Code Security

Imagine that shortly before the end of each quarter, confidential financial data from your SAP system is sent unnoticed to an external e-mail address. The insider trading and the personal enrichment of the recipient is just the beginning of the damage that can result from a lack of security checks in the code. If you don't think this can happen to you, think again. We discovered exactly this vulnerability in the ABAP code of a renowned international company.

Code is an integral part of SAP systems and a key element for secure SAP applications. Virtual Forge has made SAP security its mission and addresses code as a fundamental component in its Security Suite. It comprises the areas of system, code, and transport security.

Most of the SAP applications are written in the ABAP programming language. The introduction of HANA has brought in additional programming languages. The increasing complexity of code and the constant changes make it difficult for developers to keep pace with requirements – let alone acquire extensive know-how in the fields of code security and code quality. The large number of customer-specific SAP applications – every SAP system contains two million lines of custom-developed code on average – also means that any manual reviews conducted are inadequate.

The consequences result in undetected security vulnerabilities that leave the SAP landscape open to attack. Apart from deficiencies that are critical for security, code can negatively impact the performance of the system. In both cases, the late discovery of errors will result in significant costs for the company.

With the help of code scanners, it's possible to check the security and quality of the code in the shortest possible time, fully automated and comprehensively. If used in a continuous process, they form a kind of firewall that stops the code vulnerabilities finding their way into productive SAP systems.

Virtual Forge CodeProfiler

Virtual Forge pioneered code scanners for SAP environments with its CodeProfiler for ABAP. With CodeProfiler for HANA, this innovation has been further developed from a comprehensive solution for SAP environments. As part of the Virtual Forge Security Suite, the CodeProfilers identify and categorize vulnerabilities in the areas of security, performance, data loss, maintainability, and robustness.

The CodeProfilers can be integrated seamlessly into the various phases of the development process. A freely, configurable workflow guarantees that company-specific compliance policies, for the purposes of verification and correction, can be modeled and logged. Integration into the SAP transport system ensures that the defective code doesn't end up in the production system.

While they are programming new code, developers receive constant, interactive feedback and vulnerabilities are flagged immediately. The CodeProfilers identify the problematic statement and immediately classify the corresponding risk. To provide developers with optimum support for rectifying the problem, proposed corrections are displayed for the specific vulnerability. This direct feedback, plus extensive documentation, works to accelerate the developers' learning curve.

With the aid of data and control flow analysis, modules and content accessed beyond the code selected are checked for vulnerabilities. This makes the classification of problems more reliable and reduces the number of false-positive reports. Virtual Forge has patented this technology.

In quality assurance work, automated batch scans facilitate the routine inspection

VIRTUALFORGE

of multiple development packages. The integrated Finding Manager provides a view of all the vulnerabilities found in the respective scan. Each of the findings can be shown in detail and its status can be set individually. A PDF report can be optionally created for each scan, which offers a high-level, audit-compliant overview of the scan.

The CodeProfilers are dynamic solutions that are in continuous development. Since additional test cases are added as new requirements appear, the degree of coverage offered by the solutions is steadily expanding and the security level is always improving.

CodeProfiler for ABAP

The Virtual Forge CodeProfiler for ABAP can automatically identify security vulnerabilities and quality defects in ABAP

Highlights:

– Automated security checks for ABAP code
– Patented data and control flow analysis
– Comprehensive reporting in the tool and as a PDF export
– Integration into the SAP development and transport processes
– Remote scan without installation in the source system

CodeProfiler for HANA

SAP HANA gives developers the opportunity to develop modern, web-based applications. To do so, they use a wide variety of programming languages.

Virtual Forge CodeProfiler for HANA currently uses around 80 test cases to check applications programmed in XS JavaScript, SQLScript, or SAPUI5 for security vulnerabilities and quality defects. Future releases will include test cases for the node.js programming language.

Highlights:

– Interactive scanning of the HANA programming languages
– Scanning of SAPUI5 source code in HANA, SAPUI5 ABAP, and GIT Repository
– Unique technology for the interactive scanning of dynamic programming languages
– Automatic updates for test cases
– Audit-compliant test reports

CleanupSolutions

Virtual Forge CleanupSolutions enables the automated correction of large quantities of ABAP code in SAP system landscapes with the objective of removing security vulnerabilities, solving quality problems, and improving performance.

CleanupSolutions is the result of consolidating a wealth of knowledge about vulnerabilities and their removal paired with years of experience with Virtual Forge CodeProfiler for ABAP and the Custom Code Correction Factory. Not only are users given an integrated workbench, they receive the know-how needed to resolve errors and risks quickly and efficiently.

Highlights:

– Automated batch correction of errors in ABAP code
– Clean-up of unused code (upcoming feature)
– Integrated expert knowledge

About Virtual Forge

Virtual Forge is the leading provider of cyber security solutions for SAP. Our solutions enable companies to run their SAP applications securely.

VIRTUALFORGE