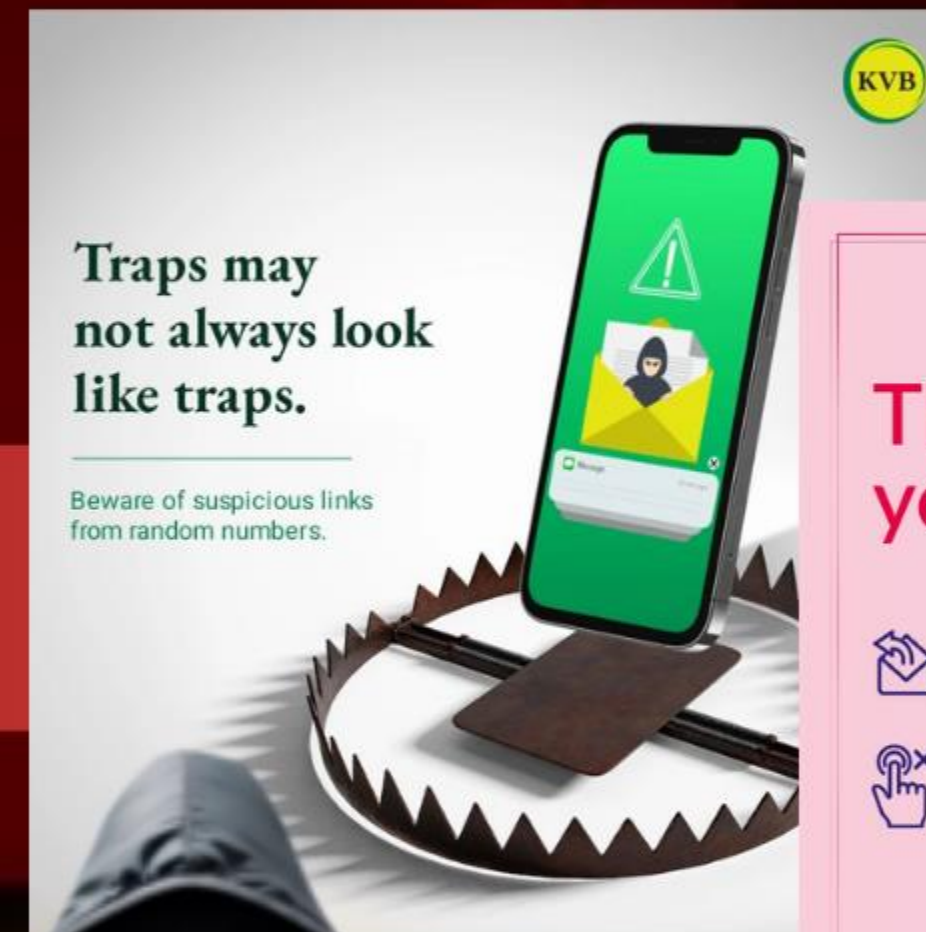


**Advisory mails** by organizations fail to solve the problem.

Of course we know **not to click on links** in phishing mails.

How do we know  
which are phishing mails ?

The **customers feel** more apprehensive and vulnerable to the risk of getting scammed!



