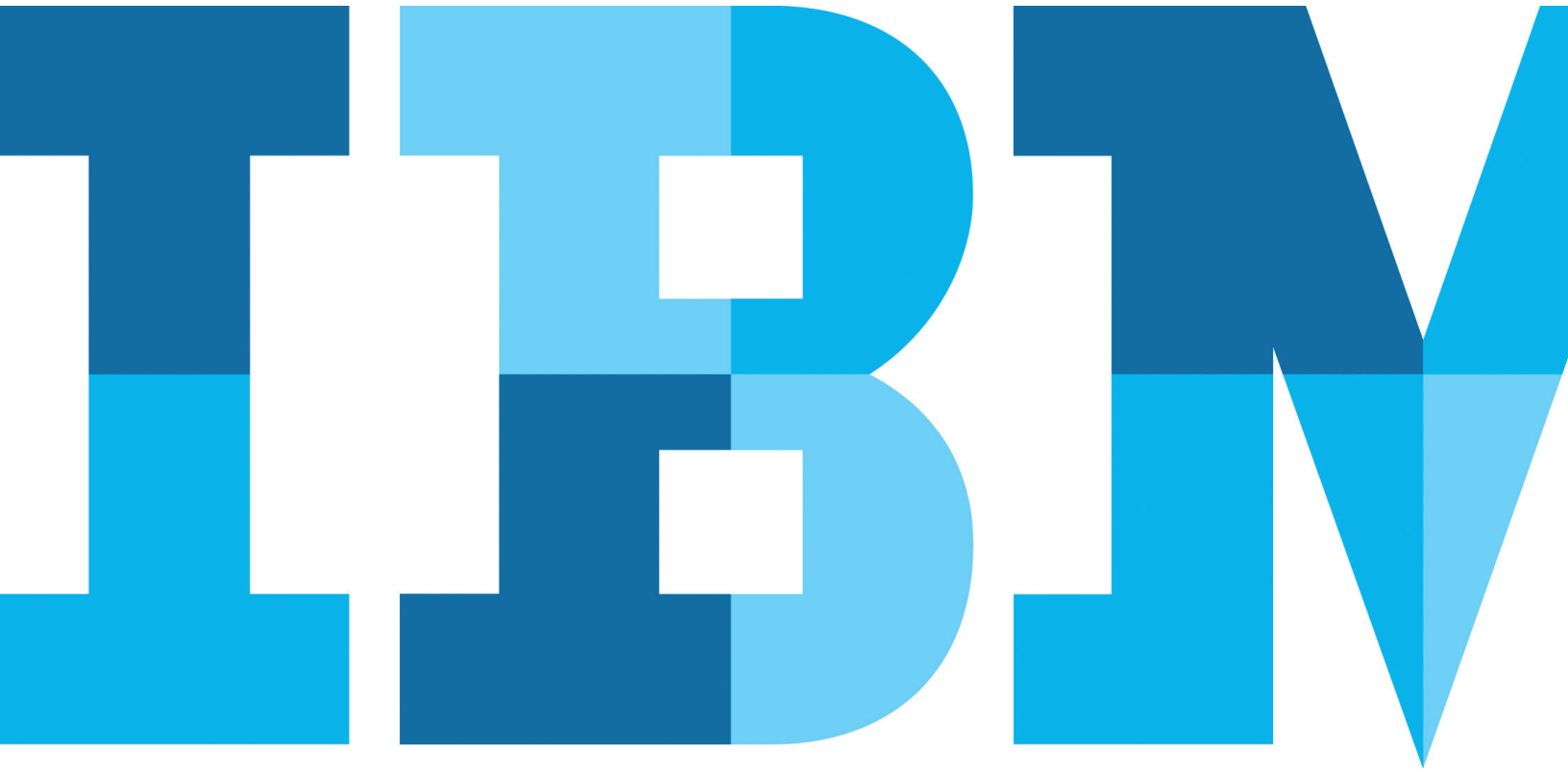
**Security**
Thought Leadership White Paper

July 2017

# Accelerate and automate PCI-DSS compliance

*IBM BigFix Compliance PCI Add-on helps protect sensitive data, lower operational costs and mitigate noncompliance risk*



## Introduction

Although new digital methods of payment have entered the marketplace, credit and debit cards are still hugely popular. In fact, they still account for two-thirds of all purchases.[1] But the convenience of using payment cards also comes with a price—criminals can easily convert payment card data into cash, making the data a highly attractive target for attack.

