Unlocking the Value of SAP Change Intelligence: What Developers and Security Managers Ask About Implementing Salt in Their SAP Systems

Executive Summary

In 1999, when Revelation Software Concepts (RSC) introduced Rev-Trac to simplify SAP change control, the company fundamentally changed how leading companies manage their SAP Change Control. As SAP systems grew more complex, RSC introduced Salt for heightened visibility into systems of all sizes. The Salt suite of applications provides change intelligence and insights into SAP custom code and system information.

With Salt, users can analyze, decide and act on important system information in real-time. Salt lets you base decisions on fact, not guesswork.

Salt reduces risk in SAP systems by providing current, accurate intelligence on systems and code. It runs in a separate virtual machine, communicating with systems through SAP's own connectors using standard security safeguards, so it never poses a risk to the system itself.

Salt provides real-time intelligence in three focus areas that deliver tangible and measurable benefits:

- Developers are code-centric, and Salt's *Developer Utilities* help them work faster and more productively.

- Managers know how fragile a complex landscape can be. Salt's *Landscape Management* applications help them understand the state of play in each system. This can be of paramount importance when, for example, un-promoted code left in QAS leads to incorrect test results.

- Stakeholders from developers to CIOs understand the cost of recreating custom code if it is lost, for example during a crash, restore, backup or system restart. Salt's *Object Repositories* guards against potentially expensive disasters with auto-save and archiving and keep custom ABAP code and data dictionary objects safe and secure.

Salt delivers significant reduction of risk. Even small changes carry risk of accidental disruption and the more complex the system, the greater the risk. Salt provides specific data to the appropriate stakeholders, who can then act quickly to make improvements or to avoid disaster. It safeguards custom code, eliminates the risk of lost work, and lets you sleep easier.

RSC's free Salt trial lets you discover Salt's value by using it on the systems you know best – your own. Expect to be startled by some of the system intel it provides.

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Introduction

Salt, from market-leading third-party SAP change control automation specialist Revelation Software Concepts, responds to the need for change intelligence in addition to well governed change control on complex SAP system-based infrastructures.

The Salt suite of applications reduces risk by providing essential fact-based information on current systems to authorized managers, developers and other stakeholders. Its real-time intelligence enables decisions based on fact, not guesswork, and saves time in multiple areas on a continuing, day-to-day basis.

Salt delivers real-time intelligence on system state and custom ABAP code in three focus areas:

• Developer Utilities

• Landscape Management

• Object/Code Repositories

Used together, these visibility tools give you the means to analyze systems, notify stakeholders of changes to objects or systems, keep custom ABAP code safe and accessible, find ABAP code anywhere on a system, and reveal changes or inconsistencies between objects and systems.

This whitepaper describes the eight Salt applications that comprise the suite, stating technical and business benefits of the intelligence they deliver and describing Salt's safe, secure and problem-free implementation process.

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Section 1: Benefits of Visibility - Salt Lets You See Inside Your System

SAP system-based infrastructures have multiple stakeholders – project, basis and release managers; developers and team leaders; users. These stakeholders need different types of change intelligence at different times. Users may only need to know when a change will arrive. Other stakeholders need more precise change intelligence. That's where Salt comes in.

Salt's small applications deliver change intelligence in three areas – developer utilities, landscape management and the object repository. Packaged within a maintenance-free, secure virtual appliance, Salt is straightforward to install, update, maintain or remove. Its applications are both secure and easy to use.

Developer Utilities

Developers are code-centric and Salt helps them work faster and more productively.

