

# HP Server Automation

Version: 10.2

---

## Whitepaper: SA Agents in the Public Cloud

Document Release Date: December 22, 2014

Software Release Date: December 12, 2014



# Legal Notices

## Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

## Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

## Copyright Notices

© Copyright 2000-2014 Hewlett-Packard Development Company, L.P.

## Trademark Notices

Adobe® is a trademark of Adobe Systems Incorporated.

Intel® and Itanium® are trademarks of Intel Corporation in the U.S. and other countries.

Microsoft®, Windows®, Windows® XP are U.S. registered trademarks of Microsoft Corporation.

Oracle and Java are registered trademarks of Oracle and/or its affiliates.

UNIX® is a registered trademark of The Open Group.

## Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

To check for recent updates or to verify that you are using the most recent edition of a document, go to one of the following sites:

<http://h20230.www2.hp.com/selfsolve/manuals>

<http://www.hp.com/go/bsaessentialsnetwork>

Both of these sites require that you register for an HP Passport and sign in. To register for an HP Passport ID, go to: <http://h20229.www2.hp.com/passport-registration.html>

## Support

Visit the HP Software Support Online web site at: <http://support.openview.hp.com/>

This web site provides contact information and details about the products, services, and support that HP Software offers. HP Software online support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business.

As a valued support customer, you can benefit by using the support web site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.

To register for an HP Passport ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

To find more information about access levels, go to:

[http://support.openview.hp.com/access\\_level.jsp](http://support.openview.hp.com/access_level.jsp)

# Contents

- Introduction..... 6
- Overview ..... 7
- SA Agents in the Public Cloud Implementation ..... 8
  - Environment..... 8
- Agent-Managed Instances through a Satellite ..... 10
  - Establish a Connection to AWS from Your Network ..... 10
  - Install a Satellite on an AWS Instance ..... 11
  - Install SA Agents on Instances..... 11

## Introduction

HP Server Automation (SA) documentation provides information about how to implement server automation for infrastructure and applications. These documents include detailed, step-by-step configuration instructions, templates, and scripts necessary to deliver an HP SA service for end users.

This HP SA white paper provides information about SA Agents in the public cloud, how to set up and deploy a Satellite for Amazon Web Services (AWS), and how to manage your cloud instances with SA Agents.

For this implementation, we assume you have HP SA up and running. Each component must be verified to work individually and within HP SA. If you do not have HP SA deployed, see the [HP SA Standard/Advanced Installation Guide](#).

**Target Audience:** This white paper is for HP SA design architects, database administrators, and business users who want to learn more about using HP SA Agents to manage servers in public clouds. It describes testing performed in September and October 2013.

## Overview

Using SA to agent-manage servers in private and public clouds enables SA power and functionality in each cloud instance. We recommend deploying and using a satellite, because cloud instances that are hosted by cloud service providers are similar to servers at a remote site.

A satellite installation typically consists of, at minimum, a satellite gateway and a software repository cache and allows you to fully manage servers at a remote facility. The software repository cache contains local copies of software packages to be installed on managed servers in the satellite, while the satellite gateway handles communication with the primary core.

An agent-managed instance can communicate with an SA Satellite to run patching, software management, application configuration, audit, and remediation. You can optionally install the OS provisioning boot server and media server on the Satellite host to support remote OS provisioning and reprovisioning.

