Installation Guide
Savision iQ V2.4

Contents

1. Introduction

1.1 About this Guide

This guide is intended to help you install Savision iQ. It will detail out the system requirements to complete the installation as well as any requirements for the invidual integrations.

1.2 Understanding Savision iQ

Savision iQ is an IT Operations Analytics solution that unifies all of your disparate monitoring tools, cloud platforms and ITSM systems, improves troubleshooting, decreases downtime and makes reporting easier. Based on ElasticSearch, it can handle millions of IT alerts in milliseconds, correlating them to understand the business impact and automate incident workflows. Easy-to-use straight out of the box, your teams can start to analyze data, streamline alerts and incident workflows and create business value dashboards instantly.

The above paragraph was taken directly from our marketing material. So what does that mean? Here is a technical summary that will put it in other words. Think of Savision iQ as a starting place. It is a Monitor of Monitors. It is a "Single Pane of Glass". In a nutshell we allow you to pull alerts and health state information from your various montoring systems and put them together in dashboards. We allow you to search the data fast by pulling the various data and saving it in our own Elasticsearch back end.

For example, you can take computers object as seen by SCOM and place them into a dashboard. But what about how VMware sees them? Place the same objects from VMware into either the same dashboard or one of its own. Then take all the network objects as monitored by SolarWinds into another board. Then there are Linux computers that are currently being monitored by another team with Nagios. They can go into another dashboard. There are a couple backup scripts that run every night. You can create objects in Savision iQ using our API and update the health of those objects. Now they can be in another dashboard. All of these objects define a single system or operations. Finally put all of those dashboards into an overall dashboard to see the health status of that system. That is just a quick example, but hopefully you are starting to see how combining the various monitoring tools you have to allows you to see the bigger picture.

Savision iQ also integrates with your ITSM. When information is pulled from the various monitoring systems, the alerts are also pulled. Now you can take alerts, search them and create an incident based on several alerts. Savision iQ goes the extra step in closing out those alerts once the incident has been closed.

All of our integrations are bi-directional. We want data to flow between the various systems as you work within each one.

What don't we do? Well we do not take the place of the monitoring system itself. We use the health state of the given systems to show in our dashboards. If you want to change the way the health status of something is shown, then any changes in overrides and/or settings are all done within the individual monitoring systems.

2. System Requirements

Before you begin it is helpful to know all the system requirements needed to install Savision iQ. There are a few moving parts and certain components can be spread across multiple servers to allow for stability.

2.1 Server requirements

Savision iQ needs to be installed on a Windows Server 2012 or higher server running IIS 8.0 or higher running on a DOMAIN. It is recommended that we are installed on our own server.

Component	Minimum Requirement	Recommended
Processor	1.4 Ghz	2 Ghz or faster
Memory	8 GB Ram	16 GB or greater, but not greater than 64GB
Available Server Disk Space (Program Files Directory)	2 GB per integration	10 GB or greater per integration
Available SQL Server Disk Space	20 MB	100 MB
.Net Framework	4.6.2 or higher	4.6.2 or higher

2.2 IIS Roles And Features

Roles

- Web Server (IIS)
    - Common
        - Default Document
        - Static Content
    - Health and Diagnostics
        - HTTP Logging [optional, but recommended for troubleshooting]
    - Security
        - Request Filtering
        - Windows Authentication
    - Application Development
        - .Net Extensibility 4.5
        - ASP.NET 4.5
        - ISAPI Extensions
        - ISAPI Filters
        - WebSocket Protocol [optional, but recommended]
    - Management Tools

> > ▪ IIS Management Console [optional, but recommended for troubleshooting and advanced configuration]

Features

- .NET Framework 4.6 Features
  - o .NET Framework 4.6
  - o ASP.NET 4.5
  - o WCF Services
    - ▪ HTTP Activation

Enable automatic start-up for the Windows Process Activation (WAS) and World Wide Web Publishing (W3SVC) services (enabled by default).

After the install Savision iQ will be installed as a new website with a self-signed cert running on port 59212. This can be changed using the IIS Management Console under the bindings for the Savision iQ website.

