What we'll cover in today's session

Paul Fawcett
Co-Founder
SiteBox

1 Security

Building a Secure Framework to avoid being hacked

Max Matloka
Head of Product, SiteBox

2 Performance

World-class Digital experiences that Perform

Paul Fawcett
Head of Agency Partnerships SiteBox

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Keynote Session: Security

Building a Secure Framework to avoid being Hacked

Max Matloka
Head of Product
SiteBox

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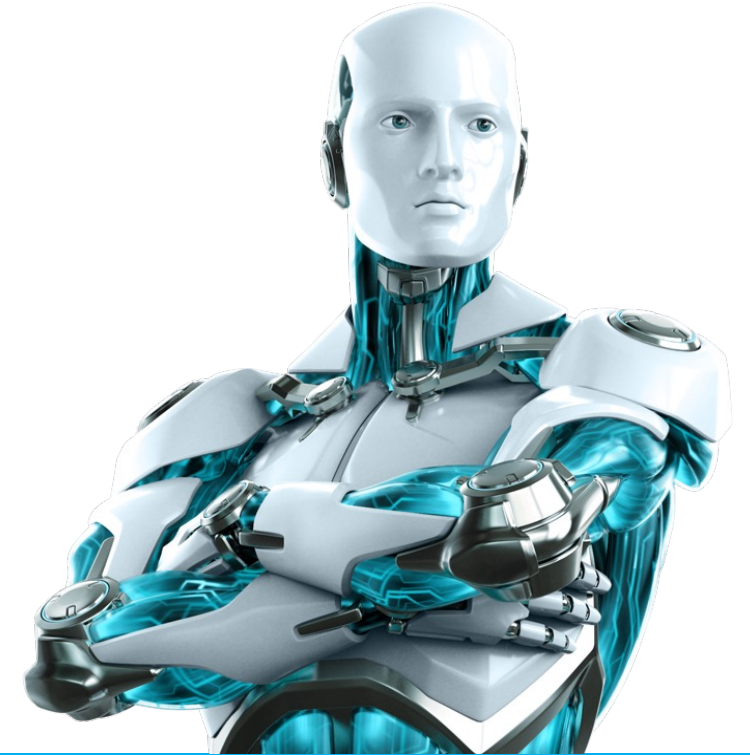
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A story behind the Security Framework

Max Matloka
Head of Product
SiteBox

The last 36 months spent discovering security best practice within the WordPress eco-system:

- Countless number of hardening articles,
- Inspecting code of most popular security solutions
- Going through vulnerability databases.

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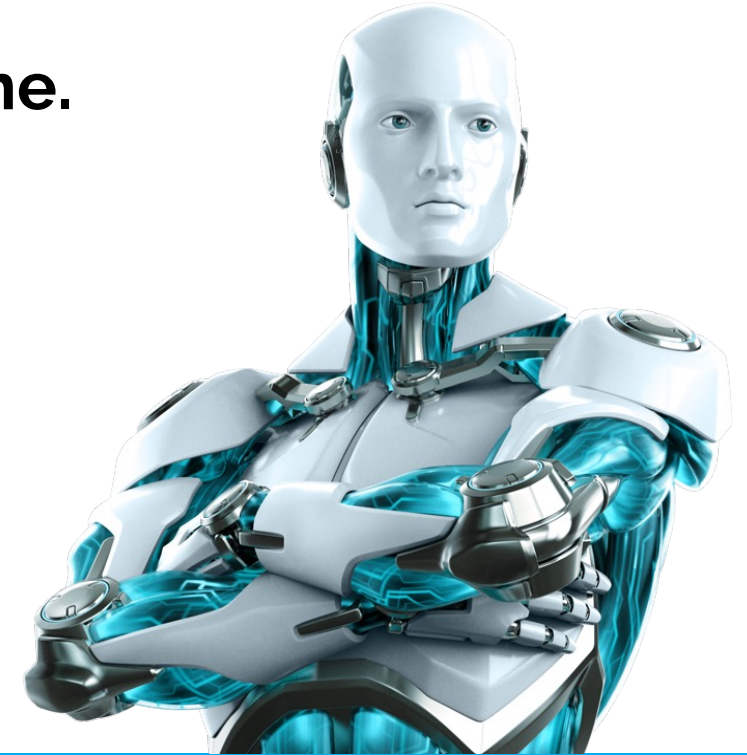
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What is the Security Framework?