**Think before you CLICK**

- Verify email sender
- Avoid clicking suspicious links

**SBI Life**  
Apne Liye. Apno Ke Liye.

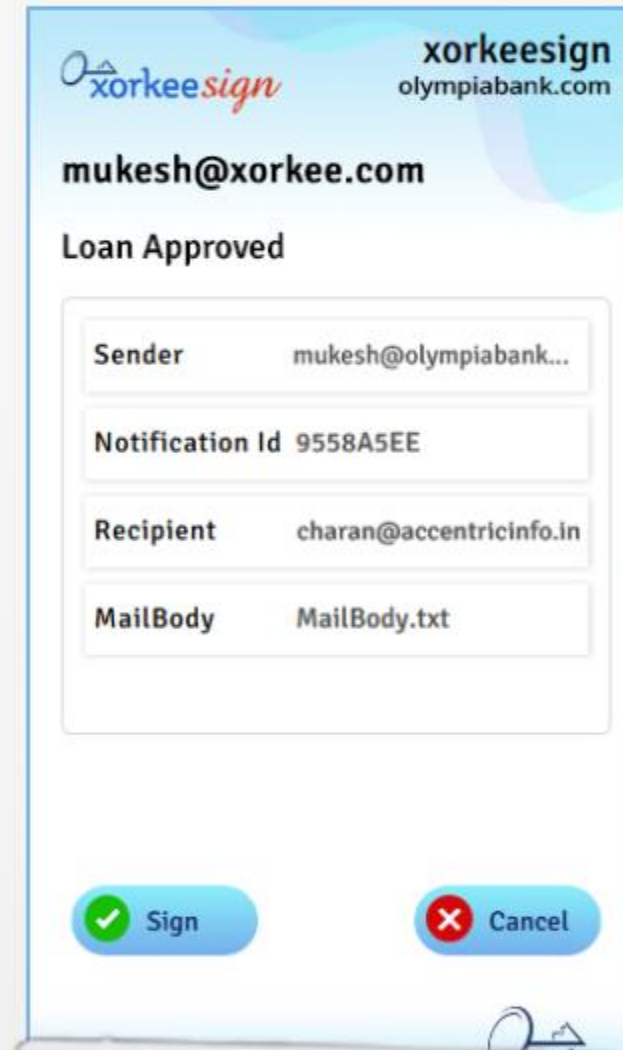
SBI LIFE INSURANCE COMPANY LTD. | IRDAI REGD. NO. 111  
CIN: L99999MH2000PLC125113 AWA/Cr1/12/23/SM/ENG | [www.sbilife.co.in](http://www.sbilife.co.in)

# Odyssey's solution

Use **digital signatures** with a key under the senders' control.

**Preserve user experience** by adding onto the existing mail frameworks rather than modifying them.

**xorkeesign** for mails

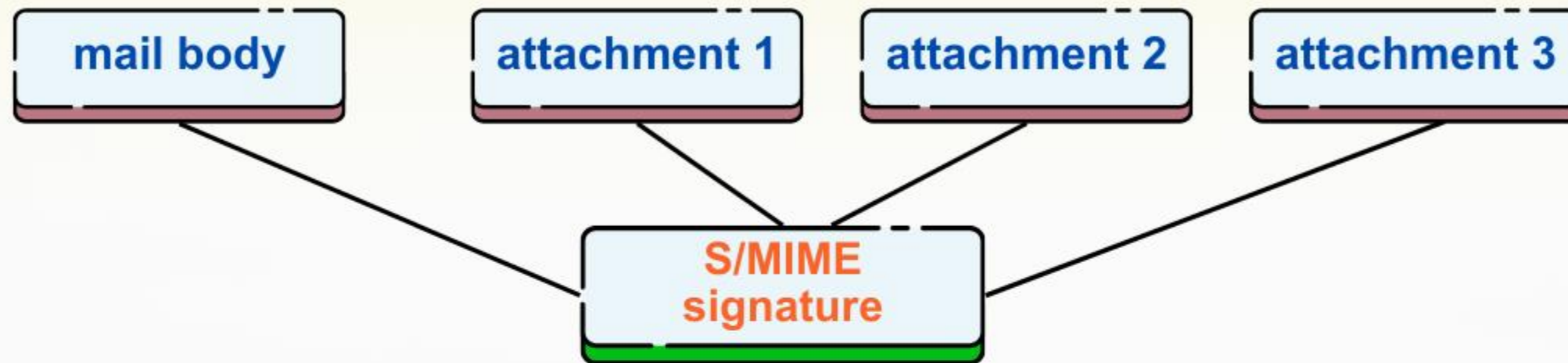


The screenshot shows a digital signature interface for an email. At the top left is the 'xorkeesign' logo. At the top right, it says 'xorkeesign olympiabank.com'. Below that, the sender's email address 'mukesh@xorkee.com' is displayed. The subject of the email is 'Loan Approved'. A table lists the email details: Sender (mukesh@olympiabank...), Notification Id (9558A5EE), Recipient (charan@accentricinfo.in), and MailBody (MailBody.txt). At the bottom, there are two buttons: a green 'Sign' button with a checkmark and a blue 'Cancel' button with a red 'X'. A small signature icon is visible at the bottom right of the interface.