2.3 Java JRE
Savision iQ uses ElasticSearch to store a majority of its data. This allows it to have fast retreval of information. ElasticSearch requires Jave JRE V8 (at least u131 or higher).

You can download and install java following this link.

http://www.oracle.com/technetwork/java/javase/downloads/server-jre8-downloads-2133154.html

2.4 SQL Database
Savision iQ does need to store configuration information into a SQL database. It is recommended that it is SQL Server 2012 or higher. This can be a local running instance or an instance running in a cluster. Completely your choice.We are even compatible with using SQL Express.

If you are in an eval or wish to use SQL Express, then it can be downloaded here.

https://www.microsoft.com/en-us/download/details.aspx?id=55994

Along those same lines, we would recommend you install the SQL Managment Studio. That can be downloaded via this link.

https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-2017

During the install, you will be asked for the Instance and a set of credentials that have permissions to create a database. This same user account will be used as the app pool account for Savision iQ. After the install this can be adjusted to a lower privelaged account, as long as it has read/write permissions to the SavisioniQ database.

2.5 Elasticsearch

A single-node deployment of Elasticsearch will be installed during the installation. This is not really a requirement that needs to be installed prior to installation. This is perfectly suitable for evaluations and small depoyments. However there may come a time that you wish or need to move to a larger ElasticSearch enviroment. For guidelines on sizing please refer to the following;

https://www.elastic.co/guide/en/elasticsearch/guide/current/hardware.html

2.6 Other Considerations

Some of this information has been stated in the previous sections, but it is best to put it all togehter.

- The server being used for Savision iQ MUST be on the DOMAIN.
- Savision iQ must be installed by a Domain users with local Admin rights.
- During the install a user will be required to gain access to SQL. This user MUST have the ability to create a database(at least during the first install).

2.6.1 Firewall access

By default, Savision iQ is installed as a website running under port 59212. This can be changed to a port of your choosing like port 443.

Each integration will have their own requirements for access. These outbound rules must be available for Savision iQ to communictate with the different systems. Keep in mind that some system have the ability to customize the port.

- System Center Operations Manager: 5724
- SolarWinds: 17778
- Nagios Core and XI: 443 or configured in the URL
- VMware vCenter: 443
- Microsoft Azure: 443
- Amazon Web Services (AWS): 80 and 443
- ServiceNow: 443
- Ivanti Service Management (HEAT Software is now Ivanti): 443
  - o Cloud instance: 443
  - o On Premise: 80 or 443
- Derdack Enterprise Alert: 80 (default) configurable by iQ admin using <server>:<port> format.
- CA APM: 443
- PRGT: Customizable port
- TopDesk: 443
- PowerShell:

3.0 Installation

3.1 Savision iQ

After the prequestists have been completed, you may begin with the installation.

The installation package contains 3 installers:

- Savision iQ-2.4.exe
- Savision iQ Agent-2.4.exe
- Elasticsearch-5.6.7.exe

You only need to concern yourself with the first one "Savision iQ-2.4.exe" This will start the installation process. If Elasticsearch is not already installed then it will launch this when needed.

| Name	Date modified	Type	Size
iQ Savision iQ-2.4.exe		Application	51,193 KB
iQ Savision iQ Agent-2.4.exe		Application	13,155 KB
Elasticsearch-5.6.7.exe		Application	32,265 KB

