DigitalXRAID
CYBER SECURITY EXPERTS

BridgeHead Software Case Study

BridgeHead

Service:
Penetration Testing

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How BridgeHead Software took a proactive approach to cybersecurity with penetration testing to protect business critical systems and customer data

The Requirement

For almost 30 years, BridgeHead Software has been trusted by over 1,200 hospitals worldwide to provide healthcare data management solutions.

Today, BridgeHead helps healthcare facilities consolidate, store, protect, and provide access to patient, clinical, and patient data across the healthcare enterprise.

BridgeHead's solutions offer a wealth of benefits, from streamlining digital workflows and improving clinical efficiencies through to mitigating the impacts of successful cyberattacks.

Ultimately, BridgeHead's goal is to bring its expertise in data management to modern healthcare systems to improve care delivery and patient outcomes.

In terms of cybersecurity, BridgeHead is an ISO 27001 certified company. An essential requirement of the continued maintenance and development of the company's objectives is the establishment and continual improvement of an Information Security system.

As part of the company's focus on information security and cybersecurity best practice, it conducts regular internal reviews and external code reviews. However, for real assurance for both BridgeHead and its customers, penetration testing of its critical applications from a reputable managed security service provider was needed.

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The Solution

BridgeHead selected DigitalXRAID to conduct penetration testing on key business applications to identify any security weaknesses or potentially exploitable vulnerabilities.

The first part of the testing was conducted on BridgeHead's Multi-site Manager (MSM) application, which is an internet-facing service connecting customers to a monitoring server. As a first step, DigitalXRAID's penetration testing consultants assisted BridgeHead with effectively scoping the web app pen test. This was to ensure that maximum value would be achieved during the testing time.

DigitalXRAID used various tools and techniques as part of the penetration test, in line with industry best practice. Testing was performed using an advanced testing methodology, comprised of years of experience and aligned closely with Open Web Application Security Project (OWASP) and Open-Source Security Testing Methodology Manual (OSSTMM) and other industry standards.

The team conducted comprehensive tests, which assessed the web app from an unauthenticated and authenticated perspective, and determined whether the web app could be compromised.

The testing team thoroughly reviewed the web app configuration, including the underlying server and encryption security. This assessed how it communicated information to ensure that nothing could be disclosed and cause a security risk.

As a high-level overview, the testers looked at areas such as user role definition, identity authentication and authorisation in order to attempt to bypass processes and workflows.

In the second part of the pen testing project, DigitalXRAID conducted testing on two further applications: HealthStore®, an interoperable, Clinical Data Repository that breaks down departmental silos and integrates access to all the data living outside of Electronic Health

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Record (EHR) systems, and its RAPid™ Data Protection solutions, a comprehensive suite of products that utilise backup and archiving technologies to safeguard mission critical systems and data across healthcare enterprises.

The interesting challenge with the RAPid solution is that, while it's an on-premise solution, data is being backed up to the cloud.

DigitalXRAID testers followed the same methodologies to thoroughly analyse these business critical applications. As part of both phases of the testing project, DigitalXRAID's penetration testers also conducted checks to ensure that the application appropriately validated and sanitised all input from the user or environment, checking for common input validation vulnerabilities such as cross-site scripting, SQL injection, code injection, server-side attacks, and host header injection, particularly in the case of the RAPid product.

At the end of the testing period, DigitalXRAID supplied a comprehensive report, detailing the methodologies followed and highlighting and categorising any vulnerabilities found into low, medium, high and critical priorities. The report included a risk summary that explained how any vulnerabilities identified could be used by an attacker to affect the business.

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The Results

BridgeHead Software has been able to shore up security to ensure that there are no exploitable vulnerabilities in its applications, and that the company's products and services are currently guarded against active threats from cyber criminals.

This gives BridgeHead's customers the full reassurance that their data is protected.

gaining Cyber Essentials Plus certification. This was achieved at the first attempt, and a program of annual re-certification is in place.

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As BridgeHead works with the healthcare sector with direct connection to healthcare organisations, it's mandatory that it holds Cyber Essentials Plus certification, awarded by the National Cyber Security Centre (NCSC).

Based on the excellent work in providing penetration testing services, BridgeHead Software selected DigitalXRAID to support gaining Cyber Essentials Plus certification. This was achieved at the first attempt, and a program of annual re-certification is in place.

"Working with the DigitalXRAID team was a dream. The offering was very clear, and the process and communication was very good. Everything ran smoothly.

We were able to speak with technical specialists where needed, which ensured a clear scope that fit our requirements.

DigitalXRAID have consistently provided a professional and technical service and we look forward to working with them on future projects"

Crispin Jewitt, Vice President of Products & Engineering, BridgeHead Software

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DigitalXRAID are an award-winning managed security services provider dedicated to providing our clients with state-of-the-art cyber security solutions. We specialise in Vulnerability Management, Threat Intelligence, Information Security, PCI-DSS, Penetration Testing, Managed Security Services, Security Consultancy, and offer a fully managed Security Operations Centre (SOC) for your complete cyber security protection.

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