Automating Salesforce Health Check

A White Paper

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and

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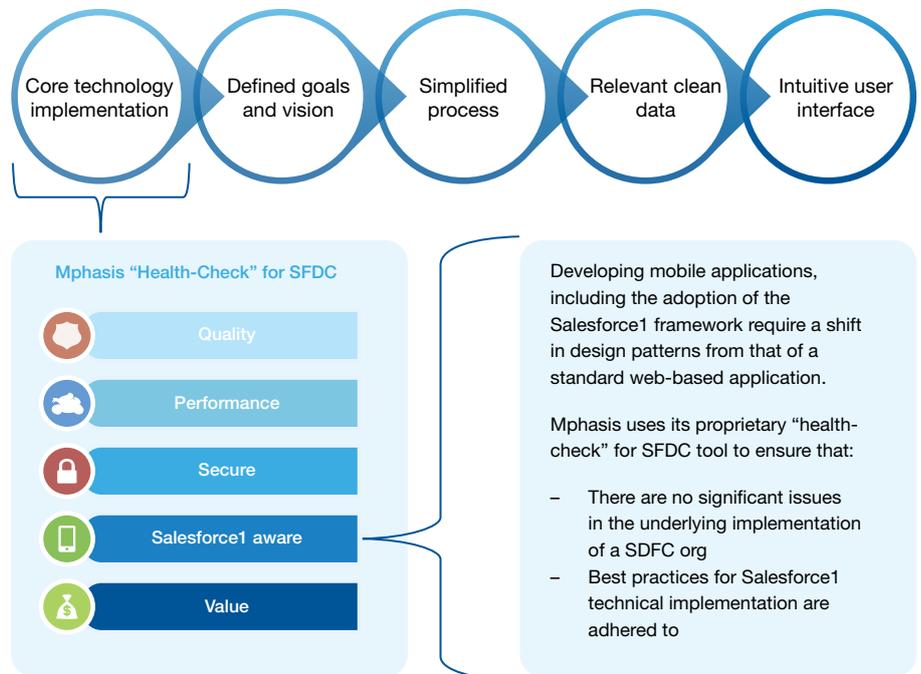Principal customer consultant

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Introduction

Manual code reviews are just about manageable in order to check new classes but what about changes that are made to larger, older classes? Or how do you check the code delivered by a third party?

Over time environments grow in complexity and if not adequately managed, it can become complex and even lead to slow processes and security challenges. Salesforce suffers from these problems just like any other application.

Mphasis helps customers overcome these issues by introducing the Salesforce Health Check solution. Our collective years of expertise in delivering high-quality CRM solutions and creating health check utilities for other CRM applications, such as our Oracle acclaimed PC4 for Siebel, has been instrumental in shaping the health check system we use for Salesforce today.

Our Salesforce Health Check Service evaluates best practice coding, security risks, governor limits and the readiness of your Salesforce configuration for use with Salesforce1.

Core technology implementation → Defined goals and vision → Simplified process → Relevant clean data → Intuitive user interface

Mphasis "Health-Check" for SFDC

- Quality
- Performance
- Secure
- Salesforce1 aware
- Value

Developing mobile applications, including the adoption of the Salesforce1 framework require a shift in design patterns from that of a standard web-based application.

Mphasis uses its proprietary "health-check" for SFDC tool to ensure that:

– There are no significant issues in the underlying implementation of a SDFC org
– Best practices for Salesforce1 technical implementation are adhered to

