Security White Paper

Contents

Introduction

Bing provides a new level of convenience in sending mail through the postal system. We recognise that convenience means nothing without full confidence and trust in the Bing service. This document provides Bing users an overview of the security mechanisms in place to protect their mail privacy and fidelity.

Bing provides internet enabled postal mail to a diverse range of businesses. Our customers come from a variety of Industry groups, including banking, finance, distribution, manufacturing, recruitment and government. Our customers use Bing to simplify, systemize, and accelerate their postal mail. For us, data security and integrity are vital in providing a quality, private and secure mail service. Our philosophy is that security is an active process of continual improvement, which is supported by systematic reviews and updates to our infrastructure, procedures and policies. These processes mean that your information and correspondence are safe and private.

Bing's unique advantage can be summarized in the following way:

Fidelity Safe   ensures that your documents are printed and posted the way you originally intended. The merge is done at your end; our system receives a locked document that cannot be changed by our production process

Integrity   ensures that the correct letters get posted to the correct people. We use the latest bar coding technology… barcode includes sequence number and letter id, which ensures that two letters are not inserted into the one envelope

Identity Safe   ensures you don't need to send your customer list database over the Internet
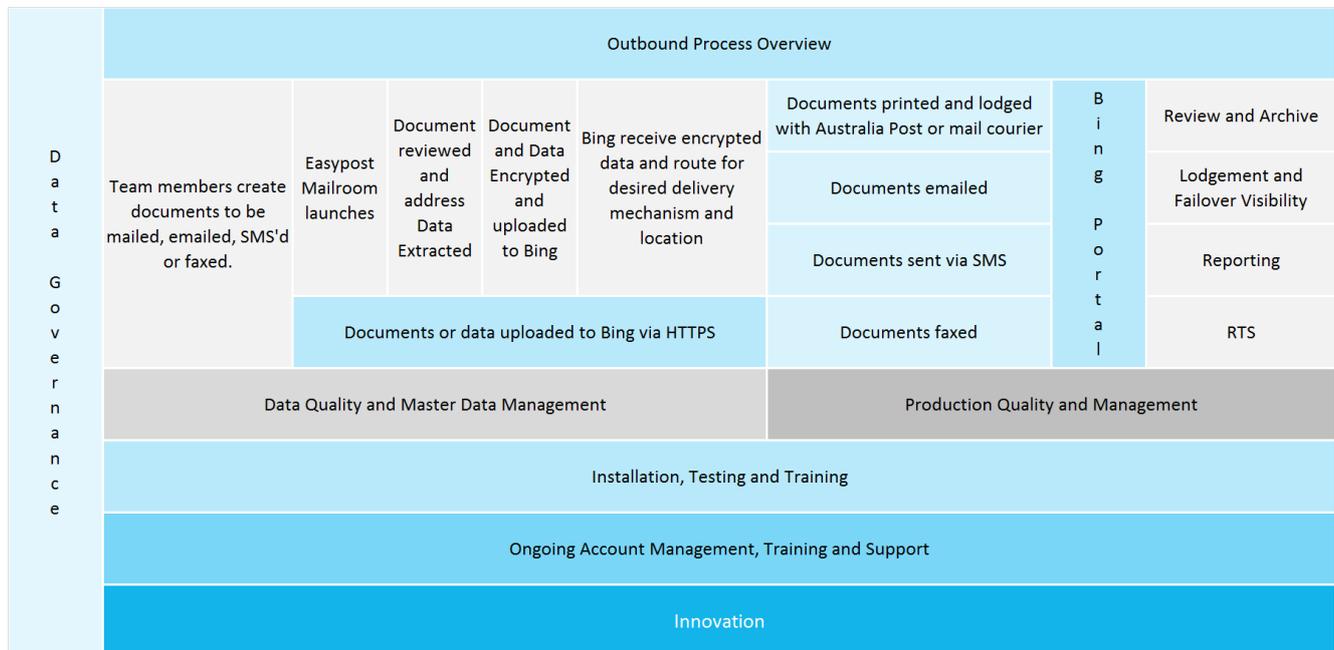
Time Safe   ensures that your documents are printed on demand, and your customers receive them in the mail on time. We achieve this using our highly-automated production process and print on demand concept

Lodgement Safe   ensures that an audit trail of every document that we receive from you is captured and reconciled against every letter posted. It ensures that every letter is always posted

Process Overview

When you print your document to the Mailroom printer, your document is sent to the EasyPost Mailroom application on your local computer, or workgroup server (depending on your configuration). At this stage your documents are still within your network and managed according to your network security policies. When you choose to encrypt and send the document to Bing from the EasyPost Mailroom, the EasyPost software encrypts the data, using a set of encryption keys unique to your organisation, and which can only be decrypted by Bing in our secure data centres. Even someone within your organisation, who has the same client ID, can not gain access to your encrypted mail. The type and strength of encryption used exceeds the requirements of the banking and finance industries and government departments.

Data Governance	Outbound Process Overview							
	Team members create documents to be mailed, emailed, SMS'd or faxed.	Easypost Mailroom launches	Document reviewed and address Data Extracted	Document and Data Encrypted and uploaded to Bing	Bing receive encrypted data and route for desired delivery mechanism and location	Documents printed and lodged with Australia Post or mail courier	Bing Portal	Review and Archive
						Documents emailed		Lodgement and Failover Visibility
						Documents sent via SMS		Reporting
		Documents or data uploaded to Bing via HTTPS				Documents faxed		RTS
	Data Quality and Master Data Management				Production Quality and Management			
	Installation, Testing and Training							
	Ongoing Account Management, Training and Support							
	Innovation							

Once received at Bing, your print files are stored in a secure document store, pending printing and mailing. Your mailing is scheduled to be produced at one or more of our production centres and the status of your mailing is updated to '*Accepted'* in your EasyPost Mailroom. At our production centre your print file is rendered into a format suitable for printing on our high-speed printers, and sorted to optimise the enveloping and mailing process. Your print mailings look exactly like they would if printed locally; the only thing we add is a cover sheet with postal barcode to speed postal delivery.