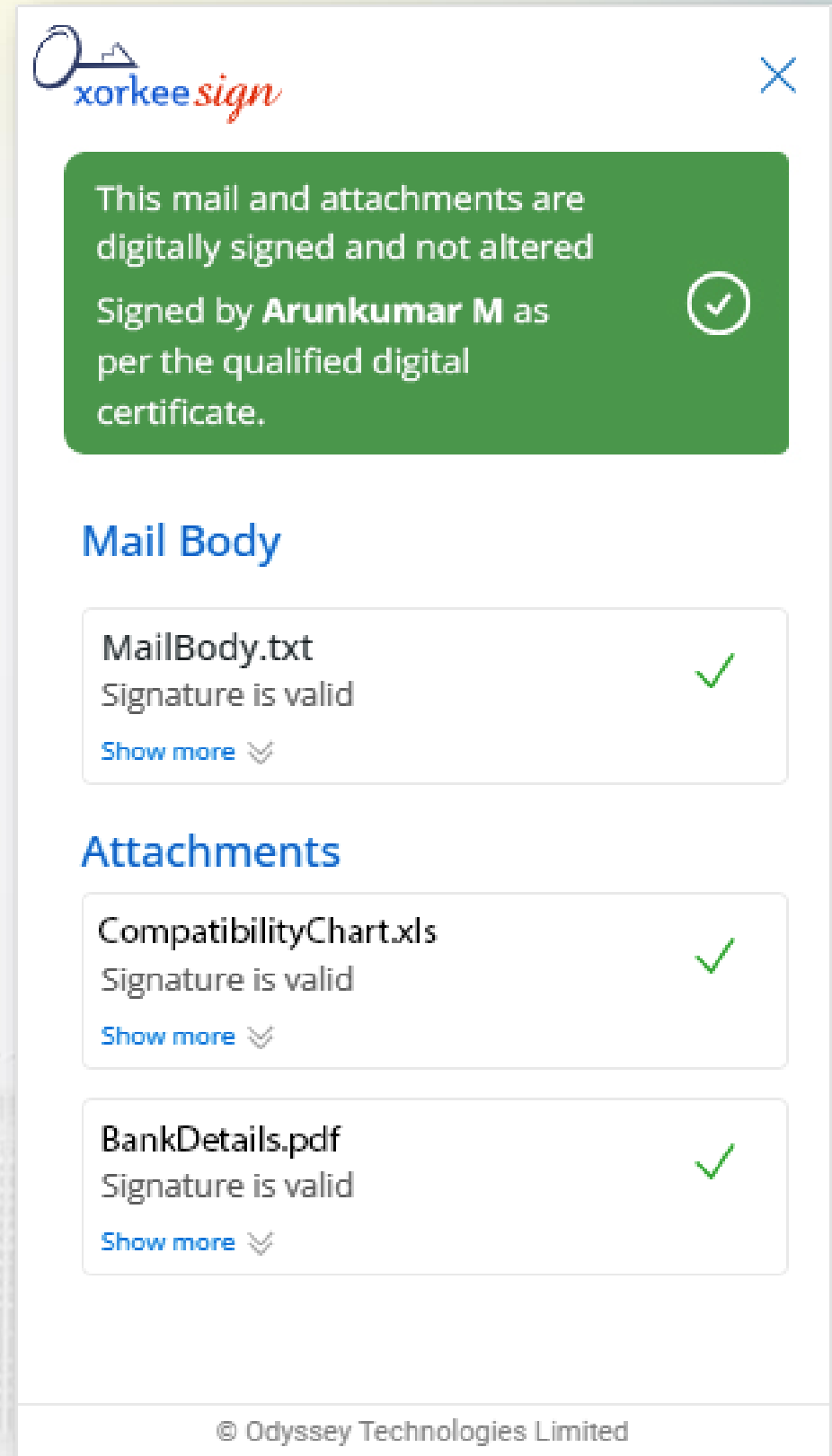
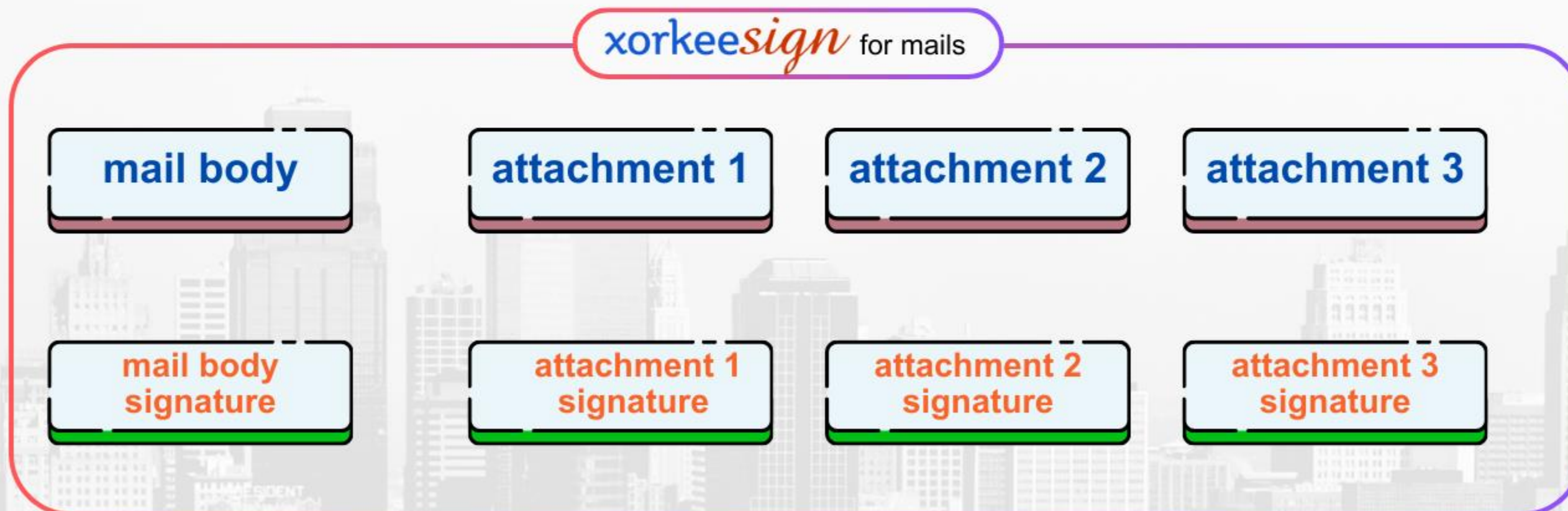
Sender	mukesh@olympiabank...
Notification Id	9558A5EE
Recipient	charan@accentricinfo.in
MailBody	MailBody.txt



