GLASSWALL

Trust every file.
Open with confidence.
Share without risk.

# Rebuild API

## Product Overview

glasswallsolutions.com

# About Glasswall

Glasswall is a UK-based file-regeneration and analytics company and a leader in the field of Content Disarm and Reconstruction (CDR).

## d-FIRST™

Our patented d-FIRST™ methodology creates safe, clean and visually identical files, mitigating the risk posed by malicious documents.

Rather than trying to detect dangerous content, Glasswall regenerates all files to a safe standard of 'known good', enforcing the format's structural specification and eradicating high-risk active content. Glasswall is a proactive solution. At no point is a signature, an understanding of bad behaviour or detection needed.

Glasswall has clients across business, government, defence and 'Five Eyes' intelligence agencies, and they rely on us to expose and control the risk of sharing files and documents.

GLASSWALL

Trust every file.
Open with confidence.
Share without risk.

# The Threat

## 66% of advanced malware launches by opening a file

(Source: Verizon)

- Files are the lifeblood of every organisation and our reliance on digital documents is growing.
- Bad actors take advantage of this dependence, manipulating complex document specifications and Active Content, opening doors into your network.
- These vulnerabilities ensure that files and documents remain the vehicle of choice for those that seek to steal, damage and destroy your data and reputation.

## Every 4.2 seconds a new malware variant is created

(Source: G Data)

- The rapid proliferation of new malware is rendering detection-based techniques increasingly ineffective. These methods of defence cannot protect against threats they don't yet know exist.
- Anti-Virus (AV) requires a Patient Zero with protection deltas of hours, days or even weeks not uncommon.

## 69% of organisations say threats they face can't be stopped by anti-virus

(Source: Cisco 2018 Cyber Security Report)

- Sandboxes are failing to detect new malware that is increasingly 'sandbox' aware.
- Employees won't protect you. Before they open a file, users often can't tell whether an attachment is dangerous or not. Most click first and ask questions later, if they ask at all.

# The Solution

To combat this threat, Gartner and the NCSC recommend techniques such as CDR and Syntactic Verification. Validated and deployed by government agencies in both the UK and US, Glasswall's d-FIRST™ is the leading technology in these fields.

## Content Disarm and Reconstruction (CDR)

It breaks down files into their discrete components, strips away anything that doesn't conform to that file type's original specification, ISO standard or company policy, and rebuilds a "clean" version.

This near-real-time process is an effective and efficient approach to removing malware and exploits from files. Although sandboxing and almost all other techniques depend on detection, CDR protects against exploits and weaponised content that have not been seen before.

- Market Guide for Email Security - Gartner Research

Gartner®

Syntactic verification ensures the structure and syntax of the object are correct (e.g., that the content is valid XML or JSON which conforms to a specified schema). Semantic verification ensures that the meaning is valid in the context of the operation or business process being performed. Verification components ensure all potentially active content has been removed.

National Cyber Security Centre

a part of GCHQ

# Glasswall's Methodology

## d-FIRST™

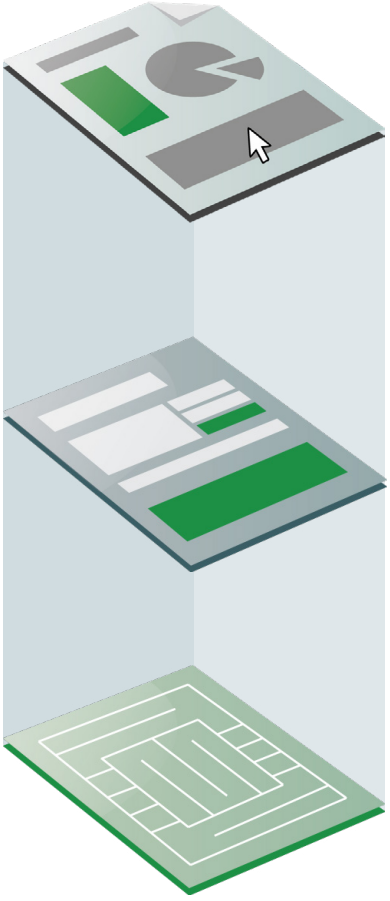
deep-File Inspection

Remediation

Sanitisation Technology

## deep-File Inspection

deep-File Inspection takes the attachment and reads it into memory, inspecting the three distinct layers of the file:



### The Visual Content layer

The numbers and words on the page. The look and feel of the document.