Max Matloka
Head of Product
SiteBox

This document outlines established WordPress security practices and is designed to evolve over time.

- Addresses over 60 security concerns.
- Raises awareness of risks associated with website management.
- Applies to both the WordPress website and our organization.

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WordPress Security Framework

Max Matloka
Head of Product
SiteBox

Advanced Operational Measures	Performance and Resource Protection	Content & App Security	File System & Database Security	User Management & ACL's
Backup & Recovery	Monitoring, Logging and Auditing	Firewall & Traffic Monitoring	Plugin & Theme Security	Core Security

How the results of *hacking* experiments, helped define a Security Framework

Max Matloka
Head of Product
SiteBox

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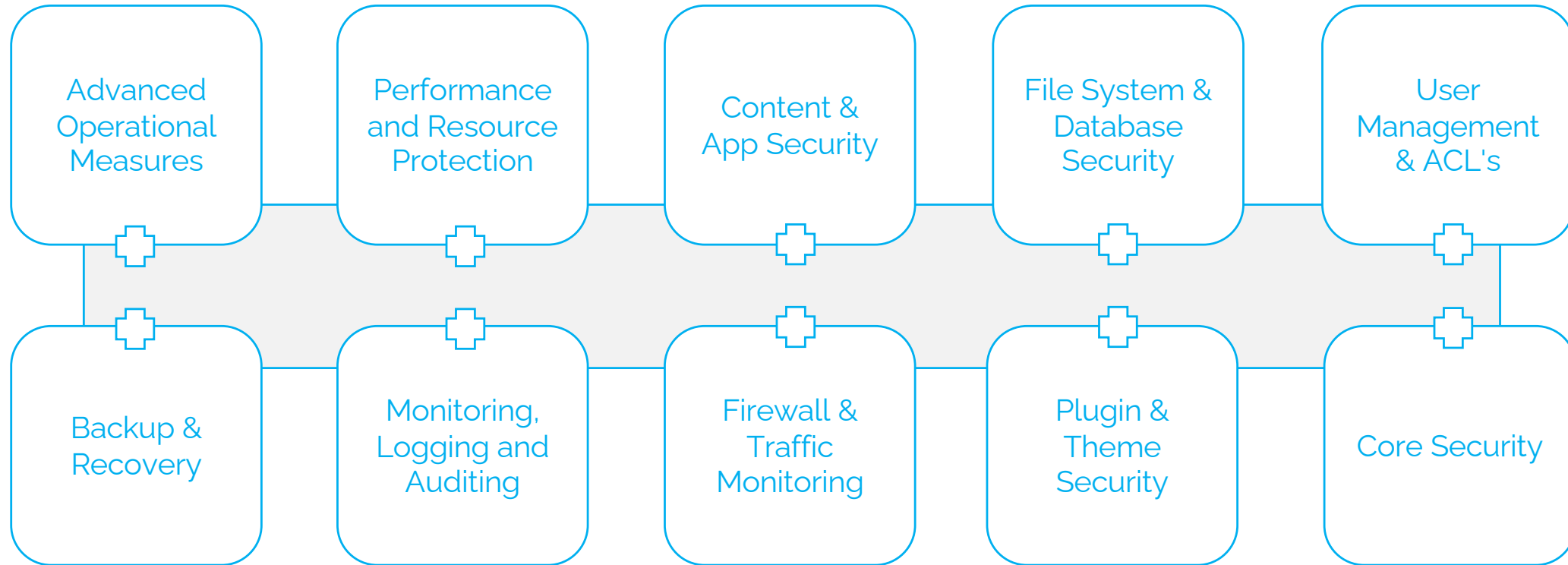Certified B corporation PENDING

Max Matloka
Head of Product
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Terraform