## S/MIME Signature Model

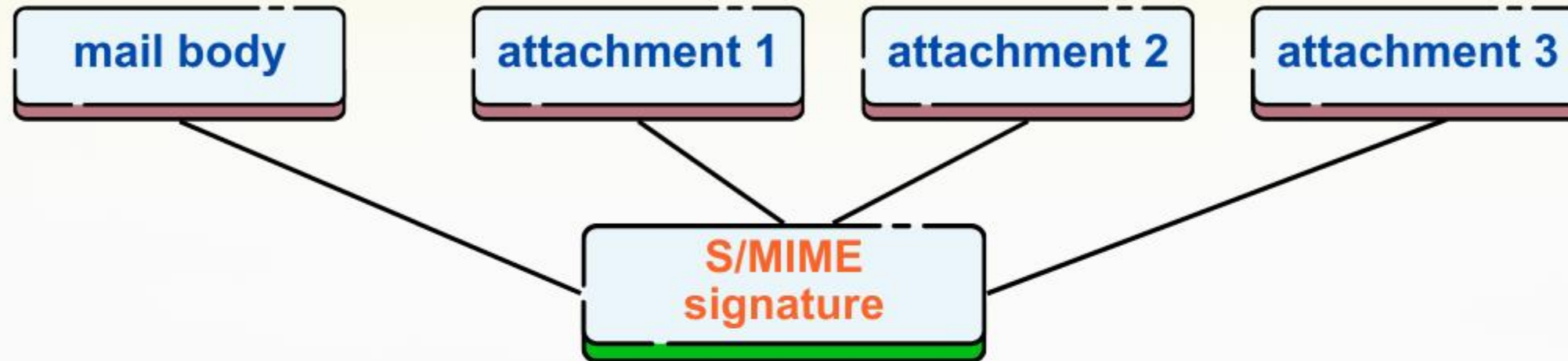


## The xorkeesign Difference



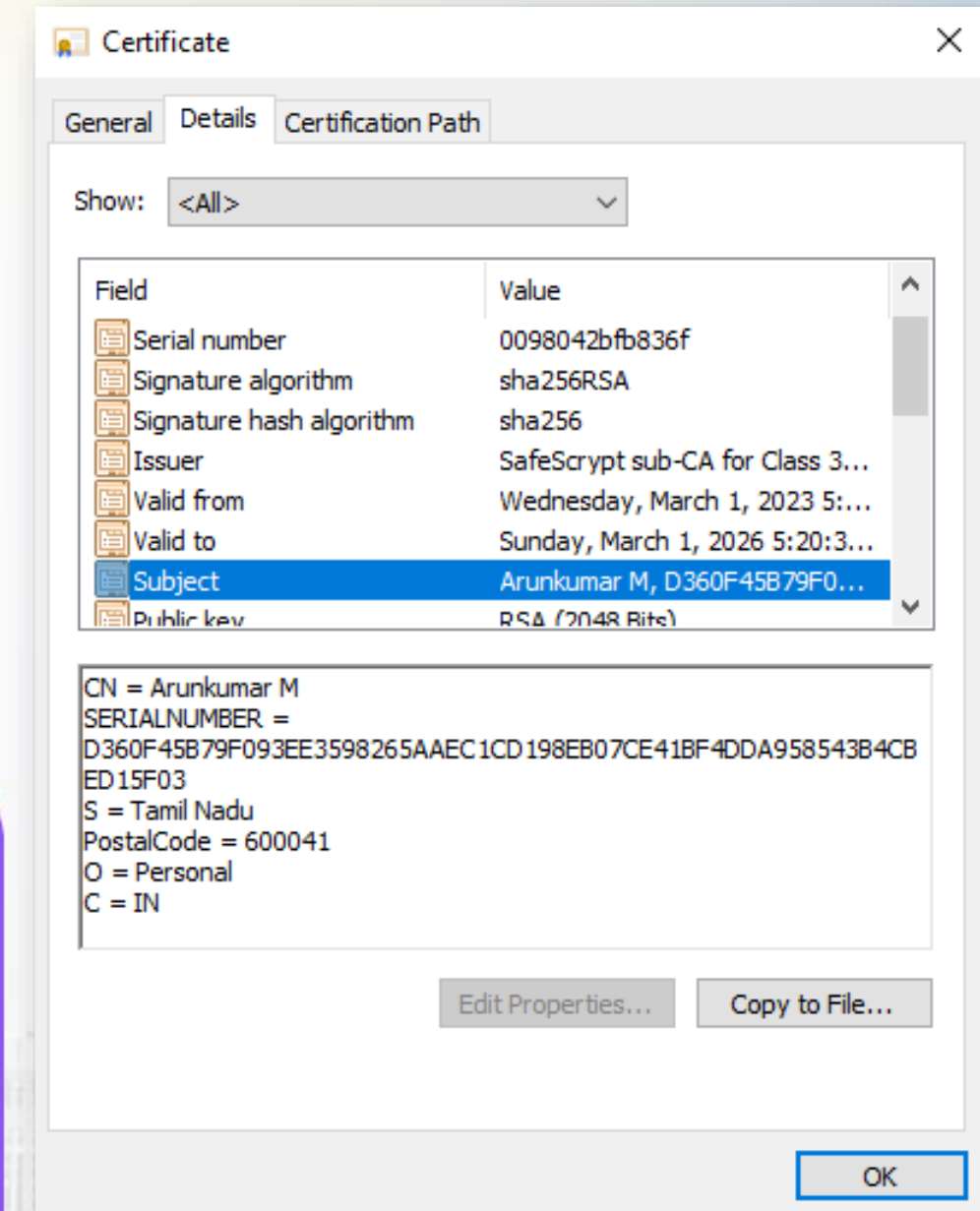
A screenshot of the 'xorkeesign' application interface. At the top left is the 'xorkeesign' logo and a close button. A green notification box states: 'This mail and attachments are digitally signed and not altered. Signed by Arunkumar M as per the qualified digital certificate.' Below this, the 'Mail Body' section shows 'MailBody.txt' with 'Signature is valid' and a green checkmark. The 'Attachments' section shows 'CompatibilityChart.xls' and 'BankDetails.pdf', both with 'Signature is valid' and green checkmarks. The footer contains the text '© Odyssey Technologies Limited'.