To help safeguard sensitive customer data, organizations that process, store or transmit payment card data are required to comply with the Payment Card Industry Data Security Standard (PCI DSS).[2] This global security program is designed to help protect against the theft, exposure or leakage of customers' personal and financial information. Failure to comply with the industry standard can result in significant fines, suspension of payment card privileges, litigation, brand damage, and loss of customer, partner and supplier confidence. For instance, research shows that 69 percent of consumers are less likely to do business with a breached organization.[1]

By maintaining PCI-DSS compliance, organizations are better positioned to keep data safe. Created in 2001, the industry-backed program is periodically updated to keep up with changing technology and evolving security threats. It establishes specific technology and operational requirements an organization must meet in order to comply with protection standards. Plus, the PCI Security Standards Council—comprised of card companies such as Visa, MasterCard, American Express and Discover—has proposed specific milestones[3] to help organizations prioritize compliance efforts and focus on the greatest risks first.

This white paper examines the challenges of achieving PCI-DSS compliance in today's highly mobile, geographically distributed environments. It then looks at how IBM® BigFix® Compliance and IBM BigFix Compliance PCI Add-on help ensure continuous compliance with the latest PCI-DSS requirements—on heterogeneous endpoints, in real time, across a wide range of platforms and locations.

## The challenges of PCI-DSS compliance

Data security breaches are increasingly common—and can occur on a massive scale. In the past few years, breaches at major retailers have affected tens of millions of cardholders. And each new report of a data breach leaves consumers a little more concerned about their personal information being compromised. Meanwhile, the loss of business is not the only consequence if a security breach occurs. Noncompliant companies can be fined up to USD500,000 per incident. Audit requirements can increase, and credit card activity can be shut down entirely.[4]

PCI-DSS compliance helps protect everyone involved in the payment card industry. Consumers can gain peace of mind, while companies can maintain a positive image, avoid fines and reduce the risk of data breaches. However, there are some key challenges in achieving PCI-DSS compliance, including:

- **Complex and changing requirements.** PCI-DSS includes 12 core requirements, supported by more than 200 sub-requirements and more than 400 testing procedures. Understanding how to apply all of these to a specific environment can require a lot of time—and a lot of work. In addition, the requirements keep expanding to respond to changing technology and evolving security threats, with the most recent version (PCI-DSS v3.2) released in April 2016.[5]
- **The challenge for constant enforcement in complex environments.** Today's organizations have to secure a variety of platforms and applications across geographically distributed locations. To maintain compliance in these complex environments, they need global, real-time visibility. In fact, to stay ahead of advanced malware and emerging threats, continuous compliance enforcement is required; periodic assessments are not enough.
- **The need for specialized skills and costly processes.** The IT experts needed to map PCI-DSS requirements or testing procedures to platform- or application-specific configuration checks are generally in short supply. Manual processes to mitigate risks or remediate noncompliance can also be very time-consuming and costly.

## Using IBM BigFix Compliance to mitigate risk

As with many other things in life, having the right tools can make a world of difference. IBM BigFix Compliance can reduce the cost and complexity of maintaining compliance in today's highly distributed, heterogeneous environments. Using a single easy-to-manage, quick-to-deploy solution, organizations can help ensure continuous security compliance for a massively diverse range of endpoints—from servers to desktop PCs and "roaming" Internet-connected laptops, as well as specialized equipment such as point-of-sale devices, ATMs and self-service kiosks.

BigFix Compliance provides accurate, up-to-the-minute visibility of security configurations for all endpoints, both on and off the corporate network. It can automatically assess and remediate security policy configurations using thousands of best-practice checklists, based on benchmarks from Center for Internet Security (CIS), Defense Information Systems Agency Security Technical Information Guides (DISA STIG) and many more. An intelligent agent on every endpoint monitors, manages and reports on the security status of endpoints, regardless of the operating system (OS) type or location.