Code Ferret

Master the custom ABAP code on your system, no matter where it resides. Never lose another code snippet. If it's on the system anywhere, Code Ferret finds it immediately. You can find specific types of objects, such as functions, that were changed by a particular developer, such as a departed contractor, during a specified date range. Or go right to that bit of code you remember seeing somewhere the other day. Here, Code Ferret checks code standards (Figure 1) and noses out functions coded by a particular developer during a specified period (Figure 2).
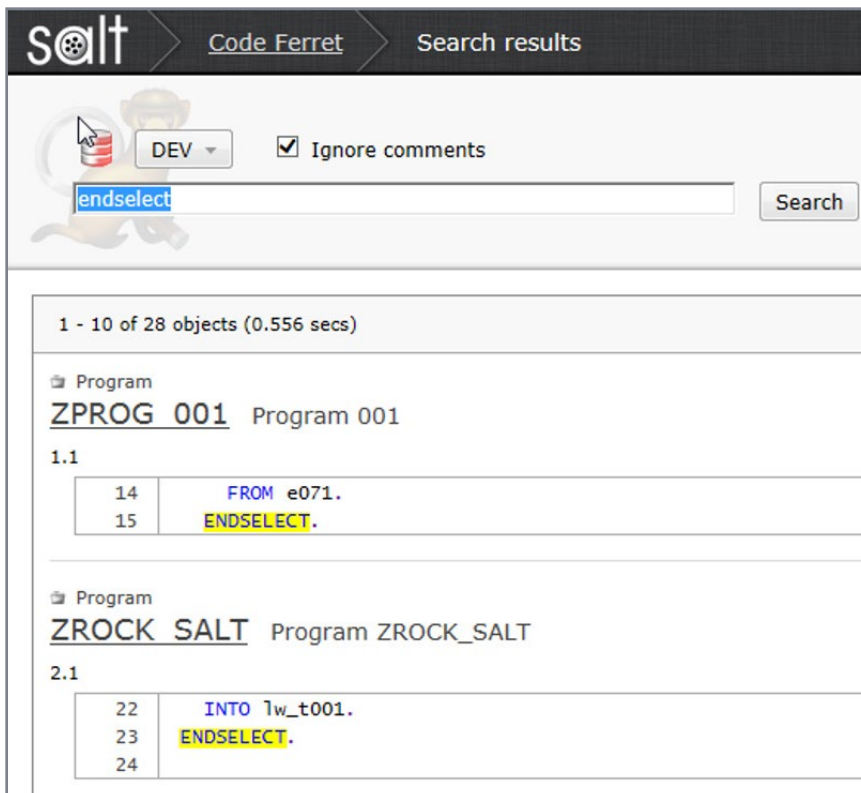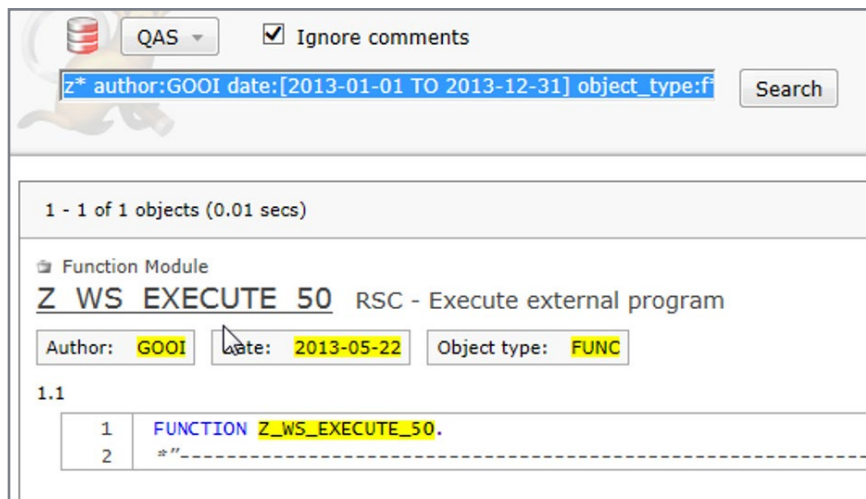
Figure 1: Checking code standards using Code Ferret

Figure 2: Searching for functions by developer

> *Code Ferret checks code standards and noses out functions coded by a particular developer during a specified period.*

Watch Bot

Keeps you on top of your systems. Watch Bot lets you decide what to monitor, how to report it and who gets the reports. Did someone make a manual change directly in QA or PRD, bypassing your processes? Watch Bot will spot it. It will inform you of changes to complex objects or even whole development classes. It can round up changes made overnight in your absence and email you a report each morning. And it can sound an alarm if a system goes unstable, goes down or comes back up. It can issue auto-alerts to monitor object changes or detect potential parallel development issues between BAU and Project landscapes, as in Figure 3.3.

