insightVM Deployment Handbook

Thank you for Advancing Securely with Rapid7. Within this document, you'll find system, network, and functional requirements, a project plan, and additional resources. If you have any additional questions, please send those to your Project Manager or your Security Consultant.

Preparing for Deployment:

In order for your insightVM deployment to be successful, you **MUST** have the following resources in place prior to the first day or your deployment:

Change Control

It is common for many organizations to employ a change control process around their IT environments. To ensure a successful deployment, change controls must be approved prior to Deployment, to enable implementation and testing of product functionality. Consider mitigation action, for example: if change control has been submitted, but not approved, or an emergency change is required, what course of action can be taken to keep the deployment moving?

Multi-Team Stakeholder Participation

Cybersecurity often involves teams outside of the direct security team deploying the software. For example, an IT team can speak to existing hardware – whereas a provisioning team can speak to how new hardware is onboarded. Managerial staff can additionally provide context around key performance indicators ("KPI")s and required compliance that must be met for things like data retention.

Having several teams involved in the deployment of insightVM will ensure a successful rollout within your environment, allow for cross training and improved understanding of findings.

We recommend that you have representatives from the following teams available during the deployment. They do not need to be present during the entire deployment timeframe, but need to have the flexibility to join at relatively short notice.

- Cybersecurity Managerial staff, providing guidance around KPI's, priorities and reporting needs
- System Administrator capable of provisioning service accounts **OR** ensure accounts identified in Additional Resources are pre-configured
- Vulnerability Management Administrator (should be available throughout)
- Network Administrator: capable of modifying and troubleshooting routing or access controls

- Security Administrator: capable of modifying and troubleshooting security devices or software that may be interfering with insightVM functionality (e.g. Network Firewalls or Endpoint Security Protection)

Technical Preparation

Virtual Machine Requirements

insightVM requires the establishment of compute resources within your internal environment. Without these machines, the deployment will be unable to proceed.

Based on your environment, you will need:

- 1 machine to be used as a console
- a minimum of 1 machine to be used as an engine

These machines should match the following criteria

System	Asset Count	Proc / Core Count	RAM (GB)	Disk
Console	< 5,000	4	16	1 TB
Console	< 20,000	12	64	2 TB
Console	< 150,000	12	128	4 TB
Console	< 400,000	12	256	8 TB
Engine	< 5,000 / day	4	8	100 GB
Engine	< 20,000 / day	8	16	200 GB

Recommended Operating Systems for Console and Engines

Rapid7 recommends that you deploy your Security Console and Engines onto one of the following operating systems *

- English operating system with English/United States regional settings
- 64-bit versions of the following platforms are recommended:
    - Ubuntu Linux 20.04 LTS
    - Microsoft Windows Server 2022 (Desktop Experience / “Core” version not supported)

- Microsoft Windows Server 2019 (Desktop Experience / “Core” version not supported)
- Red Hat Enterprise Linux Server 8
- Red Hat Enterprise Linux Server 7
- Oracle Linux 8
- Oracle Linux 7
- SUSE Linux Enterprise Server 12

* You will be able to find additional supported operating systems here: https://www.rapid7.com/products/insightvm/system-requirements/