1. Start by Right clicking on the "Savision iQ-2.4.exe file, and selecting "Run As Adminstrator"

2. Click Next at the Welcome screen

3. Click on "I accept the agreement" then click Next.

4. Enter in the Sql server instance as well as the credentials that have rights to create the database. Once they are entered click Verify. Assuming that passes, click Next.
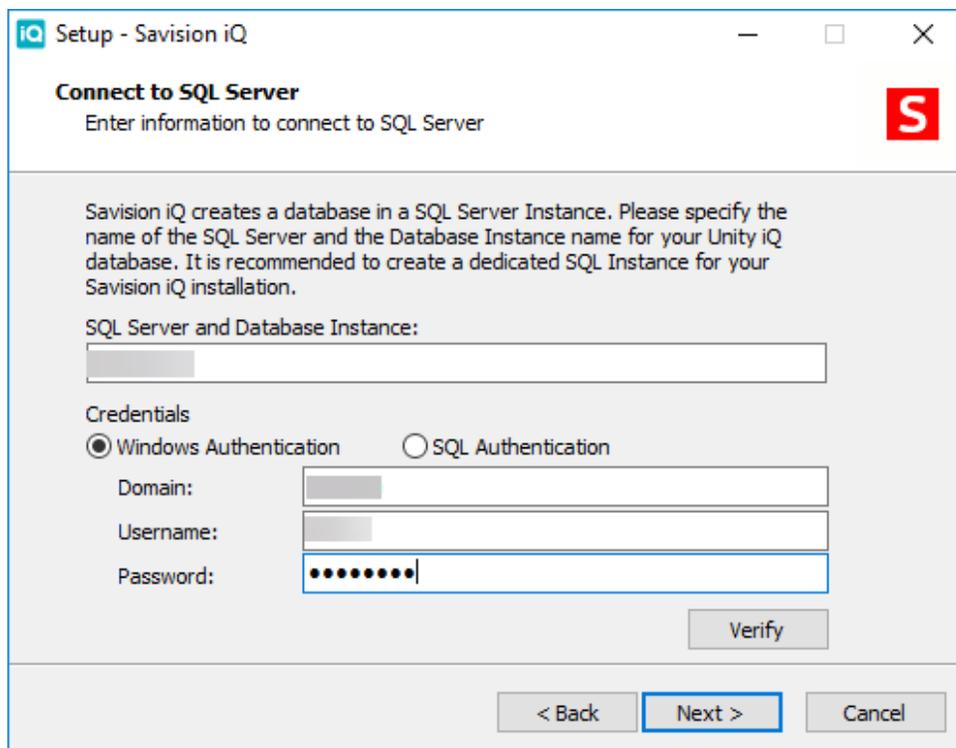
5. Select the destination where you want Savision iQ to install in, then click Next.
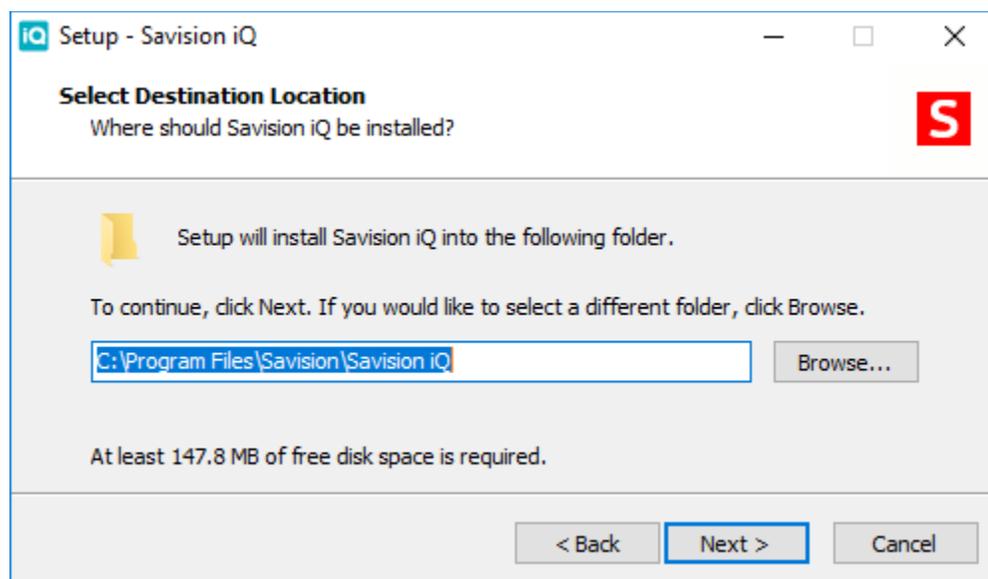
6. Click on "Create a desktop shortcut" if you want one, and then click Next.