# S/MIME Signature Model



# The xorkeesign Difference

*xorkeesign* for mails



We have protected the  
**sender identity and message integrity**

**Now what?**



a trustworthy identity and attribute  
verification would greatly enhance

# **B2B e-commerce**

Supply chain discovery and protection



Inadequacy of existing **identification**  
and **attribute mechanism**



**Who** is the signer?  
Is he **qualified**?  
Does he have the **authority**?



# Odyssey's solution

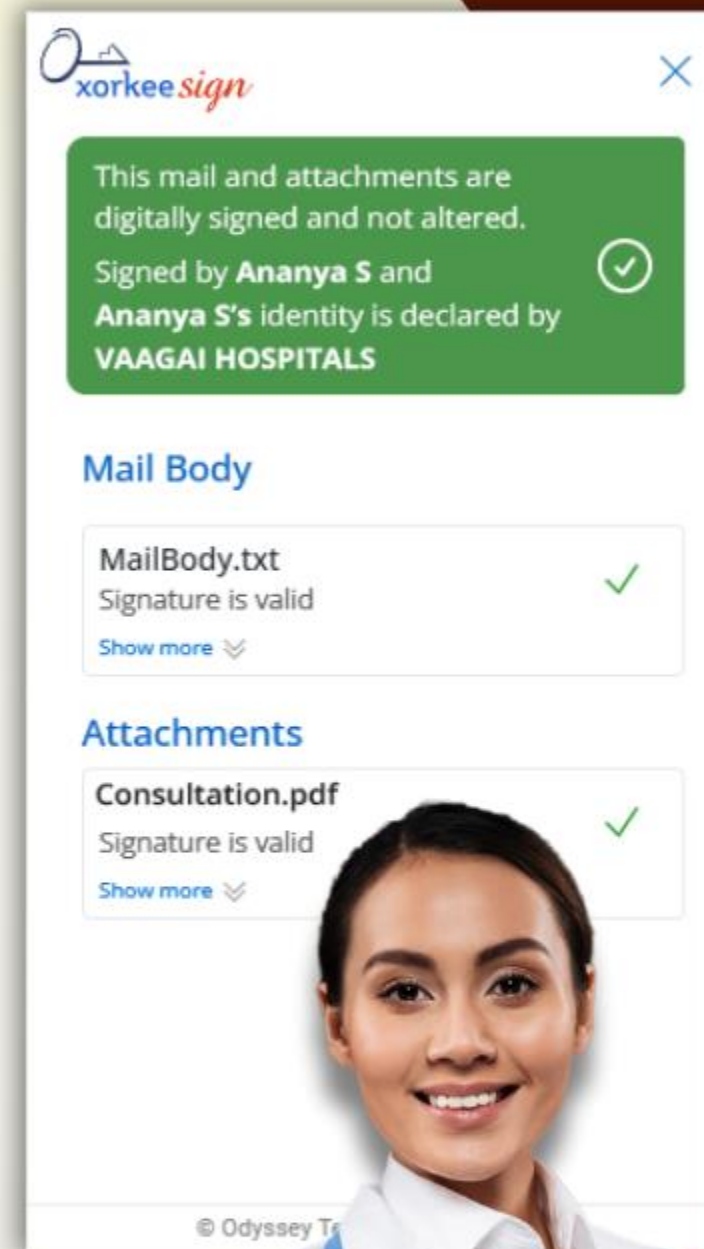
xorkeesign Entity for mails

✓ Contextual attributes

✓ Digitally signed by the sender

✓ Co-signed by the organization

Made for  
Healthcare Professionals



## Mail Body

MailBody.txt  
Signature is valid ✓

- Digitally signed by Ananya S
- Co-signed by VAAGAI HOSPITALS
- The mailbody and the signer details are included in the signature
- Signed on 02 SEP 2024 08:20:45GMT
- Details of Ananya S declared by VAAGAI HOSPITALS