Connectivity Preparations

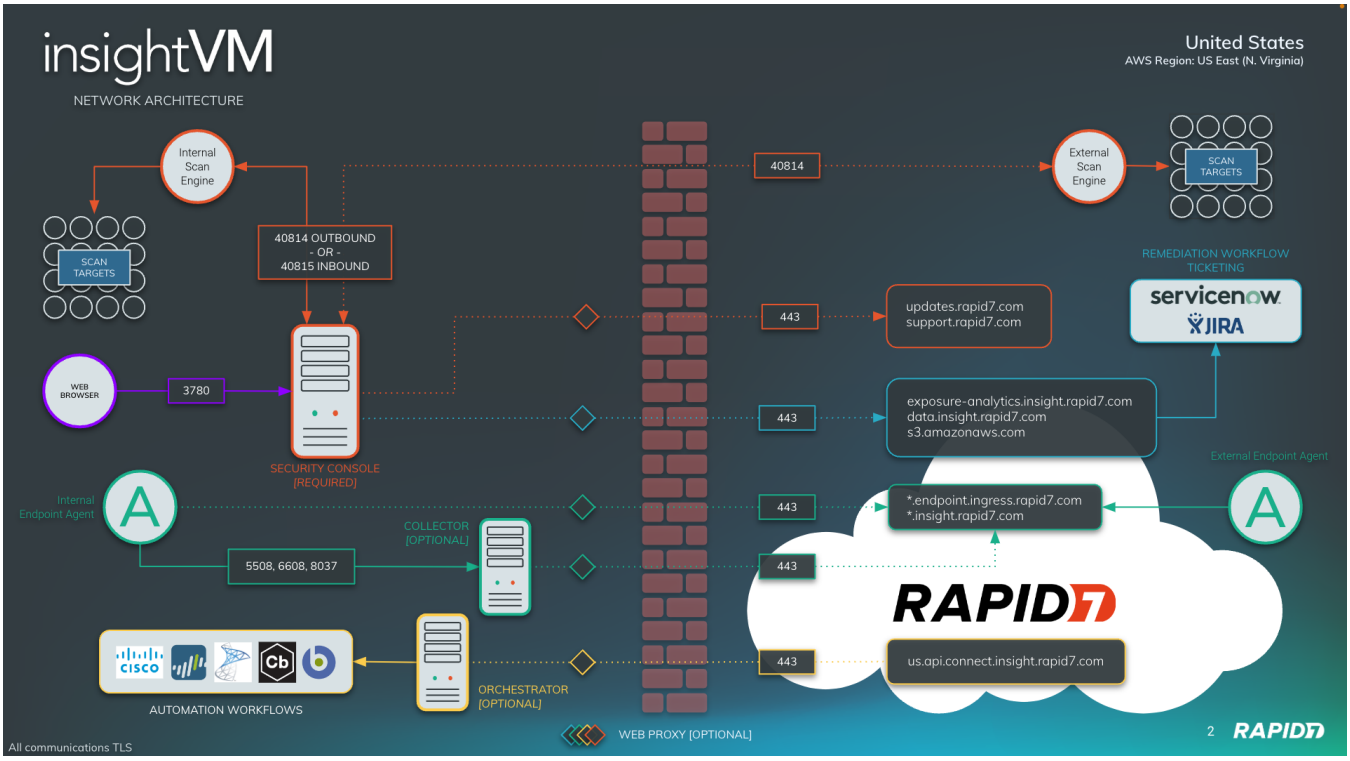
Your Insight Platform Account

Before the deployment can commence, an Insight Platform account is required. Please visit this URL and verify that you have an account provisioned: insight.rapid7.com/login.

If you do not have access, please contact your Rapid7 representative before the deployment, to ensure that the account is created in-time for your deployment.

Firewall Rules and Network Connectivity Requirements

In order to ensure a successful deployment, your team must either have the required firewall rules and credentials established ***prior*** to the engagement, **OR** have the appropriate resources on the call to establish these during the deployment sessions. If you require extensive lead times or change controls to make the adjustments to your configuration, they MUST be completed prior to the engagement.



SOURCE	DESTINATION	PORT	NOTES
Security Console	updates.rapid7.com	TCP 443	System updates and license activation
Security Console	support.rapid7.com	TCP 443	Required to upload logs to R7 Technical Support (Logs need to be manually uploaded by the customer)
Security Console	exposure-analytics.insight.rapid7.com (US 1) us2.exposure-analytics.insight.rapid7.com (US 2) us3.exposure-analytics.insight.rapid7.com (US 3) s3.amazonaws.com (US 1) s3.us-east-2.amazonaws.com (US 2) s3.us-west-2.amazonaws.com (US 3) data.insight.rapid7.com (US 1) us2.data.insight.rapid7.com (US 2)	TCP 443	Only whitelist the URL's that correspond to your Data storage region. I.e. if you are storing your data in the US, only whitelist the relevant (US) entries. Customers are only able to select a single data storage region per console.

	us3.data.insight.rapid7.com (US 3) ca.exposure-analytics.insight.rapid7.com (CA) ca.data.insight.rapid7.com (CA) s3.ca-central-1.amazonaws.com (CA) eu.exposure-analytics.insight.rapid7.com (EU) eu.data.insight.rapid7.com (EU) s3.eu-central-1.amazonaws.com (EU) ap.exposure-analytics.insight.rapid7.com (JAP) ap.data.insight.rapid7.com (JAP) s3-ap-northeast-1.amazonaws.com (JAP) s3.ap-northeast-1.amazonaws.com (JAP) eu.exposure-analytics.insight.rapid7.com (AUS) eu.data.insight.rapid7.com (AUS) s3-ap-southeast-2.amazonaws.com (AUS) s3.ap-southeast-2.amazonaws.com (AUS)		
Security Console	Your internal SMTP Relay	TCP 25 or 465	If report distribution through an SMTP relay is enabled, the Security Console must be able to communicate through these channels to reach the relay server
Security Console	insightVM Scan Engine(s)	TCP 40814	Management of scan activity on Scan Engines and the retrieval of scan data
insightVM Admins	Security Console Server	TCP 3780	Connectivity between the Administrator's machine(s) and the Security Console. To allow connection to insightVM Web Interface
insightVM Scan Engine(s)	Security Console Server	TCP 40815	This is an alternative communication method for scan engines, if you choose not to use TCP 40814. It works in the opposite direction, from engine > console.
Scan Engine(s)	Scan Targets	All TCP & UDP Ports	Scan Engines require unimpeded access to any port that may be open (visible) on your scan targets. You do not have to specifically open all ports, but any port that is already open to the network should be accessible to the scan engine(s), so that the port can be scanned for vulnerabilities.