New Relic

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Max Matloka
Head of Product
SiteBox

timestamp	×	message	×	path	×
17:55:47.000				/workspace/drupal/vendor/phpunit/phpunit/src/Util/PHP/eval-stdin.php	
17:55:47.000				/panel/vendor/phpunit/phpunit/src/Util/PHP/eval-stdin.php	

Since Nov 19, 04:29 pm until Nov 19, 04:54 pm

Timestamp	Message
November 19, 2024 16:54:03	Connection closed by invalid user uftp 95.214...
November 19, 2024 16:54:03	Invalid user uftp from 95.214... port 46824
November 19, 2024 16:52:04	Connection closed by invalid user alex 95.214...
November 19, 2024 16:52:04	Invalid user alex from 95.214... port 33050
November 19, 2024 16:51:07	Connection closed by invalid user oracle 95.214...
November 19, 2024 16:51:07	Invalid user oracle from 95.214... port 46640
November 19, 2024 16:46:15	Connection closed by invalid user gpadmin 95.214...
November 19, 2024 16:46:15	Invalid user gpadmin from 95.214... port 54750
November 19, 2024 16:46:00	Connection closed by invalid user 12345 92.255...
November 19, 2024 16:46:00	Invalid user 12345 from 92.25... port 58898

it/src/Util/PHP/eval-stdin.php
/src/Util/PHP/eval-stdin.php
src/Util/PHP/eval-stdin.php
=1732038948.2930369377136230468750
pp/invokefunction&function=call_user_func_array&vars[0]=md5
hink\\app/invokefunction&function=call_user_func_array&vars[0
../usr/local/lib/php/pearcmd&+config-create+/&/<?echo(md5(\"
../usr/local/lib/php/pearcmd&+config-create+/&/<?echo(md5(\"
../tmp/index1

...ed for user 'root'@'194.4... (using passwor...
...ed for user 'root'@'194.4... (using passwor...
...ed for user 'root'@'194.4... (using passwor...
...ed for user 'root'@'194.4... (using passwor...
...ed for user 'root'@'194.4... (using passwor...
...ed for user 'root'@'194.4... (using passwor...
...ed for user 'root'@'194.4... (using passwor...
| 08:18:39.859 | 2024-11-20T08:18:39.859679Z | 787 Connect Access denied for user 'root'@'194.4... (using passwor... |
| 08:18:39.905 | 2024-11-20T08:18:39.905234Z | 788 Connect Access denied for user 'root'@'194.4... (using password: YES) |

Log details

Nov 19, 2024 15:24:03.000

Message
Invalid user a from 92.255... port 29394

Formatted   **Unformatted**

{
  host : "wordpress..."
  ident : "sshd"
  message : "Invalid user a from 92.255... port 29394"
  newrelic.logPattern : "nr.DID_NOT_MATCH"
  newrelic.source : "api.logs"
  pid : "23803"
  plugin.type : "fluentd"
  plugin.version : "1.2.3"
  timestamp : 1732029843000
}

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Resulting in...