Figure 3.1: Watch Bot alert rule
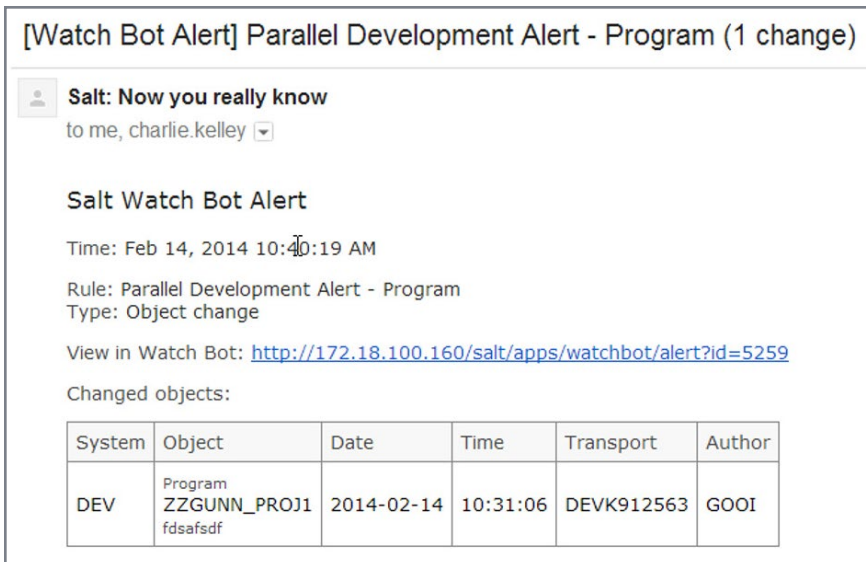

Figure 3.2: Resulting alert

Figure 3.3: Watch Bot parallel development alert email

Match Box

Never lose work to an out-of-sync object. Developers know how quickly objects can fall out of sync if a transport on one system changes an object copied to DEV from another system. Match Box detects even small differences between code versions so you can directly see conflicts in a single view, compare objects and prevent problems. Differences between systems, versions or even other named objects show up in a single, color-coded view that makes sorting between them a breeze. In Figure 4, Match Box shows differences between objects on separate systems.
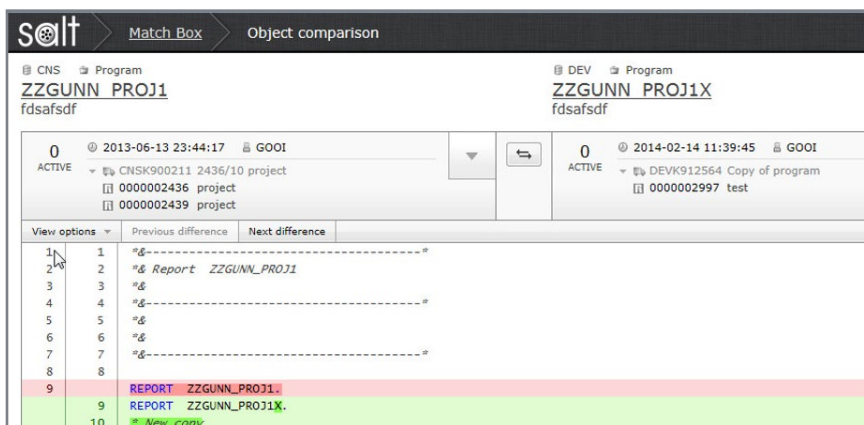

Figure 4: Match Box diffs between systems

Match Box detects even small differences between code versions so you can directly see conflicts in a single view, compare objects and prevent problems.

Landscape Management

Keep your landscapes stable. From Team Leaders to CIOs, managers know how fragile a complex landscape can be. Prevent out-of-sequence version imports or old and forgotten code accidentally carried in an unrelated transport. Understand the state of play in each system to ensure each system is the same. For example, significant amounts of code lying un-promoted in QAS can distort test results and destabilize PRD if promoted. Salt's Landscape Management applications can prevent such mishaps by enabling users to identify such code beforehand.

Matrix

Understand your SAP landscapes. Matrix compares systems in detail so you can visualize and quantify the differential between DEV, QAS and PRD. It works by analyzing objects on every specified system and showing you the differences. Are overtakes and overwrites increasing between BAU and Project landscapes? Matrix makes it easy to track down the sources. In Figure 5, see how Matrix can reveal objects that need re-syncing after refreshing QAS from a backup of PRD.