Collector Server	https://data.insight.rapid7.com (US) https://s3.amazonaws.com (US) https://eu.data.insight.rapid7.com (EMEA) https://s3.eu-central-1.amazonaws.com (EMEA) https://ca.data.insight.rapid7.com (CA) https://s3.ca-central-1.amazonaws.com (CA) https://au.data.insight.rapid7.com (AU) https://s3.ap-southeast-2.amazonaws.com (AU) https://ap.data.insight.rapid7.com (AP) https://s3.ap-northeast-1.amazonaws.com (AP)	TCP 443	Communication between the Collector and the Insight Platform Similar to the previous section, only whitelist the URL's that correspond to your Data storage region. I.e. if you are storing your data in the US, only whitelist the relevant (US) entries.

Insight Agent connectivity requirements

The Insight Agent requires properly configured assets and network settings to function correctly. Since the method of agent communication varies by product, additional configuration may be required depending on which Insight products you plan to use. Before you deploy the Insight Agent, make sure that the Agent can successfully connect and transfer data to the Insight Platform by fulfilling the following requirements

SSL Decryption Exclusion

The Insight Agent will not work if your organization decrypts SSL traffic via Deep Packet Inspection technologies like transparent proxies

Source	Destination	Port	Notes
Insight Agents	*.endpoint.ingress.rapid7.com	TCP 443	Agent messages, beacons, update requests, and file uploads for collection
Insight Agents	*.insight.rapid7.com	TCP 443	Configuration files for deployment
Insight Agents (Optional)	Collector Server	TCP 5508 TCP 6608	Optional: These ports only need to be opened between the agents and the collector server, if the agents should push their traffic via the collector. If they can go directly to the platform, this step can be skipped.

		TCP/UDP 8037	5508/8037: Agent messages and beacons 6608: Agent update requests and file uploads for collection
Insight Agent	52.64.24.140 13.55.81.47 13.236.168.124	TCP 443	Australia Insight Cloud Instances
Insight Agent	103.4.8.209 18.182.167.99	TCP 443	Japan Insight Cloud Instances

As an alternative to configuring a firewall rule that allows traffic for this URL, you can instead configure firewall rules to allow traffic to the following IP addresses and CIDR blocks for your selected region.

United States-1	United States-2	United States-3	Canada	Europe	Japan	Australia
34.226.68.35	13.58.19.32	44.242.59.199	52.60.40.157	3.120.196.152	103.4.8.209	52.64.24.140
54.144.111.231	3.131.127.126	52.41.171.59	52.60.107.153	3.120.221.108	18.182.167.99	13.55.81.47
52.203.25.223	3.139.243.230	54.213.168.123		18.192.78.218		
34.236.161.191						
193.149.136.0/24						

Optional Ticketing & Container Registry connections

Rapid7 provides the following optional list of static IP addresses that you may use to allow traffic originating from the Insight Platform to your on-premises JIRA or container registries:

NOTE

This does not address agent proxying use cases or scenarios relating to communication originating from customer environments to the Insight Platform.

United States-1	United States-2	United States-3	Canada	Europe	Japan	Australia
52.87.0.92	3.132.61.192	44.235.43.237	35.182.161.111	52.28.227.72	13.113.44.15	13.55.206.11
34.203.6.73	3.137.118.102	52.10.164.197	52.60.69.60	52.58.219.32	52.69.171.127	13.54.208.29
34.202.19.138	3.14.210.196	52.88.123.237				52.63.226.244
52.2.37.56						

Scan Authorization

During the deployment your consultant will ask you to run discovery and vulnerability scans of your environment. Before the deployment, please make sure you have the proper permissions to scan your environment, even if it's just a single VLAN. Even if approval is not typically required for initiating scans, we recommend alerting the necessary service teams that scanning will be taking place. You can feel free to kick off scans before the deployment, or wait for your consultant to run scans with you.