7. Assuming you don't have Elasticsearch installed on this server, the installer will launch the Elasticsearch installer. Click Next at the "Welcome to the Elasticsearch Setup Wizard"

8. Click on "I accept the agreement", then click Next.

9. Select the destingation where you want Elasticsearch to install in, then click Next.
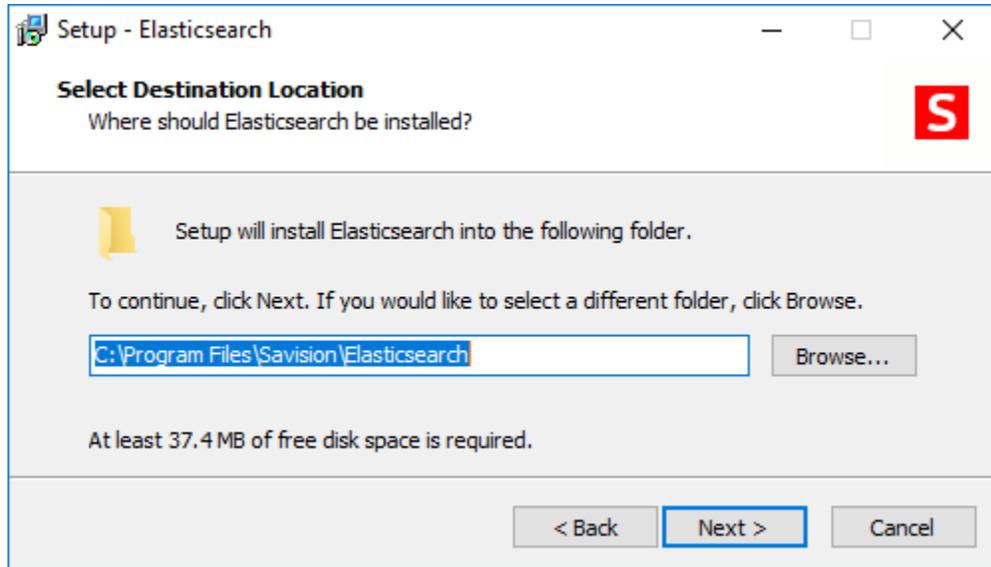
10. Elasticsearch will now begin installing, once it is complete, click on Finish
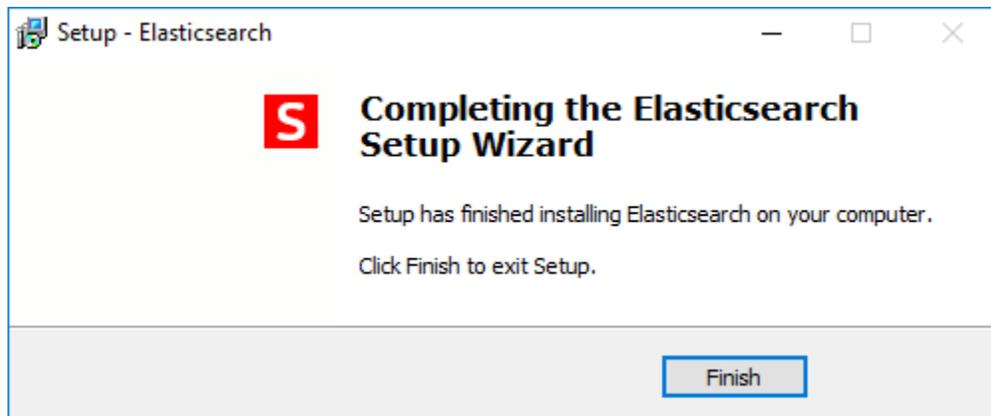
11. At this point, Savision iQ will continue it's installation. First step is to check the IIS Roles and it may add any missing requirements at this stage.
12. Once it is complete, You can click Finish. The Launch Savision iQ option is already checked.

3.2 Remote Agents

When you install Savision iQ, it will install an agent locally on the server. For most installations that is all that is needed. In some cases you may need to install a remote agent to access certain integrations. The remote agent installs as a windows service.