Figure 5: Matrix finding objects to re-sync

WIP Window

It's much easier to manage development teams if you can click a button and see who's working on what, which work hasn't yet gone to QAS or PRD, or what work a departed contractor has left undone. WIP Window shows all that and more. Explore unreleased changes in DEV as well as changes not yet moved to PRD, and use the information to balance workloads between teams or individual team members.
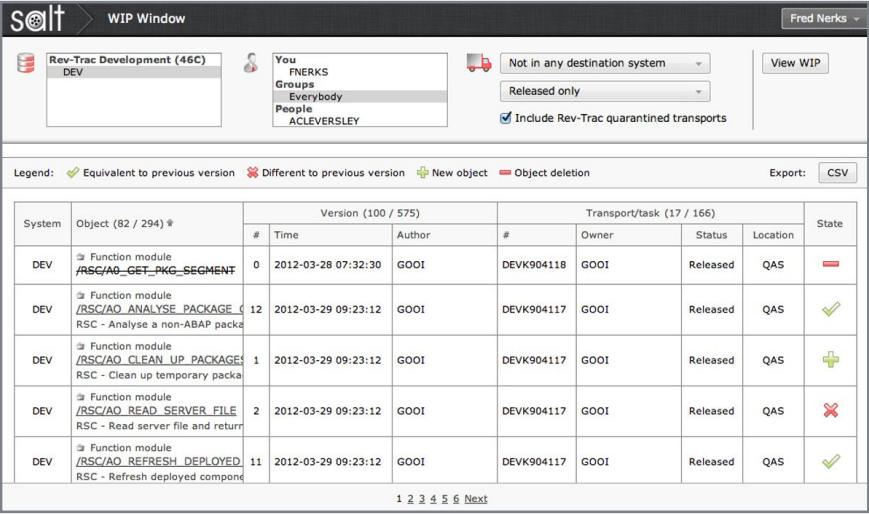
System	Object (82 / 294)	Version (100 / 575)			Transport/task (17 / 166)				State
		#	Time	Author	#	Owner	Status	Location	
DEV	Function module /RSC/A0_GET_PKG_SEGMENT	0	2012-03-28 07:32:30	GOOI	DEVK904118	GOOI	Released	QAS	▬
DEV	Function module /RSC/AO_ANALYSE_PACKAGE_(RSC - Analyse a non-ABAP packa	12	2012-03-29 09:23:12	GOOI	DEVK904117	GOOI	Released	QAS	✓
DEV	Function module /RSC/AO_CLEAN_UP_PACKAGES RSC - Clean up temporary packa	1	2012-03-29 09:23:12	GOOI	DEVK904117	GOOI	Released	QAS	✚
DEV	Function module /RSC/AO_READ_SERVER_FILE RSC - Read server file and retur	2	2012-03-29 09:23:12	GOOI	DEVK904117	GOOI	Released	QAS	✗
DEV	Function module /RSC/AO_REFRESH_DEPLOYED RSC - Refresh deployed compone	11	2012-03-29 09:23:12	GOOI	DEVK904117	GOOI	Released	QAS	✓

1 2 3 4 5 6 Next

Figure 6: WIP View

> *"With WIP Window you can click a button and see who's working on what and which work hasn't yet gone to QAS or PRD.*

Cold Case

Keep systems stable and trim the costs of keeping unused old code. Over time, any system accumulates forgotten or abandoned work from any number of sources. Consultants move on, projects change, transports go stagnant. Any code left behind costs time and money, and can interfere with integration testing. Cold Case finds and helps you discover who created an abandoned object and why it stopped advancing so you can remove it, complete it, move it to a repository or even promote it directly into PRD. You'll clean up your system and potentially rescue thousands of hours of lost work. In Figure 7, Cold Case identifies code that, in three months, has not moved beyond DEV.

Figure 7: Cold Case identifies code that has not yet moved to PRD

Object Repositories

Safeguard your custom code, eliminate the risk of lost work, and sleep easier. When a program's custom code gets lost during a crash, restore, backup or system restart, it can be an expensive disaster. With Salt you can quickly rebuild, analyze or simply browse through active objects and recover previous states quickly after an unexpected loss or change of plans.

Life Saver

Eliminate problems with changed ABAP objects and take control of back-outs using Life Saver. Much better than a simple "back-out" button that gives you little or no control over the results, Life Saver creates and displays auto-saved, point-in-time snapshots of active code in any system. Later, you can view, compare with earlier or later versions, or restore to a better state as needed. You won't "back out" blindly and hope for the best, because Life Saver puts you in control. Figure 8 is an example of a transport with two different timestamps, compared in Life Saver to show what changed.
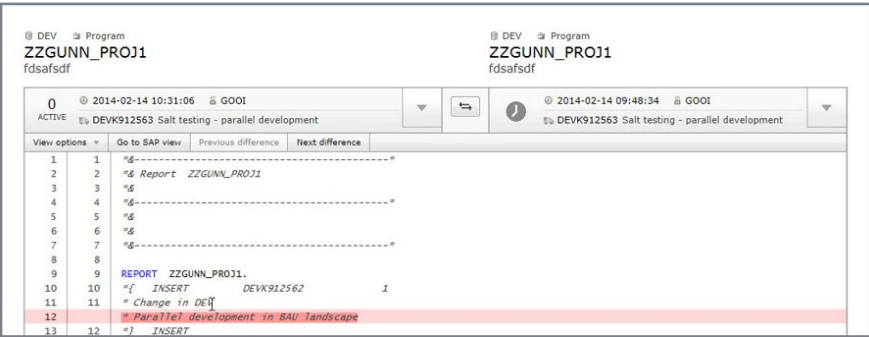
Figure 8: Live Saver showing different timestamps on same transport