The scan results will be used to further cover aspects of the console such as report generation and remediation projects. Without vulnerability data, these parts of the product will not be able to be covered in as much detail.

Alternatively, agents can be deployed prior to the insightVM deployment to allow them to collect vulnerability data about your environment.

Scan Credentials

Detecting all of your vulnerabilities to a high degree of confidence requires access to parts of the operating system that are usually protected through administrative controls. Running successful vulnerability scans therefore requires the same level of administrative permissions.

Rapid7 has some flexibility around how this can be accomplished, and your Rapid7 Security Consultant will provide further guidance on this topic during the deployment.

From a high level, the following options are available to you in regards to achieving administrative level access to your assets:

1. Perform network based scans, using full administrative credentials and privileges, without any restrictions (for further information see the credentialed scanning section)

2. You may deploy the Insight Agent to as many assets as possible. The Agent is able to run with local administrative privileges, and therefore does not require a domain based account. (Not all operating systems are supported however)

3. You may use the Scan Assistant, which is a *lightweight agent*, and allows the scanning of assets from the network, without the use of domain based administrative credentials.

What to Expect During Deployment:

- Project Plan
- Links to self-serve resources

Project Plan

We include below a sample project plan for an insightVM Deployment. Timing and order may be customized to your specific environment and needs, by your Rapid7 consultant during deployment.

Your deployment will be split into a minimum of 2x deployment sessions:

Project Kick-Off
Project Kick Off Call, covering the following topics: • Prerequisites discussion • Confirm that customer is able to login to the Insight Platform and can navigate to User Management, to confirm Platform Admin permissions and product access • Firewall rules complete OR verified ability to configure them during deployment calls • Service accounts in place for scanning OR admin scheduled to attend deployment calls • Change Management approvals for scanning and infrastructure changes • Server/s provisioned and accessible
First Deployment Session
Review insightVM Architecture and components
Review goals for Deployment
Install IVM Console and Scan Engine(s) & Pair the Scan Engine(s)
Ensure console is connected to platform and user accounts are properly provisioned
Insight Agent & Scan Assistant: Discuss and optionally demonstrate sample deployment of the Insight Agent and/or the Scan Assistant, including requirements and options
Verify that all access needed is in place (Firewall rules and ACL's)
Configure scan credentials
Scan template set up
Configure DHCP Discovery (if applicable)
Start Scanning: Discovery Scans & Vulnerability Scans across as many network regions as practical
Set up pre-defined assets groups and asset tags Categorize assets based on function to organization / logical grouping
Subsequent Deployment Session(s)
Ensure scans are evenly distribute across scan engines Rebalance if needed
Validate scan coverage and credentials
Reporting: Run preliminary build in reports to test credibility of scan data
User Set Up (and AD/LDAP/SAML integration)

Overview of cloud functions: - Dashboards, Cards & Reports - Remediation Projects - Query Builder - Policy Builder
Maintenance: Automation of back-up & maintenance tasks
Discuss process for disaster recovery
Review progress on next steps
Discuss next steps: How to expand insightVM coverage and features in-line with objectives determined during the deployment sessions.
Review next steps in deployment and take away tasks to be completed prior to next call
Finalize remaining configuration and deployment items
Documentation (Status Updates and insightVM Quick Start Guide)
Optional Integrations
Integrations: ● Determine the two (2) integrations available to the package ● Scoping discussions to validate integration details

Supplemental Resources

The following resources are provided to cover any additional questions you may have.

(OPTIONAL) Considerations for Proof of Concept (or OVA) consoles

I have a Proof of Concept (PoC) Console

The Proof-of-Concept (PoC) console used during your pre-sales calls was used to demonstrate the scanning, reporting, and other functions of the product. It was not configured with best practices in mind or with a full understanding of your organization's needs. Please see “Deactivating my Console” below.

OVA Console

The OVA is a quick way to stand up the insightVM console, however it is not intended to be used in production. The disks are not expanded to the full volume, default passwords exist, and the nomenclature implies Rapid7 maintains the appliance, whereas your organization will be responsible for scanning, updating, and patching the operating system of these consoles. Please see “Deactivating my Console” below.

Deactivating my Console

THIS PROCESS NEEDS TO BE COMPLETED 48 HOURS BEFORE YOUR DEPLOYMENT

Deactivating your console will remove all Insight Platform data, such as dashboards, remediation projects, and Goals & SLAs. Your existing agent associations will remain.