Max Matloka
Head of Product
SiteBox
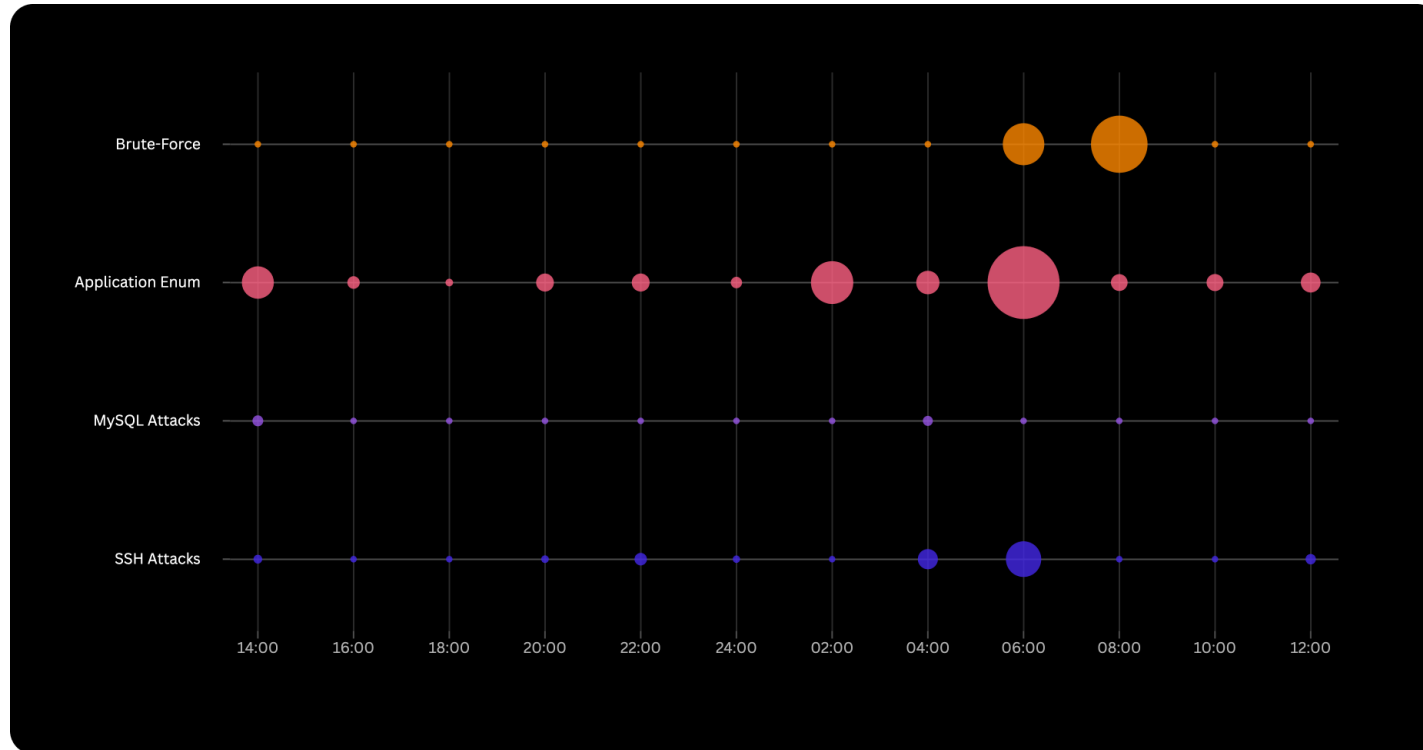
150k
logs

1,500
log-in attempts

~100
MySQL attempts

500
SSH attempts

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Experiment: Human Factor

Max Matloka
Head of Product
SiteBox

1 **Conclusion:**

Human factors are still a source of risk.

2 **Observations:**

It's worrying that WordPress managers are aware of the risks, but do not have full visibility of their stack.

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Human Factor in Security Framework