> *Life Saver creates and displays auto-saved, point-in-time snapshots of active code in any system.*

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Version Vault

Keeps custom ABAP code and data dictionary objects safe and secure. Your teams will never have to reinvent the wheel. Version Vault keeps historical data dictionary and code objects easily accessible, continually updating all associated audit support data in an external repository of custom SAP objects. When you review the complete development version history it's easy to find at a glance the differences between versions of object attachments.

Figure 9: Version Vault object differential

Section 2: Easy Secure Installation

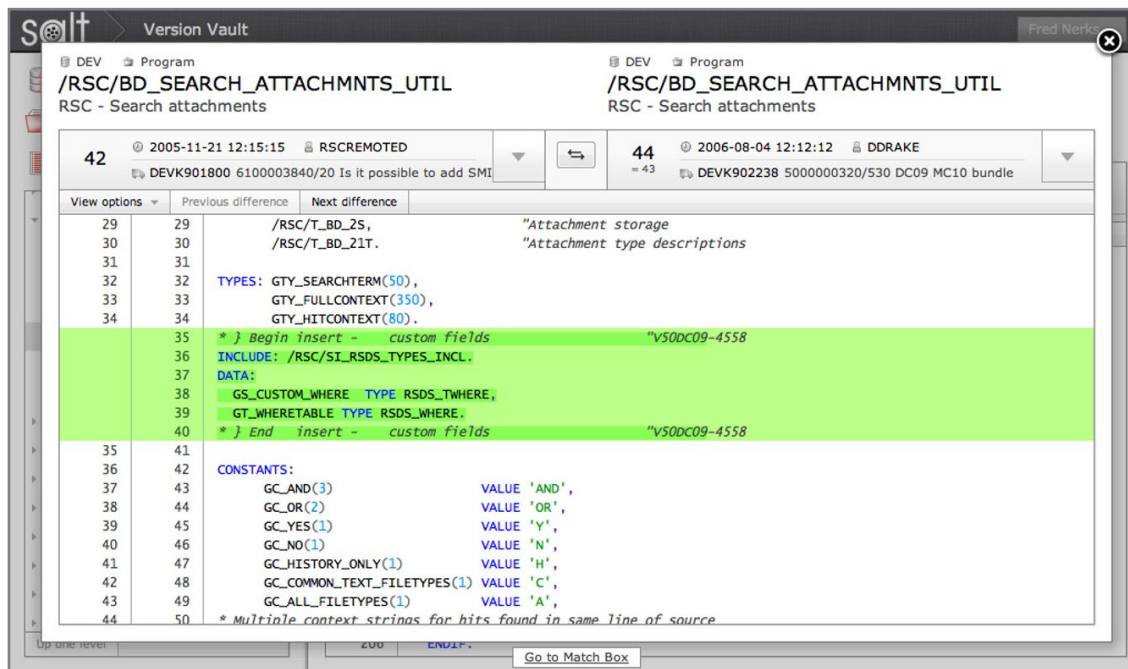The RSC Core VM runs on any VMware or Microsoft Hyper-V virtual platform running on physical hardware. The VM has 64-bit machine performance and scalability. It includes up-to-date core components such as the underlying operating system and web application server, and the latest Java releases. If your organization is not already running a suitable virtual platform and you wish to install the RSC Core VM on a physical computer running Windows, you can download **VMware Player**, a VMware virtual platform suitable for running the RSC Core VM. VMware Player is available for free for non-commercial use (e.g. to trial Salt).

Free Trial... Full Security on Real-World Data

The best way to discover the value of Salt's enhanced system visibility is to use it on the systems you know best – your own. Some of the new insights you gain will startle you; we hear it over and over from Salt users.