## SA Agents in the Public Cloud Implementation

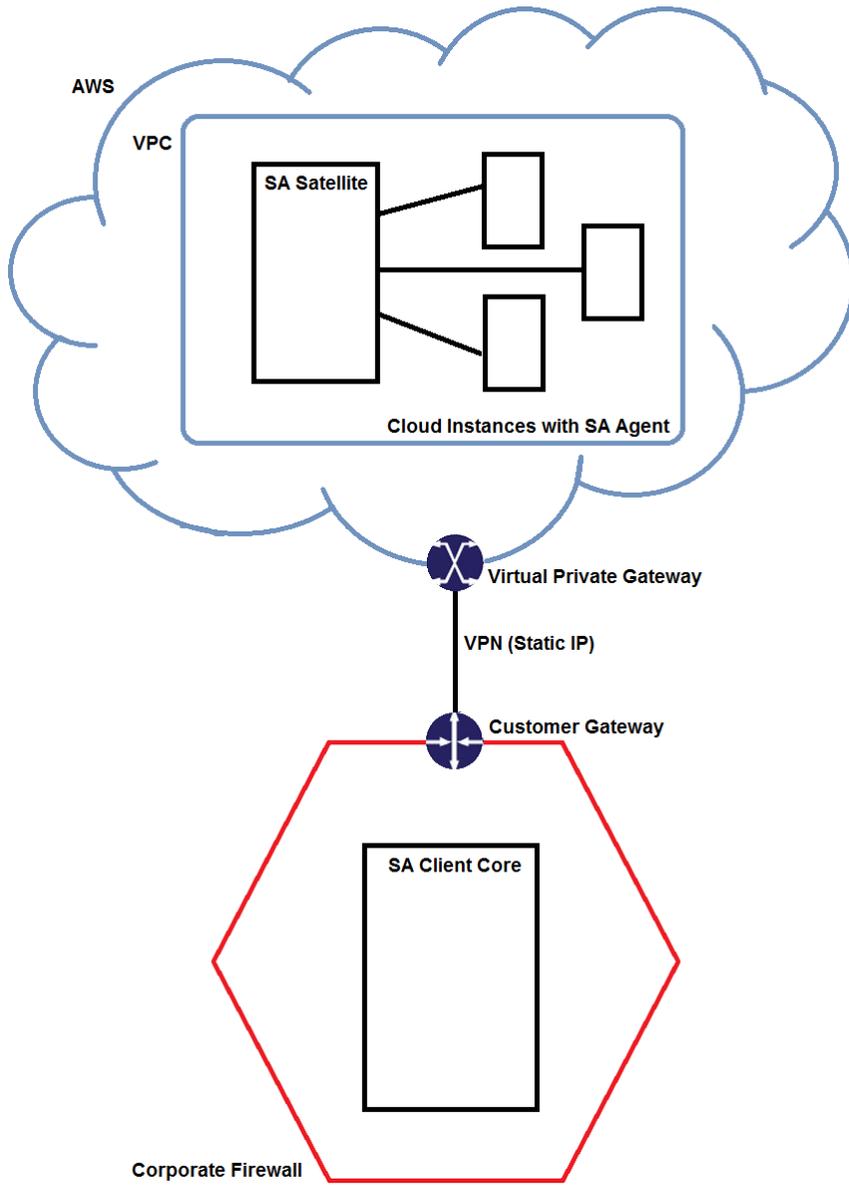
The implementation described in this white paper consists of an SA Core within the corporate firewall that is connected to an SA Satellite on an AWS instance. We recommend using the Amazon Virtual Private Cloud (VPC) networking service, which enables you to provision a private, isolated section of the AWS cloud where you can launch AWS resources in a virtual network.

### Environment

The scenario uses VPC with a single private subnet and a virtual private gateway to enable communication with the network over an IPsec VPN tunnel. There is no Internet gateway. This scenario can be used to extend a network into the cloud without exposing a network to the Internet. A Satellite is connected directly to the SA Core, and the Core is connected to AWS (see Figure 1).

**Cloud Provider:** AWS.

**Figure 1. Basic Setup: Satellite in AWS with VPC**



## Agent-Managed Instances through a Satellite

This section describes prerequisites and steps needed to agent-manage instances through a Satellite.

1. Establish a Connection to AWS from Your Network
2. Install a Satellite on an AWS Instance
3. Install SA Agents on Instances

### Establish a Connection to AWS from Your Network

1. Create and configure the Amazon VPC as described here:  
[http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC\\_Scenario4.html](http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Scenario4.html)
2. Open the required SA ports in the VPC's default security group, as shown in Table 1 (see the [HP SA Standard/Advanced Installation Guide](#) for more details).

**Table 1. Required SA Ports**

Inbound Ports	Outbound Ports
-	22 (SSH) to copy the Satellite distribution to the cloud.
1002 for SA Agent communication.	1002 for SA Agent communication.
-	1003 and 1006 for the Software Repository Cache.
2001 for the SA Satellite to communicate with the SA Core.	2001 for the SA Satellite to communicate with the SA Core.
3003 for the SA Satellite gateway installer.	-
-	4040 for the gateway used by the Software Repository Cache.

3. Create a VPN connection between the VPC and your local network.

For information about VPNs that can be used to secure the connection and how to configure the virtual private gateway, see the [Amazon Virtual Private Cloud Network Administrator Guide](#).