By using BigFix Compliance, organizations can:

- **Continuously enforce security policies in real time,** regardless of the network connection status of an endpoint. This can significantly reduce overall security risk.
- **Manage hundreds of thousands of endpoints,** and discover unmanaged endpoints, regardless of location, connection, type or status.
- **Automatically patch and remediate noncompliant systems,** within a matter of minutes—reducing risk and labor costs.
- **Gain a single point of control for endpoint protection,** centralizing updates and health-checks of third-party endpoint protection solutions.
- **Help improve security with policy-based quarantines** of noncompliant systems, disabling network access until compliance is achieved. This can help prevent malware propagation.

## Achieving PCI-DSS compliance with IBM BigFix Compliance PCI Add-on

IBM BigFix Compliance PCI Add-on extends the capabilities of BigFix Compliance with more than 2,000 PCI DSS-specific checks. It is designed specifically to help organizations comply with PCI-DSS requirements across the enterprise in a cost-effective manner, while also reducing the overall risk of data breaches.

BigFix Compliance PCI Add-on helps enforce continuous PCI-DSS compliance with continuous monitoring and automatic remediation. The solution provides specialized dashboards and reports that summarize compliance status based on specific PCI-DSS requirements, milestones or platforms. (As shown in Table 1, BigFix Compliance PCI Add-on addresses all of the IT-related PCI-DSS requirements; the others are operational requirements not covered by software.)

| Control objectives | PCI-DSS requirements | IBM BigFix |
|---|---|---|
| Build and maintain a secure network and system | 1. Install and maintain a firewall configuration to protect cardholder data.<br>2. Do not use vendor-supplied defaults for system passwords and other security parameters. | ✓<br>✓ |
| Protect cardholder data | 3. Protect stored cardholder data.<br>4. Encrypt transmission of cardholder data across open, public networks. | ✓<br>✓ |
| Maintain a vulnerability management program | 5. Protect all systems against malware and regularly update anti-virus software or programs.<br>6. Develop and maintain secure systems and applications. | ✓<br>✓ |
| Implement strong access control measures | 7. Restrict access to cardholder data by business need to know.<br>8. Identify and authenticate access to system components.<br>9. Restrict physical access to cardholder data. | ✓<br>✓<br>* |
| Regularly monitor and test networks | 10. Track and monitor all access to network resources and cardholder data.<br>11. Regularly test security systems and processes. | ✓<br>* |
| Maintain an information security policy | 12. Maintain a policy that addresses information security to all personnel. | * |

✓ Requirements addressed by IBM BigFix Compliance PCI Add-on
* Operational or process-oriented requirements not covered by software

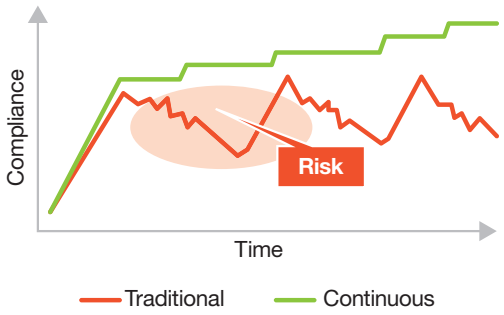
*Table 1.* IBM BigFix Compliance PCI Add-on addresses core PCI-DSS requirements

## Eliminating compliance drift

Traditionally, organizations would periodically assess compliance and mitigate risks. But this meant that even if an endpoint passed an audit, it could quickly fall out of compliance again. A manual remediation approach—for patch deployment, software updates and vulnerability fixes—can also leave organizations exposed to periods of high risk.

BigFix Compliance PCI Add-on supports a "set it and forget it" approach to policy management. The solution can provide accurate, real-time visibility of endpoint security configurations, identify and report on any configuration drift, and immediately remediate noncompliant systems. As a result, organizations can eliminate high-risk periods and lower their total costs.