### The Active Content layer

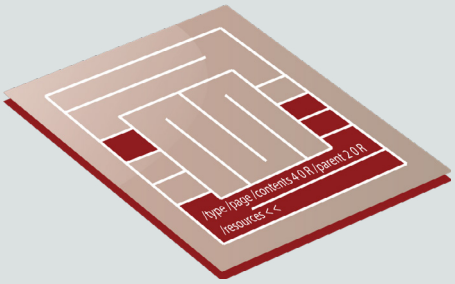
This includes Macros, JavaScript, AcroForms, Hyperlinks, Embedded Files and DDE. They are functional features of files that can perform actions on end user machines. Certain features may be useful to some users, but Active Content is a high risk to all.

### The File Structure layer

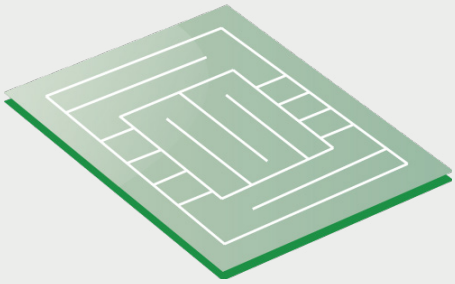
The structures that make up the binary file type container. deep-File Inspection examines structures and how they relate to each other at the binary level, exposing any deviations from the published specification.

# Remediation

Remediation ensures a document's structure is compliant with the specification set by the developer of that file type. For example, Adobe has an ISO 32000 specification that details all valid binary structures for PDF. The published specification is what we call, 'known good'.




Non-conforming
File Structure



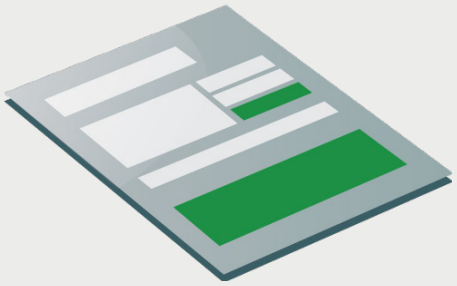
Regenerated
File Structure

- The remediation process compares the incoming file's structure to the file specification. Any deviations are then marked as non-conforming.
- 93% of the files processed by Glasswall do not conform to the published specification and deviations from standard are often a gateway for sophisticated malware.
- Remediation repairs all deviations, bringing the document back into line with the standard.
- Once all structures have been validated, the file is regenerated. This produces a compliant file in line with the 'known good' specification.
- The result is that any malware hidden or obfuscated in the file structure is either disarmed, destroyed or removed.

# Sanitisation

Sanitisation is the removal of Active Content by policy, mitigating the risk of functional features in files. Sanitisation allows users to get the document features they need and strips out all the functions they don't.