1. From the remote computer, open your browser and log onto Savision iQ.

2. From the Menu, go to Settings, then click on AGENTS
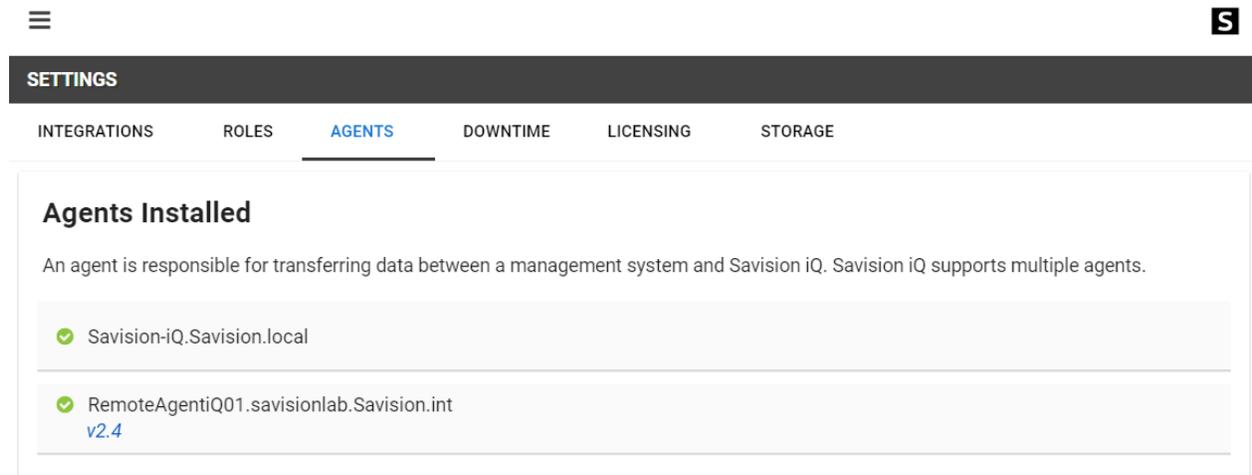
3. Click on the "Download Agent" button in the lower right hand corner.
4. This will download a zip file named "AgentInstaller". Extract the files, then browse to that location.
5. There will be 2 files; Savision iQ Agent-2.4.exe" and "Setup.cmd". Right click on "Savision iQ Agent-2.4.exe" and select "Run As Administrator"
6. Click Next on the Welcome Screen
7. Select "I accept the agreement" then click Next.
8. Enter the "Savision iQ Web Server URL" as well as an iQ Administrator. Click on Verify.
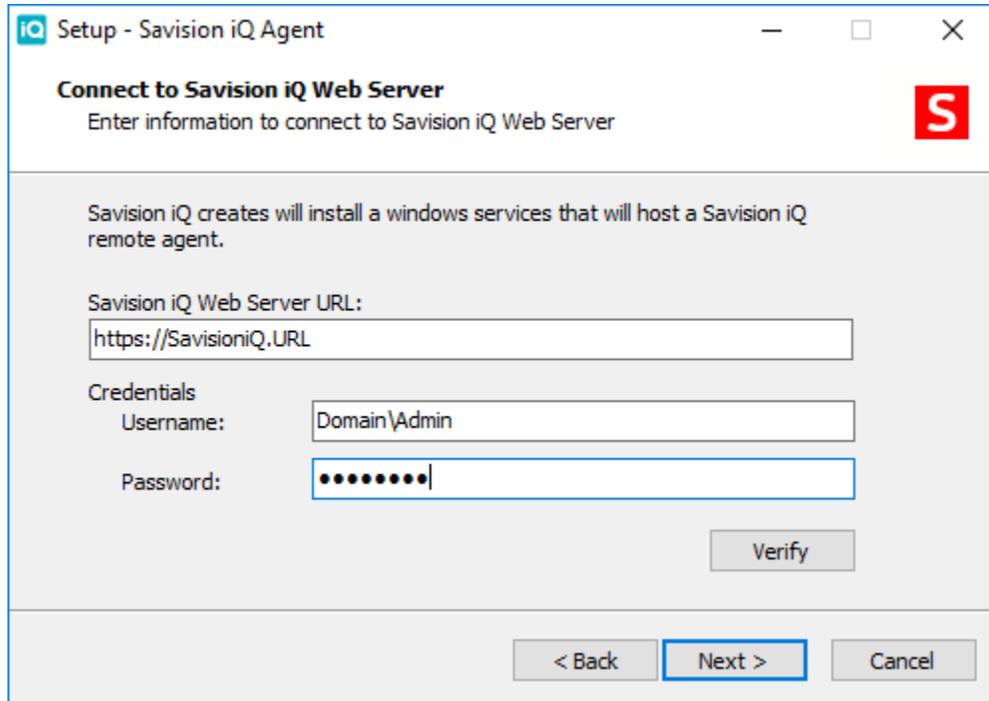
9. Enter the Destination you wish to install the agent, then click Next.
10. Once it is done installing, Click on Finish. After just a few moments, it should be listed as an avalilbe agent in Savision iQ.