Steps:

- Log into your current console
- Navigate to Administration > Global and Console Settings > Console > Administer > Insight Platform and click “Deactivate”.
- Stand up the hardware for the new console but do not install insightVM at this time.

At this point you may back up your security console and discuss onboarding that during your engagement. Your consultant will advise if the console should be built from scratch.

Credentialed Scanning

For the most accurate results during scans, credentials should be supplied to insightVM in order to authenticate with the target assets. Without credentials, you will find significantly less vulnerabilities and the OS and system fingerprinting won't be as accurate.

If for whatever reason you can not obtain credentials for your devices, you can always deploy agents or the scan assistant to the target machines. Just remember that you should perform scans using your scan engines in addition to the agents to get maximum visibility into the target assets.

Please refer to the following links for additional information regarding Windows and Linux scan credentials:

Resources
Windows Authentication: Best Practices
Linux Authentication: Best Practices

Insight Agent Deployment

Agents can be installed on any Windows, Linux or Mac device on your network. The Insight Agent collects information about the target system, sends that data to the Insight Platform, and from there the data is sent to your insightVM Console. The main benefits of using the Agent are for any remote devices that can't be reached by an engine or aren't online during regular scanning, assets with heavy scanning restrictions, or assets that you don't have credentials for.

Collectors can also be installed throughout your environment if the devices that have agents on them aren't connected to the internet. Collectors act as an intermediary proxy between the agent and the internet, routing traffic through itself for environments such as a DMZ.

Additional information for deploying agents and collectors can be found at the following links:

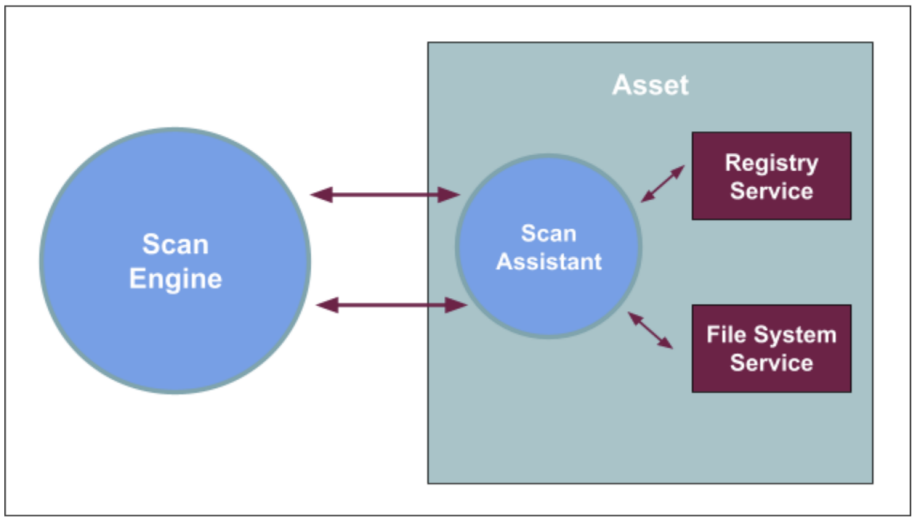
Resources
Insight Agent Overview & Help Pages

Insight Agent Installation
Mass Deployment of the Insight Agent
Collectors in insightVM

Using the Rapid7 Scan Assistant

The Scan Assistant achieves the same results as a credential scan without the need for administrative credential management and provides accurate, granular vulnerability fingerprinting and assessment for assets. The Scan Assistant allows the Scan Engine to connect directly to an endpoint in order to collect data without the need for additional credentials. A secure connection is created between the Scan Engine and the Scan Assistant by using elliptic curve asymmetric encryption (ECDSA) and advanced encryption standard (AES).

Once installed, the Scan Assistant provides Registry and File System services on the local asset and only runs when scans are performed.



You can find further information about the Scan Assistant here:
https://docs.rapid7.com/insightvm/scan-assistant/

Post-Deployment Support and Feature Requests

At the conclusion of your deployment, please use the Support link within the Insight platform. Rapid7 values input in product improvement and direction from our customers. If you have suggestions for improvements, please let your consultant know of these items so they can be added to our internal feature lists. For ongoing support of your products, please log into the Insight platform and click the question mark icon in the top right of the screen. Click “Contact Support” to create a support request.

Support and Enhancements Page: www.rapid7.com/for-customers/

Health Check

To ensure your team is using insightVM to its fullest potential, schedule a yearly health check. Rapid7 consultants will review your scanning coverage, credential usage, scan configurations, and how you are reacting to vulnerabilities.