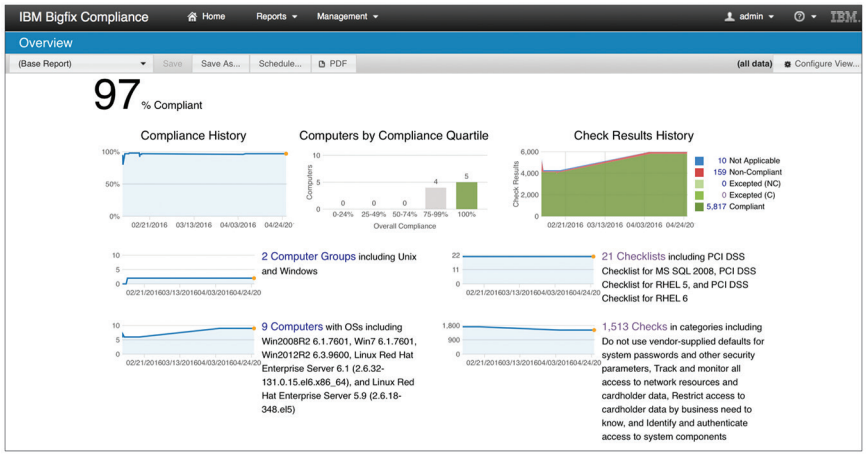
**Traditional versus continuous compliance**




A stair-step, continuous-compliance approach helps eliminate the risk, cyclical costs and configuration drift that can occur with traditional techniques.

## Gaining full visibility into your compliance posture

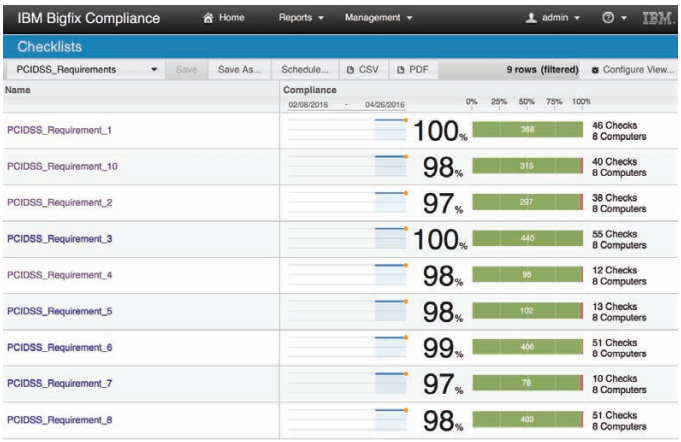
Using the BigFix Compliance PCI Add-on specialized dashboard, IT teams can quickly obtain the overall compliance posture for the entire organization. It shows the overall progress and trends toward continuous compliance, displays the history of check results across all endpoints, and summarizes key deployment data, including the associated checklists, checks and endpoints.




BigFix Compliance PCI Add-on has specialized dashboards that provide real-time visibility into progress the organization is making to meeting PCI-DSS requirements.

## Simplifying audits and demonstrating compliance progress

BigFix Compliance PCI Add-on enables IT operations and security teams to share visibility and control of PCI-DSS efforts—helping lower costs and reduce risk. At any time, they can access an at-a-glance look of the organization's compliance status based on PCI-DSS requirements, milestones, endpoints or endpoint groups, and platform-specific checklists. (Each checklist contains technical checks that assess security policies and configurations on each endpoint, provide remediation steps to fix vulnerabilities and provide reporting capabilities.) They can then drill down to get more details on areas of noncompliance.

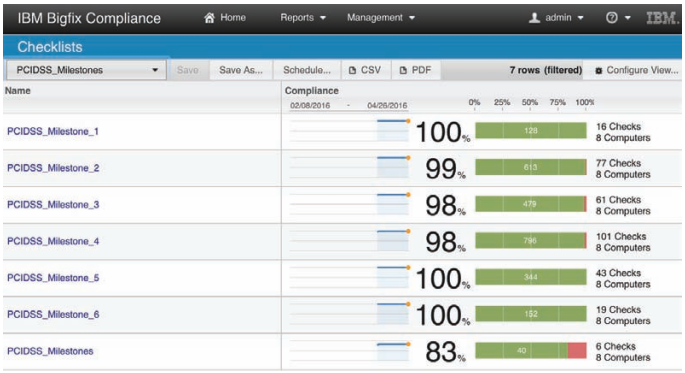



BigFix Compliance PCI Add-on features requirements-based reports that help organizations quickly identify noncompliant requirement areas and reduce auditing complexity.