4.0 Elasticsearch Configurations

By default, the Savision iQ, installation will install Elasticsearch on the web server. It is not bound to an external IP address so there is no user authentication enabled. This works fine in an evaluation scenario or with limited users, integrations and data.

Using Savision iQ in a more demanding scenario we advise to setup a multi node Elasticsearch cluster. Documentation about how to set this up can be found here - https://www.elastic.co/guide/en/elasticsearch/reference/current/setup.html

When security is required, for example when Elasticsearch is installed on a different machine, you need to use x-pack. With x-pack you can also do monitoring. The details how to install x-pack can be found here – https://www.elastic.co/guide/en/elasticsearch/reference/current/setup-xpack.html

Connection settings are configured in the web.config under <connectionStrings> the Elasticsearch connection string can be defined as followed:

Default:

```
<add name="defaultElasticSearchConnection"
connectionString="Nodes=http://localhost:9200" />
```

Multi node cluster:

```
<add name="defaultElasticSearchConnection"
connectionString="Nodes=http://ESNode1:9200;http://ESNo
de2:9200;http://ESNode3:9200" />
```

With authentication:

```
<add name="defaultElasticSearchConnection"
connectionString="Nodes=http://ESServer:9200,
Username=iquser, Password=secret" />
```

4.1 Memory Configuration

By default, Elasticsearch is setup to use 2 Gbs of memory. To improve performance, this can be increased.

Open and edit the jvm.options file located where you installed ElasticSearch. By default this will normally be "C:\Program Files\Savision\Elasticsearch\elasticsearch\config\jvm.options"

Near the top of the file you can change the heap space to control the amount of memory Elasticsearch uses.

```
## JVM configuration

################################################################
## IMPORTANT: JVM heap size
################################################################
##
## You should always set the min and max JVM heap
## size to the same value. For example, to set
## the heap to 4 GB, set:
##
## -Xms4g
## -Xmx4g
##
## See
https://www.elastic.co/guide/en/elasticsearch/reference/current/heap-
size.html
## for more information
##
################################################################

# Xms represents the initial size of total heap space
# Xmx represents the maximum size of total heap space

-Xms2g     ←These are the values you want to change.
-Xmx2g     ←
```

It is recomend that you change both to "-Xmx4g" intitally. Once you have changed the values, save the file.

From Services, stop and restart the "Elasticsearch" service.
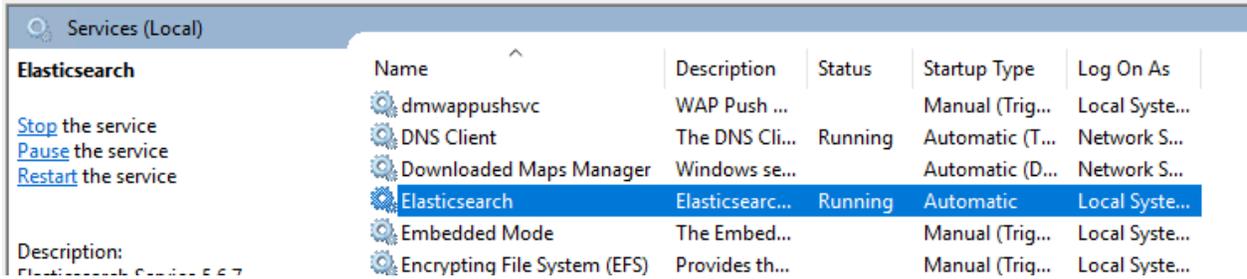
5.0 Integration Setups

Each integration will have their own requirements for access. Most require port access to the server and user credentials. The level of the credentials may determine the level of what can be done with that user. Example if you setup permissions to Operations Manager with a read-only user role user that can only see certain group, that will be the limits of our integration into Operations Manager.