### Name

Ananya Sharma

### Handle

ananya@xorkee.com

### Email Id

ananyasharma@vaagaihospitals.com

### Branch

Psychiatry

### Specialization

Teen Counselling

### Gender

Female

### TNMC No

98765432

### Entity

VAAGAI HOSPITALS

Archive

# Odyssey's solution

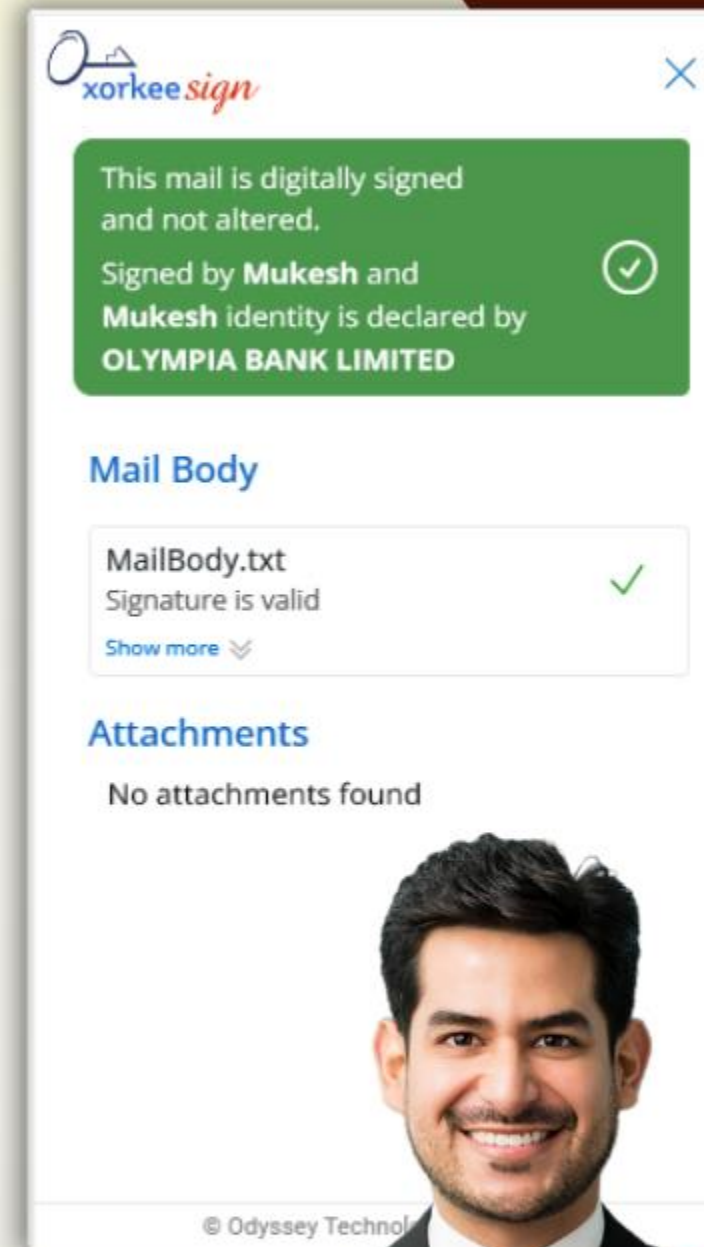
xorkeesign Entity for mails

✓ Contextual attributes

✓ Digitally signed by the sender

✓ Co-signed by the organization

Made for  
Banking Professionals



## Mail Body

MailBody.txt ✓

Signature is valid

- Digitally signed by **Mukesh**
- Co-signed by **OLYMPIA BANK LIMITED**
- The mailbody and the signer details are included in the signature
- Signed on **30 Aug 2024 09:45:03 GMT**
- Details of Mukesh declared by OLYMPIA BANK LIMITED