In addition, BigFix Compliance PCI Add-on supports the PCI Security Standards Council's prioritized approach to compliance, helping companies focus on six specific milestones to address the greatest risks first. The PCI-DSS milestones include:

- Milestone 1: Remove sensitive authentication data and limit data retention.
- Milestone 2: Protect systems and networks, and be prepared to respond to a system breach.
- Milestone 3: Secure payment card applications.
- Milestone 4: Monitor and control access to your systems.
- Milestone 5: Protect stored cardholder data.
- Milestone 6: Finalize remaining compliance efforts, and ensure all controls are in place.

BigFix Compliance PCI Add-on features milestone-based reports that help organizations monitor the compliance status of all six PCI-DSS milestones at a glance. IT and security teams can easily see the progress that's been made in a phased compliance project, and they can identify milestone areas that require additional effort.




BigFix Compliance PCI Add-on features milestones-based reports that help organizations prioritize their compliance efforts and address the greatest risks first.

## BigFix Compliance PCI Add-on delivers broad platform support

BigFix Compliance PCI Add-on checklists are available for a wide range of operating systems and middleware, including:

- Microsoft IIS 7
- Microsoft SQL Server 2008, 2012
- Microsoft Windows 7, 2008, 2008 R2, 2012, 2012 R2, Embedded POSReady 7, Embedded POSReady 2009, Embedded Standard 7
- Red Hat Enterprise Linux v5, v6, v7
- IBM AIX® v7.1

The list of platforms and applications supported by BigFix Compliance PCI Add-on continues to expand. For the complete list of supported platforms, please visit the IBM Knowledge Center at: **ibm.com**/support/knowledgecenter/

## Conclusion

IBM Security solutions, such as BigFix Compliance and BigFix Compliance PCI Add-on, provide industry-leading capabilities to help organizations mitigate payment card-related risk and comply with the latest PCI-DSS requirements. In addition to helping companies avoid noncompliance penalties, these solutions help reduce operational costs. There's no need for highly specialized skills or costly manual processes. Using a single, centralized dashboard, organizations can enforce continuous security compliance across the entire enterprise—automatically remediating areas of noncompliance or quarantining systems to help prevent the spread of emerging threats.

Organizations can also realize significant value by deploying additional modules from the IBM BigFix platform, beyond BigFix Compliance and BigFix Compliance PCI Add-on. The broader BigFix platform addresses the convergence of endpoint management and security requirements by delivering capabilities for asset discovery and patching, software distribution, OS deployment, software usage and compliance, incident response, and more. Because IBM designed the products so that all functions operate from the same console, management server and single intelligent agent, adding more services is a simple manner of a license key change.

## For more information

To learn more about IBM BigFix Compliance, please contact your IBM representative or IBM Business Partner, or visit: **ibm.com**/software/products/en/ibm-bigfix-compliance

To learn more about IBM BigFix Compliance PCI Add-on, visit: **ibm.com**/software/products/en/ibm-bigfix-compliance-pci-add-on



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[1] "Verizon 2015 PCI Compliance Report," *Verizon Enterprise Solutions*, March 24, 2015. http://www.verizonenterprise.com/resources/report/rp_pci-report-2015_en_xg.pdf

[2] For an overview of PCI DSS, please visit: https://www.pcisecuritystandards.org/pci_security/standards_overview

[3] For more information on PCI DSS milestones, please visit: https://www.pcisecuritystandards.org/documents/Prioritized-Approach-for-PCI_DSS-v3_2.pdf

[4] "PCI-DSS Security-Penalties," *University of California at Santa Cruz*, Accessed May 12, 2016. https://financial.ucsc.edu/Pages/Security_Penalties.aspx

[5] For more information on PCI-DSS v3.2, please visit: https://www.pcisecuritystandards.org/documents/PCI_DSS_v3-2.pdf

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