## Install a Satellite on an AWS Instance

1. Create an AWS instance on which you can install the Satellite.  
In this implementation, RedHat Enterprise Linux (RHEL) 6.4x86\_64 is used. For other supported platforms, see the [HP SA Support and Compatibility Matrix](#).
2. Configure the iptables firewall to open the SA ports listed in Table 1.
3. Copy the Satellite distribution to the Satellite server in AWS.
4. Run Satellite prerequisite checks, and fix any issues.
5. Copy the certificate and CDF file from the Core server to the Satellite server.
6. Run the Satellite installer.
7. Enable the SA Agent Installer on the Satellite by adding the following to the root user's path:
  - OpenSSH client
  - telnet client (standard client that ships with Linux)
  - rlogin (standard login that ships with Linux)

For more information about SA Satellite installation and deployment, see the [HP SA Standard/Advanced Installation Guide](#).

## Install SA Agents on Instances

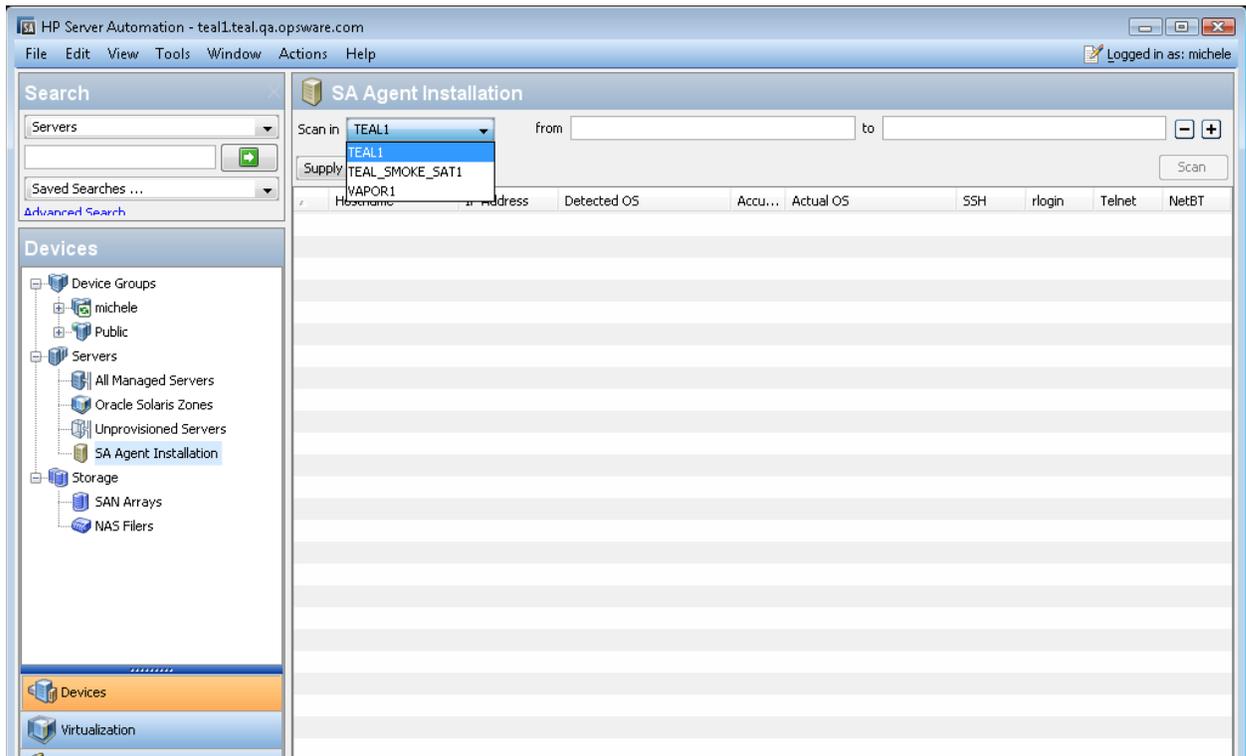
For details about SA Agent installation, see the [HP SA User Guide: Server Automation](#).

For Linux instances, enable SSH password authentication and root login. For Windows instances, enable NETBIOS over TCP/IP.

The Satellite server needs to communicate to instances through the SA Agent Installer. To do this, for example, you may need to configure or disable the iptables firewall (in Linux) or the Windows Firewall.

1. Configure the firewall as needed for your instance.
2. Log in to the SA Client.
3. Navigate to SA Agent Installation, and select the Satellite from the "Scan In" drop-down list (see Figure 2).

**Figure 1. Select the Satellite to Scan In**



4. Scan in your private IP address range to discover agentless servers.
5. Right-click each server on which you want to install SA Agent, and run the Agent Installer.

You are now ready to leverage SA in the public cloud. For more information about HP SA, see the [HP Server Automation Documentation Catalog](#).