Max Matloka
Head of Product
SiteBox

Advanced Operational Measures

Performance and Resource Protection

Content & App Security

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Backup & Recovery

Monitoring, Logging and Auditing

Firewall & Traffic Monitoring

Plugin & Theme Security

Core Security

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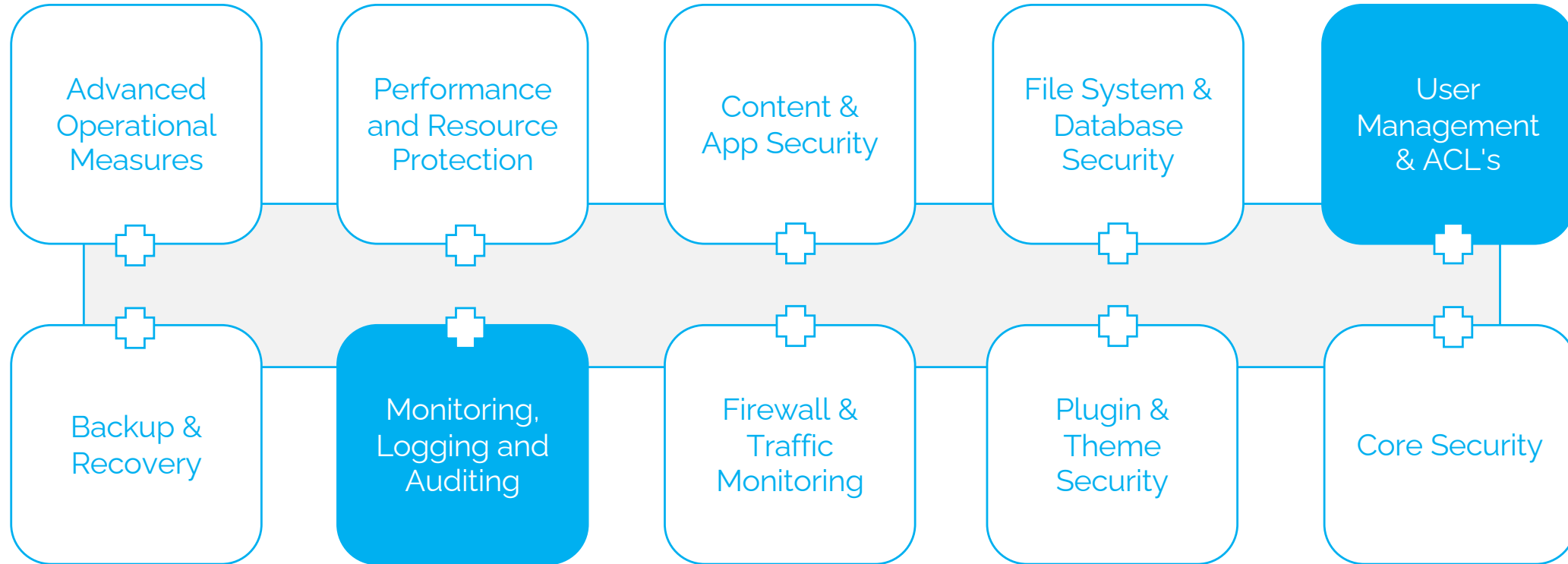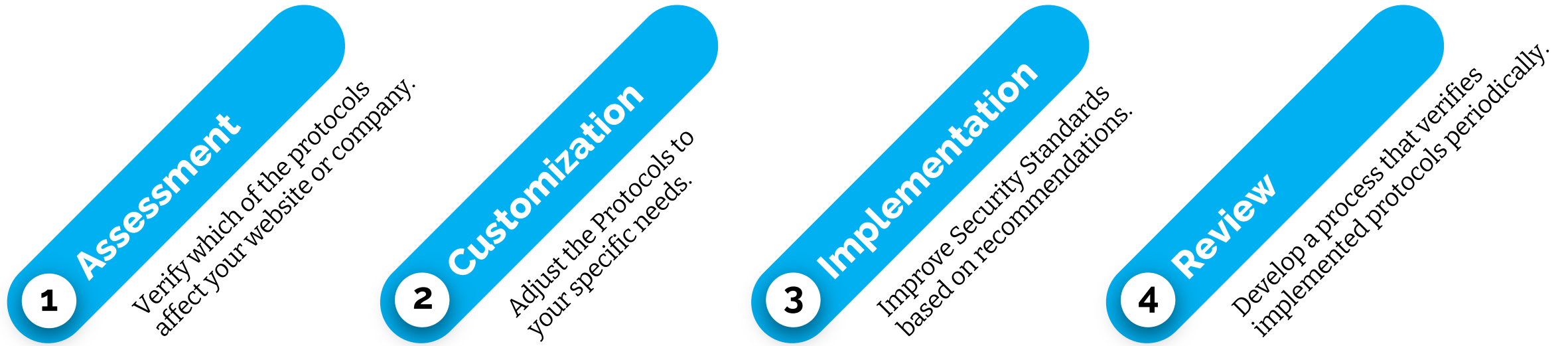
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Implement Framework

Max Matloka
Head of Product
SiteBox

1 **Assessment**
Verify which of the protocols affect your website or company.

2 **Customization**
Adjust the Protocols to your specific needs.

3 **Implementation**
Improve Security Standards based on recommendations.

4 **Review**
Develop a process that verifies implemented protocols periodically.