Unapproved
Active Content

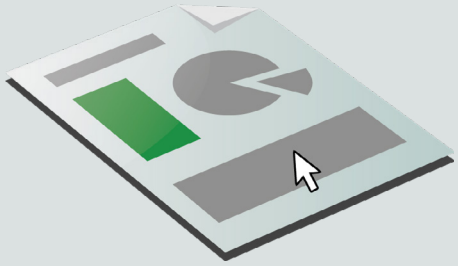


Approved
Active Content

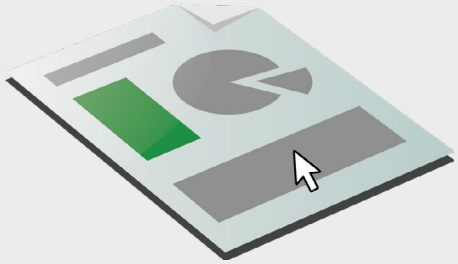
- Sanitisation policy can be set from the group down to the individual user level, offering unparalleled control over your exposure to risk.
- Common policy choices include sanitising out all Dynamic Data Exchange (DDE), Embedded Files, AcroForms and JavaScript for all users, and allowing Macros only for finance teams from select, trusted business partners.
- The depth of visibility provided by Glasswall on file and documents allows organisations to effectively balance risk with business continuity.

# Visual Layer

The visual integrity of the document is maintained.



Original
Visual Content



Identical
Visual Content

- Throughout the process, the Visual Content layer is untouched, ensuring that every file regenerated is visually identical to the original.

# Rebuild API FAQs:

## What file types do you support?

We support all key business file formats, including Binary Office, XML Office, PDF, PNG, JPEG & GIF files. Unsupported file types can be allowed or disallowed by policy.

## How fast do you process files and documents?

Glasswall's processing time is sub-second with most files regenerated in 100-250 milliseconds. This adds negligible latency to any business process

## Who has validated this technology?

Government agencies in the UK and US have put Glasswall through a rigorous testing and validation process. Glasswall's stand-out performance in every test is reflected in the endorsement and deployment of our technology by a number of Five Eyes intelligence agencies.

## Rebuild API Availability

Rebuild API is currently availabe on AWS Europe (London) region. Roll-outs to other regions will follow soon.

## Who controls my data retention?

Rebuild API is given input and output locations when it is called and these are controlled by you as a customer. Glasswall does not retain any data on its cloud service

## How are you priced?

Rebuild API is priced on a file volume basis. For latest pricing please visit www.glasswallsolutions.com/pricing or glasswall-store.com

# Put us to the Test

## Setting up an evaluation is quick and easy:

Simply obtain a trial API key from the Glasswall Store then you can explore the API using the Swagger interface hosted on the Glasswall Github Account by entering your API key.

Full documentation is published online at engineering.glasswallsolutions.com and sample coding projects give examples of how to integrate the Rebuild API

## Next Steps:

Get an API key from the store and try it out.

UK: +44 (0) 203 814 3890 USA: +1 (866) 823 6652

sales@glasswallsolutions.com us.sales@glasswallsolutions.com

glasswallsolutions.com

## Glasswall Partners

Gold Microsoft Partner
Microsoft

FORCEPOINT

BOEING

nteligen

LOCKHEED MARTIN

BAE SYSTEMS

4Secure

Booz | Allen | Hamilton

OWL Cyber Defense

PA

novastone

## Awards

BRITISH LEGAL TECHNOLOGY Awards 2019

**Winner**
New IT Product of the Year

THE GOLDEN BRIDGE AWARDS — SILVER — BEST 2019 — BUSINESS WORLD

**Silver Winner**
Email Security Innovations

SC 2019 awards finalists — HONORING EXCELLENCE IN INFORMATION SECURITY

**Finalist**
Best Email Security

BIG INNOVATION 2019

**Winner**
Best Email Security Solution

ASTORS AMERICAN SECURITY TODAY 2018 PLATINUM AWARD WINNER

**Winner**
Best IT Email Security Solution

2017 UK IT INDUSTRY AWARDS — computing — WINNER — SECURITY INNOVATION OF THE YEAR

**Winner**
Security Innovation of the Year

SC MAGAZINE AWARDS 2016 Europe WINNER

**Winner**
Best Email Security Solution

IET AWARDS The Institution of Engineering and Technology — INNOVATION WINNER 2016

**Winner**
Innovation

## Certifications

CYBER ESSENTIALS PLUS