"We downloaded and installed Salt quickly and easily and saw immediate value. Not only could we see every line of custom code in a flash, we could compare versions across systems very quickly. No more pushing the wrong version into production for us! And, the Code Ferret app is really appreciated by our developers. They can find anything in any code. The truly amazing thing is the speed at which any of the apps works."

Robert, Senior SAP Release Engineer, Financial Services Company, US

You can use Salt on up to 20 systems during the **free trial** and decide for yourself if Salt's speed and versatile information reporting would be useful.

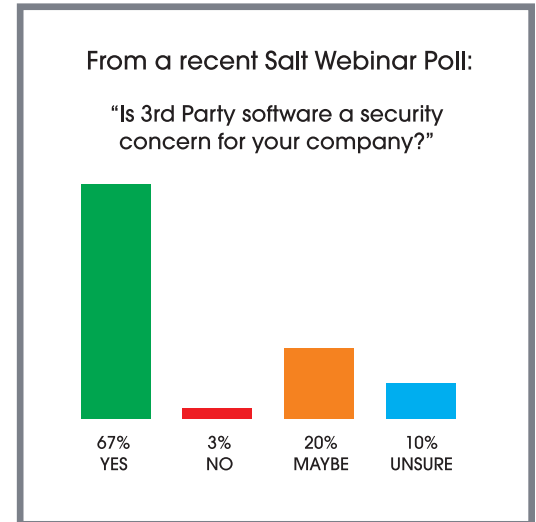*" You can use Salt on up to 20 systems during the free trial and decide for yourself if Salt's speed and versatile information reporting would be useful.*

We know security is vitally important, so you should know –

- *The Salt Trial is Safe and Easy* – Salt applications run in the RSC Core VM, which is preconfigured to run Salt applications efficiently on either VMware virtual platforms or Microsoft Hyper-V. Salt is free of installation and configuration problems - you simply download a single file.

- *Salt is Secure* – Salt is easy to secure from outside eyes. It supports HTTPS/SSL – you upload your own certificate, matching your chosen VM hostname, and can enable it either in addition to open HTTP connections or with an enforced policy requiring all connections to be via HTTPS/SSL for security. In addition, passwords sent between both Salt and the SAP login systems are encrypted. Of course, OpenSSL's much-publicized "Heartbleed" vulnerability is closed in Salt.

- *Salt Gives You Control Over Who Can Use Salt and Where* – Simply have Salt run authentication checks on users at login. Salt provides options to turn on and enforce authorization check log-in, giving you complete control over its use.

From a recent Salt Webinar Poll:

"Is 3rd Party software a security concern for your company?"

| 67% YES | 3% NO | 20% MAYBE | 10% UNSURE |

Salt Installation

Salt installs in six simple steps:

1. Deploy the RSC Core VM.

   Minimum platform requirements include:
   - 50GB disk space
   - 1GB RAM, although 2-4GB is best
2. Configure RSC Core VM networking
3. Download and install SAP Java Connector (SAP JCo)
4. Change RSC Core VM administrator password and time zone
5. Import ABAP component transport into each SAP system
6. Configure each SAP system in Salt

Normally the installation takes only a few hours. Leave Salt overnight to fully synchronize with your SAP systems (this time varies depending on how many systems and custom objects you have) and then you're ready to go.

Conclusion

The value of change intelligence can't be overstated. Salt is an excellent complement to your change control processes already in place. And if you have not yet automated your processes, Salt provides a great starting point to understanding your actual change control needs.

• Salt is secure – All communication with the SAP systems uses SAP-standard JCo RFC connections and access can be further secured by encrypting all HTTP communication.

• Salt is portable – You can copy, move or reassign Salt's VM functionality between systems whenever you decide. No complications, no reconfigurations, no problems. Just copy or move the VM file.

• Salt is safe and shows immediate ROI upon implementation.

• The Salt application suite quickly becomes a resource that developers and managers can't live without.

It's easy to get started. Using the RSC Core VM requires no license. For information about the licenses that you will require to run Salt permanently, contact **sales@xrsc.com**. If you haven't seen the easy-to-read, quick-reference Salt e-Book, you can download it **here.** Then take a look at the Salt **subscription page** and **call** or **email us** with any further questions.

About the Author

As Vice President Business Development, Rick Porter is responsible for RSC's sales and marketing strategy and for sales of RSC products and services. This includes researching and understanding the change control challenges faced by SAP IT teams and the broad range of solutions available, including how best to position RSC's change control software products.

If you find this white paper helpful, you might wish to subscribe to the **RSC SAP Change Control Blog** where he regularly contributes.

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