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Improved Site Performance

Paul Fawcett
Head of Agency
Partnerships,
SiteBox

100 **Performance** > **Metrics that matter**

100 **Accessibility**

- **FCP** (First Content Paint)
- **SI** (Speed Index)

Grade

100 **Best Practice**

- **LCP** (Largest Contentful Paint)
- **TBT** (Total Blocking Time)
- **CLS** (Cumulative Layout Shift)

Vitals

100 **SEO**

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'Headless' Performance

Paul Fawcett
Head of Agency
Partnerships,
SiteBox

Pre 'Headless' Score	Post 'Headless' Score	Other problems solved
D	A	Reduced landing page payload from 40+Mb to 2mb Saving 92% traffic consumption = Cost savings $$$
F	A	Current Live results
D	A	69% EU Server response 81% Traffic savings = Cost savings $$$ 99% Cache improvement
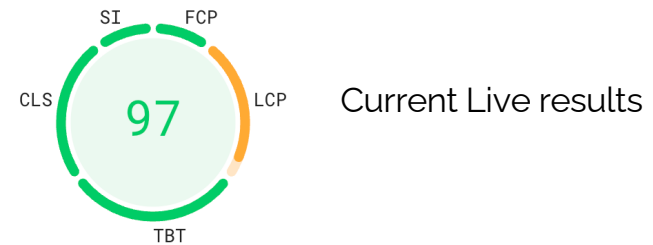
SI FCP
CLS 97 LCP
TBT

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Case Study

Paul Fawcett
Head of Agency
Partnerships,
SiteBox

🇺🇸 US

Average Server Response (30 min avg)

| 175ms in SiteBox | was 214ms |

18% Improvement

Traffic Savings

Less data transferred from the server to visitors means better performance.

Data Transferred (as per GTMetrix)

| 2.84MB in SiteBox | was 40.7MB |

93% Improvement

Time To Live

With proper invalidation protocols, the longer content lives at the edge is better.

Cache Time To Live

| 30 days in SiteBox | 5 minutes |

99+% Improvement

GTMetrix

59 Previous Score → **94** SiteBox Score

Lighthouse

48 Previous Score → **91** SiteBox Score

<u>No edits</u> to codebase!

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'Accelerate' Feature

Paul Fawcett
Head of Agency
Partnerships,
SiteBox

Accelerator

Enables static site generation via the Dynamic Site Rendering (DSR) method. Cached content is served to visitors until invalidated by updates in the WordPress backend.

Update

What is Accelerator?

Accelerator converts your website into a static version using the Dynamic Site Rendering (DSR) method. The first visitor to your site generates a cached version, which is then stored until it is invalidated.

Does Accelerator support server-side processing?

Yes, by default, all POST requests are directed to the origin instance unless they are stopped by SiteBox Enclave. This setup allows using existing functionalities or the option to disable them completely, thereby making WordPress invisible to users.

How long does Accelerator cache the content?

Accelerator caches content in object storage until it is invalidated. This can happen in two ways: by manually flushing the cache in the SiteBox dashboard or by applying changes to the content on your WordPress instance.

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'Accelerate' Dashboard

Paul Fawcett
Head of Agency
Partnerships,
SiteBox

SITEBOX

Evokeu → graphickitchen → main → Accelerate

⌘ + K or 🔍 | PF ⌄

← main

Overview

IDENTITY

Users

Teams

WEBSITE

Domains

Database

Enclave

Redirects

Cache

Accelerate Beta

Variables

TIMELINE

Snapshots

Accelerate Beta

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Accelerator

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Update

103 Early Hints

Activates HTTP/2 103 Early Hints response support. This feature allows servers to pre-emptively push critical resources to clients, optimizing the connection reuse and reducing perceived page load times by preparing the client for upcoming resources.

Update

Toggle Switch

It's that easy!

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Key Outcomes

Paul Fawcett
Head of Agency
Partnerships,
SiteBox

1 **Headless -** Mitigates risk from front-end attacks.

2 **Site Performance -** Improved SERP rankings

3 **Reduced Cost -** Optimised static outputs (Payload)

4 **Sustainable -** Low-to-No Carbon emissions

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Discussion:

Q&A
Security & Performance

Kasia Wegrzyn
Head of Customer
Success,
SiteBox

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