Name

Mukesh

Handle

mukesh@xorkee.com

Email Id

mukesh@olympiabank.com

**Dept**

Industrial Loans

**Designation**

Loan Assessor

**Specialization**

Automobiles

**Limit**

10 crore

Entity

OLYMPIA BANK LIMITED

Archive

# Odyssey's solution

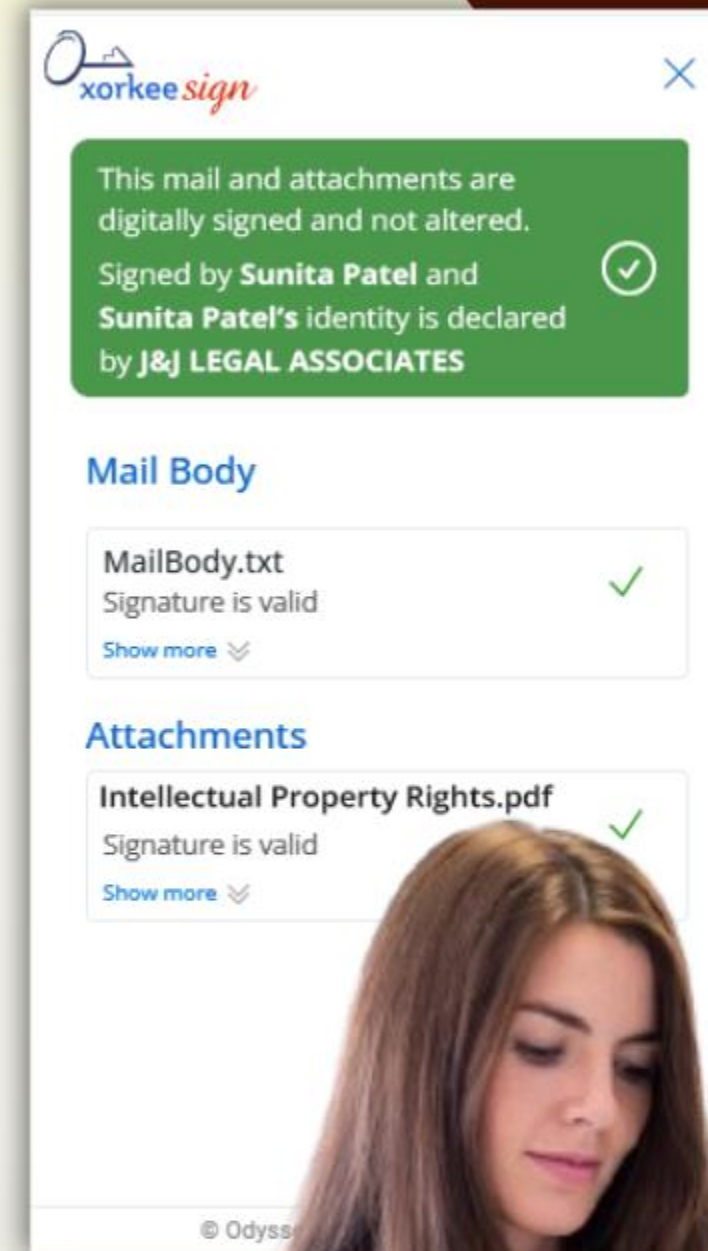
xorkeesign Entity for mails

✓ Contextual attributes

✓ Digitally signed by the sender

✓ Co-signed by the organization

Made for  
Legal Professionals



## Mail Body

MailBody.txt ✓

Signature is valid

- Digitally signed by **Sunita Patel**
- Co-signed by **J&J LEGAL ASSOCIATES**
- The mailbody and the signer details are included in the signature
- Signed on **03 NOV 2024 06:20:45GMT**
- Details of Sunita Patel declared by J&J LEGAL ASSOCIATES

**Name**

Sunita Patel

**Handle**

sunitapatel@xorkee.com

**Email Id**

sunitapatel@j&jlegalassociates.com

**Branch**

Corporate & Commercial Law

**Specialization**

Insolvency

**Designation**

Senior Partner

**Bar Council Reg No**

MUM/12345/2010

**Entity**

J&J LEGAL ASSOCIATES

Archive

The time for putting an **extended attribute verification for emails** is now!



The problem is about to get **worse**

AI and LLMs are about to tilt the balance in the bad guy's favor



xorkeesign for mails

# Extending Digital Trust

## One mail at a time