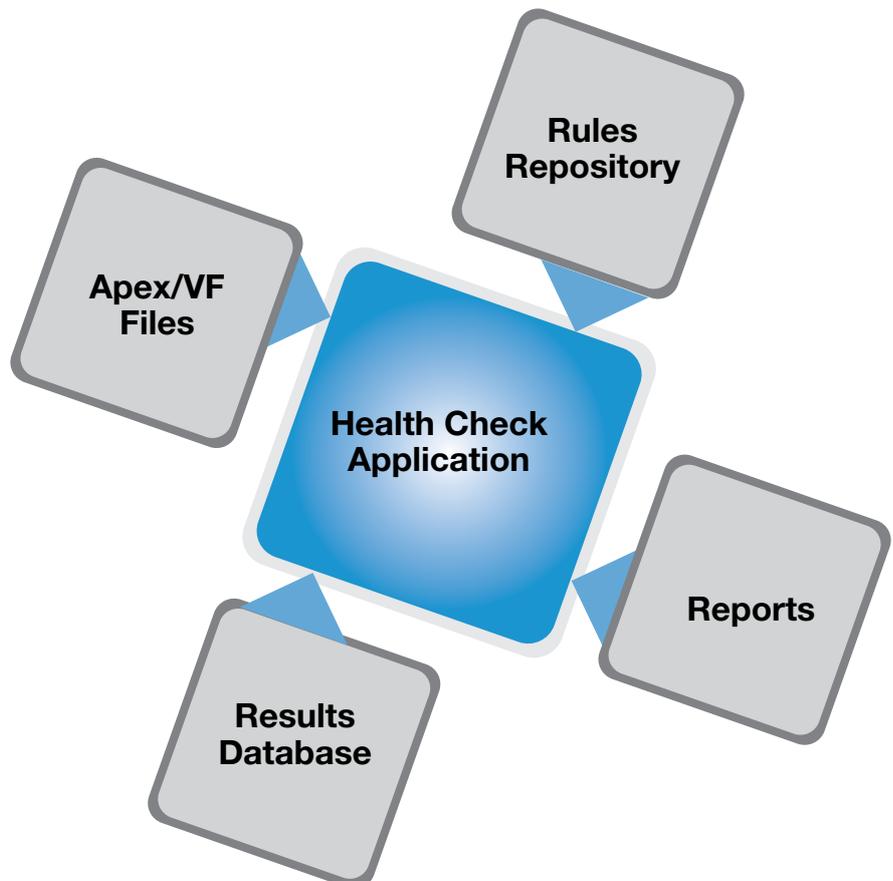# Mphasis Salesforce Health Check

Design Considerations

Combining our Salesforce functional and technical expertise we have developed a Health Check tool to analyze a Salesforce org. The Architecture of the utility enables it to maintain the tool's versatility within the modern and changing landscape of Salesforce as depicted in the diagram below. These include:
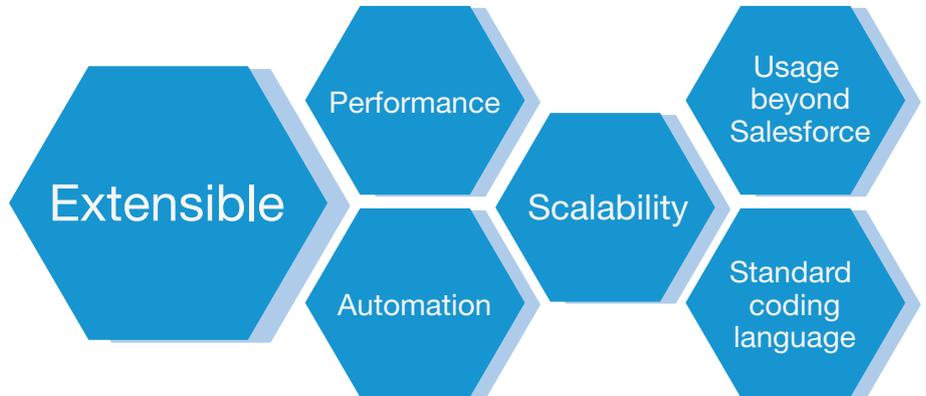
Architecture Approach

The Health check application is designed to easily connect to the Salesforce application and evaluate the rules stored in the repository against the Salesforce application. Combining an excellent grammar parsing solution with accumulated years of knowledge on static code analysis, we have developed a robust code review framework that we run on all our internal Salesforce development projects.

Mphasis Salesforce Health Check
High Level Architecture

The defined review rules concentrate on code robustness and the avoidance of security vulnerabilities within Apex code. They also include a recently introduced set of rules focusing on the specific requirements to deliver successful Salesforce1 solutions.

One of the important aspects of code robustness is the focus on the adverse impact on Governor Limits caused by inefficiently constructed Apex Code. The Apex runtime engine strictly enforces a number of limits, such as the maximum number of SOQL queries that can be issued and the maximum number of recursively defined code triggers. These are called Governor Limits. They exist to ensure Apex does not monopolize the shared resources that exist within the Salesforce cloud architecture. If any Apex code ever exceeds a limit, the associated governor issues a runtime exception that cannot be handled. We always keep in mind the need for continual system availability. Using our rules helps to minimize the risk and chances of these limits being breached.

The specific characteristics of mobile devices, i.e. their small display area, their low processing power (relative to laptops) and need for clean and simple user interfaces (large fingers trying to use small buttons) means any design must follow specific user interface and development guidelines.

We have built specific rules into Salesforce Health Check Salesforce1 specific rules enable us to quickly evaluate the suitability of existing Salesforce code for use in a Salesforce1 solution.

Mphasis Salesforce Health Check Report

The categorization of each rule to a particular type of impact (e.g. security vulnerabilities, code quality, etc.) provides the flexibility to focus on a subset of rules as warranted by the particular client engagement being undertaken.

The generated report consists of two main sections; a summary table/scorecard and detailed text on each instance of a rule violation. The summary is a useful mechanism to compare different health check iterations during a project's lifetime as it helps provide empirical evidence, separate to standard testing, as to the ongoing levels of coding standards being maintained by the development team. The detailed text on each rule violation provides an excellent guide to developers.

Each rule has an associated risk rating that, when combined with the frequency of the particular rule being violated, generates a measure of impact caused by the violations of that rule. Combining the results of all rules and the identified violations creates an abstract measure of quality of the Apex code.

Conclusion

Health checks are a must for any Salesforce organization that has extensive customization. Periodic Healthchecks keeps the governor limits in check, improves code performance, and minimizes storage costs.

Mphasis offers a comprehensive solution to automate the health checks and recommends two health checks every year.

James Royle

About Author

Principal customer consultant,
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James Royle is a Principal customer consultant with Mphasis and heads up the EMEA SFDC Center of Excellence. James has over 13 years experience of implementing customer solutions across a range of technologies, industries and functions.

James' particular focus is on ensuring SFDC technology solutions are implemented to gain the maximum business benefit in the most efficient and effective manner.

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Martin Prosser is a Principal Customer Consultant within the CRM architecture and cloud Center of Excellence. His focus is on ensuring that clients maximize their CRM investments and gain savings through moving to cloud solutions.

About Mphasis

Mphasis an HP Company is a USD 1 billion global service provider, delivering technology based solutions across industries, including Banking & Capital Markets, Insurance, Manufacturing, Media & Entertainment, Telecom, Healthcare, Life Sciences, Travel & Transportation, Hospitality, Retail & Consumer Goods, Energy & Utilities, and Governments around the world. Mphasis' integrated service offerings in Applications, Infrastructure Services, and Business Process Outsourcing help organizations adapt to changing market conditions and derive maximum value from IT investments. Contact us on **www.Mphasis.com**

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