An area that traditional mail houses handle poorly is the validation of the integrity of the printing and enveloping process. We barcode all the printed mail and each item is scanned during the envelope insertion process, to ensure that the correct number of pages are inserted in the envelope. To triple check correct envelope insertion, we conduct production audits to account for spoilt letters and envelopes, before mailing. These are automatically re-rendered, enveloped and reconciled.

Once printed your mail is physically secured and lodged by a Bing team member with the mail carrier – no un-vetted contractors are used to handle your mail. Once all letters in a mailing are lodged, the status of the mailing is updated to '*lodged'*, letting you know that your mail is on the way to your customers.

In summary, we have reengineered the way that mail for the postal system is produced. In doing so, we have been careful to consider security through out the process. The result is a robust and secure mailing solution, which does not suffer from the traditional shortcoming of in-house or mail house production.

The Bing Infrastructure

Infrastructure

To deliver this secure and robust service, Bing has invested in state-of-the-art network infrastructure and equipment. Bing's core facilities are distributed across redundant data centres in Sydney. Our data centres support BGP routing failover with multiple carriers to maximise availability. Bing has its own in-house network and systems specialists.

Production Centres

Our production centres run independently of one another, and in the event of critical equipment problems, we can reroute your mail to alternate facilities to ensure on-time lodgement.

Network Architecture

Bing's network design carefully isolates production and mail routing from our internal administration systems. Once your mail reaches Bing's data centres, all further internal routing between Bing facilities occurs over our secure private network.

The Secure EasyPost Software Framework

The EasyPost Software Framework maintains integrity and confidentiality of your print stream from when you print your letter until it is lodged with the postal authority. In this section we explain how the patented EasyPost® software achieves this.

Encryption protocols

Prior to transmitting your print files to Bing the EasyPost Mailroom encrypts them. The mailroom uses symmetric encryption algorithm (AES) to encrypt your print files generating one key per transmission. This secret session key is then encrypted using a 2048 RSA public key.

Bandwidth friendly

The EasyPost Mailroom driver installed in your computer has the ability to significantly compress the size of the print file, prior to transmission to Bing. For example, if you have the same image included in every item in a print spool, this will only be transmitted once.

Won't transmit desktop viruses

The only executable code is the EasyPost Mailroom software, which is virus scanned before release and signed so that it can not be altered in any way prior to installation.

No files containing your customer lists

Unlike mail houses we do not need you to send us a database file containing all your customers and then merge this database with your letter using a template. The presence of your customer list in unencrypted files, at a mail house, represents a security risk to your business.

We don't do this! Bing uses your printed document exactly as you sent it, and doesn't remerge data or store data as editable files. The mailroom software enables you to show us where to look on your letter for an address, so we can barcode your mail.

Because you actually perform the merge on your computer before you send it to us, you also ensure that what you print is what is mailed (WYPIWIM). Our production team does not have the ability to make layout changes to your merged documents. This ensures the fidelity of your mailing.

Transmission protocols

Transmission between the EasyPost Mailroom software and Bing is via the http protocol. The print data sent over http is always strongly encrypted (as mentioned above). Each http request to the server transmits a portion of the print mailing. The protocol between the EasyPost® Mailroom and Bing handles data time outs and retransmission, so if your internet connection drops out, you do not have to restart the process. If you are configured to use a central Spooler, your print mailings are sent to the local Spooler, and then the Spooler manages the process of forwarding the print mailing to Bing.

Physical Security

Access to our production centres is restricted to Bing staff and controlled by access cards and security monitoring systems. Visitors are always escorted.

Employee Security

All Bing team members undergo police checks as part of their recruitment process. We don't use external contractors or third parties to handle your mail. You can be assured that from the point you submit your letter run, only Bing team members and Postal authority staff touch your mail.

Mail Integrity

We use leading edge mail inserter technology to ensure integrity of your mail. We print a page barcode on the same side that we print the address and logo to appear through the envelope windows. This barcode has the letter ID, a sequence number and the number of pages within the letter encoded into it. Our mail inserting equipment has multiple levels of integrity checking – double feed detection, sequence number checking, letter ID logging and page barcode anticipation which provide a comprehensive integrity check that ensure the letter content is correctly inserted.

Double Feed Detection	detects using sensors if two sheets of paper are fed at the same time
Sequence Number Checking	each letter has a sequence number encoded into the letter barcode. If letters are not processed in sequence, then this will be detected
Page Barcode Anticipation	the letter barcode indicates how many pages there are in the letter. There is only one letter barcode per letter. Once reading the barcode, the system will generate an error if it encounters another barcode sooner or later than it expected
Letter ID Logging	each letter has a letter id encoded into the letter barcode. As each letter barcode is read the letter id is logged. At the end of each job, the system compares this log with the expected contents of the job.

Conclusion

Convenience means nothing without your full confidence and trust in the Bing service. This overview has provided users and future users of Bing, information on our approach to ensuring confidence and trust via the implementation of security.

Security is multi-dimensional, requiring a security culture, policies and procedures and a technical architecture that has security as a primary design consideration. Traditionally in the mail house, security has been an add-on. Bing is different, because we have:

- An end-to-end messaging protocol that protects your information
- A business process that does not alter your mail
- A secure server infrastructure
- A security policy and procedures to limit access to your printed mail and print files

When using Bing, you can be assured that your confidential information is secure and protected by a systemic approach to security.