5.1 System Center Operations Manager

- Port 5724 access to the managment server.
- SCOM adminstrator credentials
- Optional URL to Live Maps Portal

5.2 SolarWindws

We use the SolarWinds Information Service (SWIS) to load data from SolarWinds Orion (https://github.com/solarwinds/OrionSDK/wiki/About-SWIS)

- Port 17778 access to the SolarWinds Server
- Administrative credentials
- URL to Orion

5.3 Nagios Core and Xi

- Server and Port
- User Credentials
- Core API

5.4 Vmware vCenter

- Port 443 access to your vCenter Server
- User credentials for the information you would like to populate

5.5 Microsoft Azure

- Port 443 Access to Azure

Before Savision iQ can integrate with Microsoft Azure a number of things need to be configured and 4 pieces of information needs to be collected. Below are the exact instructions how to do this.

Create an app registration

1. Click on 'Azure Active Directory'.
2. Click on 'App registrations'.
3. Click on '+ New application registration'.
4. Provide a Name for the application (e.g. 'Savision iQ')
5. Provide a Sign-on URL (e.g. 'http://www.savision.com')
6. Copy the Application ID from this screen (used as Client ID in Savision iQ).
7. Click on Settings.
8. Click on Keys.
9. Create a new Key and be sure to copy the 'Value' field (used as Client Secret in Savision iQ).

Create an Enterprise Application

1. Click 'Azure Active Directory'
2. Click 'Enterprise applications'
3. Click 'All applications'
4. Click 'New application'
5. Click 'Application you're developing'
6. Click link 'Ok, take me to App Registrations to register my new application.'
7. Choose 'App apps' in drop down list
8. Click 'Savision iQ'
9. Click 'Create Service Principle' link in the most right panel.

Add app to subscriptions access control (IAM)

1. In search box, type 'subscriptions'
2. Click on 'Subscription' from results (key icon)
3. Copy the Subscription ID from this screen (used as Subscription ID in Savision iQ).
4. Click on 'Access control (IAM)
5. Click Add
6. Choose 'Reader' for Role
7. Assign access to needs to be 'Azure AD user, group, or application
8. Select 'Savision iQ'.
9. Click on the search result 'Savision iQ'
10. Click 'Save'

Lookup Tenant ID

1. Click on 'Azure Active Directory'.
2. Click on 'Properties'.
3. Copy the Directory ID from this screen (used as Tenant ID in Savision iQ).

To be able to connect Savision iQ with Azure you need the following information you got from the instructions above:

1. Client ID (Application ID)
2. Client Secret (Application Key value)
3. Subscription ID
4. Tenant ID

5.6 Amazon Web Services

- Port 80 and 443 access to AWS
- Region
- Access Key
- Secret Access Key

5.7 ServiceNow

With the correct privileges Savision iQ is able to load components and incidents from ServiceNow. For Savision iQ to create and update incidents the Savision iQ ServiceNow store app needs to be installed in your instance of ServiceNow.

Below are the instructions how to install and configure the Savision iQ app in ServiceNow.

- Login to your ServiceNow instance using an administrator account.
- Install the Savision iQ application from the store;
- Create a user with the roles "x_savis_iq.Savision iQ Role", 'itil', 'itil_admin' and 'personalize_choices'.
- Use this user in Savision iQ when adding the integration.

Port 443 to your ServiceNow instance

5.8 Ivanti Service Management

- Port Access to the Instance. Typically, 80 or 443
- User credentials

5.9 Derdack Enterprise Alert

- Port access to the server
- User Credentials

5.10 CA APM

- Port access to the CA instance
- Credentials

5.11 PRTG

- Port access to the instance
- Admin Credentials to PRTG

5.12 TopDesk

- Port access to the instance
- User Credentials – Operator account

5.13 PowerShell

- User credentials to use used as the "Run As Account"
- Script